



Support to the Fitness Check of monitoring and reporting obligations arising from EU environmental legislation

Final Report

Written by Matt Rayment, Rupert Haines, Martin
Nesbit, Andrea Illes and Yann Verstraeten

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Contact: Joachim d'Eugenio and Steve White

E-mail: Joachim.D'Eugenio@ec.europa.eu; Stephen.White@ec.europa.eu

European Commission

B-1049 Brussels

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Directorate-General for the Environment

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Abstract

This report presents the findings of a study to support the European Commission's Fitness Check of monitoring and reporting obligations arising from EU environmental legislation.

The study developed an inventory of 181 EU reporting obligations across 58 items of legislation. A detailed assessment of the costs and benefits of these reporting obligations was undertaken. The study also gathered evidence and views from Member States and stakeholders about the current regulatory monitoring and reporting system, through a stakeholder consultation and series of workshops.

This report summarises the evidence base and presents the consultants' conclusions as input to the Commission's evaluation report. The analysis is structured under the five evaluation themes of relevance, effectiveness, efficiency, coherence and EU added value, and the 19 more detailed evaluation questions under these themes specified in the Fitness Check Roadmap.

Conclusions are drawn about the overall performance of the current system, the effect of recent trends and current initiatives, further potential changes that could be considered to improve the current arrangements, and information gaps and research needs which could be addressed to inform future action.

Résumé

Ce rapport présente les résultats d'une étude visant à soutenir la Commission européenne dans la réalisation du « Bilan de Qualité » des obligations en matière de surveillance et de notification découlant de la législation environnementale de l'UE.

L'étude a établi un inventaire de 181 obligations de notification de l'UE contenues dans 58 actes législatifs différents. Une évaluation détaillée des coûts et bénéfices résultant de ces obligations de notification a été entreprise. L'étude a également rassemblé des preuves et des points de vue des États membres et des parties prenantes au sujet du système réglementaire actuel de surveillance et de notification, par le biais d'une consultation des parties prenantes et d'une série d'ateliers.

Le présent rapport résume les résultats et les conclusions des consultants et vise à contribuer au rapport d'évaluation de la Commission. L'analyse est articulée autour des cinq thèmes d'évaluation suivants: pertinence, efficacité, efficience, cohérence et valeur ajoutée de l'UE, ainsi que de 19 questions d'évaluation plus précises détaillées dans la Feuille de Route du Bilan de Qualité.

Des conclusions sont tirées à propos de la performance globale du système actuel, de l'effet des tendances récentes et des initiatives en cours, des changements potentiels qui pourraient être envisagés pour améliorer les dispositions actuelles, mais également des manques d'information et besoins de recherche qui pourraient être examinés pour informer de futures actions.

Executive summary

This report presents the findings of a study by ICF, IEEP and Denkstatt to support the European Commission's Fitness Check of monitoring and reporting obligations arising from EU environmental legislation.

The support study was informed by a series of evidence gathering tasks. These included: building an inventory of reporting obligations from a desk analysis of the relevant legislation, followed by a process of verification with experts; assessment of the costs and benefits of reporting, using the standard cost model as set out in the Better Regulation Toolbox; supporting the evidence gathering and public consultation of the Fitness Check; and delivering four consultative workshops with external stakeholders. This report summarises the evidence base and presents the consultants' conclusions as input to the Commission's evaluation report.

The inventory developed for the study identifies 181 EU reporting obligations across 58 items of environmental legislation. The report presents an analysis of these reporting obligations against the five evaluation themes of relevance, effectiveness, efficiency, coherence and EU added value, and the 19 more detailed evaluation questions under these themes specified in the Fitness Check Roadmap. Key findings under each theme are as follows:

Relevance:

- Current reporting processes remain relevant, but opportunities for alternative approaches are increasing.
- The purpose underlying reporting obligations varies between legislation, although in many cases it is concerned as much with oversight of Member State implementation as with environmental outcomes.
- The REFIT programme has successfully addressed some issues of irrelevant and obsolete reporting requirements, but there are opportunities for further change, and continued action is necessary to maintain relevance over the longer term.
- Key performance indicators on the implementation and effects of environmental legislation could play an increasing role in environmental reporting, but would require a new and structured approach within the reporting system.
- The process of reporting has taken advantage of advances in technology, although these are not being universally exploited and progress is ongoing.

Effectiveness:

- The effectiveness of reporting arrangements has improved greatly in recent years, but there remain widespread problems with the completeness, quality and timeliness of information received through reporting obligations.
- While the information requested is broadly sufficient, deficiencies in Member States' reporting mean that the available information is sometimes insufficient to establish an understanding of the state and the effectiveness of implementation of the environmental acquis.
- An increasing body of information is being made available by Member States and the Commission on an open access basis. However further efforts are required to ensure that the available information is relevant and realistically accessible to non-technical audiences.
- Environmental monitoring and reporting is a critical input to the evidence base for decision making. However there are some instances where issues with that evidence base have had a detrimental effect on the ability to draw robust conclusions and hence make defensible decisions.

Efficiency:

- The overall costs of the monitoring and reporting arrangements are moderate and proportionate to the benefits, but some stakeholders express concerns about disproportionate costs for certain reporting obligations.
- The efficiency of the system could be improved further, even after significant gains in recent years.
- Enhanced systems and processes are increasing efficiency at Member State level.
- There is scope for further improvements in the efficiency of processes, particularly through further use of IT and involvement of the European Environment Agency.
- Harmonising the timing of reporting could reduce costs, but potential effects on benefits would also need to be considered.
- Active dissemination can increase the efficiency of monitoring and reporting, but more by increasing benefits than reducing costs.
- The reporting system is complex and diverse, and there is great scope for simplification.

Coherence:

- There are instances of overlaps of reporting across the environmental acquis. Improvements in data sharing should provide increasing opportunities to remove and avoid these overlaps.
- There is a lack of evidence on whether information is reported (including to other parts of the Commission) but then full use not made of it. Improvements in data sharing should help to identify and capitalise on opportunities to make wider use of the information reported.
- There are many good examples of coherence between EU and international reporting; however there remain a number of areas of potential incoherence.

EU Added Value:

- EU level reporting delivers clear benefits that could not be achieved through reporting at MS level alone.
- Alternative approaches – such as active dissemination and data harvesting – offer the potential to deliver the required EU added value in future, if certain conditions are met.

The report assesses the arrangements of monitoring and reporting against the key principles of regulatory monitoring set out in the EC Better Regulation Guidelines. Overall, the analysis suggests that the current arrangements perform quite well relative to some principles (comprehensiveness, proportionality, accessibility) but that there is room for improvement in others (e.g. quality, timeliness, overlap and consistency issues) for some areas of legislation. Ongoing developments – in life-cycle stages of legislation implementation, policy contexts and needs, scientific knowledge and technology – mean that the specific requirements for reporting under individual areas of legislation are constantly evolving and require ongoing maintenance to ensure that they continue to deliver upon their objectives and conform to these principles.

EU environmental monitoring and reporting arrangements are evolving rapidly, both through policy changes and advances in reporting processes and practices. A number of major initiatives under the Commission's programme of better regulation are introducing enhancements to the environmental monitoring and reporting

arrangements. Examples include the Circular Economy Package, E-PRTR REFIT and INSPIRE REFIT. Furthermore, recent years have seen simplification and harmonisation of reporting under other areas of legislation, such as for water, nature and industrial emissions.

At the process level, the use of information technology has widely improved reporting processes, bringing time savings and efficiencies and helping to enhance the accessibility of the reported information. This has often required substantial investments at the EU and MS levels. Technological developments and related EU initiatives to harness them are opening up new ways of reporting, such as data harvesting, and supporting greater public access to information. For example, the development of Structured Implementation and Information Frameworks (SIIFs) has enabled active dissemination to emerge as an alternative to EU reporting under the Urban Wastewater Treatment Directive. Active dissemination of environmental information by Member States could meet many of the objectives of reporting in future, but there are challenges to ensure that action designed to provide information to multiple stakeholders can serve the specific needs of environmental monitoring and reporting – for example, it must guarantee that the harvested information is suitable for use in legal proceedings.

The analysis suggests that there is room for improvement in a number of areas of reporting. The Commission's REFIT programme provides the vehicle for maintaining the fitness for purpose of the reporting requirements of specific legislation. More broadly, the overall monitoring and reporting system could be examined further with a view to the potential for harmonisation and simplification. There is also a need for further development and implementation of cross-cutting data management and open access initiatives that will support the next evolutionary shift in reporting approaches and provide for a step-change in the realisation of the benefits of reporting.

The report identifies a number of areas where potential changes could be investigated, including in relation to: key performance indicators; improved support for delivering existing data flows; harmonisation of processes; harmonisation of timing; information sharing and systems interoperability; coherence of individual items of legislation; simplification of the overall system; and ongoing regulatory review. While the analysis is able to identify issues and potential areas of opportunity, most of these require further more detailed analysis, and the report therefore lists a number of information gaps and research needs.

Résumé exécutif

Ce rapport présente les résultats d'une étude menée par ICF, IEEP et Denkstatt visant à soutenir la Commission européenne dans la réalisation du « Bilan de Qualité » des obligations en matière de surveillance et de notification découlant de la législation environnementale de l'UE.

L'étude a été alimentée par une série d'actions de collecte de données. Il s'agissait notamment : de dresser un inventaire des obligations de notification à partir d'une analyse approfondie de la législation pertinente, suivi d'un processus de vérification par des experts; d'effectuer une évaluation des coûts et bénéfices des activités de notification sur base de la « méthode de coûts standard » telle qu'indiqué dans la Boîte à outils « Mieux légiférer » (« Better Regulation Toolbox »); d'appuyer la collecte de preuves et la consultation publique du Bilan de qualité; et de tenir quatre ateliers consultatifs avec différentes parties prenantes externes. Le présent rapport résume les résultats de ces activités de recherche et présente les conclusions des consultants visant à contribuer au rapport d'évaluation de la Commission.

L'inventaire établi pour cette étude a identifié 181 obligations européennes de notification en matière d'environnement dans 58 législations européennes différentes. Le rapport présente une analyse de ces obligations de notification par rapport aux cinq thèmes d'évaluation définis (pertinence, efficacité, efficience, cohérence et valeur ajoutée de l'UE), ainsi que de 19 questions d'évaluation détaillées sur ces différents thèmes. Voici les principales conclusions de chaque thème:

Pertinence:

- Les processus de notification existants demeurent pertinents, mais les possibilités d'approches alternatives sont en augmentation.
- Le but sous-jacent aux obligations de notification varie en fonction des législations, bien que, dans de nombreux cas, il couvre tant le contrôle de la mise en œuvre des législations par les États membres que des résultats environnementaux de ces législations.
- Le programme REFIT a permis de résoudre certaines questions relatives aux obligations de notification non pertinentes et obsolètes, mais certains changements sont encore possibles et des actions continues sont nécessaires pour garantir la pertinence sur le long terme.
- Des indicateurs de performance sur la mise en œuvre et les effets de la législation environnementale pourraient jouer un rôle de plus en plus important dans les activités de notification en matière environnementale, mais nécessiteraient une approche nouvelle et structurée du système de notification.
- Les processus de notification ont bénéficié, dans l'ensemble, des avancées technologiques réalisées, bien que celles-ci ne soient pas exploitées de manière uniforme et que certains changements soient actuellement en cours.

Efficacité:

- L'efficacité des dispositions en matière de notification s'est considérablement améliorée au cours des dernières années, mais l'on constate encore toujours certains problèmes d'exhaustivité, de qualité et de ponctualité des informations reçues découlant des obligations de notification.
- Si les informations requises auprès des États membres sont globalement suffisantes, certaines lacunes observées dans les activités de notification peuvent rendre les informations disponibles insuffisantes pour permettre une totale compréhension de l'état et de l'efficacité de la mise en œuvre de l'acquis environnemental.

- Les États membres et la Commission disposent d'un nombre croissant d'informations en « libre accès ». Toutefois, des efforts supplémentaires sont nécessaires pour s'assurer que les informations disponibles soient pertinentes et accessibles pour des publics profanes.
- Les obligations en matière de surveillance et de notification génèrent des informations essentielles à la prise de décision. Cependant, dans certains cas des problèmes liés à certaines informations demeurent, ce qui peut avoir des effets préjudiciables sur la capacité à tirer des conclusions rigoureuses et à justifier certaines décisions.

Efficiences:

- Les coûts globaux des dispositions de surveillance et de notification sont modérés et proportionnels aux bénéfices générés, même si des cas de coûts disproportionnés ont été pointés par certaines parties prenantes.
- L'efficacité du système pourrait être encore améliorée, malgré des progrès significatifs observés ces dernières années.
- Certains systèmes et processus mis en place au niveau des États membres permettent d'améliorer l'efficacité de manière significative.
- Il est possible d'améliorer encore l'efficacité des processus, notamment par une utilisation accrue des technologies de l'information et par la participation active de l'Agence européenne pour l'environnement.
- L'harmonisation du calendrier des opérations de notification pourrait réduire les coûts, mais les effets potentiels sur les bénéfices devraient également être pris en considération.
- La diffusion active permettrait d'accroître l'efficacité des activités de surveillance et de notification, en ayant un effet sur les bénéfices plutôt que sur les coûts.
- Le système de notification est complexe et diversifié, et le potentiel de simplification est significatif.

Cohérence:

- Il existe des cas de chevauchement de certaines obligations de notification au sein de l'acquis environnemental. L'amélioration du partage de données devrait permettre de supprimer et d'éviter certains chevauchements.
- Aucun élément ne prouve que certaines informations sont communiquées à la Commission (ou à certains services au sein de la Commission) mais ne sont pas utilisées. L'amélioration du partage des données devrait permettre d'identifier et de capitaliser sur les possibilités d'utiliser plus largement les informations notifiées.
- Il existe de nombreux exemples de cohérence entre les obligations de notification au niveau de l'UE et au niveau international; cependant, il subsiste un certain nombre de domaines d'incohérence potentielle.

Valeur ajoutée de l'UE:

- Les opérations de notification au niveau de l'UE fournissent des avantages évidents qui ne pourraient être obtenus si celles-ci étaient limitées au niveau des États membres.
- Des approches alternatives – telles que la diffusion active et la collecte des données – pourraient offrir la valeur ajoutée requise au niveau de l'UE si certaines conditions sont réunies.

Le rapport évalue les dispositions de surveillance et de notification en fonction des principes clés du contrôle réglementaire énoncés dans les Lignes directrices de l'UE « Mieux légiférer » (« Better Regulation Guidelines »). Dans l'ensemble, l'analyse suggère que les dispositions actuelles sont relativement satisfaisantes par rapport à certains principes (exhaustivité, proportionnalité, accessibilité), mais que des améliorations dans d'autres domaines sont encore possibles (par exemple, en matière de qualité, ponctualité, chevauchement et cohérence). Les évolutions actuelles – relatives aux étapes de mise en œuvre de la législation, au contexte et besoins politiques, aux connaissances scientifiques et à la technologie – transforment sans cesse les obligations de notification propres aux différents domaines législatifs et nécessitent des améliorations constantes pour faire en sorte que ces obligations continuent d'atteindre leurs objectifs et soient conformes à ces principes.

Les dispositifs de surveillance et de notification découlant de la législation environnementale de l'UE évoluent rapidement, suite aux changements de politiques et aux améliorations des processus et pratiques. Un certain nombre d'initiatives importantes s'inscrivant dans le cadre du programme de la Commission qui vise à améliorer la réglementation européenne, permettent d'améliorer les dispositifs de surveillance et de notification en matière environnemental. Ces initiatives comprennent notamment le Paquet sur l'économie circulaire, E-PRTR REFIT et INSPIRE REFIT. En outre, ces dernières années des mesures de simplification et d'harmonisation ont eu lieu dans d'autres domaines législatifs tels que l'eau, la nature et les émissions industrielles.

En termes de processus, l'utilisation des technologies de l'information a permis d'améliorer considérablement les processus de notification, en réalisant des économies de temps et d'efficacité et en améliorant l'accessibilité des informations reçues. Cela a souvent nécessité des investissements considérables au niveau de l'UE et des États membres. Les développements technologiques et les initiatives connexes de l'UE visant à les exploiter ouvrent de nouvelles voies pour les activités de notification, telles que la collecte de données et l'accès à l'information par le grand public. Par exemple, l'élaboration des Cadres de mise en œuvre et d'information structurés (SIIF) a permis d'encourager la diffusion active comme alternative aux obligations européennes de notification dans le cadre de la Directive sur le traitement des eaux urbaines résiduaires. À l'avenir, la dissémination active des informations environnementales par les États membres pourrait répondre à de nombreux objectifs de notification. Il reste cependant de nombreux défis à relever pour faire en sorte que les actions visant à fournir de l'information à différents types de public puissent répondre aux besoins spécifiques de surveillance et de notification en matière environnementale – cela doit, par exemple, garantir que les informations récoltées soient aptes à être utilisées en justice.

L'analyse suggère que des améliorations dans un certain nombre de domaines de notification sont possibles. Le programme REFIT de la Commission fournit le moyen de maintenir l'adéquation entre les obligations de notification découlant de certaines législations et les objectifs poursuivis. D'une manière plus générale, le système global de surveillance et de notification pourrait être examiné davantage en vue d'une harmonisation et d'une simplification plus poussée. Il est également nécessaire d'élaborer et de mettre en œuvre des initiatives visant le partage transversal de données et le « libre accès » qui soutiendront le prochain virage évolutif des méthodes de notification et apporteront un changement radical dans la réalisation de leurs bénéfices.

Le rapport identifie un certain nombre de domaines où des changements potentiels pourraient être opérés, y compris en ce qui concerne: les principaux indicateurs de performance; un soutien accru pour la fourniture de flux de données existants; l'harmonisation des processus; l'harmonisation des délais; le partage de l'information et l'interopérabilité des systèmes; la cohérence des différentes législations; la simplification du système global; et l'examen réglementaire en cours. Bien que

l'analyse soit en mesure de cerner les problèmes et les domaines d'opportunité potentiels, la plupart d'entre eux nécessitent une analyse plus approfondie. Le rapport identifie, enfin, un certain nombre de lacunes en matière d'information et de besoins de recherche.

1 Introduction

1.1 The Fitness Check of EU environmental monitoring and reporting obligations

The European Commission is undertaking a Fitness Check of monitoring and reporting obligations arising from EU environmental legislation as part of its Regulatory Fitness and Performance programme (REFIT). Under REFIT, action is taken to make EU law simpler and to reduce regulatory costs, thus contributing to a clear, stable and predictable regulatory framework supporting growth and jobs. The purpose of the Fitness Check is to ensure that environmental reporting is fit for purpose and to help to identify concrete actions towards a low burden, high effects monitoring and reporting in the context of environmental legislation. In March 2016, the Commission published a Roadmap¹ setting out the scope and objectives of the Fitness Check.

The overall aims of the Fitness Check are to:

- Further develop more modern, effective and efficient monitoring and reporting for EU environment policy as a necessary step towards delivering a better environment. This will reduce pressure on the public and private sector contributing to reporting, whilst also filling information gaps and thereby contribute to the REFIT objectives; and
- Contribute to the Commission's priority to create a Union for Democratic Change, making environmental information more visible and accessible to citizens, and achieving higher standards of transparency and accountability.

The Fitness Check will also support the following specific objectives:

- Better results on the ground (i.e. higher implementation and compliance rates);
- Better information and empowerment of citizens (i.e. transparent and publicly available information through active dissemination);
- Facilitating Better Regulation in the EU environment policy cycle (i.e. having the evidence base for evaluations and Impact Assessments and improving the overall knowledge and evidence base for Union environment policy); and
- Lower costs and less burden for those providing the information.

Based on the five evaluation criteria of effectiveness, efficiency, coherence, EU-added value and relevance, the Fitness Check will identify simplification potentials taking into account the need for ensuring attainment of existing regulatory objectives and compliance control. It will consider the scope of the various reporting obligations, their details, frequency and timing. Coherence and greater synergies across reporting obligations with other policy areas will also be considered as well as a modernisation of the reporting tools and solutions. A key focus will be on administrative burdens associated with reporting, and on ensuring that the system provides maximum benefits from the resources used. To this end, the Better Regulation Guidelines, in particular section V on monitoring, will be used as a reference point.

The Roadmap notes that simplification should lead to more useful information, and stresses that the initiative is not only about identifying ways to streamline and reduce the burden of reporting obligations but also about identifying whether additional information and data are needed and, if so, how that information can be collected in the most efficient way with least burden.

¹ European Commission (2016). Fitness Check (FC) Roadmap. Fitness Check of environmental monitoring and reporting obligations in environmental policy. http://ec.europa.eu/smart-regulation/roadmaps/index_en.htm

1.2 The aims and objectives of the support study

ICF, the Institute for European Environmental Policy (IEEP) and Denkstatt were commissioned by the European Commission to undertake a support study to provide evidence to inform the Fitness Check.

The overall objective of the contract was to provide administrative, organisational and technical support for the review of EU environmental monitoring and reporting obligations under the Better Regulation agenda.

The support study comprised the following main elements:

- Building an inventory of reporting obligations arising from EU environmental legislation;
- Assessment of the costs and benefits of reporting, using the standard cost model as set out in the Better Regulation Toolbox;
- Support to the evidence gathering and public consultation of the REFIT initiative and preparing dedicated products / reports as result of these processes;
- Support for consultative workshops with external stakeholders, including provision of administrative and organisational support as well as the necessary preparation of technical meeting documents; and
- Preparing a report on the basis of the Better Regulation Guidelines which presents the evidence base responding to the evaluation questions set out in the Fitness Check Roadmap, and also the consultants' conclusions as input to the Commission's evaluation report.

The work was carried out in close consultation with the Commission services and aimed to ensure a consultative process, allowing all contributors internally and externally to contribute to all of the deliverables of the contract.

1.3 Overview of study methodology

The methodology employed for each of the main tasks is summarised briefly as follows.

1.3.1 Inventory of reporting obligations

A desk review was carried out to identify the requirements meeting an agreed definition of "reporting obligations", and to assess the different aspects of those reporting requirements (including the timing and frequency of reporting, the nature of the information reported, the use of specific formats defined in implementing acts, etc.), which were recorded in the form of an Excel database. A process of validation with Commission services, followed by validation with the European Environment Agency (EEA) and with wider stakeholders, particularly Member States, allowed for further refinement of the characterisation of the obligations. Data on key characteristics was extracted from the inventory to inform the stakeholder workshops, and to provide the overview in Section 3 of the report, as well as to inform the responses to the evaluation questions.

1.3.2 Analysis of costs and benefits

An analysis was undertaken of the costs and benefits of each reporting obligation identified in the inventory, following the Standard Cost Model set out in the Better Regulation Guidelines. The initial assessment involved a desk review, designed to assess the overall significance of costs and benefits. This was followed up by further evidence gathering, including interviews with European Commission (EC), EEA and Member State (MS) officials, and focusing on those areas of legislation which appear to have the greatest and/or more uncertain costs and benefits (these were: air and noise, industrial emissions, waste and water). The findings were presented in a series of fiches for each item of legislation, which were shared in draft form with

stakeholders and revised to take account of the comments received. The methodology for the assessment of costs and benefits is set out in Annex 2 and the fiches in Annex 3.

1.3.3 Support for the public consultation

A public consultation to inform the Fitness Check was held between 18 November 2015 and 10 February 2016. The questionnaire included 15 questions, organised in six sections (introduction, general information, general principles and objectives relating to monitoring and reporting, current perceptions, areas for further consideration and additional evidence), and presented in a variety of closed-ended and open-ended formats. Responses were received from 150 stakeholders comprising public authorities, citizens and other stakeholders. The results are summarised in Annex 4.

1.3.4 Stakeholder workshops

The Fitness Check was launched at a workshop organised by the European Commission in cooperation with the Make It Work' project in November 2015 (in Brussels)². Stakeholder workshops were held in April 2016 (in Brussels) and in September 2016 (in Barcelona), to share emerging findings from the analysis and to give stakeholders an opportunity to comment on and input to the work. A further workshop took place in Brussels on 8 December 2016 to present and discuss the findings from the draft final report. Reports of these workshops are given in Annex 6.

1.3.5 Preparation of the evaluation report

The evidence collected was organised under the five themes and 19 questions specified in the Fitness Check Roadmap. This report presents responses to each of these questions.

1.4 This report

This final report presents the main findings of the support study, structured under the evaluation questions specified in the REFIT Roadmap.

The report is structured as follows:

- Section 2 summarises the purpose, objectives and intervention logic for environmental monitoring and reporting;
- Section 3 provides an overview of the suite of monitoring and reporting obligations linked to EU environmental legislation;
- Sections 4-8 present evidence, organised under the five evaluation themes of relevance, effectiveness, efficiency, coherence and EU added value, and the evaluation questions set out in the Roadmap under each theme; and
- Section 9 presents overall conclusions from the support study.

There are 9 annexes:

- Annex 1 contains the Excel spreadsheet inventory of EU environmental reporting obligations;
- Annex 2 outlines the methodology used in the assessment of costs and benefits of reporting obligations;
- Annex 3 presents fiches for each reporting obligation, which include a summary of the main details of the obligation and information about its costs and benefits;
- Annex 4 presents a summary of the responses to the public consultation;

² http://ec.europa.eu/environment/legal/reporting/workshops_en.htm

- Annex 5 presents fiches addressing 6 horizontal issues associated with monitoring and reporting;
- Annex 6 presents summaries of the findings of each of the stakeholder workshops;
- Annex 7 presents an analysis of the Standardised Reporting Directive;
- Annex 8 presents three fiches provided by the European Environment Agency, providing evidence on different reporting issues;
- Annex 9 presents a summary of the benefits of recent and ongoing initiatives to streamline reporting obligations.

2 The Purpose of Environmental Monitoring and Reporting

2.1 Introduction and definitions

The Commission's Better Regulation Guidelines define **monitoring** as the process that generates evidence of an intervention's activities and impacts over time in a continuous and systematic way. Such (regulatory) monitoring allows the European Commission to review the Member States' efforts when implementing EU law.

A monitoring system is a necessary and integral part of Better Regulation, helping to:

- Identify whether a policy is being applied on the ground as expected;
- Address any implementation problems of an intervention; and/or
- Identify whether further action is required to ensure that it can achieve its intended objectives.

Good monitoring generates factual data to improve the quality of future evaluation and impact assessment.

Reporting is a transfer of information and data from one entity to another. In the context of this initiative, it is a requirement for a European Member State to transmit information to the European Commission as a means to demonstrate successful implementation.

It is important to distinguish between the broader process of regulatory monitoring (see above) – which plays an important role in better regulation and applies to a wide range of policy contexts – and more specific environmental monitoring activities as set out in EU environment legislation. The information used in regulatory monitoring and reporting in the environmental field is often the result of environmental monitoring activities. For example, data collected from monitoring of ambient air quality or urban wastewater discharges informs environmental reporting under the relevant EU Directives, and plays an important role in regulatory monitoring in this context.

There are reporting provisions in place across the EU environmental acquis and, in particular, requirements for Member States to transmit to the Commission and/or to agencies such as the European Environment Agency information on:

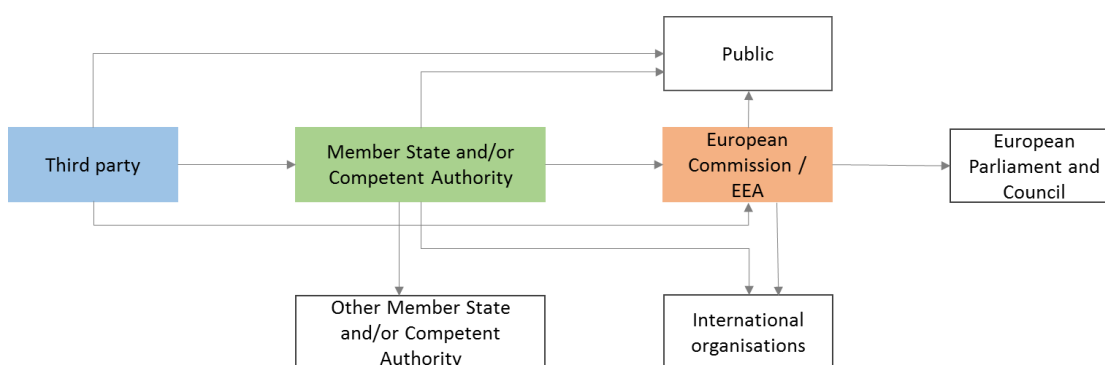
- (a) Basic details of implementation, for example on numbers of facilities regulated, decisions on regulatory issues, etc.;
- (b) The situation/progress in attaining the objectives and targets defined by legislation;
- (c) The profile and intensity of environmental pressures; and
- (d) The effectiveness of responses to environmental pressures.

The drafting of obligations varies by topic, and by the date at which the legislation was adopted, with the rationale for different design choices not always clearly articulated. These provisions lay down specific requirements for the information to be reported: data features, templates to be used, periodicity of submissions, etc. The definition of some of these requirements is left to expert committees or to legislative procedures within a particular environmental policy area.

The multiple paths of information flows are presented in Figure 1 Those which are in the scope of this study are highlighted.

Information flows may differ depending on the nature of the reporting obligation, but typically require a Member State and/or Competent Authority sourcing relevant information from third parties and data holders. They then make this information available to the European Commission in the first instance (which may also release this information to the Council of Europe and European Parliament), followed by the wider public and international organisations, as appropriate. For many items of environmental legislation, the EEA provides support to the Commission with regard to environmental monitoring and reporting, and collects, analyses and reports information from the Member States on the Commission's behalf.

Figure 1. Information flows under reporting obligations



In order to assess reporting obligations, it is important to distinguish them from other information obligations resulting from EU law.

Our definition of reporting obligations includes only those information obligations that arise as a result of the need to report to the Commission or to relevant agencies. A test of whether the gathering and transmission of information constitutes a reporting obligation is: whether that information would be collected and provided in the absence of a requirement to report to the Commission.

Other information obligations – such as the information required for permitting, labelling, product registration, inspections, compliance-checking or action planning – are not regarded as reporting obligations. To be clear, this report focuses on reporting and regulatory monitoring but not on the day-to-day environmental monitoring, which would happen regardless of any reporting requirement at the EU level.

The following list of reporting obligations were **not in the scope** of this study:

- Obligations for the European Commission to report, for example to the Council and Parliament, where this is not directly linked to the information supplied in response to the reporting obligations on Member States);
- When there is a reporting obligation (either for the European Commission or the Member States) to provide information to the public, without a requirement to provide this information to the Commission or to relevant agencies;

- When a Member State is required to provide information to another Member State, for example as part of the operation of the regulatory system (e.g. alerting another Member State to a cross-border issue); and
- When a third party, including for instance from the industry sector, is required to report to the Member State authorities but this information does not reach the European Commission.

2.2 The purpose and objectives of EU environmental monitoring and reporting

The role of environmental reporting varies between areas of legislation. In some cases it allows for Commission and legislator oversight of individual Member State choices on implementation. In other cases, it enables the collation of data that provides evidence on the implementation and impacts of EU environmental policy. This is a critical part of Better Regulation and ensures that evidence-based actions can be taken to ensure that policy is amended where necessary to ensure that it remains fit-for-purpose.

2.2.1 Objectives of environmental monitoring and reporting

Reporting obligations are put in place for most items of EU environmental legislation. They provide the legal mechanism to ensure that Member States provide information to the European Commission that can enable evidence-based regulation. This system is a critical part of Better Regulation, helping to:

- Enable the Commission to fulfil its duties as guardian of the accurate implementation of EU obligations by Member States;
- Identify whether a policy is being applied on the ground as expected;
- Provide evidence to identify and address any implementation problems of an intervention; and/or
- Indicate the impacts as they relate to the policy objectives and hence monitor whether the implementation of EU legislation is achieving its intended objectives, and identify whether further action is required to ensure that it can achieve its intended objectives.³

Monitoring and reporting is an essential part of the legislative cycle, as set out in the Better Regulation Guidelines. The Fitness Check Roadmap states that, in the field of environmental policy, the collection and use of information has several broad functional objectives:

- A. To demonstrate compliance with a legal obligation.
- B. To determine if the objectives of legislation are being achieved effectively and efficiently, including, where appropriate, ensuring a level playing field of the internal market.
- C. To inform the other EU institutions as well as the public and stakeholders at EU level on the progress of implementation and the identification of gaps.
- D. To help inform the understanding of an environmental issue and so help to improve decision making, e.g. policy evaluations or impact assessments.
- E. To identify and spread good practices amongst Member States.

Respondents to the Public Consultation were asked to rate⁴ the importance of a series of objectives for environmental monitoring and reporting. The overall average ratings

³ Based on: EC Better Regulation Guidelines. (SWD(2015)110, chapter 5). Available at: http://ec.europa.eu/smart-regulation/guidelines/ug_chap5_en.htm

⁴ On a scale of 1 to 10, where a score of 1 is of no importance and 10 is of very high importance.

indicate that respondents consider that all are important. Highest importance is attached to providing an assessment of whether legal obligations are met, followed by allowing stakeholders to understand the state of the environment and actions being taken to maintain it, ensuring access to environmental information for citizens, comparing MS performance in implementing EU law, with the lowest rating for indicating how well legislation is working (i.e. costs and benefits).

Table 1. Ratings assigned to the importance of different objectives, by participants in the Public Consultation

| Monitoring and reporting objective | Mean score (out of 10) |
|--|-------------------------------|
| Monitoring and reporting should allow for an assessment of whether EU legal obligations are being met | 8.8 |
| Monitoring and reporting should allow stakeholders to understand the state of the environment and the actions taken to maintain and improve it | 8.5 |
| Monitoring and reporting should generate reliable environmental information and ensure access to environmental information for citizens | 8.2 |
| Monitoring and reporting should allow comparison between Member States as regards their performance when implementing EU environment law | 7.7 |
| Monitoring and reporting should indicate how well the legislation is working (i.e. costs and benefits) | 7.3 |

2.2.2 Intervention logic for EU monitoring and reporting obligations

A model of intervention logic for EU monitoring and reporting obligations has been defined, as a reference point for the evaluation. The intervention logic defines the objectives of environmental monitoring and reporting, specifies the inputs used to meet these objectives, the activities involved, and the expected outputs, results and impacts of these activities.

At the core of this Fitness Check are the provisions in the different legal acts of the EU environmental acquis that focus on reporting obligations. Hence, the intervention logic presented below only refers to these reporting obligations contained in the different articles of the respective legal acts and not to the overall objectives of these pieces of legislation.

Amongst the reporting obligations in the acquis, the most common purpose is to provide information on implementation and measures taken in Member States, which allows for an assessment of EU level compliance. There are also many reporting obligations that indirectly facilitate this and allow for the European institutions and the public more widely to understand how the acquis is working in practice and what it is delivering.

A graphic representation of the general intervention logic for reporting obligations in the EU environment acquis is presented below in Figure 2.

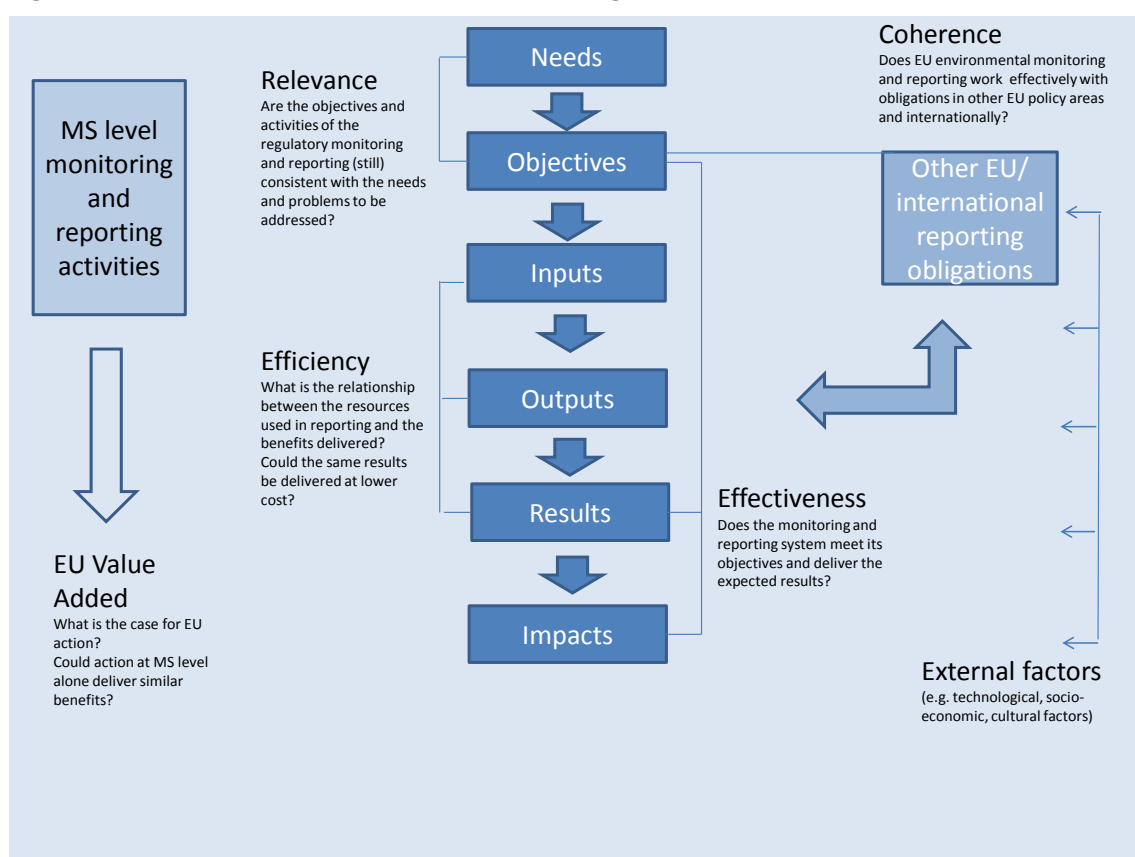
Figure 2. Intervention logic for reporting and monitoring obligations in the EU environment acquis



The intervention logic also provides a reference point for examination of the five evaluation themes (Figure 3):

- **Relevance** considers whether the objectives of the reporting system are consistent with the needs they are seeking to address;
- **Effectiveness** concerns the performance of the reporting system against its objectives, and is measured by the results and impacts achieved;
- **Efficiency** examines the relationship between the inputs used in reporting and the outputs and results achieved;
- **Coherence** examines the interactions of the system with other reporting obligations, including in other EU policy areas and internationally; and
- **EU added value** concerns the extent to which the effects achieved are greater than those that could be delivered by action at Member State level.

Figure 3. Links between the Intervention Logic Model and Evaluation Themes



2.2.3 Principles of environmental monitoring and reporting

The Better Regulation Guidelines stipulate that a fit-for-purpose environmental monitoring and reporting system should follow five 'governing principles'. It should be: comprehensive, proportionate, timely, minimise overlap and provide accessibility (Box 2.1).

Box 2.1 Governing principles for a monitoring and reporting system

The Better Regulation Guidelines⁵ specify five governing principles that a regulatory monitoring and reporting system should follow:

- **Comprehensive:**
 - The system should provide data that is sufficiently detailed to inform monitoring, evaluation and decision making.
 - It must provide data that cover the objectives of the intervention and should provide evidence on both the costs and benefits of the legislation.
 - Although monitoring systems generally collect objective (e.g. factual, quantitative) evidence, monitoring of subjective (e.g. opinion based, qualitative) evidence (e.g. periodic opinion polls or surveys) should also be included where useful.
- **Proportionate:**
 - A balance should be struck between the extent of information requested and the cost of its provision.
 - The weight of evidence provided should reflect the importance placed on different aspects of the intervention.
- **Minimise overlap:**
 - It should not duplicate requirements already in place. New reporting obligations should focus on gaps that need to be filled.
 - Information should be collected once and shared where possible for many purposes.
- **Timeliness:**
 - The timing of reporting should align with the when the evidence will be used.
 - It should provide data that is up-to-date at the point of use.
- **Accessibility:**

In principle, all evidence gathered should be made available to the general public. Reported information should be fully available to the general public, after due consideration of the appropriate level of aggregation and subject to appropriate confidentiality constraints.

The Make it Work⁶ initiative has proposed a similar set of principles, with some differences in emphasis (Box 2.2).

⁵ EC Better Regulation Guidelines. (SWD(2015)110, chapter 5)

⁶ *Make it Work* is an initiative by the governments of the Netherlands, the UK, Germany, Sweden and the Czech Republic, which aims to identify opportunities to improve the quality of EU environmental law, achieving its benefits while delivering a level playing field across the EU. MiW aims at delivering environmental outcomes more efficiently and effectively, without lowering existing protection standards.

Box 2.2 Principles suggested by the Make it Work initiative

- **Sufficiency:** is the information provided enough (level of detail, geographic coverage, etc.) to answer the questions being asked? If indicators are developed, do these encompass the right issues? If not, the information that is provided may have little or no value.
- **Proportionality:** is the amount of information requested AND the effort required to collect, analyse and provide that information proportional to the importance of the questions being asked? There is the 'other side of the coin' to the principle of sufficiency.
- **Quality:** it is important to ensure the information is of good quality, etc (so provisions to ensure this might be established at EU level, both in relation to monitoring and the processing and delivery of information).
- **Comparability:** there may be needs to ensure that information from different MS is comparable, so provisions to ensure common methods might be established at EU level.
- **Timeliness:** it is important to know if targets are being met (or progress towards) in a timely way so that failure can be acted upon.
- **Practicability:** whatever reporting provisions are adopted, it is important to ensure that these are practicable - in relation to collecting information (monitoring), processing and reporting, including the time to put systems in place.
- **Continuity:** a consistent time series of data might be needed in order to be able to assess trends and progress.

Most of these Better Regulation and Make It Work principles have already featured in environmental policy for some time, e.g. when developing the Shared Environment Information System (SEIS)⁷.

The Make it Work initiative and the public consultation both explored stakeholder perceptions of principles of environmental monitoring in detail. They highlighted that the value of information interrelates with many other principles. This underlines the necessity of understanding the key reason for reporting in each case and who the audience is for the required information. Some 60% of respondents to the public consultation noted a strong agreement with the principle that a balance needs to be struck between asking for information and the cost of its provision.

Respondents to the public consultation were asked to rate the importance of six principles based on those in the Better Regulation Guidelines. When average scores are compared by principle, we can see strong support for the principles that information should be collected once and used for many purposes, made fully available to the general public as appropriate, and be timely and up to date (Table 2).

⁷ <http://ec.europa.eu/environment/archives/seis/>

Table 2. Rating of importance of principles according to participants in the public consultation

| Monitoring and reporting principle | Mean score (out of 10)* |
|--|-------------------------|
| Information should be collected once and shared where possible for many purposes | 9.1 |
| Reported information should be fully available to the general public, after due consideration of the appropriate level of aggregation and subject to appropriate confidentiality constraints | 8.7 |
| Monitoring and reporting should be timely and up to date | 8.5 |
| A balance should be struck between asking for more information, and the cost of that provision | 8.2 |
| Monitoring and reporting should provide a very detailed picture | 6.4 |
| Monitoring and reporting should cover the costs and benefits of the action | 6.4 |

*Score is on a scale of 1-10, where 1 is not at all important at 10 is extremely important

3 Overview of EU Monitoring and Reporting obligations

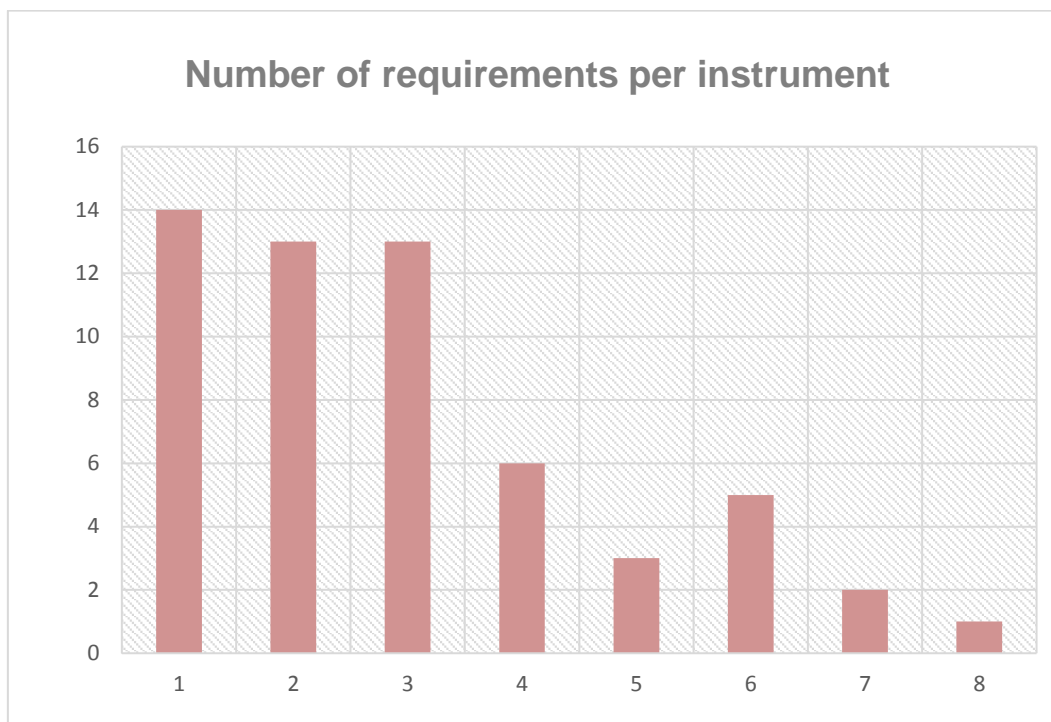
3.1 Number of Reporting Obligations linked to EU Environmental Legislation

The inventory developed for this study identifies 58 pieces of EU environmental legislation which give rise to reporting obligations at EU level. The focus on environmental legislation for which the EC Directorate General for the Environment (DG ENV) is responsible means that the inventory does not include environmental data covered in reporting obligations in legislation under the remit of other Commission Directorate Generals even if they have relevance for the environment (for example, statistical reporting under the responsibility of Eurostat). The issue is, however, addressed under the evaluation criterion of coherence to a certain extent. Within the scope of this project, reporting obligations (ROs) were identified in total. Each of the reporting obligations has a separate entry in the inventory.

Figure 4 shows the distribution of the number of reporting obligations per legal instrument. As expected, many of the legal instruments only have one reporting obligation but there are a small number of legal instruments which have multiple obligations. For instance, 5 instruments have 6 reporting obligations, including the Noise Directive and the Packaging and Packaging Waste Directive.⁸

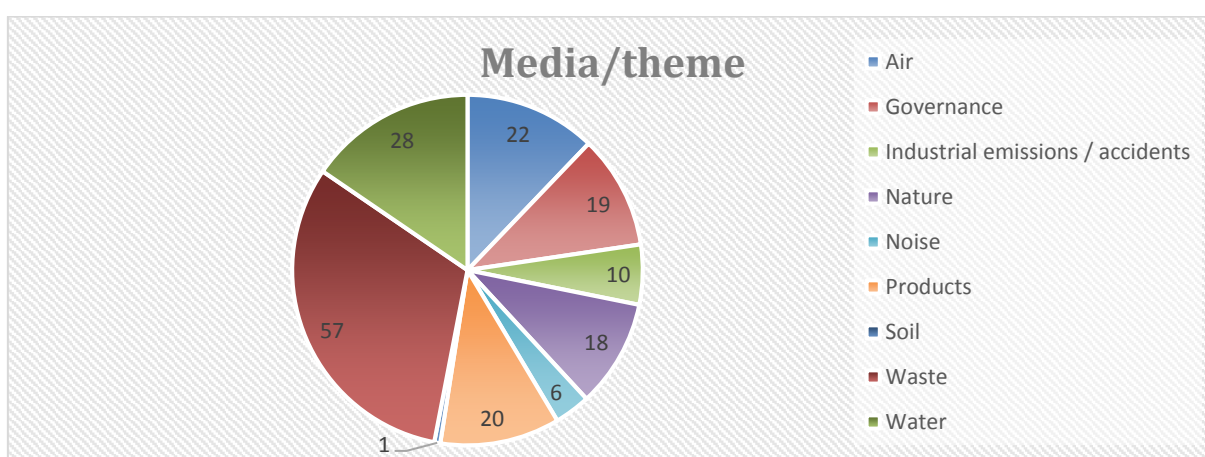
⁸ As indicated above, the presented reporting obligations are covered by primary legislation, i.e. in Directives, Regulations and Recommendations. Secondary legislation, which often provide more details about these reporting obligations and include delegated and implementing acts, are not discussed here.

Figure 4. Number of reporting requirements per legal instrument



The identified reporting obligations were categorised per leading environmental medium or theme and Figure 5 presents the overview of this. The greatest number of reporting obligations relate to waste. The second largest group is on water related issues while reporting obligations covering broader governance issues (e.g. environment impact assessment) came third. At the other end of the scale, only one soil related reporting obligation was identified and this relates to the Sewage Sludge Directive⁹.

Figure 5. Media / theme of the reporting obligations¹⁰



⁹ Council Directive 86/278/EEC on the protection of the soil, when sewage sludge is used in agriculture

¹⁰ The governance theme covers for instance the Directive 2004/35/CE on environmental liability with regard to the prevention and remedying of environmental damage and the Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.

The identified reporting obligations were also assessed according to whether they are included in the European Environment Information and Observation Network's (EIONET) Reporting Obligations database (ROD)¹¹. We found that only 69 of the 181 reporting obligations were separately included in the EIONET ROD, reflecting in large part our identification of a range of ad hoc and one-off reporting obligations (where there is little value in including the information in the ROD), and also some sectoral coverage issues (for example, chemicals legislation is under-represented in the ROD, due to the preponderant role of the European Chemicals Agency (ECHA)).

3.2 DPSIR coverage of the reporting obligations

The European Environmental Agency (EEA) uses a framework to assess the interplay between the environment and socio-economic activities as part of the causal chain on environmental issues. This is the so-called DPSIR framework (Driver, Pressure, State, Impact and Response)¹², which can be used to assess which types of content are included in reporting obligations, in order to provide an overview of the types of purpose and rationale behind reporting obligations.

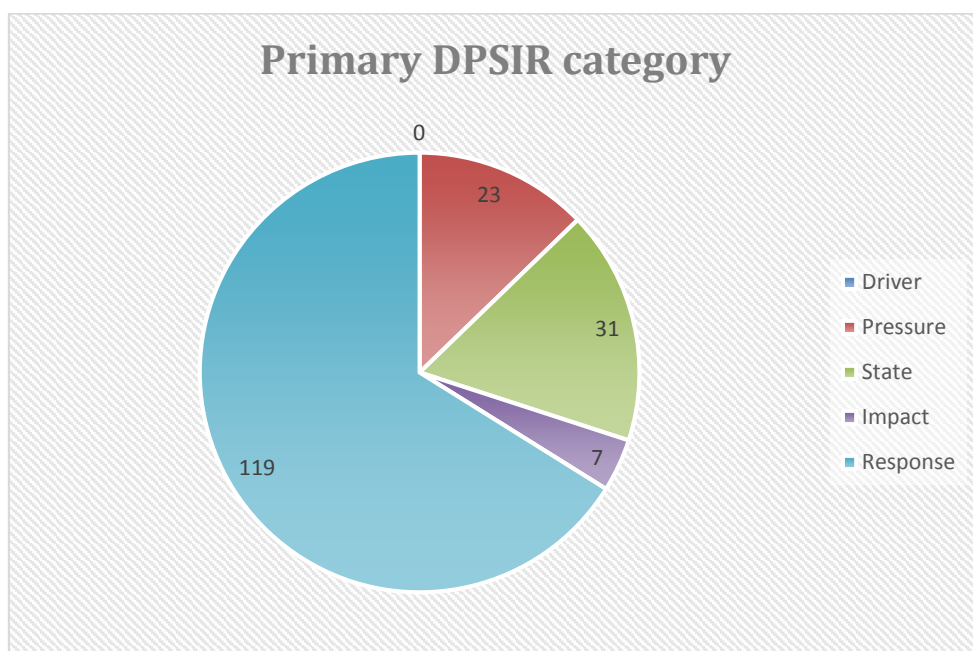
As part of the scoping exercise, we therefore recorded which DPSIR categories are addressed by the identified reporting obligations. In order to have a clear overview, for each reporting obligation we assigned one primary DPSIR category, recognising that making such judgements is in some cases a subjective exercise; we also recorded the other DPSIR categories which are addressed by each reporting obligation.

Figure 6 shows that two-thirds of the identified reporting obligations primarily address the 'Response' category (which are typically measures taken by public authorities to address environmental problems) while the remaining one-third of the reporting obligations are largely concerned with either the 'State' of the environment or "Pressures". The 'Impact' category is marginal, and no reporting obligations primarily address "Drivers" of environmental impact. This provides an interesting overview of the EU's key environmental legislation and the reporting obligations which are covered by them, indicating that one of the main purposes of EU reporting is to identify and provide information on the nature of Member State reactions to environmental issues and their implementation of legal obligations.

¹¹ ROD is the EEA's reporting obligations database, which records the environmental reporting obligations that countries have towards international organisations. It can be accessed at: <http://rod.eionet.europa.eu/>

¹² For more information on the DPSIR framework please visit the EEA's page at http://ia2dec.pbe.eea.europa.eu/knowledge_base/Frameworks/doc101182

Figure 6. Primary DPSIR category covered by the reporting obligations



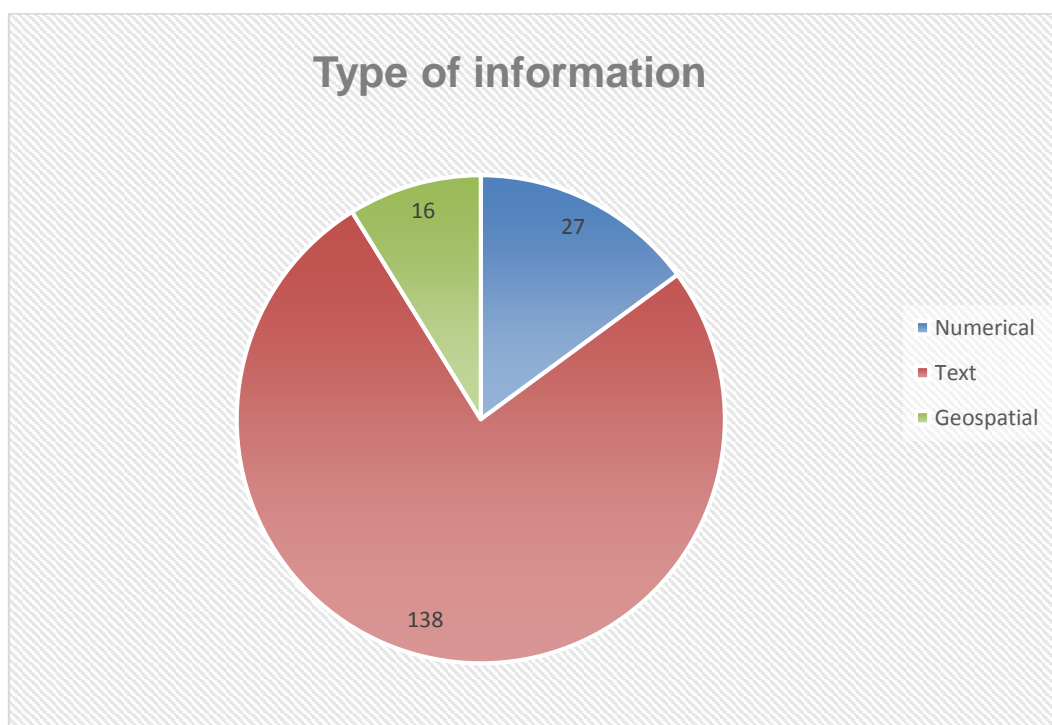
However, closer analysis suggests that the data are heavily influenced by the nature of the (extensive) reporting obligations under waste legislation; of the total 57 reporting obligations under legislation whose primary theme is “Waste”, no fewer than 51 are primarily concerned with the “Response” element of the DPSIR categorisation. If these are stripped from the data, the remaining non-waste reporting obligations show a still significant, but lower, preponderance in the “Response” category. Arguably, waste legislation is likely to be primarily about the proper management of waste, rather than about the state of the environment, since the ways in which waste is managed (essentially, the “Response” to waste arising) are themselves a driver of environmental impacts on soil, water, and air.

Tentative messages to be drawn from the DPSIR categorisation (noting that in each case it is the “Primary” DPSIR category we have analysed, and that other categories may also be relevant to a reporting obligation) are that the focus of many reporting obligations is on the extent to which or the way in which legislation is being implemented (is what the legislator stipulated actually being performed in practice? what different approaches to implementation are being adopted?), and to a lesser extent, its impact on the state of the environment (is it having the desired impact, or are there other emerging problems which need to be addressed?), both of which are clearly capable of contributing to a Commission assessment of the relevant legislation. The need to ensure full implementation is important one for the legislator, both in terms of ensuring that the required steps to deliver environmental objectives are being carried out, and also in terms of ensuring that Member States are treated equally under EU law. However, if simpler, more effective or more automated mechanisms can be devised for providing information on implementation, it may be possible to provide (in addition) valuable information on the state of the environment, and pressures on it.

3.3 Type of content

The identified reporting obligations were also categorised by the primary type of information that is required to be transmitted. Again, we focus on the main type of information, recognising that many obligations require a mix of textual, numerical, or geospatial information. The identified reporting obligations primarily require the submission of textual information (see 25 Figure 7).

Figure 7. Type of information reported



There are limitations to this categorisation, in that many reporting obligations are likely to require a combination of one or more of these types of information. However, this simple categorisation does seem to match with the observation above under DPSIR categorisation that over half of the reporting obligations concerned “Response”, which will typically require a text description of action by governments and others.

Typically, also, we would expect numerical data to require regular annual reporting, in order for them to be used in the construction of consistent time-series data, or in order for rapid policy responses to be signalled if necessary. This is to some extent borne out by a breakdown of the data above, which indicates that numerical data are relatively more prominent among those data reported annually. There are a number of possible causes for this focus on textual information; including the fact that our analysis does not include statistical reporting under the aegis of Eurostat. One consequence, however, is that the reports are less easy to automate, and require in many cases more effort to compile an overview, involving the exercise of judgement at desk officer level (or by consultants). The challenge of dealing with textual inputs across the full range of Community languages can also be considerable.

Table 3. Type of data and frequency of reporting

| | Numerical | Text | Geospatial |
|--------------------|-----------|------|------------|
| Annual | 15 | 13 | 2 |
| Regular >= 2 years | 9 | 37 | 6 |
| Other | 3 | 88 | 8 |

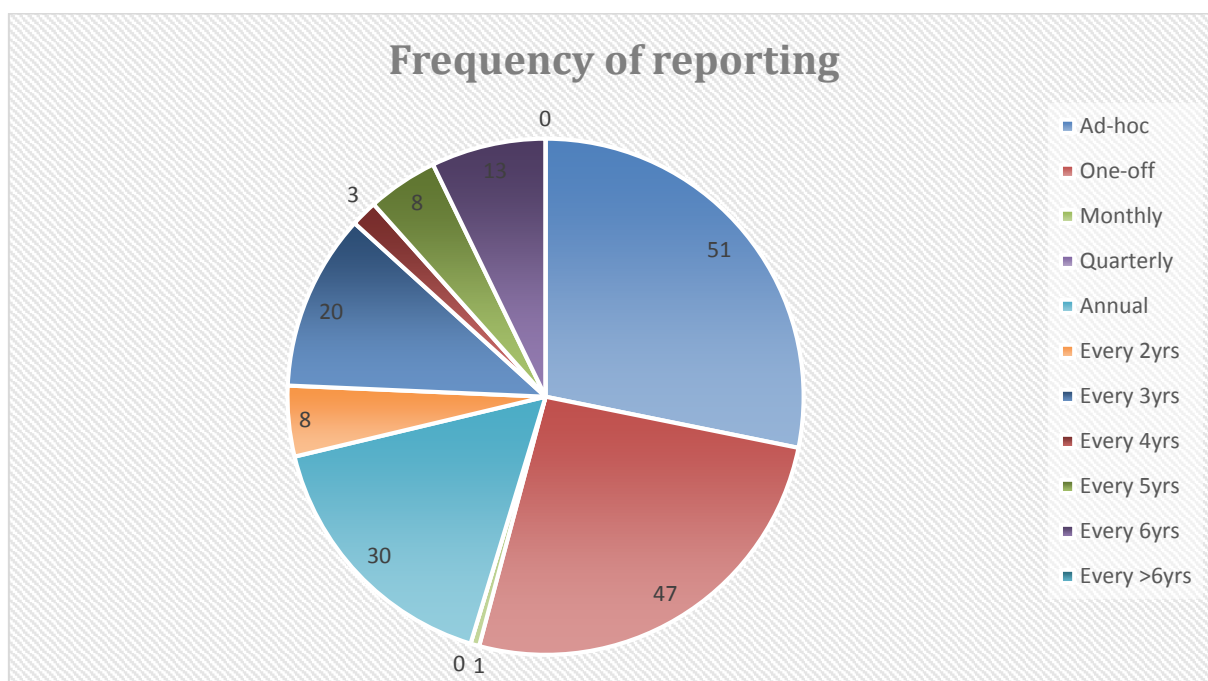
3.4 Timing

A key part of the analysis concerned the timing of the reporting obligations. First, we assessed whether the identified reporting obligation is a regular or a non-regular reporting requirement. We found that 78 reporting obligations required the Member States to regularly report to the Commission while 103 of the reporting obligations were either one-off or ad-hoc requirements. A one-off reporting obligation is for instance a requirement to transmit the list of competent authorities dealing with the

legislation, which was the case for instance under the Invasive Alien Species Regulation¹³ or the Access and Benefit Sharing Regulation¹⁴. Other examples include when the Member State needs to notify the Commission on exemptions or penalties. Examples of ad-hoc reporting obligations include those requirements where the reporting is linked to the occurrence of a specific event. For instance, if a Member State decides to limit any incoming shipments of waste destined to incinerators that are classified as recovery under the Waste Framework Directive¹⁵ it needs to notify the Commission.

Figure 8 presents the full overview of the frequency of reporting which also sub-categorises the regular reporting obligations. As indicated above the one-off and ad-hoc reporting obligations cover almost two-thirds of the reporting obligations. Out of the 83 regular reporting obligations the largest category is annual reporting obligations, but with more than half having reporting periods of more than two years, including a significant number (particularly in the water legislation) having a 3-year or 6-year cycle. The periodicity of reporting should clearly vary in accordance with the nature of the environmental medium and issue covered by the legislation; and long time periods should reduce the burden on Member States (while they may also lead to a lack of staff familiarity in environment ministries with the requirements of the reporting obligation).

Figure 8. Frequency of reporting



Within the inventory we also recorded the following information relating to the timing of reporting obligations:

- Last deadline for the Member State for reporting;
- Next deadline for the Member State for reporting;

¹³ EU Regulation (EU) No. 1143/2014 on Invasive Alien Species

¹⁴ Regulation No 511/2014 of the European Parliament and of the Council on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union

¹⁵ Directive 2008/98/EC on Waste Framework

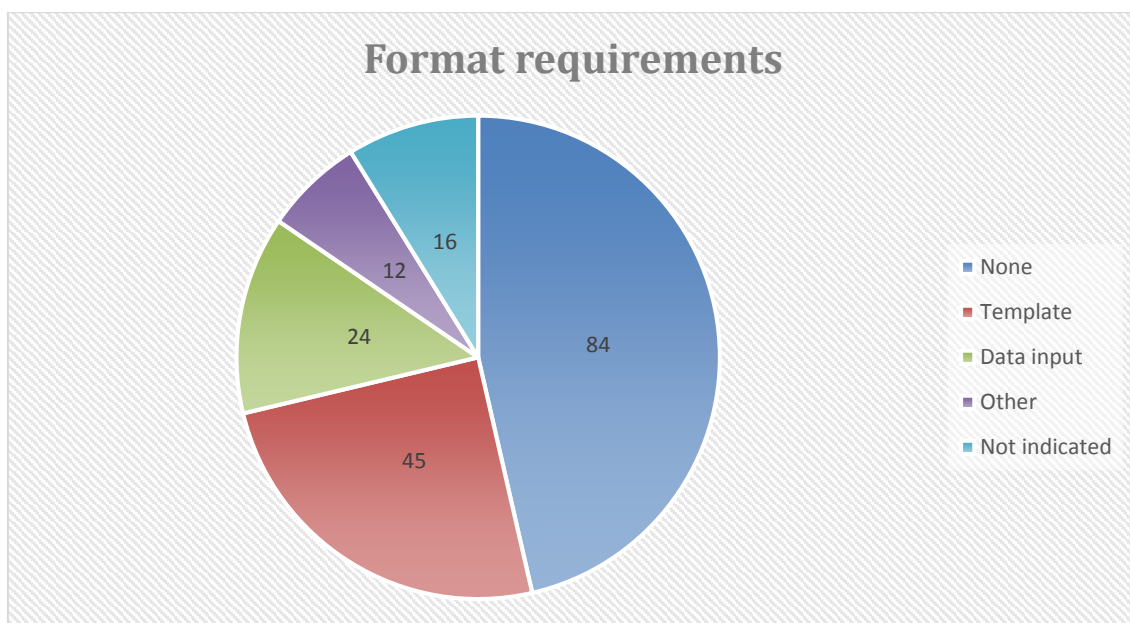
- Whether information reported by the MS is used in a Commission report (see section 3.7 below);
- Next deadline for the Commission to report;
- Date of the most recent Commission report; and
- Deadline of the MS report on which the most recent Commission report is based on.

3.5 Format and process requirements

The inventory also records information on the nature of format and process requirements related to the reporting obligations.

Figure 9 shows that almost half of the identified reporting obligations have no format requirement while the second largest group are those reporting obligations where a reporting template, which needs to be used by the Member States, exists. In third place are those reporting obligations which require a direct data input. Other format requirements include for instance questionnaires. However, if the “ad hoc” and “one-off” categories of reporting requirements are ignored, many of which have no format requirements, only 20 of the remaining regular reporting obligations have no format requirements.

Figure 9. Format requirements

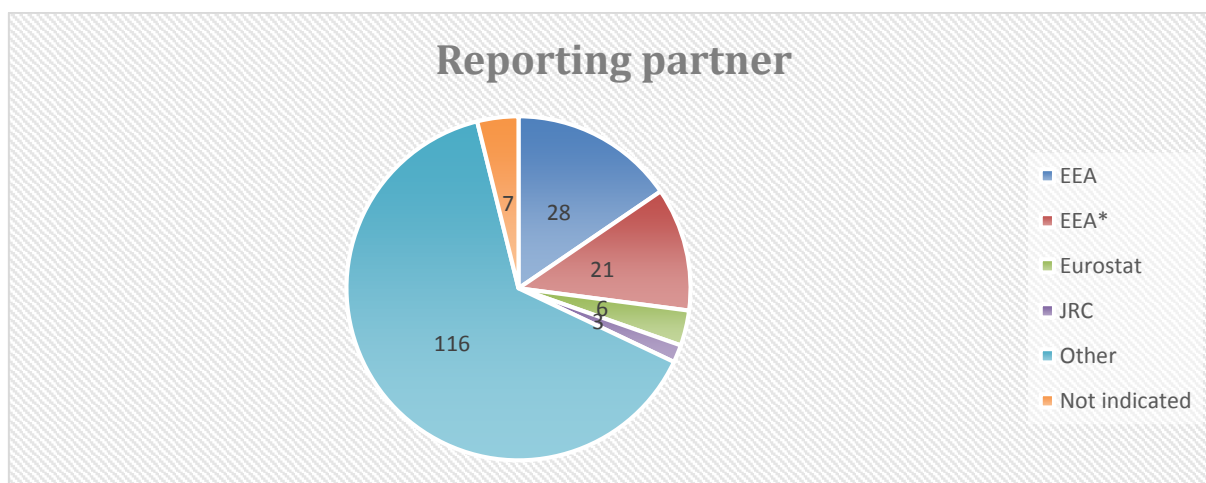


The reporting partners, who act as an intermediary between the Member States and the Commission and provide support in the information transmission, were also recorded; Figure 10 provides an overview of this information. Information on this was recorded for almost all entries in the inventory, with the exception of 7 ROs. One-third of the ROs are delivered via a range of partners including the EEA¹⁶, Eurostat and Joint Research Centre (JRC). The remaining two-thirds of the ROs are classified as having ‘Other’ reporting partners, which refer to out-sourcing or in-house work. These include, for instance, other EU institutions, such as ECHA, or in some cases

¹⁶ EEA* refers to those reporting obligations where the EEA provides some support but where some of the tasks are outsourced and not dealt with by the EEA.

consultants used by the Commission to assess and analyse the information provided by Member States.

Figure 10. Reporting partners



We also assessed whether the reporting is electronically facilitated or not and found that for almost two-thirds of the reporting obligations reporting is not done via an electronic platform. With the exclusion of ad-hoc and one-off reporting the results also showed a similar picture.

3.6 Brief overview of secondary legislation complementing the analysis of primary legislation

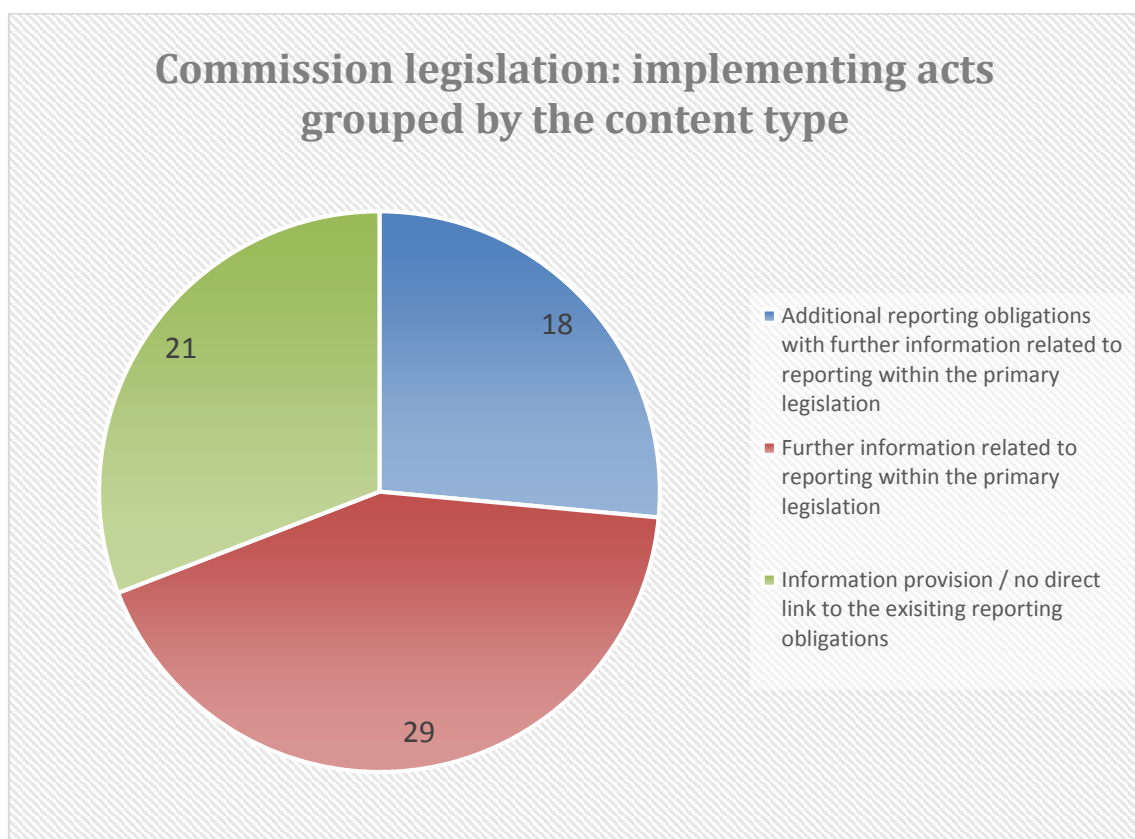
The analysis of reporting obligations in co-decided legislation was complemented by a review of the provisions of Commission legislation (delegated and implementing acts) which are relevant to reporting obligations. For each piece of co-decided legislation, a list of the Commission legislation was compiled and the content of each was classified according to the information provided.

In total, 68 pieces of Commission legislation were identified as being linked to the co-decided legislation analysed. They were classified according to their content using the following categories:

- (1) Legislation introducing additional reporting obligations as well as providing further information related to reporting within the corresponding co-decided legislation;
- (2) Legislation which provides further guidance or instruction on reporting obligations within the co-decided legislation (for example, formatting); and
- (3) Legislation with no direct link to the reporting obligations in the co-decided legislation.

The figure below shows a rather balanced spread of different categories of the implementing acts, with the largest number of documents providing further information about the primary legislation reporting. The smallest number of implementing acts introduce additional reporting obligations.

Figure 11. Identified implementing acts categorised by content type



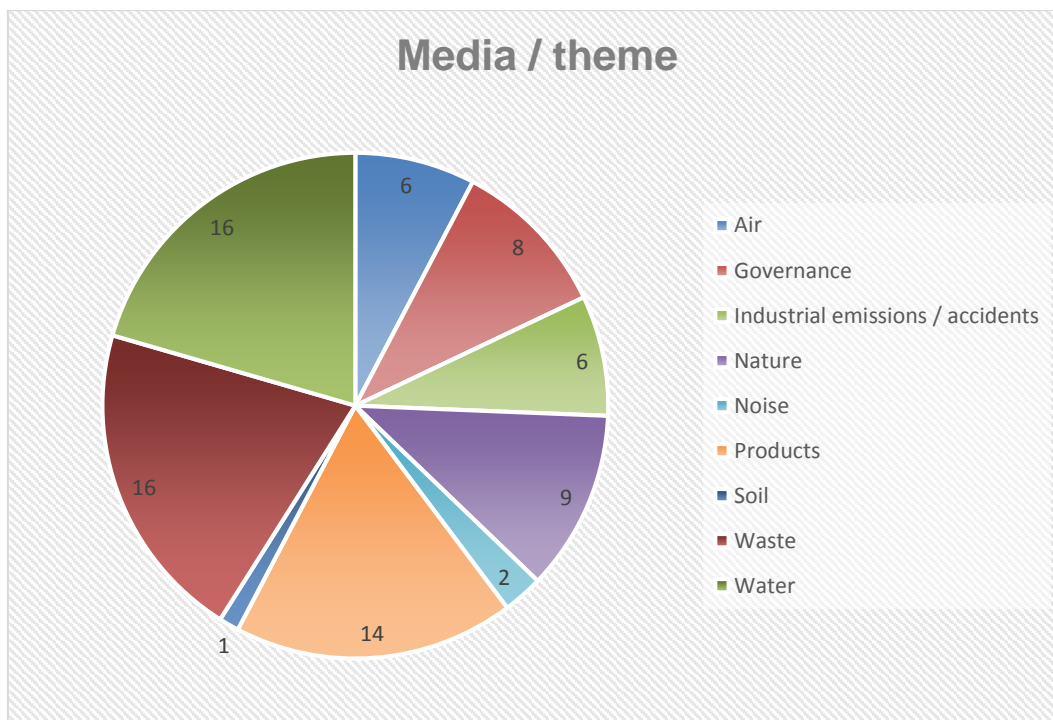
3.7 Overview of reporting obligations which are linked to Commission reporting

Within the inventory we recorded whether the information reported by the Member States is used in a Commission report or not. The analysis showed that in total 78 of the reporting obligations are linked to Commission reporting. These reporting obligations were separately analysed.

Water is the environmental medium/ theme most frequently, covered by these reporting obligations, followed by waste (Figure 12).

Out of the 78 reporting obligations, 44 primarily concern the 'Response' category, 17 primarily concern the 'State' of the environment, and 13 "Pressures". 51 out of the 78 reporting obligations are primarily text-based.

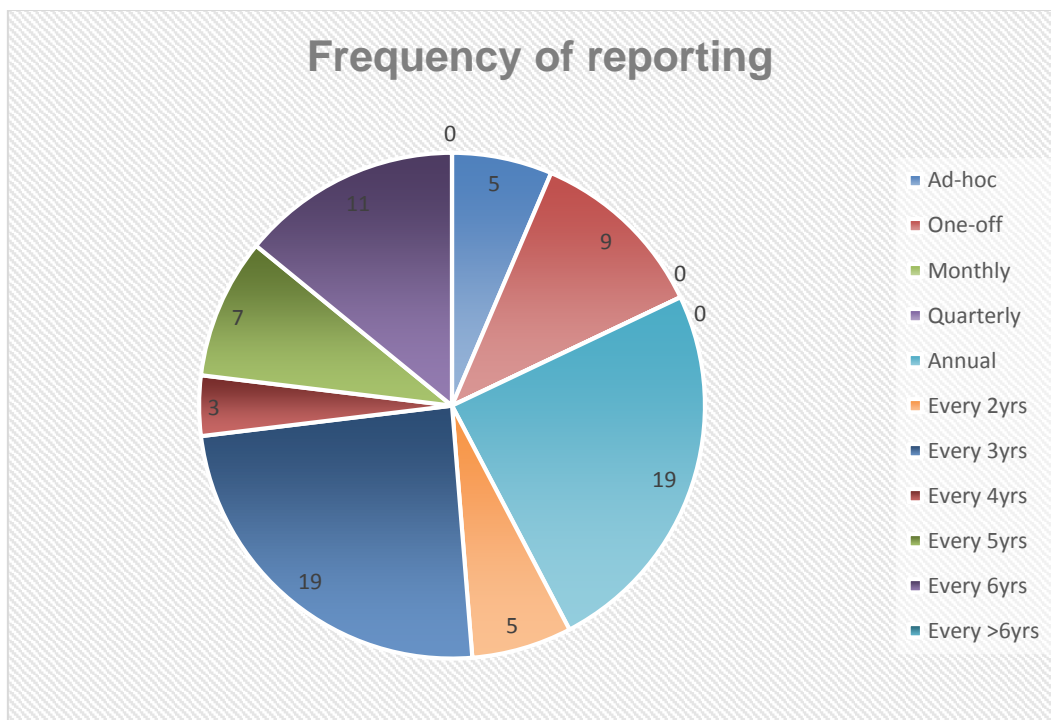
Figure 12. Media / theme of those reporting obligations which are linked to Commission reporting



An important difference between the full range of reporting obligations and the subset which is specifically linked to Commission reporting is that the majority of the latter have a regular reporting obligation, in contrast to the picture emerging from the full inventory. A distinction can be drawn between two broad types of reporting obligation: those where the Member State is required to provide regular information to enable the Commission to build a cross-EU picture of the state of implementation, or the state of the environment; and other obligations where specific events (for example, exceedances of limit values; the use of an exemption) envisaged in the legislation trigger an obligation to report, where the legislator considered that the Commission needed to be informed in case the legislation was not being implemented in the way envisaged, or in case new facts on the ground might require a policy response at EU level.

Out of the 78 reporting obligations linked to Commission reporting, 64 are regular reporting obligations and the two largest groups are those where the reporting needs to be done annually and every 3 years (see Figure 13).

Figure 13. Frequency of reporting of those reporting obligations which are linked to Commission reporting

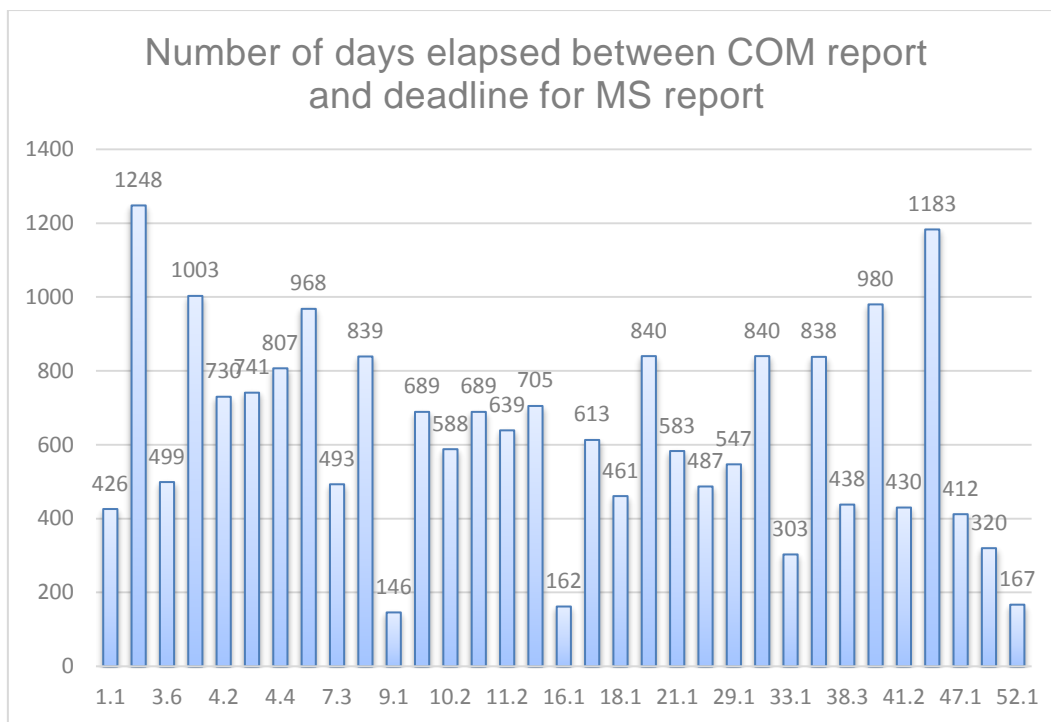


The dates of the most recent Commission report and the deadlines of those Member State reports on which these Commission reports were based were also recorded. With these two figures it was possible to calculate the number of days that elapsed between these two dates.

Figure 14 indicates the time elapsed between the Member State report deadline and the date when the Commission published its report for those 33 ROs where reliable information was available. Based on this information the average number of days elapsed between the Member State report and the Commission report was 631 days, i.e. more than 1.5 years. The longest time was required for the Strategic Noise Maps under the Noise Directive (no. 3.5), while the classification of bathing waters under the Bathing Water Directive (no. 9.1) was the fastest.

Nevertheless, there are some **important caveats** which need to be mentioned. Out of the 78 reporting obligations, reliable information on these dates was first identified for 38. Nevertheless, as in some cases multiple reporting obligation requirements for Member States are used in the same EC report there were some duplicate time delay figures. These were removed and led to identification of 33 time figures. Furthermore, it should be kept in mind that even though the inventory records the deadline for the MS reports, in many cases the reports from some Member States might have been submitted at a later date (or in some cases not at all). The Commission experts noted that in many cases at least some Member State reports were delayed. In addition, the complexity of the reported information, or variability in its quality, also has an impact on the time delays. The Commission experts noted that in many cases there is a need for a consistency check, or for additional analysis, or a public consultation, to be undertaken by the Commission, or for external consultancy to be used in order to analyse the information; and this further delays the publication of the Commission report. Further explanations for delay may be the internal procedures required to secure college approval of reports, particularly if accompanied by policy proposals, or the potential for reports to be caught up in the timetable for review of the policy, including through REFIT.

Figure 14. Time elapsed between the MS reporting and the EC reporting (no. of days)



Nevertheless, the figure indicates that many items of legislation have experienced a delay of more than two years between the deadline for Member States reporting to the Commission and the Commission releasing its report. Whatever the reason for them, such delays affect the timeliness and the relevance of the information reported at EU level.

The strikingly high results for the analysis of the delay between Member State reports in principle becoming due, and Commission reports in practice being published, is likely to reflect a number of reasons, but delays in or incompleteness of Member State provision of information clearly play a significant part. The underlying reasons may be many, for example, a lack of prioritisation in Member States, difficulty in generating the information, a lack of clarity on information requirements, a lack of effective Commission pressure to produce the information, delays internally in the Commission in using the information, and in some cases a simple lack of realism on the part of the legislator on the speed with which the Commission would be able to assimilate and analyse the information, and the resources which could be devoted to it. The practical result is the same: a reduced value from the reporting as a result of a delay in its use. Improved design of reporting obligations, aimed at maximising simplicity in meeting them by Member States, and ensuring that the reports have a clear value in policymaking terms at national level, may be one approach to overcoming this. In relation to the rationales for reporting obligations identified in the preceding section, however, asking Member States themselves to report on the effectiveness of their implementation may not create an effective alignment of incentives.

In order to better understand the nature of delays, the timeliness of Member State reporting was further assessed. Information about Member State reporting submissions was collected from the EIONET Reporting Obligation Database (ROD), the platform where Member States upload their submissions. These submission dates under specific reporting obligations linked to Commission reporting were recorded and with the respective deadlines the delays were estimated for each Member State. As

Member State submissions on the EIONET are not made according to any specific formula, it was challenging to determine how complete and robust each submission is. In many cases, submissions are delivered in multiple files, some with different time coverage, geographical coverage and/ or scope. In other cases, submission of these files spreads across a period of time; MS submit a part of their reporting requirements prior to the reporting deadline (or on-time), but then take time to complete it that results in a late submission. Some entries have a resubmission or revision request added to them. In some cases, no submissions with relevance to the most recent reporting deadline were made.

The submission delays of Member States are presented in Figure 15 and Figure 16 for the Strategic Noise Maps under the Noise Directive¹⁷ (reporting obligation no. 3.5) and the classification of bathing waters under the Bathing Water Directive¹⁸ (reporting obligation no. 9.1), respectively. As indicated above, these two reporting obligations were the most delayed and most timely in terms of the time elapsed between the Member State report deadline and the date when the Commission published its report for those. With regard to the Strategic Noise Maps it is clear that some of the Member States were very delayed, which has important implications on delivering the Commission report in a timely manner. On the other hand, the reporting obligation relating to the classification of bathing waters seems to be delivered to a large extent before the submission deadline, with only few minor delays.

Figure 15. Delay in Member State submission of information under the Noise Directive relating to the assessment and management of environmental noise (reporting obligation 3.5 in the inventory)¹⁹



* Negative entries denote submissions ahead of the deadline.

¹⁷ Directive 2002/49/EC relating to the assessment and management of environmental noise

¹⁸ Directive 2006/7/EC concerning the management of bathing water quality

¹⁹ Entries based on the information available under the Deliveries tab for each piece of legislation on the EIONET ROD website.

** Reliable information was not available for Cyprus, Greece, Italy, Latvia, Romania, Slovenia and the United Kingdom.

Figure 16. Delay in Member State submission of information under the Bathing Water Directive relating to the monitoring and classification of bathing waters (reporting obligation 9.1 in the inventory)²⁰



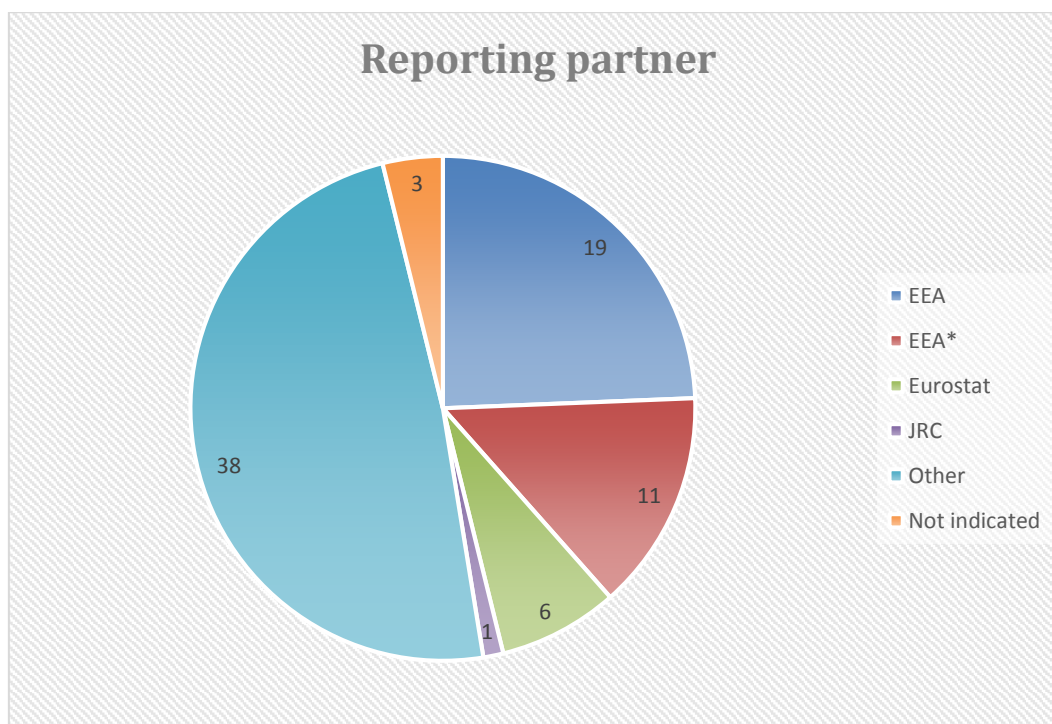
* Negative entries denote submissions ahead of the deadline.

** Reliable information was not available for Greece, Lithuania, Luxembourg, Poland and Portugal.

The reporting partners were also recorded; Figure 17 provides an overview of this information. The figure provides a similar picture as more than half of the ROs are classified as “other” or with no reporting partner indicated. The results also indicate that the EEA has a substantial role as a reporting partner for information used in the Commission reports.

²⁰ Entries based on the information available under the Deliveries tab for each piece of legislation on the EIONET ROD website

Figure 17. Reporting partners²¹



4 Relevance of the EU Environmental Monitoring and Reporting arrangements

4.1 Introduction

Relevance is concerned with the objectives of the EU intervention being evaluated and how well they (still) match the needs and problems that the intervention is seeking to address. It examines whether there is any mismatch between the objectives of the intervention and the (current) needs or problems, in order to inform decisions about whether to continue, change or stop the intervention.

It is necessary to consider whether the system of EU environmental monitoring and reporting, and the individual obligations within it, remain relevant to the principal environmental needs and problems that the system is seeking to address. It is also important to examine how the system has changed to take account of changes in technology, and hence whether the methods and processes within it are up-to-date and remain relevant to the current situation.

There are four evaluation questions under the relevance theme.

4.2 Is the process of environmental monitoring and reporting still relevant (as opposed to harvesting of data)?

4.2.1 Introduction

The process of environmental monitoring and reporting refers to the series of steps taken to satisfy obligations – collection, collation, analysis, quality assurance and transmission of information from obliged entities to the EU and onwards. Alternative approaches to satisfying obligations may circumvent this process, or parts of it, and

²¹ As above, EEA* refers to those reporting obligations where the EEA provides some support but where some of the tasks are outsourced and not dealt with by the EEA.

hence potentially reduce the administrative burden and/or improve the information that is reported.

The answer to the question is based on an understanding of the need for each step in the reporting process and the extent to which it remains a relevant step in light of alternative approaches available to enable the transfer of information between data holders and recipients. Specifically, it considers whether a data harvesting approach could be adopted thus making current reporting processes irrelevant.

The answer to the question requires an examination of the appropriateness of data harvesting, and the extent to which it could be employed to enable the transfer of information in place of current reporting processes. Relevant sub-questions are therefore:

- To what extent have other approaches such as data harvesting been adopted for ROs?
- Under what conditions might data harvesting be a more relevant approach than the current processes?
- What might the limitations / challenges be in adopting such other approaches?

4.2.2 Method and sources of evidence

The main sources of evidence for the answer to this question are:

- Review of Commission Fitness Checks and evaluations to ascertain identified issues and opportunities associated with data harvesting;
- Stakeholder views provided in response to the public consultation and workshops;
- Stakeholder views in response to workshops of the Make it Work initiative.

A range of opinions were provided by the EEA, the Commission, Member States and stakeholders on the relevance of the current arrangements and the feasibility of data harvesting. While the review identifies a variety of views on opportunities and challenges relating to the current arrangements, as well as the potential for data harvesting, limited detailed evidence was found and further investigation of the specific cases identified would be needed.

4.2.3 Evidence and analysis

In the context of EU reporting obligations, data harvesting is a process through which an EU hub database collects data automatically from multiple Member State databases, typically via the internet. The EU hub database subsequently hosts the data, making it available for use (internally by EU institutions or externally by other stakeholders e.g. the Commission, the public). As such, data harvesting represents an 'automatic', alternative approach, to the 'manual' approach to reporting most commonly used for EU reporting obligations. The process of data harvesting may be set up between a private database and the EU hub or a public database and the EU hub. In the latter case, data harvesting is closely related to the process of 'active dissemination'.

A number of stakeholders have indicated that other approaches to reporting, such as data harvesting, should be implemented as a replacement for the current reporting process; the potential for data harvesting was a recurrent theme in a workshop for the "Make it Work" initiative (see Box 4.1). Similarly, at the April 2016 workshop in support of this Fitness Check, some participants set out a vision in which harmonised environmental information would be accessible at all levels, from the public to the

European Commission, suggesting that this could reduce the need for, and burdens associated with reporting.²²

Key benefits of data harvesting over current processes are that it can provide access to large volumes of information, including raw data, which could enable more powerful / in-depth analyses and greater potential for multipurpose use of the data; and enable more frequent, in particular real-time, reporting. Where data is put online for harvesting, and that resource is made publicly available, there may be co-benefits in terms of improving public access to information.

Box 4.1 Role of Data Harvesting – Views Expressed in the Make it Work Workshop November 2015

Minutes from the workshop show that the following views were expressed by participants. Whilst opportunities for data harvesting were identified in a number of group discussions it is not however clear whether these were the views of individuals or a consensus of views:

- Systems should develop to allow for data to be harvested from national websites and eventually to link European level data with local/Member State level data. For example, on climate adaptation, as the Commission was receiving too much data from Member States, it switched to harvested data from the national level and then drafted synthesis reports for Member States to comment on.
- There is a need to avoid reporting the same data twice, such as for the National Emission Ceilings Directive and the Convention on Long Range Transboundary Air Pollution. When EU level institutions ask for information, they should first see if the data are already available, such as through 'data harvesting' (e.g. the extraction of data by the Commission from public databases at Member State level).
- The group highlighted the need to move towards data harvesting and to move away from reporting in xml schemas.

Source: Make it Work Workshop, November 2015

While data harvesting by the EU does currently occur via the European Data Portal (EDP)²³, which harvests metadata from public sector portals throughout Europe, it is not used for harvesting of information for environmental monitoring and reporting (although the EDP does also harvest data from the Open Data Europe Portal (ODP)²⁴, which holds datasets collected and published by the European institutions). The EDP website states that the 'European Commission is currently exploring how to bring those two portals closer together'.²⁵

There are few examples where data harvesting is used for EU reporting obligations. While there are some pilot projects, these have not reached full operational maturity²⁶. A prominent example relating to environmental legislation is air quality reporting. Since 2011, the EEA has directly harvested air quality data from Member States' monitoring stations (initially with a small group of pilot countries, but now with nearly all Member States). This provides the EEA with near real-time air quality data, which has been used in EEA products (e.g. map viewers). This has not, however,

²² 2nd Stakeholder Workshop on the Fitness Check on Environmental Monitoring and Reporting (27 April 2016). Workshop Meeting Note.

²³ <https://www.europeandataportal.eu/>

²⁴ <http://data.europa.eu/euodp/en/data>

²⁵ <https://www.europeandataportal.eu/en/faq>

²⁶ INSPIRE refit evaluation SWD

replaced the need for traditional reporting of air quality data and compliance by Member States via Reportnet. The data harvesting provides real time data, but it is raw, non-validated data. Member States still need to perform detailed quality checks and report to the EEA validated air quality information. Further evolution and use of the data harvesting aspect of reporting is expected and is hoped to bring further benefits.

More generally, in the marine sector, elements of the European Marine Observation and Data Network (EMODnet)²⁷ harvest marine data from Member States and other organisations and make data available both through machine to machine communication and through a central internet gateway, with a free and open data policy based on INSPIRE principles. It provides an important driver for a common, INSPIRE-compliant approach, to reporting for the Marine Strategy Framework Directive (MSFD) and will integrate with WISE-marine once developed. WISE-marine, like WISE²⁸, will offer Member States a common platform to facilitate their reporting, and will provide public access to this data.

The significant advance of open data at the EU and Member State level is providing ever increasing opportunities for data harvesting of a wide range of information.

Box 4.2 Possible opportunity areas for data harvesting

- Marine Strategy Framework Directive: data reported under Regional Seas Conventions may be amenable to data harvesting. *Source: Meeting with EEA 26.06.2016*
- Environmental Noise Directive (END): information made publicly available by Member States, such as noise maps, could be harvested directly by the Commission if made available by Member States centrally; however not all Member States make this information publicly available. *Source: The Centre for Strategy & Evaluation Services LLP, ACCON Environmental Consultants and AECOM (2016). Evaluation of Directive 2002/49/EC Relating to the Assessment and Management of Environmental Noise. Final Report. European Commission*
- The Urban Waste Water Treatment Directive (UWWTD) – because there are constant parameters reported on, the data structure may be amenable to harvesting; because reporting occurs on a regular basis, it may benefit from the automation provided by data harvesting. *Source: 2nd Stakeholder Workshop on the Fitness Check on Environmental Monitoring and Reporting (27 April 2016). Workshop Meeting Note*
- Water Framework Directive (WFD) River Basin District data *Source: Make it Work "Expert Workshop on "Environmental Monitoring and Reporting" - Summary*

The Access to Environmental Information Directive (2003/4/EC), the INSPIRE Directive (2007/2/EC), the Directive on the re-use of public sector information (2013/37/EU, amending 2003/8/EC), the Communication towards a Shared Environmental Information System (SEIS)²⁹, Structured Implementation and Information Frameworks (SIIFs)³⁰ and the Commission's Digital Single Market strategy³¹ of 2015 provide much of the necessary framework and infrastructure to support 'data harvesting' as an alternative approach to environmental reporting.

²⁷ <http://www.emodnet.eu/>

²⁸ The Water Information System for Europe (WISE) <http://water.europa.eu/>

²⁹ COM(2008) 46 final

³⁰ A concept introduced in COM(2012)95

³¹ https://ec.europa.eu/priorities/digital-single-market_en

INSPIRE provides a key route for addressing some of the challenges posed by data harvesting and its implementation will erode the relevance of the current process of reporting for relevant types of reporting obligations and promote opportunities for data harvesting. However further effort is required before INSPIRE will be fully operational. INSPIRE is not anticipated to be fully implemented until 2020 and there are a number of factors which are currently limiting the influence of INSPIRE on reporting processes – see Box 4.3.

Box 4.3 Factors limiting the influences of INSPIRE on current reporting processes

1. The INSPIRE Regulation regarding interoperable data specifications only entered into force between 2010 and 2014 (depending on which data themes in the annexes of the INSPIRE Directive were covered). As a consequence, the implementation deadline for most of the environmental data themes which are covered in the reporting obligations for the above-mentioned pieces of legislation are in Annex III and need to be transformed only by 2020.
2. The INSPIRE services through which harmonised spatial data could be harvested by reporting applications are outstanding, partially because of the above-mentioned timelines.
3. Not all relevant spatial datasets for reporting have as yet been identified by Member States. They have often not been made a priority since the reporting process was (and is) largely carried out without using the national spatial data infrastructures.
4. Reporting cycles of the various pieces of legislation are not aligned with the implementation of INSPIRE. Hence, several reporting deadlines apply every year until 2020 and no transitional arrangements have yet been agreed on how to move from a reporting process before INSPIRE to one that makes best use of the INSPIRE tools and services.

Source: INSPIRE REFIT evaluation

More broadly, stakeholders³² have raised a number of potential limitations and challenges that both diminish the potential benefit of data harvesting and indicate the continued relevance of the current reporting processes for some type of reporting obligations, even in the face of further developments in data harvesting and the underlying infrastructure.

- **Data harvesting is generally more appropriate for quantitative information, but can be used for textual information**

It is feasible to harvest textual information (e.g. reports) and quantitative data; what is important is that the information is appropriately structured so that it can be understood and processed by the data receiver. Further, a benefit of harvesting is that it enables transfer of large volumes of information which may be not be amenable to (or may be more cumbersome to) transfer via other methods. In general, data harvesting is therefore most commonly associated with quantitative information. For qualitative information there are less clear benefits with harvesting in place of manual e-reporting.

³² Through: workshops and responses for this Refit; Make if Work workshops; responses to other evaluations e.g. on INSPIRE and the Environmental Noise Directive.

It is reported that about 80% of all environmental data and information used by the EEA has a spatial dimension³³ and is relevant for INSPIRE and hence may hold the potential for data harvesting. However, more broadly for environmental reporting, the reporting obligations inventory indicates that a majority of reporting obligations produce information which is largely textual (although also contains quantitative data).

A view expressed at the September 2016 workshop³⁴ was that it may be feasible to convert some textual reports to quantitative reports, which may be particularly relevant under a future where key performance indicators (KPIs) are more widely used (section 4.4). It was also recognised that textual reporting could be restructured for data harvesting. An example was provided for the END, where a Commission expert³⁵ suggested that Member State summaries of their Noise Action Plans (NAPs) could be written into a structured form and harvested (rather than transmitted via Reportnet as a summary report of varying lengths, which is the current practice).

- **Potential divergences in end user needs could lead to conflict over how data is accessed.**

Where EU institutions are just one organisation seeking to harvest data, there is potential for a degree of control to be lost over the specification and format of the data. Other end users may have contradictory needs and hence demands for what is being made available, when and how. In particular this may present challenges where changes in reporting obligations result in a need to change the underlying datasets.

- **Reported data must provide an appropriate basis for legal actions.**

Environmental monitoring and reporting provides information that enables the EU to assess whether the legal obligations imposed on MS by legislation are being met. Results from this assessment may lead to infringement processes where MS are found not to be meeting requirements.

Given this, it was generally agreed at the September 2016 workshop (and noted in other stakeholder responses e.g. from Slovakia, Make it Work workshops), that Member States must have the opportunity to quality check the data being harvested and it is essential that that data is officially authorised, with appropriate processes and rules for data quality checking, validation, approval and exchange established. In the absence of such processes data may be changed after it is harvested. Notably where data harvesting is accessing real-time or raw data, satisfying these points is particularly challenging.

Ultimately therefore many of the steps of the current reporting process will remain relevant even if data harvesting is adopted as the means of data transmission. This is evident in current practices for reporting under the air quality directives, where raw data from monitoring stations is harvested by the EEA, but a compliance report (in which the data have been verified and assessed against targets/limits imposed via the legislation) is still required to be submitted by MS.

- **The costs and benefits of data harvesting need to be carefully considered**

³³ Commission Staff Working Document on the evaluation of Directive 2007/2/EC establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) and underpinning the report on the implementation.

³⁴ 3rd Stakeholder Workshop on the Fitness Check on Environmental Monitoring and Reporting (26-28 September 2016. Workshop Meeting Note

³⁵ Interview with European Commission, DG ENV on 02.09.2016

A number of participants at the September 2016 workshop³⁶ alluded to resource constraints on reporting. Ensuring adequate harmonisation of data requires resources and investment; but constantly changing reporting needs can prevent the investments necessary to enable data harvesting from coming forward. A respondent to the public consultation stated that there are risks inherent in converting too much data to INSPIRE compliance as technical specifications and formats quickly become outdated, resulting in cumbersome systems whose value erode overtime without continued maintenance. As such, it was considered likely that it would be necessary to prioritise certain reporting areas (and hence deprioritise others).

Data harvesting allows for continuous accessing to data. However for many reporting obligations data is not updated on a continuous basis. Whilst it is feasible to create timing rules associate with harvesting, the need to keep information up-to-date may place increased costs on data suppliers than under the current reporting arrangements.

Further, there is a high incidence of MS not meeting reporting obligation deadlines or only having partial sets of information ready by their due date (section 5.2). There is little advantage of an automated data harvesting process if data is not available at the time of harvesting. The Environmental Noise Directive (END) REFIT evaluation noted that some MS were keen to draw on their strong open access data policies, where all END information required for reporting is also published, and hence replace current reporting processes with data harvesting. However the evaluation identified both technical challenges in how some MS published this data (e.g. publishing information via local level portals rather than a single MS level portal) as well as poor timeliness of publishing information. It concluded that, given the current situation, 'it will not be possible to avoid the need for MS to input the same data via the Reportnet'.

As a result, the benefits of switching to data harvesting may be limited compared to the costs of doing so. Over-emphasis on adopting data harvesting presents a risk of creating a supply- instead of a demand-driven structure for reporting. To address this, stakeholders at the September workshop considered that there is a need for improved communication and joint working between the monitoring and reporting and INSPIRE communities.

While the emergence of interoperable data systems (e.g. in relation to INSPIRE and SEIS initiatives) is providing opportunities for data harvesting to replace manual reporting, the public accessibility of these systems also presents opportunities for other aspects of the monitoring and reporting process to evolve. Citizen science is one such opportunity. The EU Shared Environmental Information System Implementation Outlook³⁷ recognises that:

"The development of communication technologies through the internet creates highly valuable opportunities for citizen science and crowd sourcing, offering enhanced levels of participation in assessing (and determining) the success of EU environment policies. Crowds of citizens are often well-placed to monitor the state of the environment on the ground at any one time. However, current information systems rarely offer such flexibility and where relevant and justified, feedback systems could be promoted and encouraged, to capture and use information wherever useful."

The use of citizen science to inform policy making has to date been somewhat limited. While it has been used to provide data for indicators monitoring the EU biodiversity strategy (Box 4.4), and has now been accepted as a source of monitoring data under the Birds Directive, there is limited experience of citizen science being used to satisfy

³⁶ 3rd Stakeholder Workshop on the Fitness Check on Environmental Monitoring and Reporting (26-28 September 2016. Workshop Meeting Note

³⁷ European Commission (2013). Staff Working Document. EU Shared Environmental Information System Implementation Outlook. SWD(2013) 18 final

reporting obligations stemming from the environmental acquis. The EU has, through FP7, been supporting exploratory work to determine if and how better use can be made of citizen science to support environmental policy making³⁸.

Box 4.4 Use of citizen science for monitoring the European Biodiversity Strategy

The biodiversity indicator on 'trends in abundance and distribution of selected species', taken from the Streamlining European Biodiversity Indicators (SEBI) process, presents population trends in common birds and grassland butterflies. Monitoring of both of these species groups relies heavily on biodiversity observations by volunteers.

These indicators have played an important role in measuring progress towards the European 2010 biodiversity target of halting biodiversity loss in Europe by 2010 (EEA, 2009) as measured by the SEBI and will play an important role in measuring progress towards the targets in the EU 2020 Biodiversity Strategy and the Aichi Targets of the Strategic Plan for Biodiversity for the period 2011–2020 for the Convention on Biological Diversity

<http://www.eea.europa.eu/themes/biodiversity/biodiversity-monitoring-through-citizen-science/how-is-it-being-used>

Potential benefits of citizen science stem from reduced costs of data collection, access to real time data (e.g. drawing on technological development such as mobile-phone based data collection tools), direct access to the opinions of those impacted by environmental problems and large sample sizes and datasets. Potential challenges include concerns regarding quality assurance (QA), resource requirements for cleaning and handling large datasets, and maintaining citizen volunteer engagement over the course of the data collection period and over time.

Citizen science is more applicable to indicators on environmental state and pressures than response indicators. Response indicators are, however, disproportionately represented in the information set produced by environmental monitoring and reporting (see Section 3). In part this reflects efforts to minimise the number of obligations placed on Member States and the challenges (in particular due to resource constraints) of collecting data for many potential state and pressure indicators. If it can be effectively managed and implemented, there may an emerging role for citizen science to complement existing monitoring and reporting by seeking to redress these gaps.

4.2.4 Conclusions

It can be concluded that current reporting processes remain relevant. However advances being made by MS and the EU with open data policies will provide increasing opportunities to consider alternative approaches to reporting, most notably data harvesting. In particular INSPIRE is building an infrastructure that, when fully implemented (i.e. post-2020), will cement these opportunities. However this is not currently the situation.

Over the medium-term there will remain a number of specific challenges which need to be overcome for data harvesting to become a viable alternative to current reporting processes. Some of these may be addressed through, for example, the further implementation of INSPIRE or as part of the process of establishing data harvesting as the tool for reporting. For example it is essential to ensure that mechanisms are in place that enable data obtained through alternative approaches to be appropriate for use in legal proceedings. Other challenges are less within the control of the EU

³⁸ E.g. CITI-SENSE, Citclops, COBWEB, OMNISCIENTIS, WeSenseIt

institutions, such as the challenge of ensuring that data is available and complete in a timely fashion so that it can be harvested.

Despite this, data harvesting is likely to be increasingly viable for a subset of reporting obligations i.e. those where the nature of the data is amenable to harvesting (e.g. quantitative indicators) and where the benefits of harvesting outweigh the costs (e.g. there is benefit in real time data provision or in access to larger datasets). There will also remain a subset of reporting obligations for which data harvesting is an inappropriate, or at least inefficient, approach, most notably those which require some degree of bespoke drafting e.g. many reporting obligations related to implementation of legislation. Regardless of the approach taken to reporting, many of the current steps in the reporting process – most notably quality checking and subsequent analyses – will remain relevant.

SEIS-related initiatives are also providing the infrastructure for the management of citizen science to play a role in environmental monitoring and reporting, notably in supporting collection of data on state and pressure indicators. While improving, ongoing challenge around quality and consistency are likely to mean that any future role of citizen science is likely to be in support of, rather than in place of, existing monitoring and reporting approaches.

Technological developments are supporting ever more sophisticated approaches to citizen science. However use of and engagement with citizen science at the EU level is just beginning. While there remain challenges e.g. regarding quality assurance, there is also an opportunity for citizen science to support greater collection of state and pressure indicators to complement traditional environmental monitoring and reporting, with relatively minimal effect on administrative burdens. Future development of the monitoring and reporting system needs to be alert to this and ensure that this future role for citizen science is supported.

As such, the current process of reporting remains relevant and over the longer-term will remain relevant for certain aspects of reporting. However there are opportunities to replace current reporting processes with alternative approaches, and these are expected to increase in future. The challenge will be in establishing the appropriate mix of approaches in order to capitalise on the potential benefits whilst avoiding the potential disadvantages.

4.3 Are all environmental monitoring and reporting requirements still relevant?

4.3.1 Introduction

The evaluation question asks whether the information required by environmental reporting obligations is still relevant, given the needs that monitoring and reporting must address. For example, it is necessary to consider whether the information being provided is relevant to assessment of Member States' compliance with environmental legal obligations, as well as to the other objectives set out in Section 2 of this report. Requirements may become irrelevant over the lifecycle of legislation and as objectives and their relative importance change over time.

In order to answer this question, it is necessary to determine the extent to which the system has been able to change to ensure continued relevance, and whether there are existing requirements which are no longer used or no longer fully used to satisfy the objectives³⁹. Hence it is necessary to consider:

- What actions have been implemented to ensure continued relevance of environmental monitoring and reporting requirements?

³⁹ The question does not seek to understand whether the requirements are sufficient – this aspect is considered under the evaluation criterion of effectiveness.

- Are there instances where the requirements provide for information that is no longer fully necessary to satisfy the objectives of monitoring and reporting?
- Are there instances where additional information is needed?

4.3.2 Method and sources of evidence

The main sources of evidence for the answer to this question are listed below.

- Review of recent REFIT evaluations and other documents;
- Inventory of reporting obligations, which provides the views of Commission experts on issues of relevance across the environmental acquis;
- Stakeholder views provided in response to the public consultation and workshops; and
- Stakeholder views in response to workshops of the Make it Work initiative.

There is firm evidence on existing initiatives and associated relevance issues for legislation where comprehensive EU-wide evaluations have been undertaken. In addition, a range of opinions have been expressed by a variety of stakeholders on the relevance of reporting requirements, some of which would require further verification.

4.3.3 Evidence and analysis

Reporting obligations are set up in order to provide European institutions and other stakeholders with the information that they need to ensure that certain objectives are achieved. As the context within which these reporting obligations are set changes, so the needs for reporting change, and obligations must also change to ensure their continued relevance.

There is evidence to show that reviews of reporting obligations do occur – either specifically or as part of broader reviews and evaluations – and that changes are made to ensure the continued relevance of reporting obligations.

The Better Regulation agenda has created a strong driver for focussed efforts on enhancing reporting obligations – both to enhance their effectiveness and reduce their administrative burdens.

In particular, the May 2015 Better Regulation package led to a big increase in the number of evaluations being undertaken building on commitments already made as part of the REFIT programme. Evaluations (mostly under REFIT, but some outside of this programme) are being systematically applied across an increasing range of the environmental acquis. Many of these initiatives have been successful in identifying and addressing the relevance of reporting and ensuring that reporting obligations are amended to keep pace with changes in the legislation and its broader context.

Box 4.5 outlines a number of such initiatives that have occurred recently. Further evaluations are planned for other areas of environmental legislation over the coming years⁴⁰.

Box 4.5 Summary of relevant initiatives

- Proposals to revise waste legislation as part of the Circular Economy Package put forward a substantial simplification of reporting requirements. These proposals will improve reporting relevance by proposing the repealing of provisions obliging Member States to produce implementation reports every three years, reducing administrative burdens. Further, compliance monitoring would be exclusively

⁴⁰ Further details on planning REFIT evaluations can be found here: http://ec.europa.eu/smart-regulation/roadmaps/index_en.htm

based on data which Member States report every year to the Commission, so improving the quality, reliability and comparability of the information.

- EU water legislation was consolidated with the Water Framework Directive in 2000 and reporting was streamlined with many other pieces of legislation (bathing water, urban wastewater, nitrates, floods, etc.). More recently, a link to reporting under the Marine Directive mean that the programmes of measures which benefit fresh and seawater alike only need to be reported once in future.
- The Industrial Emissions Directive recast seven previously existing directives and streamlined administrative aspects including cutting reporting requirements by around half. The Directive uses state of the art web-based reporting technology, which reduces the administrative burden while increasing the added value of reporting.
- Reporting under the Birds and Habitats Directives has been streamlined in content and timing in recent years and allows now for joint reporting and analysis of the status of habitats and species.

Source: European Commission (2016). Towards a Fitness Check of EU environmental monitoring and reporting: to ensure effective monitoring, more transparency and focused reporting of EU environment policy. SWD(2016) 188 final

However, there remain a number of areas where evidence suggests that the relevance of reporting requirements may be questioned.

In many cases, relevance diminishes over the course of time during the life-cycle of legislation and as approaches to reporting evolve. This has been the case for the Standardised Reporting Directive (SRD). The SRD was introduced in 1991 with the aim of improving coherence by bringing reporting obligations together in one piece of legislation. However as the environmental acquis and its context have evolved, the SRD has proved overly burdensome and has become increasingly obsolete. There is a case for its repeal.

Box 4.6 The Standardised Reporting Directive

The 1991 Standardised Reporting Directive (the SRD) was adopted to streamline information flows before the advent of electronic reporting. Over time, the majority of the reporting requirements in the SRD become obsolete. Of the 28 acts originally mentioned in the SRD, only 2 remain subject to its provisions, namely the Sewage Sludge Directive (86/278/EEC) and the Asbestos Directive (87/217/EEC). Some sectoral legislation adopted after 1991 also refers to and makes use of the SRD reporting provisions. As a result, there currently remain 1 regulation, 9 directives and 17 decisions in force that still make reference to the SRD.

In general, the main drivers that eroded the SRD's relevance are: (i) the considerable development of the environmental acquis, including revisions of individual pieces of environmental legislation, which have frequently removed reporting obligations from the ambit of the SRD and (ii) radical progress in information and communications technologies (ICT), (iii) the European Environment Agency's assistance to the reporting obligations, and (iv) an unprecedented scale-up of the need for timely, cross-border, and interactive environmental information.

The few provisions that still actively refer to the SRD relate to asbestos, sewage sludge, waste and climate. Most of them have either recently gone through or are undergoing legal revision.

There is therefore a case for complete repeal of the Directive (provided continuity of reporting obligations that are still making an active reference to the SRD is ensured).

Source: Proportionate impact assessment of the Standardised Reporting Directive (91/692/EEC) repeal. Background Information (See Annex 7 for further details).

The views of Commission experts, recorded in the inventory of reporting obligations identified a number of relevance issues, including:

- Directive 94/62/EC on packaging and packaging waste (PPWD), including an obligation that 'before adopting economic instruments, Member States are to notify the Commission of drafts of the intended measures'. Commission experts indicated that, whilst in principle useful, nearly all measures under this obligation also qualify as technical measures to be notified under Regulation 1025/2012 for which an IT tool (TRIS) is available. As such Member States hardly ever notify the Commission under the provision of the PPWD.
- Directive 94/62/EC on packaging and packaging waste; Member States are to communicate to the Commission the text of their national standards on essential requirements. Commission experts indicated that the obligation was no longer relevant and was not used by Member States as the harmonized standards on packaging seem to have made national standards redundant.
- Directive 94/63/EC on the control of volatile organic compound (VOC) emissions resulting from the storage of petrol and its distribution from terminals to service stations. Commission experts indicated that the obligation to report on implementation had become obsolete in practice.
- Directive 2003/4/EC of the European Parliament and of the Council on public access to environmental information, including obligation to report on experience gained in the application of the Directive. Commission experts indicated that the reporting obligation is too generic and undefined, with an unclear link to compliance and enforcement. Nevertheless this Directive is often cross referenced in other directives. For example, the E-PRTR regulation contains provisions that refer to public accessibility, confidentiality and access to justice that refer back to obligations related to ensuring public access to environmental information in accordance with the requirements of Directive 2003/4/EC.
- Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS). MS are to notify the Commission of provisions regarding rules on penalties applicable to infringements of the national provisions adopted pursuant to the Directive, and notify Commission of any subsequent amendment affecting them. Commission experts indicated that having a snapshot of the penalties does not improve the way RoHS is enforced; many other aspects would also be needed e.g. inspections, cooperation).

The inventory of reporting obligations also identified a number of areas where issues of relevance had already been, or were in the process of being addressed. In particular the Circular Economy Package was identified a number of times as addressing issues with reporting obligations which were deemed to be lacking relevance. For example, under Directive 2000/53/EC on end-of life vehicles, reporting of implementation was mainly linked to transposition of the Directive for which compliance exercises have now been carried out. The requirement is proposed to be repealed under the Circular Economy Package.

Other issues that can affect relevance which can be discerned from the evidence including gold-plating of reporting and maturity of legislation.

Gold-plating of reporting, where MS independently chose to go beyond the requirements of the legislation and supporting texts, is sometimes cited as a concern. There are however also cases in which so called 'gold plating' is used to correct

inconsistencies or omissions in the underlying European reporting obligations. An administrative cost review⁴¹ found that around a quarter to a third of the reporting costs for businesses are the result of such gold-plating, indicating that it is a relatively common issue. It also suggests that because of gold-plating, improvements made to reporting obligations and processes at the EU level may not be passed on to MS businesses.

Further, there are instances where gold-plating at MS level can become normalised by changing MS expectations, resulting in some confusion about requirements even though there is no actual requirement for MS to report in line with the gold plated standard. For example, an evaluation of the Environmental Noise Directive (END)⁴² found that in Annex VI of the END, 'population exposure data by noise class is required in the hundreds only, but since many MS have reported on the precise number of inhabitants affected in each 5dB noise class, other competent authorities have now been asked to do likewise in reporting on population exposure data by the EEA. This was seen by some stakeholders as going beyond the concept of strategic noise mapping'. However, it was clarified that this was based on a misunderstanding of the requirements and in fact, exposure data to the nearest hundred is acceptable for END reporting purposes.

Maturity: Redundancies may occur in reporting requirements over the lifetime of legislation; as its implementation status and role in directing MS evolves, as evidence improves and understanding matures, or where the wider context within which it is set evolves.

At the September 2016 stakeholder workshop⁴³ it was suggested that plans to evolve reporting obligations over the lifetime of the legislation need to be clear and well made. Where such changes can be foreseen e.g. as legislation moves through initial implementation phases to a more mature status, forward plans to evolve reporting requirements should be clear - there are costs to constantly changing reporting requirements and early sight of requirements can support resource and systems planning to ensure effective delivery.

There may be opportunities to fine tune the level of detail by building in flexibility for MS to ensure that the level of detail provided in each instance is commensurate to the level needed. At the September 2016 stakeholder workshop⁴⁴, it was suggested that the closer a Member State is to the full delivery of the requirements of legislation, the looser the monitoring and reporting requirements could be made.

For example, when a desired environmental outcome is not being achieved, it can be important to evaluate MS responses and their adequacy. To consider this, detailed information on the measures implemented by MS is required. Reporting requirements should strike a balance between providing a basic level of detail, so that an understanding of the nature of measures being implemented across the EU can be deduced, and a more detailed understanding, provided only on an ad-hoc basis, in situations where outcomes are not being achieved. This idea is developed further in Section 4.4

The relevance of reporting requirements was sometimes questioned by stakeholders in the workshops and public consultation. In some instances, this appears to be as much

⁴¹ EU Project on baseline measurement and reduction of administrative costs – Report on the Environment Priority Area", July 2009

⁴² The Centre for Strategy & Evaluation Services LLP, ACCON Environmental Consultants and AECOM (2016). Evaluation of Directive 2002/49/EC Relating to the Assessment and Management of Environmental Noise. Final Report. European Commission

⁴³ 3rd Stakeholder Workshop on the Fitness Check on Environmental Monitoring and Reporting (26-28 September 2016. Workshop Meeting Note

⁴⁴ Ibid.

about stakeholders not understanding the relevance as whether the reporting is actually relevant. A lack of clarity of what the reported information is used for was raised a number of times at a Make it Work workshop.⁴⁵

At the third stakeholder workshop⁴⁶ it was suggested that where the relevance of reporting is not understood by all data providers, the level of attention / resources given to reporting, and the comprehension of what is to be reported, may be diminished. This can affect the completeness and quality of reported information and hence undermine the effectiveness of reporting. At the workshop it was also suggested that improving Member State's understanding of the relevance of the reported information may also lead to co-benefits as it helps Member States understand the legislation. Some stakeholders at the second workshop⁴⁷ held up the Water Framework Directive as an example of where the Commission provides details on what the reported information is to be used for, which should enhance comprehension of the relevance.

4.3.4 Conclusions

The Better Regulation agenda has provided an approach for the systematic review of legislation and the associated reporting obligations. Through evaluations and the REFIT programme there have been a number of successes in improving and amending reporting obligations in order to ensure and enhance their relevance.

However, opportunities remain for further enhancements. The constantly evolving context within which legislation operates, the changing maturity of legislation and MS progress in implementation mean that the relevance of many aspects of reporting will continue to change over time.

Whilst it is important to ensure that reporting obligations remain relevant, it is also important that their relevance is clear and understood by stakeholders in order to ensure appropriate resources are put to, and application made of, reporting requirements.

4.4 Are environmental reporting requirements relevant for assessing progress with Key Performance Indicators (building on the indicators system introduced by the Better Regulation Guidelines)?

4.4.1 Introduction

An indicator is a quantitative or qualitative measure of how close we are to achieving a set goal, such as a policy outcome. The EC Better Regulation Guidelines stress that core indicators should be defined that enable assessment of progress against the main policy objectives. These indicators can be defined at different levels:

- **Output indicators** measure the specific deliverables of the intervention (such as site management plans, inspections, monitoring reports);
- **Outcome/Result indicators** assess the effects of the intervention with reference to those directly affected (such as sites achieving required emission limits or good environmental status);

⁴⁵ European Commission (2016). Expert Workshop on "Environmental Monitoring and Reporting" organised by the European Commission and "Make it Work". Brussels, 19-20 November 2015. Minutes

⁴⁶ 3rd Stakeholder Workshop on the Fitness Check on Environmental Monitoring and Reporting (26-28 September 2016). Workshop Meeting Note

⁴⁷ 2nd Stakeholder Workshop on the Fitness Check on Environmental Monitoring and Reporting (27 April 2016). Workshop Meeting Note

- **Impact indicators** measure the broader effect of the intervention in terms of impact on the wider economy, society or environment (such as the overall state of air quality or water quality in the EU).

Tool #35 in the Better Regulation Toolbox provides more detailed guidance on monitoring arrangements and indicators. It stresses that indicators must be based on reliable and comparable data collected through sound monitoring systems, and be clearly and consistently defined. However, they can vary in detail depending on the type of initiative, the complexity of the intervention logic and the hierarchy of objectives for the intervention. To the extent possible, all indicators should be 'RACER':

5. Relevant, i.e. closely linked to the objectives to be reached. They should not be overambitious and should measure the right thing.
6. Accepted (e.g. by staff, stakeholders). The role and responsibilities for the indicator need to be well defined.
7. Credible for non-experts, unambiguous and easy to interpret. Indicators should be simple and robust as possible.
8. Easy to monitor (e.g. data collection should be possible at low cost).
9. Robust against manipulation.

Key Performance Indicators (KPIs) are metrics used to assess overall progress against objectives. They are widely used to assess the performance of businesses, public services and individuals, as well as the delivery of public policy. Application of KPIs aims to select the most relevant set of headline indicators which together capture progress against objectives. In the context of this evaluation, KPIs include the three types of core indicators promoted by the Better Regulation Guidelines (see above).

Monitoring and reporting obligations involve the collection and transfer of significant quantities of data and information about the implementation of the environmental acquis. Greater use of KPIs has the potential to reduce the amount of information demanded and hence to streamline reporting requirements. However, this needs careful consideration to ensure that reporting is not oversimplified and important information is not lost.

The question seeks to assess the relevance of current arrangements for the assessment of progress through KPIs. The analysis needs to consider:

- The potential role and application of KPIs with respect to environmental reporting;
- The extent to which KPIs are currently included within the information reported;
- How well KPIs are used at present (e.g. whether indicators capture the main objectives; whether KPIs are visible, rather than being lost within a larger body of information); and
- Whether a greater focus on KPIs could streamline reporting obligations and potentially reduce costs, without affecting the benefits of reporting.

4.4.2 Method and sources of evidence

The following research and evidence gathering tasks have informed the response to this question:

- Review of indicators literature and the role of indicators in EU policy;
- Review of reporting obligations – analysis of inventory and fiches to examine the nature of what is reported, including DPSIR categories, and the types of indicators appropriate;

- Review of use of indicators at EU level – e.g. State of the Environment report and 7th Environmental Action Programme – and how they link to monitoring and reporting obligations;
- Examples of good use of KPIs (e.g. Bathing Water) and areas where they are lacking or hidden;
- Stakeholder views and examples – public consultation and workshops;
- Review of recent developments – e.g. Circular Economy Package;
- Horizontal issues fiche on KPIs (Annex 5).

Overall, there is a substantial evidence base to inform the answer to this question, including a wealth of information about indicators as well as detailed information about the content of reporting obligations. The answer has required an analysis of this evidence against the evaluation question, making reference to the Better Regulation Guidelines in order to develop judgements about the relevance of reporting for KPIs.

4.4.3 Evidence and analysis

KPIs play an increasingly prominent role in assessing the progress and impact of EU policy. DG Environment has adopted five KPIs in order to help measure progress towards the achievement of its objectives. These five indicators, which are reported in the Annual Activity Report, are:

- KPI1: Resource productivity, measured as GDP (Gross Domestic Product) over DMC (Domestic Material Consumption) as a proxy for greening the economy, sustainable competitiveness and reducing environmental impacts of resource use.
- KPI2: Common birds population, as a proxy for the state of biodiversity and the integrity of ecosystems.
- KPI 3: Exposure to Air Pollution: percentage of urban population resident in areas in which selected pollutants exceed daily limit values.
- KPI 4: Percentage of surface water bodies in good ecological status or with good ecological potential.
- KPI 5: Residual error rate (RER), to reflect the degree of legality and regulatory compliance.
- KPIs 1-4 focus on the overall state of the environment, rather than the specific influence of environmental legislation, and DG Environment recognises that external factors often outside the DG's control also play a role⁴⁸.

The Better Regulation Guidelines indicate the importance of indicators in assessing progress at different levels: outputs, results and impacts. Environmental monitoring and reporting obligations cover data at a variety of different levels in the driving force/ pressure/ state/ impact/ response (DPSIR) cycle, but data from the reporting obligations inventory (Section 3) show that two thirds of obligations are primarily concerned with policy responses to environmental problems. The outputs, outcomes and impacts of policy interventions can all be taken to represent indicators of the effects of policy responses. "Results" indicators assess the effects of interventions in tackling environmental drivers and pressures, while "impact" indicators assess the resulting effects on the state of the environment.

This suggests that KPIs might address a range of outputs, outcomes and impacts, especially relating to the effects of policy responses and implementing activities.

⁴⁸DG Environment Annual Activity Report 2015 - http://ec.europa.eu/atwork/synthesis/aar/doc/env_aar_2015.pdf

For example, the Urban Wastewater Treatment Directive (91/271/EEC, amended as 98/15/EEC) requires Member States to collect and treat urban wastewater, to ensure the treatment of industrial wastewater, and to monitor discharges of wastewater to ensure compliance with specified emissions limits. Member States are required to report every two years on the situation relating to the treatment and disposal of urban wastewater and sludge. Relevant indicators include outputs (% of wastewater collected and undergoing different forms of treatment), results (changes in load of pollutants entering the marine and freshwater environment) and impacts (changes in the state of marine and fresh waters) (Table 4).

Table 4. Potential Key Performance Indicators for Urban Wastewater Treatment Directive

| | Indicator | Comment |
|---------|---|---|
| Outputs | % of wastewaters collected % of wastewaters undergoing secondary treatment % of wastewaters undergoing more stringent treatment | These are the key measures of compliance with Articles 3-5 of the Directive and form the main basis for compliance reporting |
| Results | Pollutant load entering freshwater and marine environment – measured for different pollutants (BOD, COD, total suspended solids) | Article 15 of the Directive requires MS to monitor specified parameters, and the results of this monitoring need to be reported in the biennial situation reports. |
| Impacts | Quality of bathing waters Ecological/ environmental status of marine environment and freshwater bodies | The legislation aims to impact on the state of the environment (i.e. water quality), which is also affected by the impacts of other legislation and wider environmental pressures (e.g. Nitrates Directive, changes in agricultural practices). |

The example illustrates that particular items of legislation may focus only on particular stages in the chain of environmental effects. For example, the Urban Wastewater Treatment Directive aims (by reducing pressures) to positively influence the overall quality of the marine and freshwater environment, but this is also affected by other environmental pressures and the legislation that addresses them (e.g. the Nitrates Directive). This suggests that a suite of KPIs addressing environmental impacts as well as outputs and results would need to work across related items of legislation, rather than being specific to each.

By comparison, reporting on air quality in Europe focuses primarily on the state of the environment. Reporting therefore focuses on the “impact” stage of the hierarchy of indicators specified in the Better Regulation Guidelines. Within the wide range of data and indicators, certain core headline indicators can be identified such as the percentage of the urban population in the EU-28 exposed to air pollutant concentrations above certain EU and World Health Organisation (WHO) reference concentrations. This indicator is presented on the EEA’s webpage⁴⁹ and used in the EEA’s report on air quality in Europe⁵⁰. The report does not present indicators of the

⁴⁹ <http://www.eea.europa.eu/data-and-maps/indicators/exceedance-of-air-quality-limit-3/assessment-2>

⁵⁰ European Environment Agency (2016) Air quality in Europe — 2016 report. <http://www.eea.europa.eu/publications/air-quality-in-europe-2016>

outputs and results of EU legislation, which are largely determined by other items of legislation aiming to control emissions.

Reports under different items of legislation often include indicators suitable for assessment of the effects of implementation at different levels (outputs/results/impacts) as advocated in the Better Regulation Guidelines. However, we could find no examples of a structured approach to this, involving tiered sets of indicators in line with an intervention logic model.

We carried out a preliminary analysis of the links between the reporting obligations identified in the inventory (in other words, legislative obligations requiring information to be provided to the Commission, or an EU agency) and the performance indicators set out in DG Environment's Strategic Plan for 2016-2020. As mentioned above, the Strategic Plan (in its Annex 1) identifies a number of indicators of policy performance, four of which are identified as potential KPIs (a fifth KPI, on the risk of financial mismanagement, is not linked to policy outcomes).

As could be expected from the nature of most of the reporting obligations (which are often focused primarily on checking, or enabling the checking of, compliance with the legislation, rather than performance in terms of environmental outcomes), the links with KPIs are not extensive. The source data identified for each of the performance indicators is, in most cases, not explicitly linked to the provision of information under reporting obligations, with only indicator 2.2 (conservation status of species), indicator 2.4 (marine waters under spatial protection measures), and indicator 3.2 (water bodies in good ecological status) referring to the relevant legislation (Habitats Directive, Marine Strategy Framework Directive, and Water Framework Directive, respectively). In other cases, some of the data used by the EEA may be based in part on reporting under environmental legislation (for example, under the Air Quality Directive, or the Environmental Noise Directive). Table 5 below sets out initial data on which Reporting Obligations in the inventory are potentially linked to the KPIs; a total of 12 are, with the remaining 169 not linked. In addition, we assessed whether the data reported under environmental legislation either clearly was, or possibly was, a contributor to the reporting against the identified performance indicator; 6 clearly were, and an additional 5 might contribute (further work identifying data sources from the relevant EEA reports would be required to provide a clearer picture).

Table 5. Potential links between KPIs and reporting obligations

| | DG Environment policy performance indicators (Key Performance Indicators in bold) | Data source (legislative ROs in bold) | ROs linked to KPI |
|------------|--|--|-------------------------|
| 1.1 | Total waste generated (kg/person) | Eurostat | 0 |
| 1.2 | Municipal waste generation (kg/person) and treatment (%) | Eurostat | 2 |
| 1.3 | Share (%) of toxic chemicals in total EU chemicals production | Eurostat | 0 |
| 1.4 | Getting prices right; environmental taxation: share of environmental taxes (energy, transport, pollution/resources) in total tax revenue (%), subsidies to fossil fuels phased out | Eurostat, OECD | 0 |
| 2.1 | Common birds population, index 1990=100 | Eurostat | 0 |
| 2.2 | Conservation status of species and habitats of European importance (percentage in conservation categories) | Habitats Directive reports | 2 |
| 2.3 | Mean annual urban land take per country as a percentage of 2000 artificial land | EEA/CORINE land cover | 0 |

| | DG Environment policy performance indicators (Key Performance Indicators in bold) | Data source (legislative ROs in bold) | ROs linked to KPI |
|------------|--|--|-------------------------|
| 2.4 | Percentage of the surface area of marine waters (marine regions and sub-regions) conserved through spatial protection measures | Marine Strategy Framework Directive | 3 |
| 3.1 | Percentage of urban population exposed to air pollution above EU standards | EEA | 1 |
| 3.2 | Percentage of surface water bodies in good ecological status or with good ecological potential | Water Framework Directive | 2 |
| 3.3 | Noise: percentage of population in urban areas exposed to more than 55 dB Lden and 50 dB Lnight | EEA | 2 |
| 4.1 | Effectiveness of application of EU environment legislation | DG ENV data | 0 |
| 4.2 | Structural funds interventions | DG REGIO data | 0 |
| 4.3 | % of EAFRD payments related to environment and climate | DG AGRI data | 0 |
| 4.4 | Fish catches from stocks outside safe biological limits managed by the EU in the North-East Atlantic (% of total catches per year) | ICES/CFP data | 0 |
| 5.1 | Percentage of EU cities applying for the European Green Capital Award (EGCA) | DG ENV data | 0 |
| 6.1 | Level of progress towards a greener, resource efficient global economy as, inter alia, reflected by clear policy commitments at the multilateral level | DG ENV data | 0 |
| 6.2 | EU participation in Multilateral Environmental Agreements: number of MEAs the EU is a signatory or a party to | DG ENV data | 0 |
| 6.3 | Progress with pre-accession work in candidate countries and potential candidate countries and with the implementation of association agreements (AAs) and wider cooperation with neighbourhood countries | DG ENV data | 0 |
| 6.4 | Environmental provisions introduced in bilateral agreements between the EU and third countries and regions | DG ENV data | 0 |
| 6.5 | Number of significant timber exporting countries with which EU has signed agreement to prevent illegal logging (Voluntary Partnership Agreements - VPA) | DG ENV data | 0 |
| Other | Inventory ROs with no link to DG ENV KPIs | | 169 |

Source: IEEP analysis based on the inventory of reporting obligations

An initial scoping was carried out on the question of whether the reporting obligations were in principle capable of being used as KPIs in respect of the relevant policy area. In some cases, notwithstanding their absence from the list identified in the Commission's strategic plan, they already are: for example, the compliance of bathing water with the requirements of the Bathing Water Directive is regularly reported, and used in practice as an indicator of progress. In other cases, even where the data provided under the reporting obligations is not primarily numerical, it could potentially be used to generate information in numerical form to provide evidence on progress and performance. In total, and on the basis of a very preliminary scoping, we

identified a total of 38 ROs out of 181 which could potentially be used in this way. The evidence from the analysis of the inventory therefore suggests that the bulk of reporting obligations are not closely aligned with reporting on the policy outcomes of environmental legislation; which in turn matches the earlier finding that they are primarily focused on assessing whether the legal requirements of the legislation are being complied with in practice.

Indicators play an important role in assessing overall progress towards environmental and sustainable development priorities at EU and global level. For example:

- The EEA uses a set of 30 indicators to monitor progress against the 7th Environmental Action Programme. These include a variety of state indicators (e.g. status of species and habitats, water and air quality), pressure indicators (e.g. greenhouse gas emissions, air pollutant emissions, production of toxic chemicals) and response indicators (e.g. environmental expenditures, renewable energy). They draw heavily on data reported under environmental legislation, as well as in related policy areas (e.g. fisheries, climate and energy policies)⁵¹. These are a subset of a catalogue of more than 200 environmental indicators developed by the EEA and Eurostat⁵²;
- A set of more than 200 indicators has been established to report progress against the UN Sustainable Development Goals (SDGs). These cover a range of economic, social and environmental issues. Data reported under EU environmental legislation are relevant to a number of these indicators (e.g. in relation to waste management, air and water quality and protected areas)⁵³.

These indicator sets demonstrate that current monitoring and reporting arrangements allow the construction of headline indicators on the overall state of the environment, which is affected by environmental policy as well as other external influences. They are helpful in assessing the overall state of the environment, but do not tell us in detail about the implementation of environmental legislation. They may therefore need to be accompanied by output and result indicators specific to particular items of legislation, particularly if there is a need to understand the reasons for adverse trends in the state of the environment.

KPIs play a particularly important role in reporting with respect to some areas of environmental legislation. For example, reporting against the Bathing Water Directive focuses on a simple headline indicator – the numbers and proportion of sites achieving different standards of bathing water quality (Box 4.7).

Box 4.7 Reporting of Bathing Water Quality in the EU

The Bathing Water Directive was adopted in 1976 by the Council of the European Communities (76/160/EEC). It requires Member States to monitor the quality of bathing waters and to ensure that they meet specified quality standards. The Directive was revised in 2006 (2006/7/EC) to take account of advancements in scientific evidence, ensuring that the most reliable indicators are used to predict microbiological health risk and achieve a high level of protection.

Under the Bathing Water Directive, Member States are required to report annually on the results of monitoring of bathing water. On 25 May 2016, the European Environment Agency published its report on the state of European bathing waters in 2015. The report was published in advance of the summer bathing water season, in

⁵¹ European Environment Agency (2016) Draft EEA Indicator Report - Monitoring of the Thematic Priority Objectives of The 7th Environment Action Programme

⁵² <http://ec.europa.eu/eurostat/web/environment/overview/environmental-indicator-catalogue>

⁵³ UN Statistics Division (2016) Tier Classification for Global SDG Indicators.

<http://unstats.un.org/sdgs/files/meetings/iaeg-sdgs-meeting-04/Tier%20Classification%20of%20SDG%20Indicators%20Updated%202023-09-16.pdf>

order to provide timely information to the public on the state of bathing waters. This timetable requires Member States to report their annual monitoring results to the EEA by 31 December each year.

While monitoring of bathing water is required to cover a range of parameters, the EU report focuses on a simple indicator of bathing water quality, the numbers of waters in each Member State that meet different quality standards. A summary of the 2015 results is given in Table 6.

Table 6. Summary of the state of the EU's Bathing Waters, 2015

| | | |
|--|--------|--------|
| Total number of bathing water sites | 21 288 | |
| Number of sites with sampling frequency satisfied | 20 620 | |
| Number and % of sites with excellent quality | 17 959 | 84.4 % |
| Number and % of sites with good quality | 1 939 | 9.1% |
| Number and % of sites with sufficient quality | 558 | 2.6% |
| Number and % of sites with poor quality | 349 | 1.6% |
| Number and % of sites with quality classification not possible | 483 | 2.3% |

The number of sites achieving different quality standards can be regarded as an impact KPI and the number of sites for which sampling frequency is satisfied an output KPI. The quality of bathing water depends on the results of a range of actions to reduce environmental pressures, including under other items of legislation such as the Urban Wastewater Treatment Directive.

The simple nature of the indicator makes it amenable to the provision of information to the public. The Directive requires Member States to communicate information to the public, and most provide information online as well as through other media. The release of the report each year attracts high levels of media coverage.

Source: European Environment Agency (2016) *European Bathing Water Quality in 2015*. <http://www.eea.europa.eu/publications/european-bathing-water-quality-2015>

However, in other areas, potential KPIs are not identified amongst the wider body of information provided. For example the latest report on implementation of the Sewage Sludge Directive (86/278/EEC) includes numerous items of data from different Member States, but no overall summary indicators are presented⁵⁴.

In some areas of the acquis, reporting obligations have been revised in recent years and now place a greater emphasis on KPIs. This is most apparent in the field of waste, where the Circular Economy Package includes proposals to repeal the obligation to submit three year implementation reports for the End of Life Vehicles Directive and replace them with annual reporting of rates of reuse, recycling and recovery. Similarly, under the Waste Electrical and Electronic Equipment (WEEE) Directive, three year implementation reports are to be replaced by annual reporting of data on the quantities and categories of WEEE produced, collected, re-used, recycled, recovered

⁵⁴ ESWI (2012) Final Implementation Report for the Sewage Sludge Directive (86/278/EEC). <http://ec.europa.eu/environment/archives/waste/reporting/pdf/Annex%202-1%20Sewage%20Sludge.pdf>

and exported. The Commission will review these data as a starting point for assessing compliance with the legislation.

These changes signal a greater emphasis on quantitative indicators – rather than text-based implementation reports – as a means of assessing implementation and compliance. It is also notable that they focus on results based indicators (such as rates of reuse, recycling and recovery) rather than assessment of outputs (such as the actions taken by Member States to comply with the legislation). It could be argued that reporting of activities and outputs is less important than the results that these achieve – such details might therefore only be sought in cases of non-compliance with result-based targets.

Greater use of KPIs has the potential to establish a more streamlined set of indicators that can more readily inform the evaluation of policy implementation and success. It could foster a more coherent and coordinated approach to presenting information across environmental legislation, a clearer and more coherent picture on the level of implementation and the “distance to target”, and a better linking between the content of what is reported and the use of data in the context of scoreboards and strategic communication⁵⁵.

Early thinking by DG ENV as part of the Fitness Check has suggested that KPIs could be employed as ‘level 1’ in a multi-level approach to reporting, conceptually defined as⁵⁶:

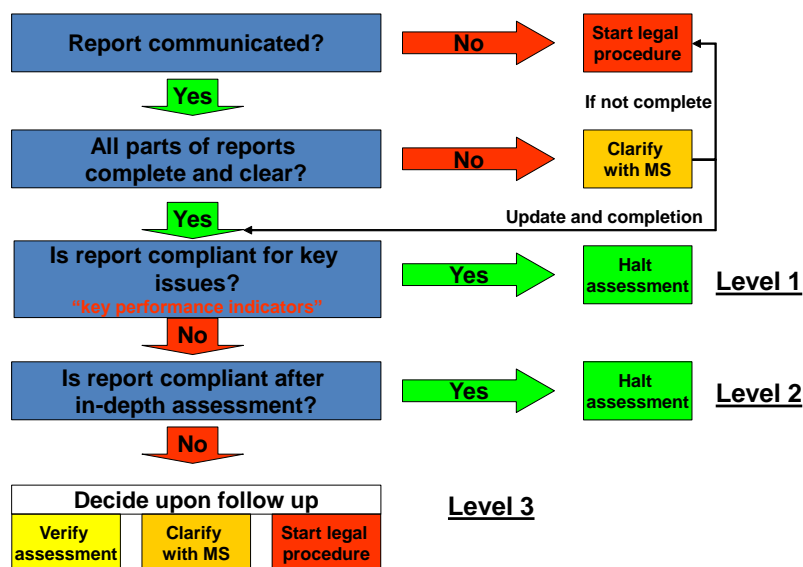
- Level 1: KPIs are numeric (only) and can be assessed very quickly (i.e. turn around less than 6 months);
- Level 2: additional information and data are only requested for non-compliant situations; and
- Level 3: additional, targeted information and data are requested only if issue is pursued further.

KPIs could be used as a first step in assessing overall compliance with respect to key issues addressed by the legislation. Only in cases of non-compliance would additional information be sought (Figure 18).

⁵⁵ European Commission (2015). Concept Paper for the Fitness Check of monitoring and reporting obligations in environment policy. The role of scoreboards in the context of the regulatory monitoring and environment implementation review and the development of “key performance indicators” - initial ideas for a conceptual approach. (Draft, 09/09/2015).

⁵⁶ European Commission (2015) [ibid]

Figure 18. Possible use of KPIs within a multi-level approach



Source: DG Environment, unpublished internal discussion paper

Such an approach would involve a significant reduction in the volume of reporting and could significantly reduce the time taken for reporting and the associated administrative burdens. However, careful consideration would be needed to ensure that important information was not lost, and that greater reliance on KPIs did not oversimplify reporting in particular policy areas, given the complexity of the environmental problems being addressed.

Scoreboards are an example of KPIs and are increasingly used to assess progress in the transposition and implementation of environmental legislation. They are particularly well suited to assessment of the outputs of legislation – i.e. measuring progress in the delivery of the required measures. Examples of scoreboards include:

- The Natura 2000 Barometer⁵⁷, which quantifies the terrestrial and marine areas designated as Natura 2000 and the level of sufficiency of the network. This is updated regularly in the Natura 2000 newsletter;
- Scoreboards used under the Water Framework Directive to show the state of play of transposition and reporting⁵⁸, and the adoption of River Basin Management Plans⁵⁹.

In addition, related to the environment there is a Resource Efficiency Scoreboard⁶⁰, Sustainable Development Indicators⁶¹, Transport scoreboard⁶², EEA Annual Indicators report⁶³, the Raw Materials Scoreboard⁶⁴ and others being investigated (in relation to circular economy or sustainable development goals). However, even when these cover

⁵⁷ http://ec.europa.eu/environment/nature/natura2000/barometer/index_en.htm

⁵⁸ http://ec.europa.eu/environment/water/water-framework/transp_rep/scoreboard_en.htm

⁵⁹ http://ec.europa.eu/environment/water/participation/map_mc/map.htm

⁶⁰ http://ec.europa.eu/environment/resource_efficiency/targets_indicators/scoreboard/index_en.htm

⁶¹ <http://ec.europa.eu/eurostat/web/sdi/indicators>; 2015 report: <http://ec.europa.eu/eurostat/web/products-statistical-books/-/KS-GT-15-001>

⁶² http://ec.europa.eu/transport/facts-fundings/scoreboard/index_en.htm

⁶³ <http://www.eea.europa.eu/publications/environmental-indicator-report-2014>

⁶⁴ <http://bookshop.europa.eu/en/raw-materials-scoreboard-pbET0215541/>

the same issue, they sometimes use different indicators for the same purpose or use the same data in different ways (for example giving total or per capita values). This inconsistency risks confusing messages or creating unnecessary demands in terms of data.

Scoreboards present information on key aspects of implementation of legislation in an easily digestible, summary form, enabling comparisons between Member States. They are most often used to assess progress towards implementation (e.g. transposition of legislation, designation of sites or competent authorities, development of plans, installation of treatment capacity, issue of permits etc.) but can also be used to monitor and assess ongoing compliance, both with respect to compliance activity and outputs (e.g. compliance with respect to levels of monitoring, permitting, inspection, reporting etc.) and the results and impacts (e.g. % of plant meeting emissions limits; % of sites in favourable conservation status or water bodies in good ecological status).

There is currently no consistent or standardised approach to the use of scoreboards across the environmental acquis. However, they could be adopted more widely and consistently, and, if accompanied by KPIs to assess overall environmental results and impacts, have the potential to significantly streamline the content of reporting.

Participants in the stakeholder workshops supporting the Fitness Check, as well as those organised by the "Make it Work" initiative, were generally supportive of the role of KPIs and gave some suggestions about how they might be applied in practice (Box 4.8).

Box 4.8 Stakeholder views on KPIs – Evidence from the stakeholder workshops and "Make it Work" initiative

Participants in the stakeholder workshops supported the idea of KPIs and underlined the potential for KPIs to streamline reporting obligations and reduce administrative burdens. However, they also cautioned that there are wide variations in environmental issues, priorities and approaches across the environmental acquis, and that any system of KPIs would need to reflect this. Currently, there are often substantial volumes of raw data associated with environmental reporting, and participants within the stakeholder workshops voiced concern that in some cases the volume of this data can be so great that only a fraction of it may be put to use in practical decision-making. The use of KPIs was seen as a way of prioritising or aggregating these data. While KPIs were seen to play a role in reporting at different levels (outputs, results and impacts), participants were generally sympathetic to the idea that there could be a greater focus on the results and impacts of legislation, and that detailed reporting of compliance might only be necessary in cases where environmental targets are not being met.

Discussion at a workshop of the "Make It Work" initiative⁶⁵ suggested that in situations where MS are meeting policy objectives or where a directive leaves it up to MS to decide how they respond, the actual need for the Commission to receive information on MS actions is diminished. In these cases "Level 1" KPIs could be defined in terms of the main indicator(s) required to monitor compliance, while more detailed aspects of implementation and compliance could be addressed through "Level 2 or 3" indicators.

These examples suggest that opportunities to increase the focus on KPIs may vary across the acquis, depending on the nature of the reporting obligation and the intended use of the information. The number and type of indicators that are appropriate may also vary according to the maturity and stage of implementation of the legislation. For example, implementation scoreboards may play an important role

⁶⁵ European Commission (2015). Expert Workshop on "Environmental Monitoring and Reporting" organised by the European Commission and "Make it Work". Brussels, 19-20 November 2015. Minutes.

in the early years, with results-based indicators becoming more important for mature environmental legislation. It would be important to ensure that KPIs were defined well in advance to ensure development of robust and appropriate monitoring and reporting systems.

The discussion above suggests that there is potential to make more use of KPIs and that they could potentially prove useful tools both in streamlining reporting obligations and improving the accessibility of reports as a communication tool. The latter could benefit especially from a more structured and consistent approach to reporting and the use of indicators across the environmental acquis. On the other hand, the risks of an oversimplified, one-size fits all approach, and the potential loss of valuable information this could entail, would also need to be understood.

A way forward might be to explore how a structured set of KPIs, in line with the Better Regulation Guidelines, would work across the environmental acquis as a whole, and could meet the specific reporting needs of each item of legislation. This would require both an overall framework (distinguishing between outputs, results and impacts and recognising that these apply differently across the acquis) and a structured case-by-case analysis of the particular issues and needs relating to each item of legislation.

4.4.4 Conclusions

The evidence suggests that environmental reporting obligations are relevant for the use of KPIs in reporting on the implementation and effects of environmental legislation.

However, the use of indicators and scoreboards varies widely across the acquis, and there is no structured or consistent approach. A minority of reporting obligations are currently or potentially linked to KPIs, suggesting that reporting obligations are not closely aligned with reporting on the policy outcomes of environmental legislation. Reporting obligations rarely present indicators in a structured way to assess the effects of implementation at different levels (outputs/results/impacts) as advocated in the Better Regulation Guidelines.

- There is evidence of an increasing focus on KPIs for reporting in some areas (e.g. waste), with a focus on outcomes rather than outputs. Overall, there is potential to increase the focus on KPIs within reporting, examining the potential to reduce or annex supporting information.
- There is merit in exploring how and whether a structured set of KPIs could work in a consistent way across the environmental acquis. This would require work to define a common framework and to examine whether and how it might work for each item of legislation.

4.5 Has the process of reporting taken advantage of technology: including advances in IT, increasing provision of data through Copernicus etc?

4.5.1 Introduction

The evaluation question asks whether the process of monitoring and reporting has evolved as technology has advanced, and hence whether it remains relevant given today's technology landscape.

Specifically the evaluation question references information technology (IT) and Copernicus. IT refers to systems used to store, retrieve and send information. Copernicus is the European Earth observation programme⁶⁶, which produces environmental data based on earth observation satellites and in situ sensors.

⁶⁶ <http://www.copernicus.eu/>

The answer to the question needs to be based on an understanding of the extent to which reporting processes have evolved and adopted new technology and whether this is pervasive across the acquis or whether certain areas lag behind.

The question requires consideration of:

- What is the recent history of technology adoption for reporting processes?
- To what extent have these technological developments been adopted?
- Are there policy areas or specific obligations which appear not to have adopted more relevant newer technologies?

4.5.2 Method and sources of evidence

The principal sources of evidence used to respond to the evaluation question include:

- The inventory of reporting obligations, which provides evidence of links with electronic reporting and reporting formats;
- A document review, covering Commission evaluations, reporting-related initiatives and reviews;
- Environmental monitoring and reporting Fitness Check public consultation, which provides an indicator on stakeholder opinions of the use of technology; and
- Stakeholder views from workshops and feedback, providing examples of technology related advances and opportunities.

There is robust evidence on technology-relevant issues for legislation where comprehensive EU-wide evaluations and reviews have been undertaken. In addition, the stakeholder consultations and workshops provide a range of opinions from the EEA, the Commission and Member States on the use of technology, some of which would benefit from further verification.

4.5.3 Evidence and analysis

Systems for reporting have been evolving from paper-based reporting to electronic reporting including differing degrees of standardisation and automation. An important driver for this was the establishment of Reportnet⁶⁷ by the EEA in 2002, which provided an inter-related set of tools and processes delivered via the internet. Reportnet was initially used for reporting environmental data to EEA, but now also hosts some of DG Environment reporting tasks.

Legislation and its reporting obligations have progressively made use of such facilities and other technological developments. For example, the Water Information System for Europe (WISE)⁶⁸ was launched in 2007 and provides a platform for e-reporting of all water legislation. It has since moved to electronic reporting only, getting rid of paper reporting and using harmonised electronic reporting to build comparable publicly accessible EU datasets. Related to this, the MSFD has catalysed the development of WISE-Marine, part of a Shared Environmental Information System (SEIS), for marine environmental reporting. WISE-marine is designed based on INSPIRE principles and should link through to the evolving EMODnet. In addition, since 2012, the European Commission has run a pilot programme under the Urban Waste Water Treatment Directive (UWWTD, 91/271/EC) to improve reporting processes and data dissemination towards the public by the development of Structured Implementation and Information Framework (SIIF).

⁶⁷ <https://www.eionet.europa.eu/reportnet>

⁶⁸ <http://water.europa.eu/>

Box 4.9 The benefits of Reportnet – an example for the Environmental Noise Directive

- The use of Reportnet by most MS under the END helps to promote an integrated approach to environmental reporting, since national authorities are using Reportnet as the reporting system to submit data and information to the EC in respect of other environmental Directives. For instance, national CAs can use their Eionet username in order to access the CDR within the Reportnet. Using the same system to report on different Directives is more efficient than developing different IT systems for different Directives.
- The use of Reportnet by the majority of MS since 2009 has helped to strengthen the efficiency of END reporting, since there would be inefficiencies if MS used different methods of submitting SNMs and NAPs (e.g. due to the need for manual data entry)

Source: The Centre for Strategy & Evaluation Services LLP, ACCON Environmental Consultants and AECOM (2016). Evaluation of Directive 2002/49/EC Relating to the Assessment and Management of Environmental Noise. Final Report. European Commission

In an internal analysis⁶⁹ of reporting requirements and complaints procedures it was found that 20 out of 30 Directives/Regulations reviewed make use of electronic reporting systems with Reportnet used in 75% of such instances.

However, even for those reporting obligations where Reportnet is available, it is not fully utilised. The research⁷⁰ found that even when Reportnet is available, some Member States chose to report hard copies and/or via email, but in no instances was reporting only paper-based. For example, the END evaluation found that a majority, but not all MS use Reportnet.

The inventory of reporting obligations indicates that electronic reporting is supported for at least 56 of the 180 reporting obligations identified. Analysis of the inventory indicates that there is currently limited use of 'data input' within existing reporting formats, accounting for some 14% of the reporting obligations identified. For the majority of reporting obligations there is no formalised format requirement, possibly indicating that many reporting obligations are currently not set up for standardised IT-based reporting.

The increasing use of IT and electronic reporting, as well as the emergence of open data policies and increased data sharing, gave rise to a need to define and harmonise electronic data standards. The INSPIRE Directive⁷¹ was adopted in 2007 to this effect. It sets technical standards for the interoperability of spatial data. It seeks to take advantage of the opportunities created by IT to create a European Union (EU) spatial data infrastructure and enable the sharing of environmental spatial information among public sector organisations and better facilitate public access.⁷²

⁶⁹ Moore Stephens (2014). Analysis of Reporting Requirements and Complaint Procedures. Draft Final Report. European Commission. 07.010211.00.04/2014/ENV.SRD.1/SI2.675250

⁷⁰ Moore Stephens (2014). Analysis of Reporting Requirements and Complaint Procedures. Draft Final Report. European Commission. 07.010211.00.04/2014/ENV.SRD.1/SI2.675250 (ICF analysis of raw survey data)

⁷¹ Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) (for more details, see <http://inspire.ec.europa.eu/>)

⁷² The Directive aims to address problems with: missing or incomplete spatial data, incomplete descriptions of spatial data, difficulty to combine different spatial data sets, inaccessibility of spatial data and various barriers to data sharing.

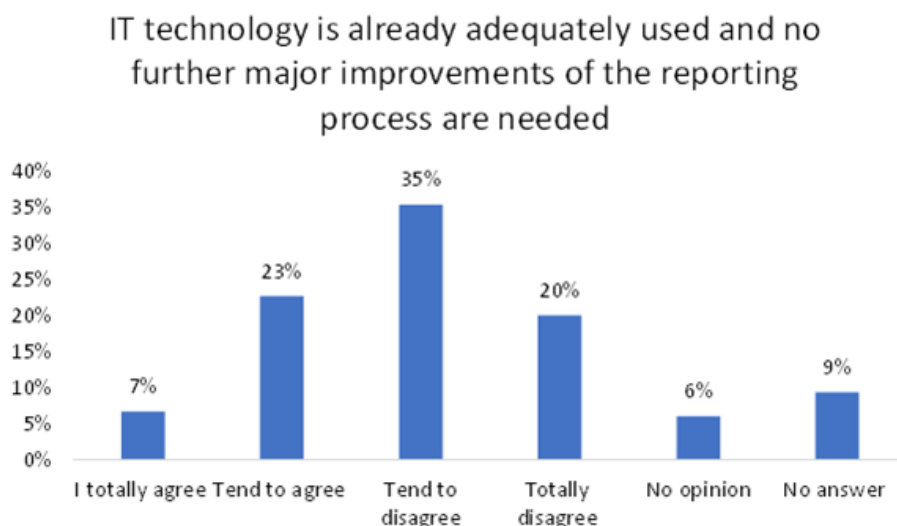
Indeed, information and data are managed by a wide variety of actors. Efforts for greater access to ever larger volumes of data generated by new technologies creates an imperative to maintain some level of structure and harmonisation of technological solutions and that interoperability is promoted. Related to this is the Shared Environment Information System (SEIS)⁷³, which was proposed in 2008, and similarly seeks to take advantage of developments in IT. The goal of SEIS is to establish a network of public environmental information providers that share their environmental data and information through a decentralised but integrated, web-enabled system. IT is a core element of the SEIS, with adoption of tools such as sensors, satellites, interactive map services, web services and mobile applications. Prominent examples of initiatives developed under SEIS include interactive map viewers such as the Water Information System for Europe (WISE), the Biodiversity Information System for Europe (BISE), the European Pollutant Release and Transfer Register (E-PRTR), Copernicus (the combined satellite and data modelling system for Europe) the INSPIRE Directive itself and the EIONET online resource for reporting datasets⁷⁴.

The EEA considers⁷⁵ that some countries are fairly advanced in implementing SEIS, while others need to take significant steps and that most countries are up-to-date with the new opportunities offered by modern information and communication technologies (ICTs).

However, whilst reporting has clearly taken advantage of developments in IT (and technology more broadly), and relatively recent initiatives such as INSPIRE and SEIS are seeking to both manage and take advantage of the further adoption of reporting tools made feasible through IT developments, there remains scope for further development.

Respondents to the public consultation indicated that insufficient use of IT was made within environmental reporting (across collection, processing and dissemination), with 55% either 'totally disagreeing' or 'tending to disagree' that IT was adequately used (see Figure 19).

Figure 19. Public consultation Q5.1



Source: Environmental Monitoring and Reporting Fitness Check Public Consultation

⁷³ COM(2008)46 of 1 February 2008

⁷⁴ EEA (2016) 'SEIS Initiatives' <http://www.eea.europa.eu/about-us/what/seis-initiatives#toc-0>

⁷⁵ Based on 50 'SEIS Country Visits' by the EEA since 2007 to its member and cooperating countries, and to its European neighbours. <http://www.eea.europa.eu/about-us/what/seis-initiatives#toc-1>

Copernicus, and the advances in earth-observation techniques that it represents, is an example of where the potential remains largely unexploited. However, this is as much about the process of monitoring and data collection as it is reporting.

At the September 2016 workshop⁷⁶ stakeholders identified that Copernicus could provide new ways of collecting data, thus potentially reducing the burden of reporting. A more nuanced view was offered at the December 2016 workshop⁷⁷ which suggested that Copernicus could act principally to complement rather than directly replace reporting. The workshop participants agreed that further development and testing of Copernicus would be needed for it to be widely accepted, and for its role in contributing to reporting to increase. Specific suggestions received from stakeholders in responses to this study included that satellite data could: be used to track land use change as part of monitoring of Natura 2000 sites (source: Birdlife International); be combined with other forms of data collection to enhance information (and improve efficiency) for air quality reporting (source: Netherlands); replace reporting for monitoring of marine waters (source: Germany); form a data source to support validation of results from modelling (source: Germany).

The successful implementation of the INSPIRE Directive is recognised as an important component in enabling the use of such earth-observation techniques, as remote sensing data often need to be combined with spatial data to add value and context. This linkage is formally recognised – according to the Copernicus Regulation, the data and service policy as well as the implementation of the services have to conform with INSPIRE rules. Reciprocally, implementing INSPIRE in a way that it serves Copernicus is therefore important⁷⁸.

In seeking to take advantages of advances in technology it is important to ensure that new approaches are fit-for-purpose – both in their specification and how they are ultimately used.

Even within the existing approaches for electronic reporting there remain a number of weaknesses in how tools are implemented and used, such as technical problems with operation, low levels of user-friendliness and incomplete supporting guidance. Further, it is important that the adoption of technologies serves to enhance the achievement of the objectives of reporting and takes account of its principles. There is a need to ensure that it is demand-driven rather than supply-driven and that it is recognised that more sophisticated reporting systems can increase cost burdens, which may be relatively more significant for smaller MS in situations where fixed costs are high. Evaluation of the implementation of INSPIRE has found that there are significant resource implications (e.g. the specialised technical human resource requirements) on data providers of complying with the Directive⁷⁹.

Box 4.10 Stakeholder opinions on the pitfalls of pursuing improved reporting through the adoption of new technologies

“There is scope to simplify reporting processes and to make Reportnet more user-friendly for national competent authorities and the ease of data extraction at EU level could be improved. There was however feedback from many EU MS that the user-friendliness of Reportnet needs to be further improved, with some indications that the information requirements are not always sufficiently clear. However, not all stakeholders agreed. Some national CAs stated that the END reporting mechanism

⁷⁶ 3rd Stakeholder Workshop on the Fitness Check on Environmental Monitoring and Reporting (26-28 September 2016). Workshop Meeting Note

⁷⁷ 4th Stakeholder Workshop on the Fitness Check on Environmental Monitoring and Reporting (8 December 2016). Workshop Meeting Note

⁷⁸ INSPIRE evaluation

⁷⁹ EEA (2014). Mid-term evaluation report on INSPIRE implementation. EEA Technical report No 17/2014

was relatively easy to use and to upload the END reporting data and information".

Source: END evaluation

".. these tools [for reporting] are still under development with a lot of errors and addition of new controls when the MS prepare the reporting and validate the files which will be delivered. 28 MS cannot validate tools instead [it should be done] once at the European level. Wasting time to do, correct, redo, check again, repeated a lot of times due to tools not being finished must be avoided". Source: France feedback following the workshop on Fitness Check of monitoring and reporting

"With electronic data delivery, it is crucial to organise a dialogue between suppliers of content and data-analysts, otherwise ICT is constructed that does not deliver the information that policymakers need, or, the other way round, it becomes very cumbersome to deliver the data in the correct formats." Source: MiW Thematic session – water.

4.5.4 Conclusions

The process of reporting has taken advantage of advances in technology - from e-reporting to enhanced spatial data infrastructures to earth observation techniques - but these opportunities are not being universally exploited.

Continued efforts are required to ensure broader adoption of not only new, but existing technologies and established systems, such as Reportnet. Increasing use of technological solutions for enhanced monitoring and reporting and increasingly open access to data present challenges in maintaining harmonisation and interoperability. It is important that existing initiatives (e.g. SEIS-related programmes, INSPIRE and SIIFs) are fully implemented in order to provide the necessary framework to ensure that environmental monitoring and reporting can reap the benefits of technological developments.

In developing the reporting system to take advantages of technological developments, it should be recognised that there are often substantial costs for upfront investment and adoption - both at the EU and MS level. It is imperative that developments are clearly focussed on serving the needs of reporting rather than the pursuit of technological betterment for its own sake.

5 Effectiveness of the EU Environmental Monitoring and Reporting arrangements

5.1 Introduction

Analysis of effectiveness considers how successful an intervention has been in achieving, or progressing towards, its objectives. The degree to which EU monitoring and reporting obligations have been effective can be considered with reference to the five objectives specified in the intervention logic above, i.e. the extent to which they help to:

A. Demonstrate compliance with a legal obligation.

B. Determine if the objectives of legislation are being achieved effectively and efficiently, including, where appropriate, ensuring a level playing field of the internal market.

C. Inform the other EU institutions as well as the public and stakeholders at EU level on the state of the environment, progress of implementation and the identification of gaps.

D. Help inform the understanding of an environmental issue and so help to improve decision making, e.g. policy evaluations or impact assessments.

E. Identify and spread good practices amongst Member States.

There are four evaluation questions under the effectiveness theme.

5.2 Are reporting obligations met, and with good quality, timely data?

5.2.1 Introduction

For reporting obligations to satisfy the objectives for which they have been designed, it is necessary for obliged entities to fulfil them, and for the data reported to be of sufficient quality and sufficiently up-to-date to serve its required purpose.

Quality relates to both the accuracy and completeness of the data provided. Deficiencies in quality can result in incomparable data, prohibit EU level assessment, generate biased evidence, make enforcement more challenging and ultimately undermine the effectiveness of the reporting process. Deficiencies may occur due to inappropriate application of required methodological standards, calculation and typographical errors, and omissions of particular data and metadata.

Timely data refers to data that is up-to-date both at the point of delivery and at the point at which it is required for decision making i.e. there are no undue delays between data collection and data use. It is principally concerned with whether the reported information is sufficiently up-to-date to enable the end user to draw robust and relevant conclusions. Timeliness can be affected by the duration of the reporting cycle, issues and delays occurring with the reporting processes, and through the alignment of final reporting with end user needs.

The question requires consideration of the extent to which reporting obligations are being met and whether the information that is being provided is of good quality and timely. To answer it, the following issues need to be considered:

- Is there compliance with reporting obligations? Are some reporting obligations unfulfilled by some obliged entities?
- Are there examples of legislation/ROs/datasets where inconsistencies, errors and delays commonly occur? Why?

5.2.2 Method and sources of evidence

The principal sources of evidence used to answer the evaluation question included:

- Analysis of the Inventory of reporting obligations to identify issues indicated by the factual data and opinion of Commission experts’;
- Evidence from recent REFIT evaluations;
- Previous reporting performance reviews, including an EEA assessment of Member State reporting performance for Eionet priority data flows and an internal 2014 review by Moore Stephens. The survey data from this latter source was re-analysed by ICF to draw out additional information not recorded in the original report;
- Stakeholder views and examples – from the public consultation, workshops and other feedback; and
- Stakeholder views and examples – from the Make it Work initiative workshops.

In evaluating performance, the response draws heavily on robust reviews of Member State reporting across multiple areas of legislation, allowing firm conclusions to be drawn. In establishing an understanding of the causes of any reporting issues, the

response draws on a broader range of sources including stakeholder opinions, which are not independently verified.

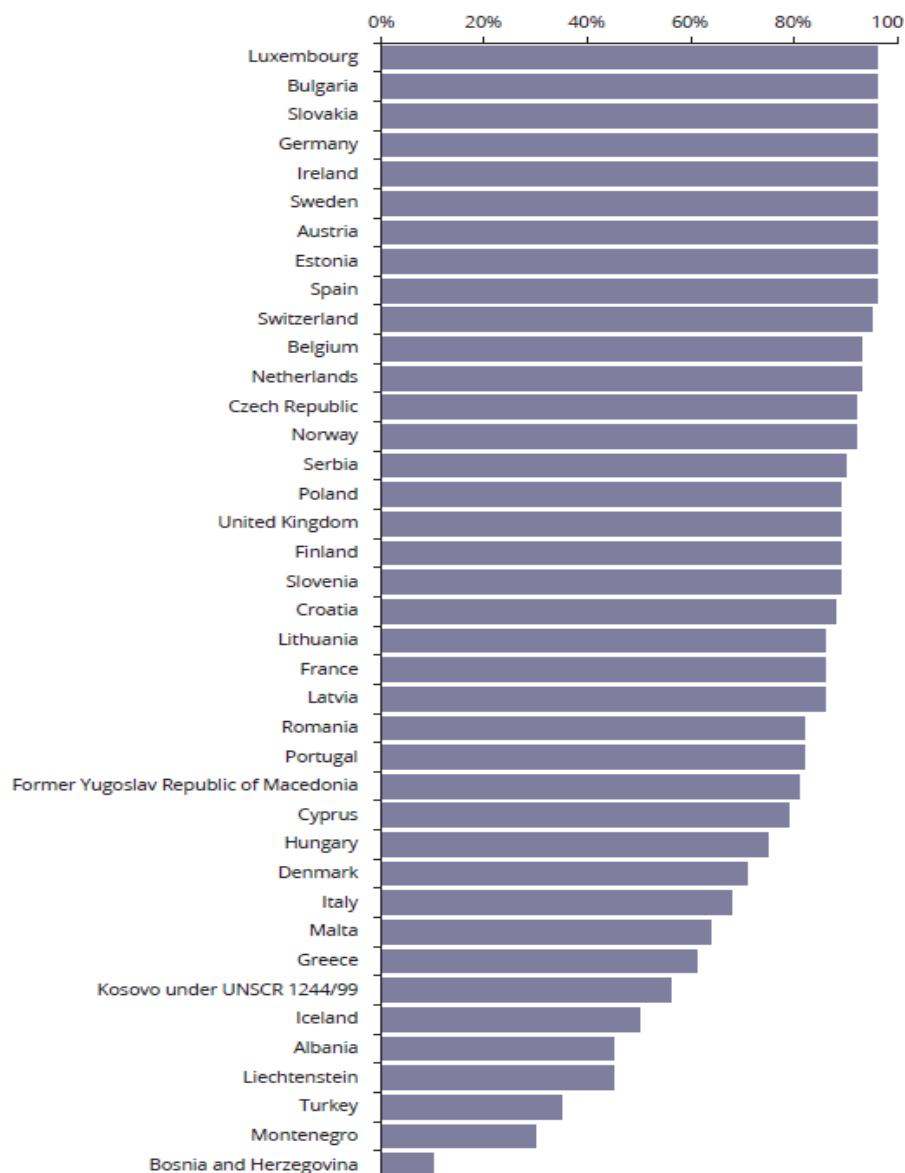
5.2.3 Evidence and analysis

Figure 20 summarises country performance⁸⁰ in reporting across eight of the EEA's priority data flows (for the May 2014–April 2015 data flow cycle), where a result of 0% means that no data have been delivered at all, and a result of 100% means that complete data sets for all areas have been delivered on time⁸¹. It shows that no country scored 100%. Indeed, reviewing the scores for the last ten years shows that a score of 100% is seldom achieved. The overall average score (all countries) was 78% in 2015. The average score increased markedly between 2000 and 2008 (from 45% to 78%), after which the average performance has been relatively constant, fluctuating between a low of 78% and a high of 83%.

⁸⁰ EEA (2015). EIONET priority data flows. May 2014–April 2015. ISSN 1830-7701

⁸¹ To calculate these scores, the scores from all priority data flow areas are summed up for each country and then expressed as a percentage of the country's maximum score. Maximum scores are country specific, as not all countries are involved in all data flows.

Figure 20. Overall performance of countries reporting EEA priority data flows (over May 2014-April 2015)

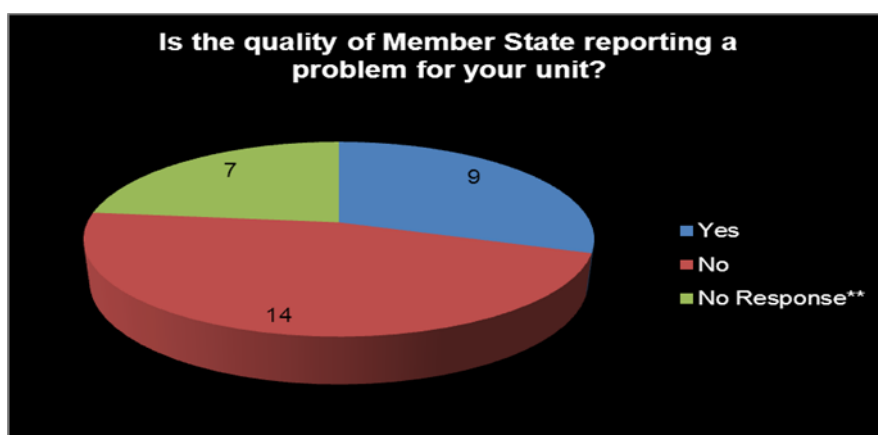


Source: EEA (2015). EIONET priority data flows. May 2014–April 2015. ISSN 1830-7701

An internal survey of DG ENV experts⁸², covering 30 regulations and directives found that in 30% of these the quality of Member State reporting was deemed to be a problem (see Figure 21).

⁸² Moore Stephens (2014). Analysis of Reporting Requirements and Complaint Procedures. Final Report. European Commission. 07.010211.00.04/2014/ENV.SRD.1/SI2.675250

Figure 21. Is the quality of Member State reporting a problem for your unit?



Source: Moore Stephens (2014)

Box 5.1 Examples of problems with the completeness, quality and timeliness of reporting identified by DG ENV and/or the EEA

The following examples are drawn from a survey of DG ENV experts⁸³ and interviews with the EEA undertaken as part of this study. Where these views are substantiated by other studies and stakeholder responses these sources are also identified.

- Environmental Noise Directive (2002/49/EC): There is a general lack of compliance and major gaps in information. Incomplete and late reporting was identified as a structural and widespread issue by the EEA, DG ENV, some Member States and by an evaluation of the END⁸⁴. The evaluation found that even 15 months after the deadline for submission of noise action plans (NAPs), the EIONET database of NAPs only contained information from about half of Member States regarding action plans. The EEA and END evaluation noted that infringement proceedings did not seem appropriate for addressing reporting problems; with the END evaluation noting that a lack of financial and human resources were an important cause of the information gaps.
- Habitats Directive (92/43/EEC): DG ENV identified that a key problem was that monitoring of habitats and species is not done properly in several Member States (usually due to lack of resources) and in consequence the data submitted is not high quality or may be absent.
- Article 9 of Birds Directive (Directive 2009/147/EC): DG ENV stated that the heterogeneous quality of the national reports stems from a combination of: (1) technical problems with the use of the current tool for the reporting by decentralised local authorities, and (2) deficiencies in the current reporting format. Solutions are currently being sought for both issues.
- Waste reporting: EEA considered that poor data quality affects the usability of some reported waste data. Quality would be improved by more precise questionnaires and enhanced data checking procedures. A balance must be struck between the quality and quantity of data provided. Ambiguities in legal

⁸³ Moore Stephens (2014). Analysis of Reporting Requirements and Complaint Procedures. Draft Final Report. European Commission. 07.010211.00.04/2014/ENV.SRD.1/SI2.675250 (ICF analysis of raw survey data)

⁸⁴ The Centre for Strategy & Evaluation Services LLP, ACCON Environmental Consultants and AECOM (2016). Evaluation of Directive 2002/49/EC Relating to the Assessment and Management of Environmental Noise. Final Report. European Commission

definitions of targets can also affect data quality, but are being addressed by the Circular Economy Package.

- Regulation (EC) No 166/2006 of the European Parliament and of the Council concerning the establishment of a European Pollutant Release and Transfer Register. DG ENV experts identified that there are significant discrepancies in terms of completeness and/or quality of Member State data identified under Article 7.2, but that the quality or reported data is generally adequate under Article 16.1.
- INSPIRE Directive: DG ENV experts noted that Member State implementation reports are of variable quality.
- Marine: a range of issues including lack of completeness and comparability (e.g. not all relevant habitats/species assessed; missing geo-referenced data), and delayed reporting were identified by the EEA.
- Environmental Liability Directive (ELD): there is considerable variation in information provided by Member States. The ELD evaluation identified that “while some Member States submitted detailed and well-structured information, others provided much less information. The length of the reports differed between half a page and more than 60 pages. Several Member States provided only narrative reports, some MS only tables, and others a combination of a written report and a table. Overall the Commission did not receive from all MS all the information sought or needed for a complete assessment and while some MS have supplemented the data upon extra request from the Commission, the situation remains partly incomplete for others. One of the significant information shortcomings concern data on costs, in particular on administrative costs”.
- Drinking Water Directive (DWD): the evaluation of the Directive found that “compliance with the requirement of reporting to the Commission is high if somewhat irregular and in general provides a good overview of the quality of drinking water supplied in the MS.”, but that “the quality of reporting is variable”.

Sources: Meeting with EEA 26.06.2016; Moore Stephens (2014) (extracted by ICF from raw survey data); the ELD REFIT evaluation; Member State and stakeholder feedback provided in response to consultation exercises for the EMR Refit and Make it Work initiative, evaluations of the DWD and END.

However it is widely acknowledged that the quality and timeliness of reporting has been improving.

This is evidenced by the trend in country scores for EEA priority data flows (as discussed above), and was identified for a number of items of legislation in a survey of DG ENV experts⁸⁵, and in some implementation reports.

For example, with regard to the Habitats Directive, the latest State of Nature report found⁸⁶ that there has been a major improvement in the availability, quality and standardisation of information since the last reporting period: the number of ‘unknown’ EU-level assessments has been halved (from 18% to 7% for habitats and from 31% to 17% for non-bird species). However, the level of conformity and the quality of data in national reports varies and could be improved still further through

⁸⁵ Moore Stephens (2014). Analysis of Reporting Requirements and Complaint Procedures. Draft Final Report. European Commission. 07.010211.00.04/2014/ENV.SRD.1/SI2.675250 (ICF analysis of raw survey data)

⁸⁶ European Commission (2015). The State of Nature in the European Union. COM(2015) 219 final

targeted monitoring programmes. The report notes that for marine habitats and species, which remain the least known with the greatest need for additional monitoring effort, greater coherence with the Marine Strategy Framework Directive could aid quality improvements.

More generally, the 2013 review of SEIS found that, “where monitoring criteria have been laid down explicitly, such as in the areas of air quality, greenhouse gas emissions and bathing water monitoring, the comparability and other quality aspects of the monitoring information have significantly improved. This suggests that improvement is indeed achievable and that there may well be a need for clearer guidance from either the EU or from national authorities, setting out agreed quality criteria for information and the supporting data.”

The reporting obligation inventory enables one measure of timeliness to be analysed – the time between the planned (not actual) transfer date of MS reports and the actual publication date of subsequent Commission reports (that use that MS information). The analysis indicates strikingly long time lags between these two dates. For those reporting obligations where data is available⁸⁷, the shortest time lag was 140 days and the longest 1,248 days (see Figure 13 above). There is no evidence available to indicate the causes of the long time periods between the planned dates that Member State reports become due and Commission reports in practice being published.

Regardless of whether Member States provide data on time, there remains an issue of the timeliness of information for end user needs, such as those related to the policy cycle, strategy reviews, and budgeting periods. A lack of synchronisation is most likely to occur when reporting occurs at a frequency of less than once a year. For example, the EEA⁸⁸ noted that MSFD reporting occurs every six years, but this six-yearly cycle is not well synchronised with the evaluation cycle of the EU Biodiversity Strategy – when the strategy is evaluated the most recent MSFD reporting will relate to the start not the end of the strategy period.

In the medium to longer term, improved compatibility of information systems across Member States, promoting and supporting those that provide real time or close to real time monitoring and performance information could be achieved. This may aid all three of the timeliness issues identified above. However, the need for data checking and validation – essential for many end user needs, including legal proceedings and robust evaluations – may limit the extent to which such advances address this timeliness issue. For example, the Ambient Air Quality Directive provides for air quality data on a near real-time basis, but validated reports on exceedances are received nine months after the end of the monitoring period; there is a similar situation for emission reporting under the EU Emissions Trading System.

Influencing factors

In addition to potential difficulties in generating the necessary information for reporting in the first instance, a number of factors affect the reporting process and may influence the completeness, quality and timeliness of Member State (and other stakeholder) reporting submissions. The following factors have been identified:

- Adequacy of data checking procedures;
- Language;
- Clarity of purpose, adequacy of guidelines and format;
- Time to conduct reporting / sequencing of reporting;

⁸⁷ Out of the 78 ROs where this process of Commission reporting occurs, reliable information on these dates was identified for 33.

⁸⁸ Interview with European Environment Agency 25.05.16

- Frequency of reporting;
- Maturity of legislation and/or reporting obligations; and
- Resources.

These points are discussed in more detail below:

Adequacy of data checking procedures

- Data checking and validation are an important part of reporting and is often explicitly built into the process. It includes the actions by both the data providers (typically Member States) and data receivers (typically the EEA or the Commission).
- EU level checking is most commonly undertaken by the EEA. The process may involve the checking and then communication with Member States to address problems. A recent internal review⁸⁹ found that of the pieces of legislation in which reporting problems were identified (9 out of 30), only two of these included third party (e.g. the EEA) quality reviews. For a small number of those items of legislation that did include third party quality checks, these checks were explicitly provided as the reasons for the final reported information being problem free. However the study concluded that there was no clear evidence that having a third party quality review was the reason for better quality evidence. The study found that no third party quality reviews were undertaken for 5 out of 14 of the pieces of legislation in which no reporting problems were identified.
- The EEA advised that enhanced data checking procedures would help to improve data quality⁹⁰. Advances in reporting processes can support improved data verification. One example is the new automated quality assurance and control procedures in air quality e-reporting⁹¹.
- Input to the Make it Work initiative suggested that quality assurance is often underdeveloped at the time of Member State submissions, leaving significant effort to be put in at the European level, and that it may be beneficial to have pre-agreed quality criteria that need to be fulfilled before a Member State is permitted to submit its reports, even if this impacts on timeliness. At a Make it Work initiative workshop⁹² it was suggested that changes in the data being reported can hinder data checking by limiting the extent to which new data can be compared to trend data (e.g. to support identification or outliers and errors).

Language

- When Member States report in their own language, the Commission services have to rely on translations since no Commission expert working on one particular legislation possesses all the necessary language skills. The internal survey of DG ENV units⁹³ indicates that where translation is required (i.e. the report is not solely quantitative data), Commission translation services are predominantly used. In some instances consultants translate reports as part of their technical assessments. In a small number of instances, where reported information is largely quantitative, other methods are also used (e.g. automatic

⁸⁹ Moore Stephens (2014). Analysis of Reporting Requirements and Complaint Procedures. Draft Final Report. European Commission. 07.010211.00.04/2014/ENV.SRD.1/SI2.675250 (including ICF analysis of raw survey data).

⁹⁰ Meeting with EEA 26.06.2016

⁹¹ Meeting with EEA 05.09.2016

⁹² Make it Work Workshop Nov 2015

⁹³ Moore Stephens (2014). Analysis of Reporting Requirements and Complaint Procedures. Draft Final Report. European Commission. 07.010211.00.04/2014/ENV.SRD.1/SI2.675250

internet translation service, informal translation by Commission colleagues). It was also found that in most of the instances where problems with reporting were identified, reporting was undertaken in Member States' own national languages.

- Comments from the European Commission⁹⁴ suggest that where Member States report in their national languages, this poses practical problems such as delays in assessment, differences in understanding and interpretation and errors in translating reports. On the one hand, it is recognised that textual information, where possible, is most effectively shared in a common language (usually English) by the Member State. This would help to ensure that Member States retain control of what is being communicated and hence could avoid incorrect translation and interpretation by the EU institutions. On the other hand, it should be pointed out that it may be unreasonable to expect all involved at each level to be able to work in a foreign language, and that it is the Member States' right under the EU Treaties to report in their national languages.
- The issue of the language used in reporting guidance was widely discussed at the 4th stakeholder workshop⁹⁵. When the reporting guidance is only available in one language (mostly English) this can create potential difficulties in understanding and interpretation for the authorities responsible for providing or compiling the information. Some DG ENV units provide guidance to Member States in their own language (subject to cost considerations) and a recent study⁹⁶ recommended that this approach be adopted more widely. Greater effort to provide official translation of reporting guidance and forms, or some other solution to help resolve the challenges of translation and interpretation of guidance, was widely supported at the 4th stakeholder workshop.⁹⁷

Clarity of purpose, adequacy of guidance and reporting format

- Two thirds of public consultation⁹⁸ respondents 'totally agree' or 'tend to agree' that more help is needed for Member States in preparing reports and for the development of common tools. This point was also made in the E-PRTR REFIT evaluation, where it was suggested that a common online reporting tool and further harmonisation between the scope and definitions of the E-PRTR and IED could reduce mistakes by reporting facilities.
- However, common reporting tools cannot be considered a panacea. A recent assessment⁹⁹ of environmental reporting found that "ReportNet is the system used to submit most of the reports that suffer from quality problems. This could indicate that a review is required of the guidance provided for this system or that the system needs to be tailored more to accommodate the issues in these problem reports". However, beyond statistics of the number of items of legislation identified as having reporting 'problems', little firm evidence was presented in the report to support the causal link between Reportnet and reporting problems. Nevertheless, some of the qualitative responses to the study's survey (which are not presented in the report) can be interpreted as

⁹⁴ European Commission. Comments on the MIW drafting principles (working document of 13 September as discussed at the workshop of 28 September)

⁹⁵ 4th Stakeholder Workshop on the Fitness Check on Environmental Monitoring and Reporting (8 December 2016). Workshop Meeting Note

⁹⁶ Moore Stephens (2014). Analysis of Reporting Requirements and Complaint Procedures. Draft Final Report. European Commission. 07.010211.00.04/2014/ENV.SRD.1/SI2.675250

⁹⁷ 4th Stakeholder Workshop on the Fitness Check on Environmental Monitoring and Reporting (8 December 2016). Workshop Meeting Note

⁹⁸ Environmental Monitoring and Reporting Fitness Check Public Consultation

⁹⁹ Moore Stephens (2014). Analysis of Reporting Requirements and Complaint Procedures. Final Report. European Commission. 07.010211.00.04/2014/ENV.SRD.1/SI2.675250

such. For example, for reporting under Article 9 of the Birds Directive (Directive 2009/147/EC), for which Reportnet is used, it was suggested that problems stemmed from "(1) technical problems with the use of the current tool for the reporting by decentralised local authorities, and (2) deficiencies in the current reporting format"¹⁰⁰.

- Good quality guidance can support improvement in reporting. For example:
 - A review¹⁰¹ of Article 6(4) (notification of compensatory measures) reporting under the Habitats Directive (92/43/EEC) considered 34 reported cases. It found that reporting had improved when compared to previous periods, probably as a result of the publication of the guidance document on Article 6.4 in 2007, but that there remained often insufficient detail to allow proper traceability of MS decisions. It concluded that the standard form that was included in this guidance document (which was used in most of the cases analysed) was not sufficient to ensure that all the necessary information is provided. A proposal for a revised form had already been prepared.
 - In the field of waste reporting, the EEA¹⁰² stated that "Quality would be improved by more precise questionnaires... Ambiguities in legal definitions of targets can also affect data quality, but are being addressed by the Circular Economy Package". A similar point was made by Hazardous Waste Europe¹⁰³, suggesting that "a detailed guidance is needed in order [to] help operators avoid divergent interpretations at national level and improve reporting (for instance, France is drafting such a guidance for national use)".
- A recent assessment¹⁰⁴ recommended that providing guidance in Member States' own languages be adopted more widely (a point also made at the third workshop¹⁰⁵ and in a response by French authorities¹⁰⁶), to aid interpretation by data managers. As noted above, a number of DG ENV units already do this.
- Enhancing the clarity of purpose, and ensuring that its relevance is understood by data providers was raised at the third workshop as means to improve data quality.

Time to conduct reporting / sequencing of reporting

- The time available for Member States to conduct and deliver reports can in some instances be too close to the timing of other actions on which they are dependent, making it difficult for reports to be delivered on time. Two examples were highlighted by stakeholders:
 - Environmental Noise Directive (END): There is twelve months between the formal reporting deadline for Strategic Noise Maps (SNMs) and Noise Action Plans (NAPs). The development of NAPs is informed by the SNMs, and Member States are then obliged to undertake public consultations on their

¹⁰⁰ Moore Stephens (2014). Analysis of Reporting Requirements and Complaint Procedures. Final Report. European Commission. 07.010211.00.04/2014/ENV.SRD.1/SI2.675250 (ICF analysis of raw survey data).

¹⁰¹ N2K Group (2012). Implementation of Article 6(4), first subparagraph, of Council Directive 92/43/EEC (Habitat Directive). Period 2007-2011. Summary report. Analysis of the notification of compensatory measures under article 6.4. European Commission

¹⁰² Meeting with EEA 26.06.2016

¹⁰³ Hazardous Waste Europe feedback for the Fitness Check on Environmental Monitoring and Reporting

¹⁰⁴ Moore Stephens (2014). Analysis of Reporting Requirements and Complaint Procedures. Draft Final Report. European Commission. 07.010211.00.04/2014/ENV.SRD.1/SI2.675250

¹⁰⁵ 3rd Stakeholder Workshop on the Fitness Check on Environmental Monitoring and Reporting (26-28 September 2016). Workshop Meeting Note

¹⁰⁶ French authorities Paris, 21/03/2016 – Public Consultation response; EMR Barcelona workshop

NAPs. An evaluation of the END ¹⁰⁷ found that the time period between the production and submission of NAPs and SNMs was too short and explained the high proportion of SNMs repeatedly submitted late.

- Nitrates Directive: the final year of data to be evaluated in Member State reports must be assessed within 6 months of the end of that year in order to meet the deadline. Feedback provided by Slovakia¹⁰⁸ indicated however that, because of the time required for data treatment, verification, validation and final assessment, it is not feasible for them to meet the deadline. However, the European Commission comments that most Member States are able to report within the specified deadline.

At the third workshop¹⁰⁹ it was suggested that deadlines for reporting should be agreed in comitology rather than the legislative texts, as this would make them easier to amend in the event that Member States proved unable to meet them. In practice, it should be noted that there is also some flexibility within the system to extend deadlines or to allow late reporting in cases where it is not feasible for Member States to meet the deadlines specified.

Frequency of reporting

- A review of reporting¹¹⁰ found that there is a relationship between the length of the reporting interval and quality issues. Seven out of nine legislations in which the study found reporting problems reported at an interval of greater than three yearly. The authors recommended that a guidance note be sent to Member States in advance of the reporting dates, which advised of quality issues that were experienced in the previous batch of reports. This implies that it may be the lack of institutional memory that may affect quality. Institutional memory, and the specific processes already set up for reporting, can be affected where the content of reporting changes, a point made in feedback provided by Spain¹¹¹.

Maturity of legislation and/or reporting obligations

- It can take time for new reporting process (e.g. from new or revised legislation) to be implemented. This may influence the quality and point at which guidance becomes available, the understanding and skillsets of those managing the data and the general state of data management. For example, the EEA¹¹² noted that "reporting of the first phases of MSFD (2012-2013) was especially hard to accomplish. The structure of the reporting sheets was agreed very late in the process, and this made difficult to accommodate the information of the national reports to the reporting documents. This issue was improved in the two later reporting processes: monitoring programmes and programmes of measures".
- Suggestions were made by stakeholders (Spanish authorities¹¹³; third workshop¹¹⁴) on how to support process of implementing new reporting

¹⁰⁷ The Centre for Strategy & Evaluation Services LLP, ACCON Environmental Consultants and AECOM (2016). *Op. cit.*

¹⁰⁸ EMR Feedback: Slovak comments; email response from European Commission

¹⁰⁹ 3rd Stakeholder Workshop on the Fitness Check on Environmental Monitoring and Reporting (26-28 September 2016. Workshop Meeting Note

¹¹⁰ Moore Stephens (2014). Analysis of Reporting Requirements and Complaint Procedures. Final Report. European Commission. 07.010211.00.04/2014/ENV.SRD.1/SI2.675250

¹¹¹ Spain feedback: MINISTERIO DE AGRICULTURA, ALIMENTACIÓN Y MEDIO AMBIENTE

¹¹² EEA feedback (26.05.2016)

¹¹³ Spain feedback: Ministerio De Agricultura, Alimentación Y Medio Ambiente

¹¹⁴ 3rd Stakeholder Workshop on the Fitness Check on Environmental Monitoring and Reporting (26-28 September 2016. Workshop Meeting Note

obligations. This included: agreeing the content of reporting at an early stage, ideally two years before it is needed, to allow authorities to adjust systems; and undertaking a piloting phase to test for bugs, etc. (as was done for WFD) not starting reporting until the tools are fully tested and available.

- As such, it may be assumed that the maturity of the legislation has a key influence on whether other aspects that support good quality, timely data are in place, and that this may improve over time as processes become more refined and embedded.

Resources

Relevant to all of the points identified above is the issue of resourcing i.e. whether data providers are able to put sufficient resources to the reporting tasks to ensure that it is completed with good quality data on time.

It is recognised that Member State budgets are finite and are currently under particularly acute pressures. Clarity of purpose, clear guidance and early specification of requirements and formats can all help effect resource allocation and expenditure and hence support improved completeness, quality and timeliness of reporting. In this light it was also recognised by the EEA¹¹⁵ that a balance must be struck between the quality and quantity of data provided.

In the evaluation of the END¹¹⁶, the authors suggested that launching infringement proceedings to counter reporting delays may not always be an appropriate mechanism when resource constraints are a relevant factor.

5.2.4 Conclusions

Evidence indicates that problems with Member States satisfying reporting obligations, including issues with the completeness, quality and timeliness of submission, are apparent across numerous areas of the environmental acquis. However it is widely acknowledged that the quality and timeliness of reporting has been improving.

A number of factors influence the completeness, quality and timeliness of reporting. These include: sufficiency of quality checks and verification; whether common or national languages are used for reporting; the clarity with which the purpose of reporting is understood; the adequacy of guidelines (including how they are made available) and reporting formats; the time available to conduct reporting and importantly the sequencing of processes inputting to reporting; and the frequency of reporting, with less frequent potentially resulting in lower quality reports.

All of these factors are in part influenced by the resources that are made available for reporting processes and can influence the efficiency with which the available resources are deployed. In this regard, there is generally thought to be a trade off in terms of the quality and quantity of information reported.

5.3 Does environmental monitoring and reporting provide sufficient information on the state and the effectiveness of implementation of the environmental acquis?

5.3.1 Introduction

The evaluation question examines whether the following objectives of environmental monitoring and reporting are being satisfied:

- Allow for an assessment of whether EU legal obligations are being met i.e. whether the measures laid out in legislation have been implemented and are being applied as expected. To determine the state of implementation, reporting

¹¹⁵ Meeting with EEA 26.06.2016

¹¹⁶ The Centre for Strategy & Evaluation Services LLP et al (2016) *op. cit.*

needs to provide information on the compliance of MS with their legal obligations.

- Allow stakeholders to understand the state of the environment and actions taken to maintain and improve it, i.e. whether it is achieving its intended objectives, and whether amendments or additions are required. To determine the effectiveness of implementation, reporting must provide sufficient information to indicate the state of the environment and the impacts of the legislation. One or both of these pieces of information may be necessary depending on the objectives of the legislation. It may also require suitable contextual information.

To answer this question it is necessary to understand:

- How much / what information is generated on implementation and change against objectives?
- Is this information useful and sufficient?
- If not, in what sort of policy areas or in what sort of ways are the information deemed insufficient?

5.3.2 Method and sources of evidence

The principal sources of evidence used to respond to the evaluation question include:

- Inventory of reporting obligations;
- Published reports including evaluations, implementation reports and other relevant EU-wide reviews;
- Stakeholder views provided in response to the public consultation and workshops;
- Stakeholder views expressed in workshops of the Make it Work initiative.

The response draws heavily on the inventory of reporting obligations, including analysis of information based on legislative texts and also the opinion of Commission experts regarding the usefulness of reported information. Examples of insufficiency are able to draw on robust evidence sources including the views of Commission experts and published reviews (e.g. implementation reports), which are supplemented with the information and opinions presented by other stakeholders.

5.3.3 Evidence and analysis

The type of content obtained through environmental monitoring and reporting can be classified using the DPSIR framework (Driver, Pressure, State, Impact and Response)¹¹⁷. Understanding the degree to which each DPSIR element is reflected in the environmental reporting obligations can provide an indication of the purpose and rationale beyond the obligations and their relationship to satisfying the objectives of assessing implementation and state of the environment.

The inventory of reporting obligations¹¹⁸ developed during this study provides a basic classification of 'primary'¹¹⁹ DPSIR category that each obligation is providing information against¹²⁰. This provided for a crude analysis of the extent to which each

¹¹⁷ For more information on the DPSIR framework please visit the EEA's page at http://ia2dec.pbe.eea.europa.eu/knowledge_base/Frameworks/doc101182

¹¹⁸ See Annex 1

¹¹⁹ Noting that other DPSIR categories may also be relevant to a reporting obligation

¹²⁰ Making such judgements was in some cases a subjective exercise.

of these DPSIR categories is provided for through as the primary focus of each reporting obligation.

Figure 6 above indicates that two-thirds of the identified reporting obligations primarily address the 'Response' category (which are typically measures taken by public authorities to address environmental problems) while the remaining one-third of the reporting obligations are largely concerned with either the 'State' of the environment, or "Pressures". The 'Impact' category appears to be of more limited focus, and no reporting obligations primarily address "Drivers" of environmental impact.

Tentative messages to be drawn from the DPSIR categorisation and analysis are that the focus of many reporting obligations is on the extent to which or the way in which legislation is being implemented (as reported as Member States 'responses'), and to a lesser extent, its impact on the state of the environment.

Based on the inventory of reporting obligations, it is estimated that approximately three quarters of all reporting obligations provide primarily textual information (as opposed to numerical or geospatial information)¹²¹. This can be taken to support the view that reporting obligations are principally focussed providing information on 'Response', as such reporting will typically require a text description of action by governments and other stakeholders.

Further analysis of the 'purpose' of reporting requirements, as summarised by Commission experts as part of the inventory of reporting obligations, indicates that there are more than twice as many obligations providing an understanding of implementation as there are of the state of the environment.

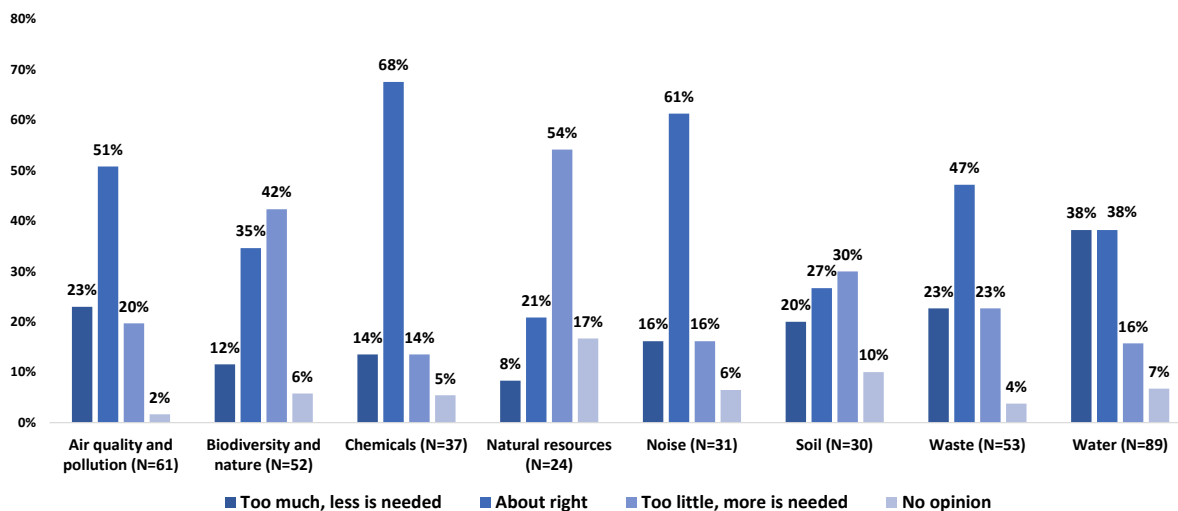
Indeed, this more limited focus on state and impact indicators was identified as an issue by the EEA¹²²: "Reporting can also have limitations from the EEA's perspective where it focuses on implementation procedures rather than the state of the environment (which is the EEA's main focus) - reports do not necessarily focus on effectiveness of legislation - more often the process of implementation".

Public consultation respondents indicated that the amount of information reported was appropriate (see Figure 22 for results). A strong majority of respondents felt that existing amounts of information collected in the air quality and pollution, chemicals, noise and waste were 'about right' to meet policy objectives. Respondents generally felt that more information was required in relation to biodiversity and nature protection, natural resources and soil, whilst respondents with knowledge of water policy were divided on whether existing information requirements were appropriate or too demanding, with some suggesting that this represents the heterogeneity of water resources across the EU.

¹²¹ This is a crude analysis – in reality many reporting obligations provide information in a combination of these formats.

¹²² Meeting with EEA 26.06.2016

Figure 22. Appropriateness of information collected (Question asked - Which of these statements do you consider as appropriate about the amount of information that is collected in a particular environmental policy area?)



Source: Public Consultation

From those conducting EU-level assessments of implementation and state of the environment there are mixed views on the sufficiency of reported information. An internal survey of DG ENV units¹²³, covering 30 regulations and directives found that in 30% of these the quality of Member State reporting was deemed to be a problem.

In some instances this was identified as having an effect on the ability to conduct assessments. For example, with regard to the Marine Strategy Framework Directive it was stated that "Quality, completeness and level of consistency across MS of 2012 reports was a significant problem, making it very difficult to assess their adequacy against the objectives of the Directive and to use the data as a baseline for assessing the current state of the marine environment. This also gives problems in adequately implementing the next stages of the Directive, which depended on a good quality 2012 report"¹²⁴. However it has been recorded in responses elsewhere (e.g. by the EEA) that MSFD reporting has improved since 2012.

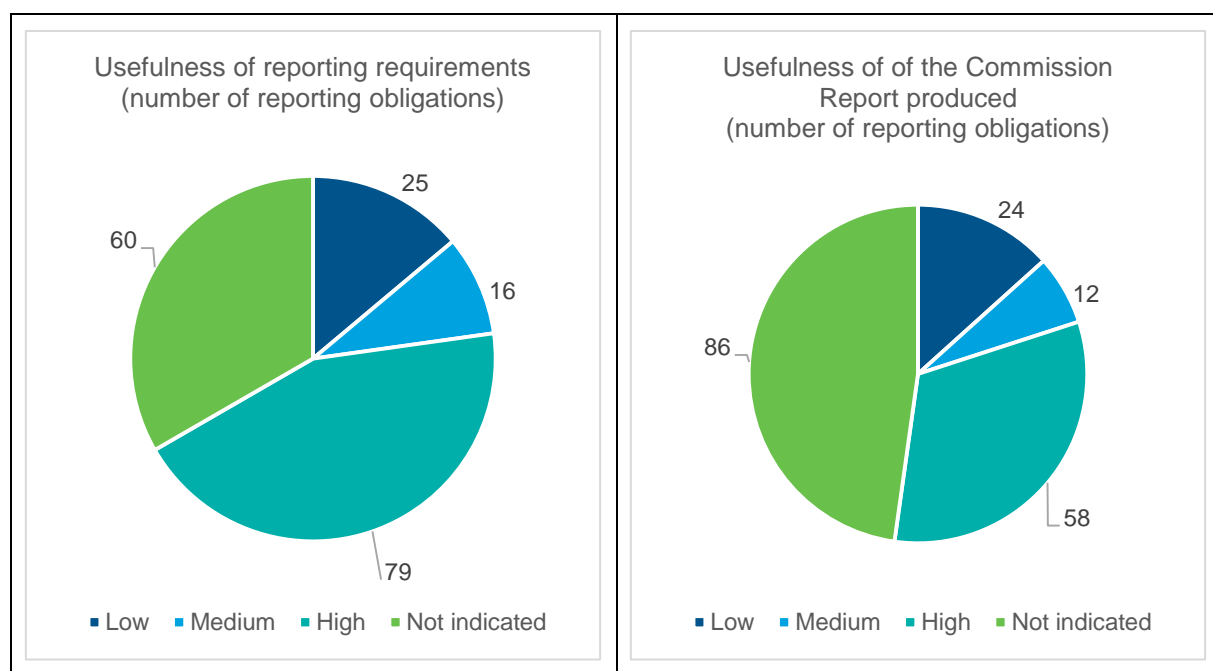
In compiling the inventory of reporting obligations, Commission experts provided opinions on the usefulness, for each reporting obligation, of the reporting requirements and subsequent Commission reports. Where responses were received, the most common opinion was that they were highly useful. For both aspects, a relatively small number of reporting obligations were considered to have low usefulness (see Figure 23). In 18 cases, reporting obligations were scored as having low usefulness in terms of both the requirements and the Commission report.

In some instances, there are already plans to amend or replace reports. For example, a number of reporting obligations deemed as being of low usefulness have already been identified and proposed for removal or amendment as part of the Circular Economy Package.

¹²³ Moore Stephens (2014). Analysis of Reporting Requirements and Complaint Procedures. Draft Final Report. European Commission. 07.010211.00.04/2014/ENV.SRD.1/SI2.675250

¹²⁴ Moore Stephens (2014). Analysis of Reporting Requirements and Complaint Procedures. Draft Final Report. European Commission. 07.010211.00.04/2014/ENV.SRD.1/SI2.675250 (ICF analysis of raw survey data)

Figure 23. Opinion of Commission experts on the usefulness of reporting



Source: Analysis based on inventory of reporting obligations

Based on the views of Commission experts logged in the inventory, the issues underlying the usefulness of reporting requirements and of the Commission reporting can be further investigated.

With regard to the usefulness of reporting requirements, in the 25 cases where reporting requirements were perceived to have a low level of usefulness, the main reasons were:

- Member States have little to report unless significant changes occur e.g. reporting on the structure of relevant competent and other authorities.
- Member States have little to report as the article being reported on is not / seldom used and hence the relevance of the information received to understanding the state of implementation and the environment is limited e.g.:
 - Directive 94/63/EC on the control of volatile organic compound (VOC) emissions resulting from the storage of petrol and its distribution from terminals to service stations. The usefulness of reporting on special measures is unclear because no such reporting took place.
 - Directive 94/62/EC on packaging and packaging waste. There is a requirement for MS to inform the Commission if they have, or will, set programmes going beyond the targets of Article 6. In more than 20 years of existence of the PPWD, this mechanism has been used only 4 times by 3 MS (three times in 1999 and once in 2003).
- Insufficient information is requested on which to make useful analyses:
 - Directive 2006/21/EC¹²⁵ (and Commission Decision 2009/358/EC) - MS implementation reports. Issue: MS only report on enabling (i.e. legal and administrative) measures, not on real implementation. The information requested and submitted is high level and therefore of limited use. Having a

¹²⁵ [Directive 2006/21/EC on the management of waste from extractive industries and amending Directive 2004/35/EC](#)

snapshot of the penalties actually enforced, of the number of inspections and of the number of penalties triggered by inspections would be really useful.

- Directive 2011/65/EU¹²⁶ - MS to notify Commission of provisions re rules on penalties applicable to infringements of the national provisions adopted pursuant to the Directive, and notify Commission of any subsequent amendment affecting them. Issue: Having a snapshot of the penalties does not improve the way the Directive is enforced; many other aspects would be needed (including inspections, cooperation).

- Problems with the quality of reported information inhibit its usefulness

Council Directive 1999/31/EC on the landfill of waste – Article 5 requires a report on implementation of the Directive, in particular on National Strategies – but Commission experts comment that the quality of the information reported restricts its usefulness.

- Timing of reporting

- Regulation (EC) No 1013/2006 on shipments of waste includes obligations regarding reporting to the Basel Convention and additional reporting for the Commission. However, by the time the COM prepares its triannual report, the information is already outdated

As regards the usefulness of the Commission report produced, 24 reporting obligations were identified as being of low usefulness. Of the 13 instances where an explanation for the score was provided, seven were because a Commission report was not required (either because the regulation does not specify that it is, or because no relevant information had been received on which to base a report).

Reasons for low usefulness of the Commission report included issues around the timing of the report, and hence redundancy of the information therein, and the quality and nature of evidence/information on which they are based. For example:

- Directive 94/62/EC on packaging and packaging waste, and Directive 2012/19/EU on waste and electrical and electronic equipment (WEEE): the data provided by Member State implementation reports is already outdated by the time the Commission prepares its report. The Circular Economy Package includes proposals to repeal these obligations.
- Directive 2004/35/EC on environmental liability with regard to the prevention and remedying of environmental damage: the way that Member States provide the information on experience gained in the application of the Directive is highly diverse and the evidence base that it provides is deemed insufficient.
- Directive 2003/4/EC on public access to environmental information: the information obtained from reporting on experience gain in the application of the Directive is primarily based on textual data and rather legalistic - it does not provide sufficient information and does not allow for an evaluation,

Suggestions made by Commission experts for improvements to Commission reports included:

¹²⁶ Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

- Improving the underlying evidence base through more systematic and comprehensive capturing of relevant information and subsequent improvement in analysis and interpretation;
- Collation of qualitative indicators on progress towards objectives; and
- Improved accessibility of the report (e.g. via online resources and web viewers).

Some feedback received as part of this study indicates that there are areas where stakeholders consider reporting to provide sufficient information. This may be despite perceived deficiencies in its underlying scope or quality, or because Member States have agreed to provide more information than is strictly required by the legal obligation. For example, the EEA stated that:

- Reporting has allowed the EEA to track progress to EU-level policy objectives/targets (examples are found in the condition assessments under MSFD, WFD and the Habitats Directive) and thereby supports the implementation of legislation; although there are a number of issues with the reported information in these areas¹²⁷.
- EU-level reporting processes have a value in providing (minimal) comparability allowing the EEA to use the comparable information at the EU level¹²⁸. For any given piece of legislation, the reporting is always incomplete and so not comparable. For example, not all relevant species or habitats for a marine (sub)region have been assessed by all relevant MS so it is only possible to assess those that have been assessed by all MS. As such, the EU-level assessment is aligned with the 'lowest common denominator'¹²⁹.
- The Water Framework and nature directives both involve much more reporting than is required by the legal obligation, but this additional reporting is required for EEA reporting.¹³⁰

A mixed picture on the sufficiency of information can be seen in recent REFITs, for example:

- The evaluation of the END¹³¹ stated that "A lack of timely data and information completeness across EU-28 makes it more difficult to utilise MS submissions, for instance, for the EC, to report on the situation across the EU (Art. 11) and to inform source legislation (Art. 1(2))".
- The Environmental Liability Directive (ELD) REFIT evaluation stated that "Overall the Commission did not receive from all MS all the information sought or needed for a complete assessment and while some MS have supplemented the data upon extra request from the Commission, the situation remains partly incomplete for others. However, the obtained information appears in general sufficient to provide an overview, as is shown in the chapter on implementation."
- The Drinking Water Directive (DWD) evaluation identified problems with information that Member States are required to submit, which meant that a thorough synthesis of drinking water quality developments was not possible (see Box 5.2).

¹²⁷ EEA feedback (26.05.2016)

¹²⁸ Meeting with EEA 26.06.2016

¹²⁹ EEA feedback (26.05.2016)

¹³⁰ Meeting with EEA 26.06.2016

¹³¹ The Centre for Strategy & Evaluation Services LLP et al (2016) *op. cit.*

Box 5.2 Issues of sufficiency identified in relation to the Drinking Water Directive (DWD)

A recent (2016) evaluation of the DWD identified a number of issues with both the reporting requirements and resulting reports.

It concluded that “compliance with the requirement of reporting to the Commission is high but the information submitted by MS does not provide the Commission with adequate information to perform a thorough synthesis of drinking water quality developments in the EU and thus the Commission lacks a suitable tool to inform the Council, the European Parliament and the general public”

Issues with the information reported by Member States include:

- “the information submitted by MS is insufficient for the Commission to perform a thorough compliance check”.
- “lack of feedback to MS about their (incomplete) returns has caused bad reporting by some of them to continue for many years”

The 2014 Synthesis Report on the Quality of Drinking Water in the EU corroborates the findings of the above report and states that the “current set-up for reporting does not provide the Commission with adequate and timely information to perform a thorough synthesis of drinking water quality developments in the European Union. This makes it difficult to provide the Council, European Parliament and the public with updated EU-wide information on drinking water policy and quality on a regular basis. In addition, the way data is collected, processed and reported differs across the EU, which makes it difficult to compare situations in different MS with regard to their performance and compliance with the Directive”.

It also identifies issues with the reporting by the Commission: “... the Commission is to publish a synthesis report on the quality of water intended for human consumption in the Community. However, since the DWD does not indicate a clear objective in the reporting procedure, each synthesis report is different, and the whole reporting exercise is somewhat incoherent and arbitrary”.

Ecorys (2016). Study supporting the revision of the EU Drinking Water Directive. Evaluation Report. European Commission, DG Environment

European Commission (2014). Synthesis Report on the Quality of Drinking Water in the EU examining the Member States' reports for the period 2008-2010 under Directive 98/83/EC. COM(2014) 363 final

Other stakeholder feedback¹³² received and reviewed as part of this study sought to identify areas where reporting was deemed to be insufficient and hence can inhibit or undermine the value of assessments of the state and the effectiveness of implementation of the environmental acquis. In summary identified issues related to:

Specific cases of insufficient information (e.g. a lack of detail) to be able to track and understand implementation;

- Incoherence between reported data from different obligations, limiting the usefulness of the information;
- Lack of comparability between the information reported by different Member States; and
- Outdated reporting obligations resulting in information which is poorly aligned with that needed to monitoring achievement of objectives.

¹³² Including from Member States (e.g. Spain, the Netherlands), other stakeholders (e.g. BirdLife Europe and Central Asia, FEAD) and raised in workshop session of the Make it Work initiative.

Issues with the sufficiency of information have been broadly recognised by the Commission. The 2008 Communication on implementing EC Environmental law recognised a number of challenges to be addressed, including insufficient attention being paid to deadlines and completeness, shortcomings in knowledge and awareness. It was reiterated that knowledge about implementation remained problems in the COM (2012)95¹³³.

One of the objectives of the EU Seventh Environmental Action Programme¹³⁴ is "to improve the knowledge and evidence base for Union environment policy" e.g. to improve the credibility, comparability and quality of data and to fill data and knowledge gaps.

The Commission's Environmental Implementation Review (EIR)¹³⁵ aims to support the delivery of existing EU environmental policies and legislation, providing a cross-cutting overview of the main implementation challenges and an opportunity to identify potential systemic solutions to environmental implementation problems (see COM(2016) 316). Reviews will be undertaken on a regular basis. It is planned to publish country-specific reports every two years focusing on essential topics in the area of environmental legislation. A second part will cover the enabling framework and implementation tools including access to environmental information and knowledge and evidence. The initiative will improve the use of data already available to the Commission, compiling and assessing available information in a more targeted, country specific manner¹³⁶.

5.3.4 Conclusions

A majority of reported information is geared towards monitoring and assessment of implementation rather than the state of the environment. The more limited focus on the state of the environment has implications for the sufficiency of information on the effectiveness of legislation. It can be concluded that evidence that is requested by environmental reporting requirements is broadly sufficient – there are relatively few examples where the information requested has been deemed not to have been appropriate.

There are numerous instances where reporting obligations are not adequately satisfied and this has an effect on the ability to determine on the state and the effectiveness of implementation of the environmental acquis. Indeed, it is relatively difficult to find an EU implementation report of evaluation where there is not some comment regarding the deficiencies in the available information – although this does not always imply that the information is insufficient.

In general there have been improvements in the information made available, with significant improvement in Member State performance compared to ten years ago. Further efforts are ongoing, informed by the Commission's REFIT programme. In addition the Commission's Environmental Implementation Review (EIR) will provide a new focus on what type of information and data are needed to best identify the "distance-to-target" and gain a better understanding of implementation challenges from a cross-cutting perspective.

¹³³ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52012DC0095>, p.4

¹³⁴ Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 'Living well, within the limits of our planet.' (7th EAP) See <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013D1386&from=EN>

¹³⁵ http://ec.europa.eu/environment/eir/index_en.htm

¹³⁶ European Commission (2016). Delivering the benefits of EU environmental policies through a regular Environmental Implementation Review. COM(2016) 316 final

5.4 Does environmental monitoring and reporting allow for the public to be properly informed about the state of the environment?

5.4.1 Introduction

This evaluation question examines whether the environmental monitoring and reporting objective of ensuring access to environmental information for citizens is being satisfied.

The 'state' of the environment, in the context of the DPSIR framework, refers to the environmental situation. State indicators give a description of the quantity and quality of physical phenomena (such as temperature), biological phenomena (such as fish stocks) and chemical phenomena (such as atmospheric CO₂-concentrations) in a certain area¹³⁷.

For the public to be considered properly informed about the state of the environment, the state indicators should be appropriate and meaningful to them, and should be readily accessible. EU legislation on active dissemination and access to environment information is relevant in this context.

In order to respond to the question, it is necessary to consider:

- To what extent does information on the state of the environment that is made available rely on information obtained via reporting obligations?
- How is information on the state of the environment made available to the public? e.g. through what media (reports, databases, etc)?
- Is it accessible and meaningful (e.g. can be readily located, understood and utilised)?
- Does the public think that it receives sufficient information to consider itself properly informed?

5.4.2 Method and sources of evidence

The principal sources of evidence used to answer this evaluation question are:

- The inventory of reporting obligations;

Document review, including available evaluations;

Stakeholder opinions (from public consultation, feedback, workshops).

The response draws on relevant reviews and evaluation of public access providing a sound basis for determining the extent of public access and issues associated with it. However limited evidence was available regarding the opinions of citizens (or organisations representing citizens).

5.4.3 Evidence and analysis

The Aarhus Regulation ((EC) No 1367/2006) addresses the "three pillars" of the Aarhus Convention¹³⁸ - access to information, public participation and access to justice in environmental matters. The first of these pillars is addressed in the Directive on public access to environmental information¹³⁹. The definition of 'environmental

¹³⁷ TNO Centre for Strategy, Technology and Policy (1999). Environmental indicators: Typology and overview. Technical report No 25. European Environment Agency

¹³⁸ The United Nations Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters; adopted on 25 June 1998

¹³⁹ Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC (repealing Council Directive 90/313/EEC)

information' in the Directive encompasses information in any form on the state of the environment or on the state of human health and safety. The Directive requires that:

- Public authorities make environmental information available proactively; and
- Members of the public are entitled to request environmental information from public authorities.

An evaluation of Directive 2003/4/EC was undertaken and published in 2012¹⁴⁰. The evaluation concluded that:

- The Directive has substantially improved access to environmental information on request;
- The emergence of an 'information society', with an emphasis of wide access requires a rebalancing of emphasis from information-on-request to active and wide dissemination; and
- Most Member States offered public access to information via online portals and websites, but further efforts were required to better structure data for active dissemination i.e. through implementation of Structured Implementation and Information Frameworks (SIIFs).¹⁴¹

SIIFs, together with the range of SEIS¹⁴² initiatives such as INSPIRE, help Member States set up transparent information systems that make this information accessible online. Together, they make up a framework for sharing environmental information, including data obtained from environmental monitoring and reporting activities.

Box 5.3 Examples of EU information systems (thematic branches of the SEIS)

The Water Information System for Europe (WISE) acts as both a web-based reporting tool by national administration to the Commission and as a means to provide the public with environmental information via public interface. WISE was initially set up for reporting under the Water Framework Directive, but has since been extended to incorporate other water-related legislation, including the Marine Strategy Framework Directive via WISE-Marine, which is currently in development. (<http://water.europa.eu/>).

The Biodiversity Information System for Europe (BISE) acts as a single entry point for data and information on biodiversity supporting the implementation of the EU strategy and the Aichi targets in Europe. Bringing together facts and figures on biodiversity and ecosystem services, it links to related policies, environmental data centres, assessments and research findings from various sources (<http://biodiversity.europa.eu/>).

The open source and open data movement (e.g. the EU Digital Agenda for Europe initiative) offers significant opportunities for further developing the SEIS. It includes:

- The European Open Data Portal (ODP): since 2012, the ODP has provided access to information, including environmental information, from the institutions and other bodies of the European Union that are collected and published by the European Institutions.

¹⁴⁰ European Commission (2012). Report from the Commission to the Council and the European Parliament on the Experience Gained in the Application of Directive 2003/4/EC on Public Access to Environmental Information. COM(2012) 774 final

¹⁴¹ The SIIF concept introduced in the 2012 Implementation Communication (COM(2012)95) Improving the delivery of benefits from EU environment measures: building confidence through better knowledge and responsiveness

¹⁴² Shared Environmental Information System (SEIS)

- The European Data Portal (EDP) harvests metadata from public sector portals throughout Europe, as well as from the ODP.
- Open Data portals maintained by public administrations in Europe e.g. www.opendata.paris.fr; www.data.gouv.fr; www.dati.piemonte.it; www.dati.gov.it; www.data.overheid.nl; www.data.gov.uk.

In addition, there are continuing efforts to establish thematic European Data Centres in Eurostat, JRC and the EEA¹⁴³. These include:

- EEA: European air pollution data centre; European biodiversity data centre; European climate change data centre; Environmental data centre for land use; European water data centre;
- Eurostat: European data centre for waste; Environmental Data Centre on Natural Resources; and
- JRC: European soil data centre (ESDAC); European forest data centre (EFDAC).

The inventory of reporting obligations identifies the extent to which the information reported to the Commission is required to be made publicly available, and similarly, the extent to which information that specific legislation requires to be made public is also supplied to the Commission. The inventory records that, of 181 identified reporting obligations, there is a legal obligation for public provision of information in 68 cases. In addition, information is also made available from other reporting obligations.

However, data and other information that are accessible via the channels identified above originate from a broader range of sources than just reporting obligations. Similarly, whilst some EU-level reports may in some instances rely entirely on information received via reporting obligations (e.g. Commission legislation implementation reports), other reports (e.g. the EEA's State of the Environment report) draw on a broader range of sources.

Ongoing challenges

Through the legislation and initiatives described above, the opportunity to access environmental information for EU citizens has clearly expanded significantly. However a number of different sources allude to the fact that opportunity to access information is not the same as actual access.

The review in Section 6.7 found that the accessibility of environmental information online is variable, such that some items of information would be more easily found by stakeholders, the public and EU policy makers than others.

A similar finding was made in a study (see Box 5.4) on active dissemination for the nature directives. It reported that there were barriers to access in terms of citizens being able to understand/interpret the available information and in terms of the IT tools required to view the information, both of which may require technical knowledge beyond that of the average member of the public.

The SEIS implementation review identifies the need for information made available to the public to be easily understood. But it considers that "systems for making information available to the public are too often designed by those managing the information without a clear understanding of the needs of the general public".

The SEIS review and nature directives study both indicated that there were deficiencies in the understanding of citizens' needs and hence weaknesses in the design of access arrangements (be they report contents or IT platforms) that can meet citizens' needs. Similar evidence was found in:

¹⁴³ For more details see: <http://www.eea.europa.eu/data-and-maps/european-data-centres>

- The END and E-PRTR REFIT evaluations found weakness with the information being made publicly available, citing difficulties for members of the public in being able to interpret the information.
- An evaluation of the EEA from 2008¹⁴⁴ stated that “this group [citizens] is more problematic since presentation of information for citizens is very different from that for professionals. Providing data in a form of relevance involves additional effort, and expense, since to genuinely reach citizens there are implications for the availability of information in national languages. The Agency does have a range of products which are available in many languages but the websites versions in these languages are not very “public friendly”, and also do not feature many of the activities with a wider audience – the live maps, for example are not highlighted, nor are the educational products.”
- The European Environmental Bureau¹⁴⁵ considered that citizens “awareness of environmental issues and their relations to other policy areas could still be improved and active dissemination of well-explained information that is put in a general policy context could contribute to improved transparency, to citizen’s understanding, participation in decision making and ultimately acceptance of European legislation.”

Beyond reference to some failure to comply with the requirements concerning access to information (Romania in particular, but also Austria)¹⁴⁶, no evidence was identified that suggested that the information being made available is insufficient. Rather the evidence suggests that specific details around the access and presentation of that information could be further improved. As has been concluded by the SEIS implementation review, evaluation of Directive 2003/4/EC and the study on active dissemination relating to the nature directives, further effort would be usefully spent pursuing the existing initiatives to enhance the accessibility of information for citizens from across the environmental acquis.

Box 5.4 Active dissemination in nature

A study of the Nature Directives provided a number of insights on the effectiveness of public information provision.

Firstly, it found that Member States typically operate online portals through which the general public can access environmental information. Information available via these portals was aligned with the requirements for environmental information disclosure, but not all required aspects of information were publicly available (in particular: legal information on strict protection, court rulings and derogations; information on impact assessments). The study concluded that information provision, particularly around these points, could be improved.

Secondly, it concluded that making information available through online portals does not equate to the general public having access to information. It identified barriers to accessibility due to the information presented being unlikely to be interpretable by non-specialists, and the IT expertise / software required to access certain data.

The study identified the need to make the link between the “what” and “why” of information (i.e. what information is need by which stakeholders for what purpose) with the “where” and “how” (i.e. how can the information be made available and accessible to those stakeholders).

¹⁴⁴ Technopolis (2008). Effectiveness Evaluation of the European Environment Agency. Revised Final Report.

¹⁴⁵ Environmental Monitoring and Reporting Fitness Check Public Consultation. Additional information response from the European Environmental Bureau

¹⁴⁶ Ebbesson, J. (2016). The EU and the Aarhus Convention: Access to information, public participation in decision-making and access to justice in environmental matters. European Parliament Briefing.

To support improvements in public access, it was suggested that a SIIF for the nature directives could be developed. When Member States have reporting obligations to the European Commission, the SIIF could provide a description of how information can be organized and presented to reach compliance; and where there are requirements on information disclosure, the SIIF could define how the relevant information can be organized and presented online by Member States.

Source: Arcadis, KU LEUVEN and ECNC (2013), Active dissemination of environmental information in relation to the Birds and Habitats Directive: Final Report. ENV.D.4/ETU/2013/0063r (available at <http://ec.europa.eu/environment/aarhus/studies.htm>)

5.4.4 Conclusions

Following the Aarhus Convention and EU legislation such as the Directive on public access to environmental information, there have been significant improvements in the ability for EU citizens to be kept properly informed about the state of the environment. Information obtained through monitoring and reporting – both as part of mandatory and voluntary data flows, is an important part of the information base used in products provided to citizens.

The rapid and ongoing advance in technology has seen active dissemination emerge as the principal route through which access for citizens is established. A number of major initiatives are working to deepen and refine how environmental information is made available and shared.

There has clearly been success in making ever increasing volumes of data available to the public (including citizens and other societal groups such as researchers). However, the benefits of this success are not necessarily fully realised by citizens (compared to other groups). There are ongoing challenges in ensuring that the information being made available is both meaningful and accessible in practice to citizens, including by non-technical audiences.

Therefore, while it can be concluded that there is information available for the public that can allow them to be properly informed about the state of the environment, care must be taken in ensuring that the specific needs of citizens, particularly around non-technical interpretation and ease of access, are addressed. Ongoing initiatives, notably the Structured Information and Implementation Frameworks (SIIFs) should provide appropriate platforms to ensure this.

5.5 Does environmental reporting allow for evidence based decision making including evaluations of regulatory fitness and impact assessments

5.5.1 Introduction

The evaluation question examines whether the environmental monitoring and reporting objectives of determining whether environmental legislation is working efficiently, and helping to inform decision making are being satisfied.

As indicated by the Better Regulation guidelines, reporting obligations are put in place to ensure that Member States provide information to the European Commission that can enable evidence-based regulation. Evaluations and impact assessments are important tools to support evidence-based regulation, but are only as good as the information that can be collated and analysed as part of their production. Environmental monitoring and reporting is an important source of information for evaluation and impact assessment.

To respond to this question it is necessary to understand:

- To what extent is reported information used in evaluations and impact assessments and as evidence for other decision making activities/products?
- Are there examples of where it has been found to be insufficient?

5.5.2 Method and sources of evidence

The principal sources of evidence used to respond to the evaluation question are a sample of recent evaluations. These have provided a snapshot of effectiveness based on current practices in a sample of areas of legislation. This has been supplemented with issues and examples raised by stakeholders. The sources include:

- Document review e.g. evaluations and implementation reports;
- Inventory of reporting obligations; and
- Stakeholder views and examples – public consultation and workshops.

5.5.3 Evidence and analysis

Better Regulation requires that decision making is evidence-based. Evidence is required both to evaluate existing interventions and to substantiate a need for new ones. Evidence can be drawn from multiple sources, one of which is information received from environmental monitoring and reporting. Indeed, reporting is often one of the primary sources of evidence. For example, the recent evaluation to support the Fitness Check of the EU Nature Directives drew heavily on Member States' reporting on implementation of the Directives, and on the associated EU State of Nature report.

A number of recent evaluations were reviewed to understand the sufficiency of the evidence base provided by reporting and the extent to which it can enable robust conclusions to be drawn to support decision making (see 5.5.4). As already identified in the evaluation questions presented in section 5.2 and 5.3, there are often issues with the completeness, quality and timeliness of information received through reporting. In some instances this was not significant enough to hamper analyses and undermine the ability to draw robust conclusions, but a number of limitations were identified. These were:

- Incomplete and low quality information from reporting meant that the pool of data (on specific issues or the sample of Member States) was reduced and hence may produce biased results. In such instances the findings may be susceptible to challenge.
- Information on costs was incomplete or inconsistent across Member States, limiting the extent to which cost-effectiveness could be analysed and concluded on. Relating to this, information concerning benefits was also often missing, although the cause was often more closely linked to the challenges of articulating benefits than with the sufficiency of Member States' reporting efforts. This inhibited analyses and conclusions on the weight of costs to benefits.

These issues principally affected the evaluation of the effectiveness and efficiency of legislation.

Box 5.5 Review of evidence issues in recent REFIT evaluations

Environmental Liability Directive (ELD) (Directive 2004/35/EC)

The evaluation was mainly based on the information and data provided in the 27 national application reports of the Member States. The evaluation took longer than expected, in part due to delayed submission of several Member State reports. The Staff Working Document identified a number of limitations with regard to the robustness of findings as a result of data gaps and differences in Member States'

interpretation of terms which have potentially bring a "potential bias into the evaluation". Specific issues stated included:

- "Information and data provided in the MS reports 2013 varies considerably. While some Member States submitted detailed and well-structured information, others provided much less information"
- "...the Commission did not receive from all MS all the information sought or needed for a complete assessment and while some MS have supplemented the data upon extra request from the Commission, the situation remains partly incomplete for others."
- Despite this it concluded that "the obtained information appears in general sufficient to provide an overview, as is shown in the chapter on implementation".
- Data on costs (particularly administrative costs) was particularly limited, with "only a few MS providing reliable data [...] and a majority providing nothing". Such information is required to be submitted by Member States on a voluntary basis according to Annex VI of the ELD (in relation to Article 18(1)).
- "The robustness of the findings may be challenged in some respects: First, despite the common interpretative guidance on the reporting, MS may have had a different understanding of some terms, or use from the outset different systems e.g. for the calculation of costs."
- "...more transparency and complete data about ELD instances, as well as on environmental damage instances which are not treated under the ELD transposing legislation in the Member States but by other national legislation, would be necessary to assess the effectiveness of the Directive in an unbiased manner"
- To improve future evaluations "additional data would be necessary to examine the overall effect of the Directive in relation to the total environmental damage caused".

Source: European Commission (2016). COMMISSION STAFF WORKING DOCUMENT. REFIT Evaluation of the Environmental Liability Directive. SWD(2016) 121 final

INSPIRE Directive

The evaluation looked at the status of implementation and performance of the INSPIRE Directive (Directive 2007/2/EC). Information from environmental monitoring and reporting under the Directive was identified as a key data source for the evaluation.

The Staff Working Document identified a number of issues with the evidence base. However it did consider that:

- Both the 3-yearly country reports and annual monitoring indicator reports had improved in quality since 2010. Regarding the 3-yearly reports it stated that "Despite differences in the level of detail, the majority of the reports can be considered as a good basis for comparison".
- "it was possible to present a substantial analysis of the implementation of the INSPIRE Directive based on data until 2014, i.e. the national reports of 2013 and the annual reports of 2014, and to identify some strengths, weaknesses, opportunities and challenges".

The principal limitation was around the evaluation of costs and benefits. The analysis was based on reported information from Member States, but because the information was "patchy and diverse", it stated that "it was not possible to calculate EU-wide figures for costs and benefits, nor was it not always possible to compare the information available".

Issues associated with evidence from the three-yearly country reports were identified as:

- Findings on cost-efficiency were limited because “despite the availability of methodological guidelines [available in INSPIRE: Template for country reports 25.01.2013] and [a] preparatory workshop, Member States reported that cost figures are difficult to obtain and compare”.
- Most Member States reported only qualitative information on benefits, noting that “INSPIRE is not yet sufficiently implemented to assess benefits in quantitative terms”
- Information on the use of infrastructure for policy purposes is highly variable across Member States despite availability of guidance [available in INSPIRE: Template for country reports 25.01.2013].
- Issues with the annual monitoring indicator reports were identified as:
- “...completeness and interpretation (for example on what data set should be reported under which INSPIRE data theme).”
- “Discrepancies between the yearly monitoring reported data sets and services and those made available through the EU Geo-portal. Also here, different interpretations by those entering the metadata on what needs to be catalogued under which INSPIRE data theme, make it sometimes difficult to compare between countries.”

Source: European Commission (2016). Commission Staff Working Document on the evaluation of Directive 2007/2/EC establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) and underpinning the report on the implementation. SWD(2016)

Waste stream Directives

The Fitness Check covered five waste stream Directives: Directive 86/278/EEC on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture (SSD); Directive 94/62/EC on packaging and packaging waste (PPWD); Directive 96/59/EC on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCB/PCT); Directive 2000/53/EC on end-of life vehicles (ELV); Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators and repealing Directives 91/157/EEC (Batteries).

Data deficiencies were found to have a significant effect on the robustness of conclusions for two of these Directives:

- PCB Directive – it was stated that: “comprehensive EU wide data on historic disposal as well as inventories of PCB containing equipment are missing”; that the study “could not find out the true dimension of the problem”; and that “without the Member States providing comprehensive data and full inventories of relevant PCB containing equipment, the progress needed to achieve the target cannot be reliably judged”.
- Batteries Directive – it was found that data limitations made it “more difficult to produce a fully comprehensive and detailed analysis of all aspects concerning its effectiveness and efficiency”, although this was in part due to the relatively short time frame over which it had been in force.
- Some data limitations regarding completeness and consistency were identified in other areas (e.g. for the ELV Directive the reliability and comparability of statistics across Member States, due to different reporting systems and calculation methods, was questioned) but these were not considered significant enough to affect the ability of the evaluation to draw robust conclusions.

Source: European Commission (2014). Commission Staff Working Document. Ex-post evaluation of five waste stream directives. SWD(2014) 209 final

Drinking Water Directive

The evaluation includes a section in its methodology description on 'data challenges' which states that where "hard data" was available (e.g. on the non-compliance rates at MS level), the data gathering process was frustrated by the uneven quality and quantity of data.

Through the evaluation, the lack of data, or lack of consistent/comprehensive data was identified as affecting the ability to undertake analysis in a number of instances. For example:

- When evaluating the extent to which the Directive achieved its objectives, one judgement criterion adopted was whether compliance rates of parameters showed an improvement in water quality in the EU. It was stated that "to some extent the usefulness of the available Eionet data was limited due to erroneous and /or missing data. As a result, it was possible to evaluate the compliance during the whole monitoring period 1993 – 2013 for 9 parameters in only four MS".
- The evaluation found that "detection and investigation of [microbiological] outbreaks has been important for the protection of public health, yet detection and reporting varies from one European Member State to another making comparison across Europe difficult"
- In analysis of causes of non-compliance only 12 Member States had continuous data available which could be analysed. As such it was concluded that "since the number of data remaining after screening for complete records is limited, some results are clearly biased (e.g. in case of arsenic) by the number of countries and or (low) number of non-compliances. These data therefore do not allow for an in depth analysis of trends in causes and hence cannot be used to further evaluate the effectiveness of the DWD in relation to the quality of drinking water".

While issues such as the above were identified in the analysis, the evaluation was able to make conclusion on all bar one evaluation question without the need for strong caveats to be provided alongside those conclusions. The exception was regarding the balance of costs and benefits, although lack of data was only one contributing factor.

Source: Ecorys, Alterra, KWR, ACTeon, and REC (2016). Study supporting the revision of the EU Drinking Water Directive. Evaluation Report. European Commission, DG Environment

Information on the usefulness of reporting was obtained from Commission experts in populating the inventory of reporting obligations.

In general, Commission experts thought that the reporting requirements of the environmental acquis were useful, with the dominant reasons being for assessment of the status of implementation and compliance. This allowed the Commission to make decision regarding the next steps and identify the need for additional measures to improve the legislation and its implementation. For example, the END evaluation reported that there were "a number of positive examples" where information collected through END reporting had "influenced EU policy makers in the revision of recent source legislation".

While an understanding of implementation status is clearly an important part of broader evaluations, few Commission experts made specific reference to the usefulness of reporting requirements to support broader evaluation and impact assessment work. Notable references were:

- Persistent organic pollutants Regulation (2004/50/EC): reporting was seen as being "essential for allowing evaluation of effectiveness".

- INSPIRE Directive (2007/2/EC): the initial country reports gave “a good overview on how Member States implement the Directive. However, duplication with monitoring information and heavy reliance on textual explanations make evaluation and use of reports burdensome.”
- Public access to environmental information Directive (2003/4/EC): “Being based on textual data mainly, the report is rather legalistic. It does not provide country specific information and does not allow for an evaluation in the sense of the Better Regulation Guidelines”. No further reporting is expected under the Directive and the “evidence base needed for REFIT evaluation in line with the Better Regulation Guidelines needs to be created” in case of an evaluation to be carried in the future.
- END (2002/49/EC): population exposure data collected at EU level through the END is likely to be increasingly important. [...] ensuring data completeness and comparability are crucial precursors to being able to use the data more extensively in impact assessments, for instance, to help to justify making limit values more stringent”.

Similarly, information received from the EEA noted that:

- INSPIRE Directive (2007/2/EC): the reports provide added value, providing information in a standardised format, without which the evaluation could not have been successfully delivered.
- MSFD (2008/56/EC): reporting will be of little use for the evaluation of the EU Biodiversity Strategy as the timelines are not synchronised - when the strategy is evaluated the most recent MSFD reporting will relate to the start not the end of the strategy period.

5.5.4 Conclusions

On the whole, information from environmental monitoring and reporting is widely used to support evaluation, impact assessment and decision making more broadly. While there are often issues identified with the sufficiency of the evidence base provided by EU level reporting, this does not always mean that robust conclusions cannot be drawn and appropriate decisions taken. In part this reflects the fact that comprehensive information is not always required to enable assessments to be made and decisions to be taken. In addition, whilst reporting is critical for evaluating implementation and important for broader evaluation of legislation, it is not the only source of information used (e.g. assessments will typically draw on additional secondary sources and implementation bespoke primary data collection tools).

However, there have been a number of examples where the evidence base created with reported information has been deemed insufficient. A review of recent evaluations identified two key areas of deficiency:

- a) Deficiencies in Member State reporting can reduce the available sample of Member States on which analyses can be carried out, which can risk resulting in biased results and hence undermine the robustness of any conclusions. This in particular seems to affect evaluation of effectiveness. Further, it can limit the extent to which the evidence base can be used as the basis for analyses in impact assessments.
- b) Information on costs is often lacking, affecting the ability to analyse issues of efficiency. Information on benefits is also often lacking, although this is often due to insufficient methods/visibility rather than an issue with reporting.

6 Efficiency of the EU Environmental Monitoring and Reporting arrangements

6.1 Introduction

Efficiency considers the relationship between the resources used by an intervention and the changes generated by the intervention (which may be positive or negative). It considers whether the same benefits could have been achieved at less cost, or greater benefits at the same cost. Especially under the REFIT programme, efficiency analysis typically includes an examination of administrative burden and looks at the potential for simplification, issues which are particularly relevant in the case of regulatory monitoring and reporting obligations.

Analysis of the efficiency of EU environmental monitoring and reporting obligations needs to consider the type and extent of costs involved (including administrative burdens), and how these compare with the benefits of reporting. It also needs to examine whether there is scope to reduce these costs through cost effective implementation or improvements in the process and timing of reporting, without reducing the benefits.

There are six evaluation questions under the efficiency theme.

6.2 To what extent are the costs involved justified and proportionate?

6.2.1 Introduction

This question requires an analysis of the costs of reporting, and an assessment of whether these costs are justified and proportionate. To assess whether costs are justified and proportionate, it is necessary to examine them in relation to the problems and needs being addressed, and to the benefits of monitoring and reporting activities. Therefore this question requires an assessment of the benefits of reporting as well as the costs.

A number of sub-questions therefore need to be addressed:

- What types of costs are incurred in monitoring and reporting, and who incurs them?
- What is the overall extent of these costs?
- What is the purpose of monitoring and reporting, and what benefits does it deliver?
- What is the overall relationship between the costs incurred and benefits delivered? Are the overall costs justified and proportionate relative to the benefits?
- Are there examples of monitoring and reporting activities for which costs are incurred for no clear purpose, or are disproportionate relative to the benefits?

6.2.2 Method and sources of evidence

The support study has involved an extensive analysis of the costs and benefits of reporting. Further details are presented in a methodological discussion paper (Annex 2) and a set of fiches that examine the costs and benefits of individual reporting obligations (Annex 3).

The main sources of evidence for this question are:

- The analysis of costs and benefits, including the fiches and summary paper;
- Previous analyses of costs and benefits;

- Analyses for particular items of legislation, e.g. E-PRTR, INSPIRE, Noise REFIT evaluations;
- Examples given by stakeholders through the workshops and public consultation.

While there is much evidence of costs and benefits, significant uncertainties and data gaps make robust assessments difficult. Because of the difficulty of quantifying benefits, assessment of whether costs are justified and proportionate requires some degree of judgement, often relying on the views of policymakers and stakeholders.

6.2.3 Evidence and analysis

6.2.3.1 Types of costs

Reporting obligations impose a range of costs on Member State authorities, the European Commission and European Environment Agency, and, in some cases, on businesses. These costs include:

- **The costs of time taken to fulfil reporting requirements** – including the collation, processing, quality checking and transmission of data, and the preparation of reports by MS, the EEA and EC;
- **The costs of developing and maintaining systems for reporting**, at both EU and MS level. Advances in IT have led to the development of more sophisticated and often automated systems for reporting and data transfer. There have been substantial investments in these systems at EU and MS level, both in terms of capital investments in systems development and in annual maintenance;
- **Outsourcing costs**, such as the costs of consultants' time in processing and synthesising reports at EU level.

All of these costs can, in theory, be quantified and valued in monetary terms. However, a fully comprehensive and accurate overall assessment has been beyond the scope of this study. Given the large numbers of reporting obligations (181), multitude of actors involved (including the 28 Member States, numerous devolved administrations and varying administrative structures for different legislation, and in some cases businesses), and range of cost parameters, a full assessment would require collection of many thousands of data points. However, an overall assessment of the broad scale of costs and how they vary across different items of legislation has been made in the accompanying papers and fiches.

6.2.3.2 Administrative burdens of time taken for reporting

A major cost – and one of the greatest concerns of the Member States – relates to the administrative burdens of the time taken to report to the EEA/EC under EU environmental legislation. The administrative burdens of this can be estimated using the EC standard cost model (Box 6.1).

Box 6.1 Applying the Standard Cost Model to estimate administrative burdens of time taken for reporting

The Standard Cost Model is represented by the following equation:

$$\Sigma P \times Q$$

Where:

$$P \text{ (for Price)} = \text{Tariff} \times \text{Time}$$

$$Q \text{ (for Quantity)} = \text{Number of entities} \times \text{Frequency}$$

Using the SCM, the costs of the time expended in environmental reporting can be estimated, providing data can be collected for:

- The **frequency** of reporting (which is normally specified in the legislation and may vary from a single, one-off report to regular annual reporting);
- **The number of entities** required to report (e.g. 28 Member States, 1 European Environment Agency, or potentially thousands of individual plant operators);
- The time taken by each of these reporting agencies in the reporting process (which may vary from a matter of minutes where reporting merely involves the transfer of information already available, to many person months where reporting requires the collection, processing, quality checking and analysis of a wide range of more complex data); and
- The **cost of time** taken, estimated at an hourly or daily rate. This needs to include not just direct wages and salaries, but also additional staffing costs (including pensions) and overheads (including office costs). These costs vary widely across the EU and a detailed assessment would apply national cost rates to estimate burdens at MS level. However, a broader EU level assessment may apply EU averages.

In this study, a broad assessment of administrative burdens was made by estimating cost equations for each reporting obligation, as set out in the fiches. The analysts sought to understand the processes of reporting, the types and numbers of entities required to report, and the likely time required. The analysis was informed by a desk review and targeted interviews with EC, EEA and MS officials. A standard EU average rate of EUR 300/day was used to assess the cost of time, based on average cost rates from the EC administrative burdens database.

The analysis was designed to provide a broad overview of the likely scale of burdens, rather than precise estimates. The results need to be interpreted with caution, given the number of uncertainties, judgements and assumptions involved.

Table 8 groups the different items of legislation according to estimates of the broad magnitude of their administrative burdens.

While the estimates need to be treated with caution, in view of the many assumptions, judgements and uncertainties involved, they indicate that:

There is a very wide spread of administrative burdens among different items of legislation, ranging from zero to millions of euro annually. **Many ROs have small or negligible burdens;**

Most reporting obligations place burdens on Member State authorities and the Commission. This limits the number of reporting entities and the scale of the burdens imposed;

A few items of legislation have reporting obligations that require data to be collected from businesses, either by requiring businesses to report directly or by requiring data from competent authorities which need to be collected from businesses. In these cases the number of reporting entities, and hence the scale of the reporting burden, can increase greatly. These items of legislation include the Packaging Waste Directive and WEEE Directive, which require tens of thousands of businesses to report across the EU each year, substantially increasing the administrative burdens involved;

Reporting under the **Ambient Air Quality Directive** and related Directive on arsenic, cadmium, mercury, nickel and PAH in ambient air also has fairly large costs. In addition to the administrative burdens, reporting under these Directives has involved significant investment in the development and maintenance of reporting systems and processes (resulting from a recent shift to e-reporting systems): costs are expected to diminish over time, as the benefits of e-reporting decrease the administrative burden.

Industrial emissions legislation, including the E-PRTR regulation and Industrial Emissions Directive, has a relatively large overall reporting burden, especially the E-

PRTR which requires reporting by large numbers of individual operators, but the majority of this burden stems from internationally-derived obligations (in this case the UNECE Kiev Protocol). Since the EU E-PRTR Regulation merely implements these international requirements, the costs associated with fulfilling this RO do not stem from the EU legislation and the Commission is not empowered to alter the requirements. However, there is some limited added burden as the EU regulation adds requirements that were not in the original international obligation. However, the net (EU added) cost of the ROs is much lower than the overall costs of reporting;

The Water Framework Directive also has large reporting costs, though a large proportion of these are the result of an agreement of the Member States (who have made a commitment to report water information using common reporting formats and content) rather than a direct result of the legislation;

A large number of items of legislation place **significant reporting obligations on Member State** authorities and may result in burdens in the range EUR 100,000 to 1 million annually across the EU28. These burdens, while relatively small in relation to the overall impact of the legislation, are still significant and of concern to Member State authorities.

The estimates include mainly the costs of time (and in some cases consultancy fees) incurred in reporting. They do not include costs of monitoring equipment or time incurred in monitoring of emissions or environmental quality. Our analysis found that none of the ROs examined gave rise to a requirement for environmental monitoring purely for reporting purposes – in most cases monitoring was found to be required to meet other obligations (e.g. checking compliance, assessing the need for remedial action) rather than being needed primarily to meet a reporting obligation. However, in practice this may not be so simple, and changes in reporting requirements may allow Member States to amend monitoring so as to ensure implementation whilst cutting costs for businesses and other stakeholders.

6.2.3.3 Systems and outsourcing costs

For many items of legislation, the systems for environmental monitoring and reporting have developed significantly in recent years, reflecting advances in information technology. This has enabled greater automation of the processing and sharing of data on environmental quality and emissions. These developments have greatly enhanced the ability to share environmental data between Member States, the EEA and Commission, and to make information available to the public.

Development of systems for monitoring, reporting and data sharing have required significant levels of investment at EU and Member State level. For example, the EEA reports that it invested in the region of €1m in the development of the new centralised Air Quality e-reporting database, with the majority of this cost incurred in software development by contractors. In addition, the EEA incurs additional costs in the maintenance and development of the system annually. These system costs may be expected to decline over time as the system becomes more established and less time is needed to manage it.

Significant costs are also incurred at MS level in maintaining reporting systems. For example, the German Federal Environment Agency estimates annual costs in the region of EUR 100,000 for maintenance of the IT system needed to maintain the reporting system for the E-PRTR and Industrial Emissions Directive. The costs are shared between the federal government and the Länder authorities and the work is conducted by an external consultant. The maintenance costs enable ongoing adaptation and improvement of the software, which was recently upgraded from MS Excel to a more modern system.

The EEA has provided estimates of the central IT and administrative costs attached to reporting of each of the European Topic Centres (Table 7). The figures are based on average expenditures between 2014 and 2016, as well as associated staffing and IT

costs. They indicate that the Agency incurs annual costs in the region of EUR 4.5 million on reporting activities. The figures indicate that the EEA's IT costs related to reporting average around EUR 2 million annually. While the EEA indicates that these costs related to reporting activities, it also notes the difficulty of separating reporting-related costs from costs of other related activities.

Table 7. Estimates by European Environment Agency of annual costs of reporting (Euro)

| Topic | European Topic Centre budget for reporting activities* | EEA thematic FTE** | IT budget | IT FTE** | Total |
|--------------|--|--------------------|-------------|------------|-------------|
| Air quality | 310 | 200 | 150 | 100 | 760 |
| Noise | 110 | 100 | 100 | 100 | 410 |
| E-PRTR | 70 | 100 | 250 | 100 | 520 |
| Biodiversity | 660 | 200 | 250 | 200 | 1310 |
| Water | 250 | 200 | 250 | 200 | 900 |
| Marine | 140 | 100 | 250 | 100 | 590 |
| Total | 1540 | 900 | 1250 | 800 | 4490 |

Notes:

*Rounded average of 2014, 2015 and 2016 budget for relevant ETC activities

** Assuming 1 FTE = EUR 100,000 (including overheads)

*** It should be noted that the costs of reporting can be difficult to separate from those of other related information activities.

In addition, the Joint Research Centre estimates that the annual cost of running two reporting systems under the Seveso Directive, eSPIRS (Seveso Plants Information Retrieval System) and eMARS (Major Accident Reporting System) amounts to approximately EUR 120,000 annually. The Directive requires mandatory reporting of establishments to eSPIRS and reporting of major accidents by Member States to eMARS.

As well as providing IT related services, consultants are also engaged in the processing of data and information for environmental reporting. These costs can be significant for some items of legislation. For example, the European Commission's report on River Basin Management Plans, prepared every 6 years, is a detailed publication in two volumes. In the latest reporting round, as well as requiring around 300 days of Commission staff time, its preparation also involved consultancy costs in the order of EUR 1m. These costs are expected to diminish in future reporting cycles now that the necessary tools have been developed.

Overall, the European Commission estimates that the annual costs of outsourcing support for environmental monitoring and reporting averaged EUR 4.9 million over the three years 2014 to 2016.

6.2.3.4 Overall estimate of costs

Overall, the annual costs of monitoring and reporting obligations in EU environmental legislation are estimated at:

- EUR 13 million for Member State authorities;
- EUR 4.9 million for the European Commission (outsourcing costs only);
- EUR 4.5 million for the European Environment Agency.
- These amount to an overall cost of approximately **EUR 22.4 million per annum**.
- Table 8 summarises estimates of the range of administrative burdens to Member States imposed by reporting obligations for different items of legislation. These costs relate to EU legal obligations only; the overall costs of monitoring and reporting are likely to be greater than this if additional “voluntary” reporting (e.g. overall reporting activity as agreed by MS under the Water Framework Directive) is included.
- The costs incurred by businesses in reporting statistical information under the EU Packaging Waste and WEEE Directives are potentially much larger than this, and are difficult to quantify overall given uncertainties regarding the numbers of operators and time required. However, these costs are not attributable to EU reporting obligations alone, since the establishment of information systems and collection of data from operators is needed in order to inform Member States’ action to achieve recycling and recovery targets, as required by the legislation.

Table 8. Broad assessment of administrative burdens to Member States by item of legislation

| Type | Approximate annual administrative burden to MS attributable to ROs | Incidence of burden | Items of legislation falling into this category (and reference number) |
|--|--|---------------------|--|
| Regular reporting with direct obligation for large numbers of businesses/ operators as well as MS authorities | Large More than EUR 1 million | Business, MS, EC | Packaging Waste Directive (31), WEEE Directive (34) |
| Regular reporting by MS of very detailed and extensive information that should already be available but require significant time to compile. | Fairly Large EUR 100,000 to 1 million p.a. | MS, EC | Ambient Air Quality Directive (1)**; Arsenic, cadmium, mercury, nickel and PAH in ambient air (2)**; Environmental Noise Directive (3), Water Framework Directive (4)*, MSFD (7), Drinking Water Directive (8), Habitats Directive (10), Birds Directive (11), E-PRTR Regulation*** (13), Industrial Emissions Directive (14); National Emissions Ceilings Directive (16), Urban WW Treatment Directive (17), Nitrates Directive (18), EMAS Regulation (19), Landfill Directive (20), Extractive Waste Directive (21), Waste Framework Directive (27), Waste Shipments Regulation (29), Batteries and Accumulators Directive (30), End of Life Vehicles Directive (33), REACH Regulation (39), INSPIRE Directive (45), Regulation on Trade in Wild Fauna and Flora (47), FLEGT Regulation (51), Timber Market Regulation (52), Animal Testing Directive (58) |
| Reporting by MS of detailed information that should already be available | Moderate EUR 30,000 – 100,000 p.a. | MS, EC | EQS Directive (5), Floods Directive (6), Bathing Water Directive (9), IAS Regulation (12), Sulphur content of liquid fuels Directive (15), Seveso Directive (24), Fracking Recommendation (25), Sewage Sludge Directive (26), Mercury Regulation (36), VOCs Directive (37), CLP regulation (40), EIA Directive (43), SEA Directive (44), Access and Benefits Sharing Regulation (50), Ship Recycling Regulation (53), Medium Combustion Plant Directive (54), Asbestos Directive (56) |

| Type | Approximate annual administrative burden to MS attributable to ROs | Incidence of burden | Items of legislation falling into this category (and reference number) |
|---|--|---------------------|---|
| Regular or ad hoc reporting by MS of a limited amount of available information; or more detailed information by EC only | Small Zero – EUR 30,000 p.a. | MS, EC | VOC emissions Directive (22), Petrol vapour recovery Directive (23), Ecolabelling Regulation (28), RoHS Directive (35), POPs Regulation (38), Regulation on Export and Import of Hazardous Chemicals (41), Regulation on Trade in Seal Products (55), EEA/ EIONET Regulation (57) |
| No further reporting required | Zero | - | PCBs Directive (32), Environmental Liability Directive (42), Directive on Public Access to Environmental Information (46), Regulation on Imports of Whale Products (48), Regulation on Trade in Seal Skins (49) |

NB: The above is based on a broad assessment as presented in the fiches in Annex 3, and the estimates would benefit from further data gathering and analysis.

The figures exclude IT and system costs at EU level, which are normally shared between different items of legislation on a thematic basis.

** For the Water Framework Directive, Member States report that our analysis based on the individual reporting obligations underestimates the actual costs of reporting and information transfer, in response to the Reporting Guidance agreed by the Water Directors. These costs reflect significant investment in systems development and are expected to decrease in future reporting rounds.*

*** There is a shared reporting system for the Directives on Ambient Air Quality and Arsenic, cadmium, mercury, nickel and PAH in ambient air, and costs are therefore shared between them.*

****The majority of the burden for the EPRTR Regulation stems from internationally-derived obligations (in this case the UNECE Kiev protocol). The RO does not stem from the EU legislation and the Commission is not empowered to alter the requirements. Consequently the net (EU added) cost of the ROs is much lower than the overall costs of reporting.*

6.2.3.5 Trends in costs

Some reductions in the costs of reporting can be expected in coming years as a result of efforts to reduce administrative burdens.

Perhaps the clearest example relates to the Circular Economy Package, which proposes the repeal of three yearly implementation reports under Directives 2008/98/EC on waste, 94/62/EC on packaging and packaging waste, 1999/31/EC on the landfill of waste, 2000/53/EC on end-of-life vehicles, 2006/66/EC on batteries and accumulators and waste batteries and accumulators, and 2012/19/EU on waste electrical and electronic equipment.

According to the analysis in Annex 3, this is expected to result in time savings averaging 30-60 days per Member State every three years for each of the six directives, suggesting an annual cost saving averaging EUR 80,000 – 180,000 per Directive across the EU28.

Other reductions in administrative burdens are expected as a result of investments in reporting systems, such as those for air quality. In these cases significant up front investments have been required in order to reduce the time taken by reporting, and the benefits have yet to be fully realised. It is also important to note that such systems developments are designed to enhance the benefits and timeliness of information provision, as much as to reduce administrative burdens.

6.2.3.6 Benefits of reporting

The benefits of reporting obligations need to be viewed alongside their costs. It is important to recognise that regulatory monitoring and reporting are intended to provide vital information that supports the implementation, monitoring and review of environmental legislation. Without this information, it would not be possible for policy makers or the public to assess whether the legislation is being properly implemented, whether it is effective in achieving its objectives, what are the costs and benefits of implementation, or what challenges need to be addressed in improving its effectiveness and efficiency over time.

Stakeholders participating in the workshops and public consultation highlighted the importance of considering the benefits of reporting alongside the costs, and expressed concern that efforts to reduce costs and administrative burdens should not undermine the objectives of reporting (Box 6.2).

While the costs and administrative burdens of reporting can be readily quantified in money terms, if sufficient information is available, the benefits of reporting are much more difficult to quantify, for two main reasons:

Environmental monitoring and reporting deliver benefits indirectly, by enhancing the implementation of policy over time. It is also just one stage in the process of policy implementation, providing information which informs future action by policy makers and stakeholders. The effects of the reporting process itself are therefore extremely difficult to quantify; and

Benefits are difficult to express in monetary terms. Even if the benefits of reporting could be quantified, for example in terms of changes in environmental quality that might result from better policy implementation, valuation would remain problematic as environmental effects are more difficult to value in monetary terms, than for instance, the costs of labour time.

For these two reasons, monetary assessment of the benefits of reporting is not generally feasible, and it is necessary to make a qualitative assessment, examining the purpose and benefits of reporting and considering whether current reporting obligations meet their intended purpose and what benefits they deliver.

While estimates are not available for the benefits of reporting itself, monetary assessments have been made of the overall benefits of a range of EU legislation,

including the Nature Directives, Water Framework Directive, REACH and air quality legislation. Examples are given in the evidence submitted by the European Environment Bureau (EEB) to the public consultation (Box 6.2). Reporting plays an important role in guiding the implementation of legislation and in ensuring that the anticipated benefits are met.

Box 6.2 Benefits of reporting – Evidence from stakeholder workshops and public consultation

Participants in the stakeholder workshops expressed concern that the many of the Fitness Check questions focus on costs rather than benefits, and emphasised that the exercise should be concerned with enhancing the benefits and not just reducing costs. It was stressed that the efficiency of reporting can be enhanced not just by reducing costs but also enhancing the benefits delivered from the resources used.

While the direct benefits of reporting itself are difficult to quantify, respondents to the public consultation and participants in the stakeholder workshops stressed that reporting is an integral part of the implementation of EU environmental legislation, and therefore plays an important role in securing the benefits of legislation more widely.

For example, in its response to the public consultation, the EEB pointed to the importance of reporting in providing the benefits of the EU Birds and Habitats Directives (Natura 2000 sites are estimated to deliver services worth €200-300 billion/year), REACH (delivering benefits estimated at around €2.5bn) and the Water Framework Directive (benefits of achieving good ecological status for all European water bodies estimated to be at least €2.8 billion a year). The EEB also argued that reporting has informed the dissemination of information about polluting activities, which has helped to significantly improve the performance of heavily polluting industries, as well as informing the identification of pollution hot spots and targeted measures to improve the quality of the environment and human health.

The role of environmental reporting is to enable the collation of data that provides evidence on the implementation and impacts of EU environmental policy. This is a critical part of Better Regulation and ensures that evidence-based actions can be taken to ensure that policy is amended where necessary to ensure that it remains fit-for-purpose. The objectives of reporting are set out in Section 2 above. Respondents to the public consultation highlighted the importance of monitoring and reporting in assessing whether legal obligations are being met, improving stakeholder understanding of the state of the environment, and providing environmental information for citizens (see Table 2 above).

A qualitative assessment of the purpose and benefits of individual items of legislation is provided in the fiches accompanying this report (Annex 3). The fiches indicate that:

All of the reporting obligations identified aim to fulfil a purpose and to provide particular benefits;

The purpose and benefits varies by reporting obligation. For example, many reporting obligations seek to provide basic administrative information, such as the names and contact details of competent authorities, which, though limited in extent, is vital in informing implementation. In contrast, other reporting obligations provide much more detailed information on implementation and enforcement, the state of the environment and challenges and issues in implementation, which delivers deeper benefits and plays an important role on informing the implementation, monitoring and review of legislation. Some reporting obligations (e.g. those relating to bathing water and air quality) provide important environmental information to the public;

Some reporting obligations have been less beneficial than originally foreseen. This may be the case where reporting has in practice been limited or incomplete, where information has been variable or inconsistent in its nature and format, or where issues with data quality have been identified. In most of such cases, steps are being taken to address this issue, either by repealing the obligation or by improving the quality and consistency of reporting. Examples are given in response to relevant questions on relevance (Section 4) and effectiveness (Section 5);

Most ongoing reporting obligations are seen (at least by EU policy makers) to provide clear benefits, though these are difficult to quantify.

6.2.3.7 Proportionality of costs and benefits

While difficult to quantify precisely, the overall costs of monitoring and reporting at EU level are relatively small, in comparison to the overall costs of environmental legislation. Most items of legislation are estimated to give rise to an administrative reporting burden of less than EUR 1 million annually, with the exception of the packaging and packaging waste and WEEE Directives which require reporting by operators. By comparison the overall administrative burdens arising from EU environmental legislation have been estimated at EUR 1.18 billion per annum¹⁴⁷ annually, and environmental protection expenditure more widely is around EUR 297 billion¹⁴⁸ although this goes far beyond the costs of compliance with regulation. A similar finding was made by an earlier study by the EEA¹⁴⁹, which found that the costs of monitoring and reporting across a range of legislation account for between 0.7% and 4.0 % of overall environmental expenditures.

Interviews with EC policy officers responsible for each item of legislation, as well as EEA staff, indicate that they view the costs incurred in reporting to be proportionate to the benefits delivered, given the vital role of reporting in providing the evidence base needed for implementation and development of the environmental acquis.

Evidence of the proportionality of costs and benefits is also available from recent evaluations of the INSPIRE Directive and E-PRTR Regulation. In both cases administrative burdens were found to be small and proportionate, though some scope for efficiency gains was identified in each case (Box 6.3).

Box 6.3 Findings from the Fitness Check of the INSPIRE Directive and E-PRTR Regulation

The Commission Staff Working Document found that monitoring and reporting obligations from INSPIRE represent the main administrative costs of the Directive, and fall mainly on public authorities. The perception of burden varies but is generally related to the costs of coordination, IT infrastructure, service implementation and harmonisation. Precise cost figures are not available. However, four countries (FI, LT, SE, SK) provided estimates of the financial costs of monitoring and reporting combined. These range from EUR 33,000 to 67,000 per country per annum, and between 0.75% and 4% of overall INSPIRE implementation costs. This indicates that the administrative burden appears to be low. Overall, it was found that the administrative costs for the implementation of INSPIRE are far lower than the benefits and administrative cost savings that can be achieved through a modern and shared spatial data infrastructure. Nevertheless, Member State experts called on the Commission to review the existing monitoring and reporting obligations based on

¹⁴⁷ High Level Group on Administrative Burdens, Cutting Red Tape in Europe, Legacy and Outlook, Brussels, 24 July 2014 Legacy and outlook http://ec.europa.eu/smart-regulation/refit/admin_burden/docs/08-10web_ce-brocuttingredtape_en.pdf

¹⁴⁸ http://ec.europa.eu/eurostat/statistics-explained/index.php/Environmental_protection_expenditure_accounts

¹⁴⁹ EEA (2008) On Costs for Monitoring and Reporting. Unpublished draft report

Commission Decision 2009/442/EC. In particular the three-yearly national report is considered too burdensome and duplicates information gathered under the monitoring framework with the help of the EU Geoportal and the EEA's dashboard.

The recent evaluation to inform the REFIT of the E-PRTR found that the Regulation performed well under the efficiency criterion. The additional reporting requirements under E-PRTR were found to be minimal compared to existing obligations on Member States as Parties to the Kiev Protocol. Data managers saw the level of effort as appropriate for the benefits provided by the E-PRTR. In particular:

- The only additional requirement of E-PRTR compared to the Kiev Protocol (for which all but two MS are parties) relates to a few specific water pollutants discharged by a limited number of sites;
- There are some additional burdens involved in MS reporting data from national registers to the EEA;
- The EEA and Commission incur some costs in maintaining the EU register. Data are not available for the EEA, but the Commission estimates that this involves 1FTE staff per year, costing around €150,000.

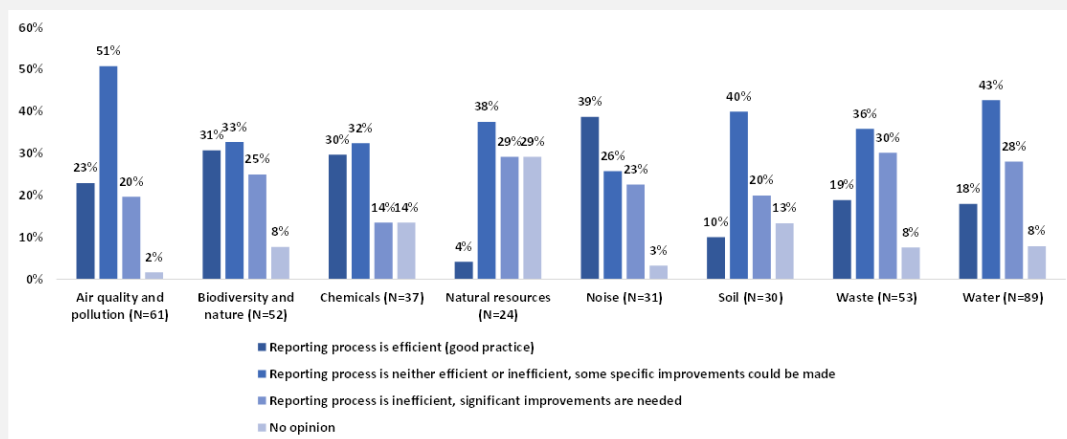
The views of MS and other stakeholders are more mixed. For example, the public consultation revealed a wide spread of opinion regarding the efficiency of the current arrangements (Box 6.4).

Box 6.4 Stakeholder views

The public consultation revealed strong support for the statement that “a balance should be struck between asking for more information, and the cost of that provision” (Question 3.4). Four respondents (three environmental authorities and one private enterprise) felt that existing reporting requirements were too demanding, in the sense that the resources required to collect data may be far greater than the value gained from the data. These respondents also expressed the view that there is a lack of clarity as to how this data is used by the Commission, and for what purpose it is requested.

Question 4.2 asked respondents about their perceptions of the efficiency of the reporting process (with regard to cost and administrative burden) in the policy domains with which they were most familiar. There was a spread of opinion in all policy domains about whether or not current monitoring and reporting arrangements are efficient. Noise was the only policy domain where the largest proportion of respondents viewed the current process to be efficient. For waste and natural resources, a larger proportion of respondents viewed current arrangements as inefficient rather than efficient, while the remaining policy areas tended to be viewed as neither efficient nor inefficient – but with the potential for significant improvements to be made.

Q4.2: Which of these statements do you consider as appropriate when assessing the cost and administrative burden of the reporting process?



The stakeholder workshops also expressed differences in opinion about the efficiency of particular reporting obligations. For example, some MS and stakeholders argued that reporting of derogations under the Birds and Habitats Directives is burdensome and that those reporting see little benefit and have difficulty in understanding the purpose of the process. Other workshop participants argued that reporting of derogations plays an important role in demonstrating compliance and proper and transparent implementation. Some stakeholders have argued that reporting of derogations could be limited to those which have an impact on species and habitats¹⁵⁰, though this raises the question of how the threshold for assessing such an impact would be defined. Such examples highlight that stakeholder perceptions of efficiency are influenced by awareness and understanding of the purpose and benefits of reporting, and that effective communication of these is important.

¹⁵⁰ For example, email submission from Czech Ministry of the Environment, 22 November 2016

This issue is likely to be exacerbated in cases where those required to report are more remote from the EU policy level. For example, an email submitted to the Fitness Check from the German Federal Ministry for the Environment argues that officials in regional and local administrations often see reporting as particularly burdensome (Box 6.5), and reiterates the need for reporting requests to be accompanied by a clear explanation of their purpose, as well as appropriate guidance.

Box 6.5 Views expressed by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

An email submitted to the Fitness Check summarised the following views received from administrations in the German Länder:

- Monitoring and reporting are often regarded as a burden to environmental administrations which – as a rule – have serious resource problems and are already hard pressed to fulfil their central task of risk mitigation;
- Therefore, especially if monitoring and reporting obligations are exercised as an isolated task and not as an “easy- to-deliver by-product” of surveillance, from the perspective of those working in local /regional environmental administrations, these obligations are impeding inspectors to “do their real work” and forcing them instead to do “even more paper work”;
- The potential frustration of being forced to make a “wrong” choice by giving “reporting” priority over “inspection” (in the broadest sense) is severely aggravated by
 - a lack of knowledge /understanding why specific information is needed and to what specific purpose it will serve
 - the lack of visible results of their reporting.

The email states that each of these complaints has been made on several occasions and by various representatives in several Länder. As well as the need to test the necessity, effectiveness, subsidiarity and alternatives to monitoring and reporting, the letter calls for:

- Monitoring and reporting requests/questionnaires to be accompanied by a short initial statement, explaining the purpose of the request, how the information will be used and where and when its results will be made available;
- Communication at a sufficient time in advance and consistency in reporting requirements for at least two or three subsequent reporting periods (except for elimination of mistakes);
- Advance notice of the monitoring required, as well as sufficient guidance in the national language, accompanied by contact details and FAQs;
- Processes to eliminate mistakes and improve the system through learning.

The letter argues that such arrangements would enhance understanding of the purpose of reporting among data providers and hence address negative perceptions, as well as providing a check of effectiveness and efficiency which should help to avoid unnecessary burdens for environmental administrations.

Source: Email from Kristina Rabe, German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, 16.10.16

A submission from a representative of the French Government to the Fitness Check highlighted the high national cost of reporting under the Water Framework Directive, and argued that the efficiency of reporting could be improved (Box 6.6). It should be noted that these views may not be shared by all Member States. It is also clear that there is room for improvements in the efficiency of Member State implementation, as well as in the system at EU level.

Box 6.6 Costs and efficiency of WFD Reporting – Submission from French Government and response from European Commission

In France, Water Framework Directive reporting in 2010 was estimated to require 10 person years of work, and this is expected to increase to a minimum of 18 person years of efforts in 2016. Even after allowing for the loss of about 30% of this time due to technical problems, the costs involved are considered to be excessive and not justified by the benefits. According to the submission, the main cause of these technical problems arises from errors and deficiencies in European reporting tools and quality management processes, which have required repetition of reporting processes and increased time inputs and burdens.

The 18 person years of effort includes participation in and leadership of working groups, translation of reporting guidance (which has been revised several times since 2014), technical assistance to RBDs, and collation, analysis, quality checking and transfer of data.

The French Government notes that there have been improvements since 2010, but stresses the importance of MS understanding how the European institutions use the data and information reported, as well as data being useful for both the European institutions and MS. It is argued that reporting can be seen to be efficient only when it provides a tool to aid policy decision making in a strategic way and has positive impacts on other policies.

WFD reporting is highly complex and technical. Discontinuity or interruptions in the reporting process can create problems, as there is a risk of losing the consistency of the thread of reporting. For this reason, it is argued that properly validated tools and stable datasets are required, as well as an understanding of reporting requirements well ahead of the reporting period. In particular, the link between reporting, evaluation under Article 5 (made in the middle of the current management cycle and which will be the basis of the RBMP for the next management cycle) and RBMP has to be clearly established over the long term.

In response, the European Commission points out that it translated the final version of the Guidance, and announced in advance its intention to do so, and that it was the decision of the Member State to translate draft guidance before it had been finalised. Each section of the Guidance includes a table showing how the information provided by Member States will be used. The need to issue guidance in advance is agreed, but it is noted that a number of factors can cause delays, including the time taken to agree guidance with Member States.

Source: Emailed comments from French Government and European Commission

The figures indicate that the actual costs to Member States of reporting under the WFD greatly exceed the costs of the legal obligations to report under the Directive, as estimated in this study using the Standard Cost Model. However, it is evident from the contribution that these costs are to a certain extent triggered by the implementation requirements and needs of the Directive as a whole and would still occur even in the absence of reporting.

6.2.4 Conclusions

The evidence suggests that, in overall terms, the costs of monitoring and reporting as required by EU legislation are moderate, and represent a small proportion of the costs of environmental legislation in total. However, it should be noted that the overall costs and burdens of environmental monitoring and reporting greatly exceed the estimates given above in certain areas. Examples include the Water Framework Directive (where overall reporting efforts follow guidance agreed by the Water Directors, and have involved significant one-off investments in systems development)

and the E-PRTR (where the bulk of reporting activity is driven by international rather than EU obligations).

Reporting plays an important role in the implementation of EU environmental legislation and delivers significant benefits. In general, the costs of monitoring and reporting appear to be proportionate to the benefits achieved. However, some Member States and stakeholders express concern about disproportionate costs, and negative perceptions about the efficiency of the existing arrangements are particularly prevalent where data providers are unclear of the purpose and benefits of reporting. This suggests a need to communicate more clearly to ensure that those who incur the costs understand the purpose and benefits of reporting.

6.3 What factors influence the efficiency with which environmental monitoring and reporting takes place?

6.3.1 Introduction

The question examines the factors that determine the efficiency of monitoring and reporting – i.e. the relationship between the costs and benefits of monitoring and reporting activities. This requires an examination of the factors affecting both the costs and the benefits of environmental reporting.

Analysis of the costs needs to examine the factors influencing the administrative burdens of reporting (using the Standard Cost Model) as well as influences on other costs (such as systems costs and outsourcing costs). The effects of timing, process and content of reporting on costs and administrative burdens need to be examined.

Assessing the efficiency of reporting also needs to examine the benefits achieved, and what determines them (such as the quality, timeliness and relevance of what is reported). Even if achieved at low cost, monitoring and reporting is unlikely to be efficient if it delivers data of poor quality, which is out of date and poorly matched to needs – as these factors are key determinants of the benefits of reporting relative to the costs.

6.3.2 Method and sources of evidence

The answer to the question draws on:

- The analysis of the costs and administrative burdens of reporting – based on the Standard Cost Model;
- Analysis of the inventory of reporting obligations on factors affecting costs – e.g. timing/ frequency of reporting;
- The analysis of the benefits of reporting, including qualitative assessment of the main factors that influence these;
- Stakeholder views and examples – from workshops and public consultation;
- Review of relevant documents (e.g. past literature, REFITs);
- Identification of examples – from the fiches and literature – of:

Efficient environmental monitoring and reporting at EU level – i.e. those ROs which achieve their objectives and deliver benefits at relatively low cost;

Less efficient environmental monitoring and reporting – i.e. those ROs which are perceived to have relatively high costs relative to their benefits;

Analysis of the reasons for these.

Overall, this range of evidence allows the factors affecting the efficiency of reporting to be understood, though most of the available evidence is qualitative.

6.3.3 Evidence and analysis

The cost analysis and consultations indicate that a large proportion of the costs of reporting relate to the administrative burdens of the time required to fulfil reporting obligations. The factors influencing these costs can be assessed with respect to the Standard Cost Model, and include:

- The **number of entities** required to report;
- The **time** taken to meet each reporting obligation;
- The **frequency** of reporting; and
- The **hourly cost** of time.

6.3.3.1 Number of reporting entities

The cost assessment makes it clear that the number of entities obliged to report is a major determinant of administrative burden. Most reporting requirements oblige only the Member State authorities to report information at EU level, limiting the number of reporting entities to 28. However, in Member States with federal structures, costs are increased for those obligations for which it is necessary to compile data from different administrative levels for reporting purposes.

The largest administrative burdens arise from reporting obligations which require individual businesses or other operators to report. For some items of legislation, this may require thousands of different entities to report, greatly increasing the administrative burden. Examples include the Packaging Waste and WEEE Directives, which require tens of thousands of businesses to provide information annually to the competent authorities. This data is used in MS reports to the Commission (see Annex 3). Whether this is efficient or not depends on whether the objectives of reporting under these directives could be achieved without requiring so many businesses to report. It is important to recognise in these cases the importance of reporting by businesses for establishing the information systems needed to meet the core provisions of the Directives (e.g. to achieve and monitor progress towards recycling and recovery targets), and not just the contribution it makes to reporting at EU level.

6.3.3.2 Frequency of reporting

The frequency of reporting is also a direct determinant of administrative burdens, as more frequent reporting increases the number of reports required and hence the time and cost involved.

The review of the environmental legislation reporting obligations inventory indicates that 79 out of 181 reporting obligations require Member States to regularly report to the Commission or EEA. Of these, approximately one third require annual reporting, with reporting every three years and every six years respectively the next most common frequencies.

It can be noted that the frequency at which MS are required to report varies widely across the environmental acquis. For example, in the water area, the Urban Wastewater Treatment Directive requires biennial reporting, reporting against the Nitrates Directive is every 4 years, while the Water Framework and Floods Directives require reporting every six years. Clearly, reducing the frequency of reporting under the UWWTD to bring it in line with the WFD would reduce administrative burdens by up to two thirds – however, less frequent reporting might also reduce benefits, and whether there was a gain in efficiency would depend on whether the current frequency of reporting is excessive relative to the benefits delivered.

6.3.3.3 Time taken to report

The time taken for reporting is influenced by a range of factors, including the:

- Content – the extent and detail of the information sought, whether or not this information is readily available, and the amount of effort required to collect and process it;
- Format – whether numerical, text or geospatial data is demanded, the form in which this data needs to be submitted, the format of the template used to gather it, and the extent of guidance given; and
- Process – including the method of processing, transmission and analysis, and the degree to which this is automated.

Reporting obligations vary widely in the time and costs involved. Some may require a few minutes' work, while others are more onerous and compliance may take tens of days, especially where detailed and complex information is sought. Clearly, reducing the extent of data sought, ensuring the format is clear and user friendly, provision of clear and adequate guidance, and the adoption of effective and user-friendly reporting processes can all help to contribute to lower cost and more efficient reporting.

Advances in IT in recent years have greatly reduced the time taken to report, and hence the administrative burdens of reporting at MS level, as well as the time taken by the EEA and Commission to compile, process and analyse data at EU level. They have also facilitated the sharing of data and helped to enhance the benefits of reporting by making information more widely available to stakeholders and the public. This, however, as noted in section 6.2.3, has required significant investments in information and reporting systems at MS and EU level. These investments are designed to deliver longer term savings in operating costs as well as enhanced benefits from data sharing.

The evaluation to support the E-PRTR REFIT found that efficiency has been increased through the use of electronic reporting. The implementation review (Appendix D) found that the majority of Member States reported that there are electronic systems for submitting E-PRTR data, but there are still cases (Brussels region in Belgium and Greece) where there is no electronic reporting tool and data are reported on paper. Some Member States have both paper and electronic systems. The report found that there is a move towards the greater efficiency of electronic reporting, but there are still efficiency 'gaps' that can be addressed. It concluded that this is a matter for Member State action, rather than for EU level intervention.

Member States and stakeholders participating in the consultations and workshops stressed that the efficiency of reporting can be influenced by the systems established and implemented at EU level. For example, the French Government suggested a range of factors that influence the costs of reporting, particularly under the Water Framework Directive (Box 6.7).

Box 6.7 Factors influencing costs – submission from French Government

Factors influencing costs – particularly relating to reporting under the Water Framework Directive - are:

- Reporting tools still under development and therefore not fully functioning;
- Changes in guidance and code lists over time;
- Delays in transmission of information;
- Additional time needed to move to new formats (e.g. GML for Water Framework Directive);
- Late updates in reporting requirements, entailing new works;
- Checks and cross checks too constraining and not provided to MS in time;
- Constraints caused by insufficient capacity of EEA Reportnet;
- Delays in quality assurance/control procedures.

Capacity in the Member States is another factor determining the efficiency of reporting. Stakeholder interviews relating to the waste legislation found that MS where local administrations are less experienced in collecting and collating data regarding packaging and WEEE may have less efficient reporting systems than their more experienced counterparts. Thus, the administrative capacity of each MS affects the overall efficiency of environmental monitoring and reporting.

6.3.3.4 Cost of time

The cost of time is also a major determinant of the costs of reporting. The Standard Cost Model estimates administrative burdens by applying a tariff rate for the cost of labour, including salary costs and overheads. The hourly cost of time varies with the grade of staff doing the work, and also varies widely across the EU to reflect differences in earnings.

For example, the Commission's database on administrative burdens (designed to provide data for Standard Cost Model assessments) estimated EU average hourly tariff rates in 2010 of EUR 13.7 for elementary occupations (ISCO 9), EUR 18.2 for clerks (ISCO 4) and EUR 41.5 for legislators, senior officials and managers (ISCO 1). The cost per hour was therefore 128% higher for a senior official than for a clerk. The variations between Member States are greater still – the average cost per hour for a clerk in 2010 was 15 times higher in Denmark (31.6) than in Bulgaria (2.1).

6.3.3.5 Benefits of reporting

The overall efficiency of reporting is influenced by the factors which determine the benefits of reporting as well as the costs. These are discussed in the sections on relevance and effectiveness above, and include:

- Relevance – does reporting address the information required by policy makers, stakeholders and the public?
- Currency and timeliness – is the information reported recent and up to date?
- Completeness – is the information complete, or do gaps preclude an overall assessment?
- Quality – is the information reported robust and reliable, thereby providing a sound basis for decision making?
- User-friendliness – is the content of reports simple and easily interpreted?
- Continuity – do reports allow trends to be assessed over time?

The questions on relevance (Section 4) found that, in general, reporting obligations are found to require useful and relevant information to be collected, though in some instances reports have been less beneficial than envisaged.

The questions on effectiveness (Section 5) found that, in general, reporting obligations meet their objectives well, informing the implementation of EU environmental legislation and providing information to stakeholders and the public, but that certain factors limit the effectiveness of reporting to some extent. These include the timeliness, completeness and quality of some reports. Addressing these deficiencies at reasonable cost would help to enhance the overall efficiency of reporting.

Stakeholders participating in the workshops and public consultation emphasised that the efficiency of the current arrangements should be viewed in the light of the benefits they deliver as well as the costs. Any potential changes designed to reduce the costs of reporting also need to be viewed in the light of these factors that influence benefits. For example, reducing the frequency of reporting will reduce costs, but an assessment of efficiency needs to examine the potential effects on the benefits of having current and up-to-date information.

6.3.4 Conclusions

The efficiency of reporting is affected by a range of factors that influence both the costs and benefits. These relate to:

- **The reporting obligations themselves** – and the demands they place on Member States and obligated entities in terms of what needs to be reported and how frequently;
- **The processes of reporting** – including the overall systems established at EU level and the systems and practices implemented by MS to deliver against their obligations;
- **The level of compliance with obligations**, and the **quality and completeness of information provided**, which are important determinants of the benefits of reporting.

The Standard Cost Model provides a useful basis for understanding the factors influencing the costs of reporting, which need to be viewed alongside the benefits delivered.

Overall, experience suggests that the factors affecting the efficiency of reporting are increasingly understood, and that refinements in reporting systems and processes have led to some improvements in efficiency in recent years. However, answers to the questions on effectiveness, coherence and disproportionate costs suggest that some deficiencies in reporting processes and practices remain, and that there is scope for further gains in efficiency.

6.4 Are there examples of good practice in environmental monitoring and reporting at the national and regional level that imply that it could be undertaken more efficiently, and if so, how?

6.4.1 Introduction

Member States and regional authorities may fulfil monitoring and reporting obligations in different ways – for example by setting up different types of systems to collect, process and transfer the data needed. These systems may vary in their costs and in the benefits that they deliver. Examples of efficient implementation may help to improve the efficiency of monitoring and reporting at the EU level, if taken up more widely.

The study has tried to identify a range of good practices at national and regional level which, if adopted more widely, could increase the efficiency of monitoring and reporting across the EU. Most of the best practices identified aim to better coordinate the reporting and monitoring data and information through enhanced use of ICT systems at national level. These measures include centralized dashboards to collect data from decentralized or local competent authorities and operators and safeguard oversight from central competent authorities and regional organisations. They may involve different forms of automation processes and use of IT to compile and submit data.

6.4.2 Method and sources of evidence

The following sources were analysed to identify best practices across the EU:

- Cost analysis and scoping fiches of monitoring and reporting obligations of environmental legislations;
- Stakeholder views and examples – from workshops and public consultation;
- Analysis of reporting processes undertaken for other REFITs – e.g. E-PRTR, Noise, INSPIRE; and

- Horizontal issues fiches highlighting good practice e.g. in e-reporting/ use of technology, active dissemination.

The responses also build upon a series of interviews conducted with Member State representatives. Relatively few examples of good practice were found.

6.4.3 Evidence and analysis

In certain Member States, electronic platforms have been developed to facilitate data collection at national level. Investment in such platforms has helped to streamline processes and reduce the time dedicated by Member States to reporting, and the associated administrative burden.

Box 6.8 Austria's improvement of its electronic data management (EDM) system for reporting under IED

No central databank is currently used for IED in Austria. However, the Federal Ministry for Agriculture, Forestry, Environment and Water Management (MoE), in association with the Austrian Agency for the Environment, is currently seeking to fill in that gap by developing a new application in its existing electronic data management (EDM) system.

The EDM is an integrated e-government application that aims to replace conventional paper-based records and reports (including applications submitted to the authorities) through efficient electronic data management in line with international standards (e.g. with regard to barrier-free access for disabled people) in the environmental field .

Its objectives are to:

- a) Reduce the administrative burden on authorities and companies;
- b) Serve as an integrated comprehensive system for the entire environmental field thereby favouring synergies across fields;
- c) Integrate other e-government registers (e.g. Austrian company register);
- d) Use international EDI (Electronic Data Interchange) standards that are well established in the economy for messages and unique international identification system (of companies, locations and installations);
- e) Provide a single sign-on for all users and all applications;
- f) Prevent data redundancy, in particular by a centralised master data management across applications (eRAS);
- g) To the extent possible, use already available data (e.g. from procurement and accounting)

The EDM system is currently used for data collection purposes, in relation to PRTR installations, waste treatment plants and large combustion plants. Its benefits range from reducing human intervention in reporting processes (due to the use of the EDI of structured data using recognised message standards directly between IT applications which results in processing only structured information – i.e. quantified or at least classified), limiting manual input of data into the electronic system where the information is initially collected, and integrating the entire business processes into the EDI adjusted to the economic and technical capacities of the participants.

The Ministry of Economics is currently improving the collection processes to record and complete the data reported by Bundesländer in connection with the IPPC installations and environmental inspection programs. By expanding the scope of the data collected, the EDM system will facilitate data collection across different fields, e.g. by the IPPC activity code.

The development of this electronic system is still in progress, and no information on costs is currently available.

Electronic platforms have demonstrated their capacity to reduce the burden, especially for quantitative input, as illustrated by Austria's current improvement of its EDM

system. Other Member States have embarked on similar projects to facilitate data access and collection under the IED.

Belgium (Flanders), for example, is currently improving its reporting system which will enable it to bring all permitting installations into one central repository. At the same time, the region is also updating its existing Access database containing specific information on IED installations. The project was initiated in 2015, with the aim of developing the integrated system into a complete registry in 2017. This will facilitate reporting processes and access to information at all levels (i.e. EU and regional level – for the Flemish government and agencies), improve permit updating, exchange of information as part of the Sevilla process, and help disclose information to the public. The registry will also facilitate data comparison between permits and ‘on-site’ information contained in the inspection registry. The total project costs, which involve managing installation information, geographical components, producing reports, data publishing and migration from the Access database to the new registry are estimated at around EUR 300,000, including testing, training and maintenance costs of the new system for the first 2 years. In the future, the registry is expected to integrate other relevant environmental information, including emissions data (IED and more), PRTR information, and the complaint management system¹⁵¹.

Similarly, in Ireland, the Environmental Protection Agency (EPA) is currently developing an integrated industrial reporting solutions to improve efficiencies in permitting, compliance and reporting across a number of linked directives by collecting structured data (e.g. IED, ETS, air emissions and waste) (see Box 6.9).

Box 6.9 The EPA’s Common View of Authorisations Project (Ireland)

The Irish Environmental Protection Agency (EPA), in its new Strategic Plan 2016 - 2020 highlights that clear, accurate and timely information is a vital component in raising awareness about the environment among the public and key policy makers. As part of EPA’s strategic priorities, the development of new approaches and tools will be accelerated, with a particular emphasis on the provision of accessible information.

Certain Member States, such as Ireland, have pointed to the great variety of reporting systems and IT technology used across directives. While there exist well developed systems for water reporting (i.e. WISE), improvements in other areas could be considered to facilitate more efficient reporting. This is the case for industry-related directives such as IED, waste, PRTR, air emission projections and inventories, for example.

An analysis conducted in Ireland in 2014 suggested that the reporting system used by industry and waste authorised entities presented some inherent inefficiencies in its processes and methods (e.g. duplication of data, uselessness of data, use of spreadsheets causing significant issues in terms of process efficiencies and the availability, accuracy and completeness of the data).

The “Common View” (CV) project is an important initiative launched by the EPA in order to streamline data collection, reduce reporting burden, and improve the efficiency of data processing, onward reporting and data quality. The project is a business driven programme of analysis carrying out assessment across all offices, multiple teams and numerous regulatory activities in the EPA. One of the key objectives of the CV project is to streamline the collection of structured data for the application form and post licensing reporting in order to rationalise the existing data; eliminate unwanted data requests; and reuse data already available across a number of linked directives (e.g. IED, ETS, air emissions, waste, etc.). These business changes

¹⁵¹ Interview of 25 October 2016 with Mr Boonen – Environment, Nature and Energy Department (Flanders-BE).

are expected to yield significant benefits for the EPA, the authorised entity and ultimately the public, including:

- Significant efficiency gains for the EPA and licensees;
- Substantially improved quality and accessibility of data leading to better decision making and environmental outcomes;
- Increased value for money;
- Improved quality and accessibility of public information.

ICT has radically reduced the time to complete administrative jobs, e.g. from six months down to half a day – so delivering major efficiency gains. The EPA has set up an integrated system, which is used to handle communication with stakeholders including operators. The functionality caters for all processes in the regulatory cycle – application, licensing, enforcement, monitoring, etc., sharing data across the functions. It also provides reports to stakeholders. As an illustration, analysis of data returns from waste activities identified that in some cases operators had to make nine data returns to the EPA, reporting on up to 800 different data fields. Through the implementation of CV this will be reduced to a maximum of 2 reports and 100 data fields.

Some elements of the system have been completed and more are ongoing. In the future, the aim is for an online application form to capture data for reuse in licences, to structure self-monitoring and guide inspection. For the authorised entity, this will eliminate multiple data reporting streams. For the internal stakeholder, this will significantly reduce the effort involved to access data collected by other teams and free up time for true data assessment. For EU reporting, the EPA will be able to draw on the data across this cycle.

According to EPA, the systems and structures in place at EEA level for reporting, linked with the National Reference Centres, are a good model to consider across other environmental directives. Also the review of data flows carried out by the EEA could be considered for other areas. Core environmental reporting obligations and data used for assessments, products and services at European level should be identified.

Despite ongoing developments in certain Member States, the potential for adapting national systems to the developments in the field of digital technologies seems only tapped to a limited degree and more benefits could be reaped from expanding the scope of existing ICT to other reporting requirements, as illustrated in the examples of Austria, Flanders and Ireland with respect to the IED and related fields. Opportunities also exist to create synergies between different reporting requirements. Different reporting obligations create different datasets and increased burden for administrators (both at competent authority and operator level) and certain Member States (e.g. Germany) have advocated for streamlining and harmonising reporting requirements instead of reporting tools.

Common reporting systems using similar tools and templates are able to reduce the burden for the Member States, especially when multiple stakeholders are involved in the reporting processes such as in countries with decentralised regulatory systems. Similarly, oversight of all data requirements for a specific thematic policy area by one single competent authority, department of a ministry or organisation has also been reported as an important factor for the optimisation of reporting. Germany's reporting process under IED, for example, involves many different stakeholders and follows a detailed centralised process that has been well documented¹⁵².

¹⁵² https://xubetrieb.de/sites/en.xubetrieb.de/files/xub_berichte/Abschlussbericht_PhaseII_final_viewer.pdf

Box 6.10 Examples from the E-PRTR REFIT

The E-PRTR REFIT evaluation gave examples of where Member State information systems have been used to improve efficiencies. For example, in France and in the Netherlands, the website integrates several reporting obligations including SED, LCPD inventories, waste storage, NEC Directive, GHG emissions and CLRTAP. In France it also allows reporting of methane and PM from agriculture activities and it includes calculation tool that helps farmers to estimate their emissions. This goes well beyond the requirements of the E-PRTR, but avoids businesses and authorities having to work with several different databases.

The implementation analysis provided evidence on differences between Member States and related difficulties. It examined streamlining of reporting activities between E-PRTR and other reporting activities. The results found three situations:

- Member States where no integration is undertaken, e.g. Greece;
- Member States where the E-PRTR is fully integrated to national reporting mechanisms, which is the case in Bulgaria, Czech Republic, Ireland, the Netherlands and the United Kingdom; and
- Member States where the integration has started and is being completed, which is the case in Romania and Slovakia.

These actions to enhance efficiency are Member State initiatives. However, actions at EU level to integrate reporting (as being examined in the reporting Fitness Check) can help facilitate this (e.g. by overcoming barriers between different areas of EU law).

Efficient informal coordination between responsible competent authorities or organisations from different Member States can also facilitate information sharing, improve data quality and timeliness of reporting. The reporting processes put in place by the Baltic Marine Environment Protection Commission (HELCOM) have been cited as an example of best practice allowing access to the raw data and final information which avoids overlap or repeated requests and inefficiencies. HELCOM has established a system for reducing duplications in reporting. The EC and other EU agencies (e.g. EEA) receive the reports from HELCOM on behalf of Member States. This is believed to be very helpful in making reporting and monitoring more efficient for everyone.

Box 6.11 Helcom's regional reporting system

As part of its mandate, HELCOM (the Baltic Marine Environment Protection Commission) produces joint documentation of approaches and results to support HELCOM EU Member States in EU reporting and sharing information at European level.

The vision of the Baltic Sea Action Plan (BSAP) – a healthy Baltic Sea – which was adopted in 2007, was built on both ecological and management objectives, leaning on a structured and coherent approach for environmental assessments. In the BSAP, the Contracting Parties to the Helsinki Convention agreed to periodically evaluate whether the targets of the Action Plan have been met by using indicator-based assessments. These could also be used for the other international monitoring and reporting requirements, inter alia the EU Marine Strategy Framework Directive (MSFD). According to the MSFD, countries are required to establish and implement regionally coordinated monitoring programmes for the ongoing assessment of the environmental status of their marine waters. Regional coordination can ensure that comparable sampling, analysis and data processing methodologies are being used by the countries within a marine region. This coordination can be achieved effectively through Regional Sea Commissions such as HELCOM.

The arrangements aim to:

- a) Avoid duplication of reporting by the HELCOM Contracting Parties;

- b) Be compatible with those of other international organizations such as ICES and data activities of the European Union, to the fullest extent possible;
- c) Facilitate the use of shared environmental information systems.

HELCOM contributes, with its data and information system, to the availability of high-quality spatial information relevant to Maritime Spatial Planning on the status of the marine environment, pressures and human activities.

6.4.4 Conclusions

There exist a series of examples of good practices – which can be maintained, built upon and replicated. These include:

- Enhanced use of ICT systems – including examples of good practice in online reporting/ webforms, improved information and reporting systems at MS level (e.g. Ireland), enhanced reporting formats;
- Integrated information systems which address the reporting needs of different Directives, thereby reducing duplication of efforts and associated administrative burdens, as well as enhancing public access to environmental information (e.g. Ireland, France, Netherlands);
- Centralised dashboards, searchable databases and web portals (e.g. Flanders' Geopunt) for citizens and EU institutions; and
- Coordination of Member States reporting processes within one single organisation, particularly for shared resources and transboundary issues (e.g. HELCOM for the EU Marine Strategy Framework Directive).

These examples are believed to have both reduced administrative burdens and enhanced the benefits of reporting, by improving the timeliness of information provision and enhancing access to environmental information among stakeholders and the public. We were not able to find quantitative estimates of reductions in costs or administrative burdens. It should also be noted that these benefits have often been secured through significant investments in the development of reporting systems.

It is clear that there is scope for examples of good practice to be replicated and scaled up across the EU, and that there are ongoing developments of systems and processes both at MS and EU level which are enhancing efficiency over time. Because of differences between MS in administrative arrangements and existing systems, new developments and examples of good practice may take a variety of forms, and often need to be viewed on a case-specific basis.

6.5 Could improvements be made to the process of environmental monitoring and reporting to cut costs?

6.5.1 Introduction

The process of environmental monitoring and reporting refers to the series of steps that are taken to achieve the result of reporting the required information at EU level. The reporting process typically involves a series of stages from the specification of the information required, through the collation, processing, analysis and transmission of data by the Member States, and then the analysis and reporting that takes place at EU level. Quality checking of data is also an important part of the process at MS and EU level. Each of these steps requires resources and generates costs – how monitoring and reporting are organised therefore has implications for the costs involved.

Key elements in the process of reporting include the format and language of reporting, and the degree of automation of information transfer.

The answer to the question needs to be based on an understanding of the current process for environmental monitoring and reporting, an analysis of the scope for

improvements in this process, and an assessment of the potential for cost savings through such improvements.

6.5.2 Method and sources of evidence

The main sources of evidence for the answer to this question include:

- The inventory – and analysis of the current process and format of environmental reporting and how this varies across different items of legislation, as well as the reporting process and scope for streamlining, and details of implementing acts and guidelines;
- Stakeholder views and examples from the public consultation and workshops;
- Reviews of reporting processes undertaken for fitness checks of E-PRTR, INSPIRE, Environmental Noise Directive;
- The cost analysis, and analysis of the potential cost savings from process improvements.

The above sources provided numerous examples of issues related to the reporting process, and opportunities for cost reduction.

6.5.3 Evidence and analysis

Section 6.3 noted that the process of reporting is one of the factors that influence the overall time and costs involved. The main stages in the process typically include:

- Definition of reporting obligation and arrangements;
- Issue of reporting request, template and guidance;
- Collation of data and development of reports at MS level;
- Transmission of reports to EC/EEA;
- EU level quality checking; and
- EU level analysis and reporting.

Key elements of the process include:

- **Reporting format.** Reporting may take place through the completion and submission of text based questionnaires, or a variety of electronic reporting formats. Increasingly, automated reporting systems are taking the place of formats that depend on manual data entry. For example, for ambient air quality, the EEA and Member States have invested in the development of automated systems that collate air quality monitoring data and share it at EU level.
- **Service provider.** Under different items of legislation, Member States may be required to report direct to the Commission, or to another agency. The EEA is identified in the reporting obligations inventory as the main service provider for 46 reporting obligations. For other items of legislation, reports are submitted to Eurostat (e.g. reporting on targets for waste legislation, timber imports under the FLEGT regulation) or the Commission's Joint Research Centre (e.g. reporting under Seveso Directive). Reporting processes may vary for these different service providers. For example, the EEA is able to allocate dedicated resources to environmental reporting and this can enhance the timeliness and efficiency of the reporting process. The Commission often uses contractors to analyse and synthesise reports submitted by the Member States, and this can add costs and delays to the reporting process (see Box 6.12).
- **Reporting templates and guidance.** Templates – in various formats – are provided for the majority of reporting obligations, although according to the

reporting obligations inventory, 77 of the 181 reporting obligations arising from EU environmental legislation have no reporting template. The design of reporting templates is a significant factor in determining the demands placed on data providers and the user-friendliness of the reporting process. For many but not all reporting obligations, guidance is issued to Member States, and the clarity and comprehensiveness of this guidance also influences the efficiency of the process.

- **Languages.** Whether reporting is undertaken in national languages or in English is a significant issue in the reporting process. Member States have the right to report in their own languages if they wish to do so. However, receiving and having to process reports in many different EU languages can create practical challenges and cause delays at EU level. Reporting templates and guidelines are often provided in English only, which can create challenges for data providers in the Member States, again potentially causing delays in the reporting process or problems in interpretation of requirements, which in turn may affect the relevance, quality and completeness of reports. Languages provide greatest challenges for the reporting of textual data, and are another reason why minimising the use of textual reporting formats can help to reduce costs.
- **Quality control arrangements.** The sections on effectiveness above highlighted the importance of quality management processes in ensuring that reporting delivers information that is sufficiently robust, complete and reliable for its intended purpose. Ideally data should be quality checked at each level of the reporting process, to ensure that gaps and errors are avoided and to reduce the need for iterations in the reporting process as queries are resolved and replacement data sought. A failure to quality check data at the local or national level can increase the time taken in quality assurance at EU level, causing delays and inefficiencies in the process.

Box 6.12 Time taken for EU reporting

One measure of the efficiency of reporting is the time delay between the deadlines set for Member States to report and the publication of reports at EU level. This time delay may reflect the efficiency of processing of the reported data by the EU institutions, as well as the need for translation of reports and the time taken for administrative processes such as the letting of external contracts. It may also be influenced by late reporting by Member States, and by the quality, consistency and completeness of the reported information. These various factors all reflect the overall efficiency of the process.

According to data in the inventory, it takes an average of 631 days for an EU level report to be published, from the deadline set for Member States to report. Where the EEA is responsible for overseeing the reporting process, this time lag is reduced to an average of 593 days. The quickest turnover is recorded for the annual bathing water and the national emission ceilings reports, which both take less than half a year (146 and 162 days respectively). The longest delays occur in mixed processes where the EEA infrastructure is used initially but the processing of the reports is outsourced - this results in an average time lag of 727 days between the Member State reporting deadline and the publication of the EU level report.

The process of reporting has changed significantly over time. For example, the Standardised Reporting Directive (SRD) 91/692/EEC sought to rationalise and improve the transmission of information and the publication of reports on existing EU environmental directives, which previously lacked a defined approach to reporting. The SRD introduced a three yearly reporting cycle, requiring Member States to send information to the Commission on the implementation of the SRD and other pertinent

Directives. The report was drawn up on the basis of a questionnaire drafted by the Commission, which was sent to the Member States six months before the start of the period covered by the report. The report was to be returned to the Commission within nine months of the end of the corresponding three-year period. The Commission was then required to publish a Community report on the implementation of the Directive within nine months of receiving the reports from the Member States.

At the time of the SRD, paper based reporting was the norm. However, since then, a complex array of reporting processes has developed, introducing different requirements for different items of legislation, and involving a range of reporting formats. Electronic forms of reporting have increasingly replaced paper-based questionnaires. Developments in IT have enabled investment in new automated systems that share environmental monitoring information at EU level, enabling real time transmission of data on the state and pressures on the environment. The INSPIRE Directive has introduced a common infrastructure for the sharing of spatial information, and is driving changes in reporting processes across a range of legislation. These developments have required significant financial investments, but have significantly enhanced the speed and capacity for sharing of information.

EU wide information systems have been introduced in a number of areas of legislation, enhancing the efficiency of reporting processes and reducing administrative burdens (Box 6.13).

Box 6.13 New information system for reporting on sulphur content of marine fuels

In 2015, new implementing rules were introduced with the aim of achieving cost-efficient and coherent implementation and enforcement of Directive 1999/32/EC. Under the Directive, MS are required to report annually on compliance with and enforcement of rules governing the sulphur content of liquid fuels used in shipping, and the results of sampling and analysis.

A dedicated Union information system, developed and operated by the European Maritime Safety Agency, has been available to Member States since 1 January 2015. The system serves as a platform to record and exchange information on the results of individual compliance verifications under the Directive. Member States are encouraged to use the system in order to rationalise and optimise the assessment of compliance with the requirements of the Directive. The information system can be used by MS to fulfil their annual reporting obligations under the Directive, using latest technologies to keep administrative burden to a minimum. Use of the system is optional, leaving flexibility to those Member States which prefer to report in a more traditional way.

Source: Commission Implementing Decision (EU) 2015/253 of 16 February 2015 laying down the rules concerning the sampling and reporting under Council Directive 1999/32/EC as regards the sulphur content of marine fuels

Improvements have also been made to the process of reporting under the Water Framework Directive (WFD). The Commission and Member States have worked together to develop a common process and guidance to achieve this (Box 6.14), through considerable investment of time and effort. Because of the level of investment involved, the Member States are keen to ensure that the reporting process remains stable over time.

Box 6.14 Improved process and guidance for WFD reporting

In 2009, the Commission and Member States agreed on guidance for reporting under the Water Framework Directive (WFD), which was the basis for the development of

electronic tools that were used to report the first River Basin Management Plans (RBMPs) in 2010. The first reporting was a positive exercise but resulted in a heavy workload both at the Member State and EU level. A thorough review of the reporting requirements for the second RBMPs has been carried out resulting in a revised WFD Reporting Guidance. This revision of the Reporting Guidance was a lengthy process, involving very detailed discussions between the Commission and the Member States on the need to report each individual piece of information. Once the Reporting Guidance was endorsed by Water Directors, the water authorities in the Member States in several cases needed to engage into a similarly detailed and lengthy process at national level to explain to local water managers why each piece of information need to be reported at European level. This explains why, at the last meeting of Working Group Data Information and Sharing (DIS) under the Common Implementation Strategy of the Water Framework Directive (18 -19 October 2016), the Member States reiterated the need for a stable reporting mechanism. In other words, for future reporting obligations, the Member States are not in favour of changing the current schema as described in the revised WFD Guidance.

The role of ICT in enhancing the efficiency of the reporting process is illustrated by the example of Ireland (Box 6.15).

Box 6.15 Role of ICT to improve the efficiency of reporting process – example from Ireland

ICT has radically reduced the time to complete administrative jobs in Ireland. For example, the time taken to report under the IPPC/Industrial Emissions Directives was reduced from 6 months in 2010 to around half a day in 2012. This has delivered major efficiency gains. The Irish EPA has set up an integrated system, which is used to handle communication with stakeholders including operators. The functionality caters for all processes in the regulatory cycle – licensing, enforcement, monitoring, etc., sharing data across the functions. It also provides reports to stakeholders. It used to take four years to produce an enforcement report overview, but now the EPA can produce four reports a year. Some elements of the system have been completed and more are ongoing. In future the aim is for an online application form to capture data for reuse in licences, to structure self-monitoring and guide inspection. For EU reporting, the EPA will be able to draw on the data across this cycle.

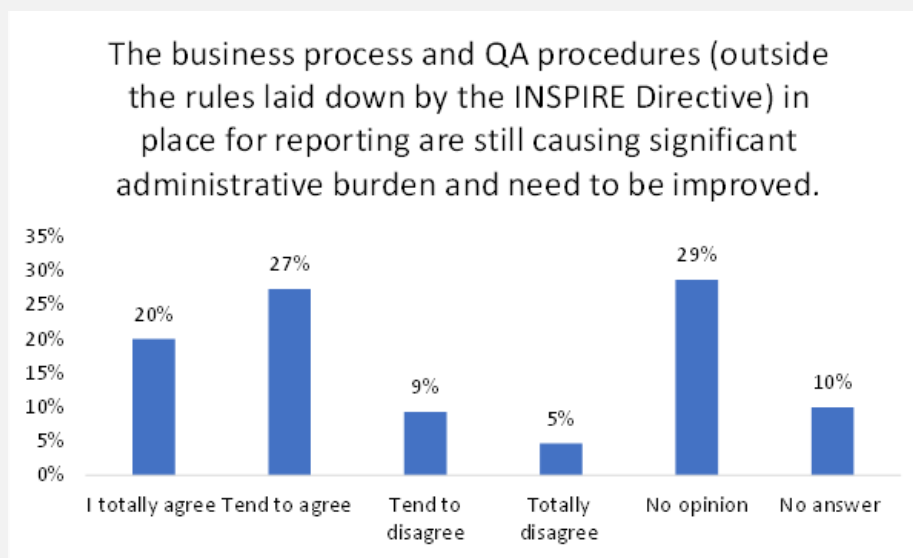
Source: Environmental Regulation using ICT as an enabler, presentation by Ann Marie Donlon, Environmental Protection Agency, Ireland, to "Make it Work" workshop, Brussels, November 2015, and minutes of "Make it Work" workshop

However, some reporting processes have changed to a relatively limited extent. For example, reporting on implementation of the Landfill Directive follows a questionnaire issued in 2000 (Decision 2000/738/EC), and, (as for other waste legislation), involves the submission of reports by email in MS Word format. 840 days elapsed between the publication of the most recent Commission report (on 17 January 2013) and the deadline for the Member State reports on which it was based (30 September 2010).

Although stakeholders acknowledge improvements in the efficiency of the reporting process, they see significant room for further improvements in the efficiency of the system. For example, a majority of respondents to the public consultation expressed the view that there is significant scope for improvements in the efficiency of current reporting processes, and pointed to the need both for better guidance at EU level and for the enhanced use of information technology (Box 6.16)

Box 6.16 Stakeholder views of efficiency of current reporting processes – Evidence from the Public Consultation

The public consultation found that a large proportion of stakeholders consider that there is scope to improve the efficiency of reporting processes. Answers to question 4.2 (see section 6.2.3 above) revealed that a minority of stakeholders considered that reporting is currently efficient, for all areas of environmental legislation. A balance of stakeholders also agreed with the statement that the current business processes and quality assurance (QA) procedures in place for reporting are still causing significant administrative burden and need to be improved.



Responses concerning specific aspects of the process for reporting suggested that respondents believe that the process of reporting could benefit both from improvements in guidance offered to Member States, and improvements in the use of IT:

- 29% of respondents “totally agreed” and a further 33% “tended to agree” with the statement that **“More help is needed for member states in preparing reports, including the development of common tools”** compared to 11% who “tended to disagree” and 3% who “totally disagreed”
- 7% of respondents “totally agreed” and a further 23% “tended to agree” with the statement that **“IT technology is already adequately used and no further major improvements of the reporting process are needed”**, compared to 35% who “tended to disagree” and a further 20% who “totally disagreed”.

Source: Public consultation

Submissions by Member States to the Fitness Check highlight areas where reporting processes are seen to be inefficient. Concerns include frequent changes in reporting processes over time, often with insufficient notice being given to data providers, as well as inadequate guidance or the provision of guidance in English only (Box 6.17).

Box 6.17 Comments on reporting processes from the German Government

An email submitted to the Fitness Check summarised the following concerns about reporting processes expressed by administrations in the German Länder:

- Lack of consistency between reporting rounds, with demands modified in subsequent reporting periods, with new, more or different data required with insufficient advance notice. This can lead to data being unavailable, in the wrong format, or insufficient time being available to translate or interpret the request in the national language;
- Lack of contact points/ simple inquiry mechanisms to for guidance and clarification of requests, or standard procedures to propose clarifications, process improvements or correction of mistakes;
- Lack of guidance in national languages.

These concerns relate to the practical handling of the reporting process, rather than the legal obligation itself, and data providers express concerns that it is difficult to know how to propose changes to tackle these issues.

Source: Email from Kristina Rabe, German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, 16.10.16

A written submission to the Fitness Check by the French Government argued that the efficiency of reporting processes can be enhanced by advance warning of reporting requirements, ensuring stable and consistent datasets and processes over time, and open and transparent use of data (Box 6.18).

Box 6.18 Enhancing the efficiency of reporting processes – submission from the French Government

A submission from the French Government made a number of suggestions about how the efficiency of reporting process for the Water Framework Directive could be enhanced. It is argued that advance notice of reporting requirements is important to ensure that they can be taken into account in the implementation process. Advance warning of reporting requirements can help to ensure consistency between use of data for reporting, River Basin Management Plans, Programmes of Measures and analyses of River Basin Districts under Article 5. In addition, ensuring the required datasets are stable over time will enhance the efficiency of the reporting process. Open and transparent use of the data reported by MS in EU level reports provides feedback to MS and helps to promote quality checking.

Source: Written submission from French Government

Recent REFITs of the E-PRTR and Environmental Noise Directives both highlight the gains in efficiency brought about by electronic reporting systems, while noting the potential for processes to improve further in future. It is noted that not all Member States currently report using the available electronic tools, which can limit the efficiency of the system as a whole.

Box 6.19 Efficiency of E-PRTR reporting – evidence from the E-PRTR REFIT

The REFIT evaluation of the E-PRTR Regulation found that efficiency has increased through the use of electronic reporting. The implementation review found that the majority of Member States reported that there are electronic systems for submitting E-PRTR data, but there are still cases (Brussels region in Belgium and Greece) where there is no electronic reporting tool and data are reported on paper. Some Member States have both paper and electronic systems. While there is a move towards electronic reporting, there are still efficiency 'gaps' that can be addressed through action by Member States.

A workshop to inform the REFIT revealed a general consensus that efficiency savings are being made at Member State level, but that further progress could be made at EU level, such as through the development of single reporting portals, which could enhance efficiency by streamlining the reporting process. It was also argued that authorities and operators would benefit from improved guidance, for example on the relative merits of calculation compared to measurement. The quality assurance process was seen to be time-consuming, suggesting that there could be potential for time savings and efficiency gains through improvements in the quality of the data reported.

Box 6.20 Efficiency of the reporting process for the Environmental Noise Directive

The REFIT evaluation generally found that the END Reporting Mechanism - which involves transfer of information electronically through the EEA Reportnet system – is generally seen to be efficient and working well.

Although the majority of MS are already using the Reportnet system, the evaluation found that the efficiency of the collation of END reporting data could be improved if all EU MS were to use Reportnet, since the shared information system is linked to the Central Data Repository (CDR), which automatically enters data in a way that can be aggregated.

The evaluation also found that:

- Most national CAs were satisfied with the guidelines produced by the EEA as to how to use the Reportnet system.
- Views about the user-friendliness of Reportnet were mixed. Some MS reported that it was easy to use, but many others argued that the system needs to be further improved, and that information requirements are not always sufficiently clear.
- Reportnet has been efficient in enabling the EC to report on its monitoring and reporting obligations under Art. 11 and in developing an electronic database of information on SNMs, as required under Art. 10 (3). However, there are aspects of data capture, especially in relation to agglomerations, that need to be strengthened.
- Steps need to be taken to ensure timelier reporting, since having an efficient reporting system without sufficiently comprehensive data in it undermines the efficient and effective implementation of the Directive. However, this needs to be balanced with consideration of the feasibility of reporting by MS.

A common issue raised by a variety of Member States and stakeholders participating in the workshops and consultations is that reporting involves a learning process, whose effectiveness and efficiency should be expected to improve over time. Early reporting rounds under each item of legislation may require a large amount of data on various aspects of implementation as well as on the state and pressures on the

environment. They also require reporting processes and systems to be established. Over time, as the legislation becomes more mature, monitoring and reporting can become more focused on ongoing implementation issues, while the processes of reporting themselves should also improve with experience. While it is important to ensure sufficient consistency in reporting requirements and processes to facilitate efficient reporting processes at Member State and EU level, the process also needs to be sufficiently dynamic to enable improvements to be made that enhance efficiency – and hence lower costs – over time.

6.5.4 Conclusions

Changes to the reporting processes which affect the standard cost model parameters – number of entities, frequency, time, other costs (as already explained earlier) – hold the potential to reduce costs. The key challenge is ensuring that any changes do not undermine the usefulness of the information and the ability to satisfy the reporting obligation objectives.

In general, efficiency improvements can be made to reporting processes through better use of technology – an area where an overwhelming number of public consultation respondents felt there is currently room for improvement in environmental reporting as a whole – although this may require investment in new equipment, processes and capacity-building. Other factors – such as arrangements for service provision, the guidance and templates issued, and the languages used – also affect the efficiency of the process. Responses to the public consultation, and discussions at the stakeholder workshops, suggest that such process improvements are seen as offering greater opportunity to reduce burdens than are reductions in the reporting obligations themselves.

It is clear that the efficiency of reporting processes has – with the benefit of investment – greatly improved in recent years and that this is an ongoing process, which benefits from learning by those involved at both the EU and MS levels.

Given the investments of time involved to develop efficient reporting systems, it is also important that, once they have been developed, they remain stable over time. Achieving efficiency in the reporting process therefore requires an appropriate balance to be struck between seeking process improvements, and avoiding unnecessary and disruptive changes to the system.

6.6 Could the timing of reports be better synchronised or streamlined to cut costs?

6.6.1 Introduction

Timing influences the costs of reporting in different ways. For example:

- The frequency of reporting has a direct bearing on the time taken to report, and hence the administrative burdens involved. There are wide variations in the frequency of reporting for different items of environmental legislation, which ranges from annual to every six years or more;
- Variations in reporting timetables between different items of legislation also affect costs. For example, where different items of legislation require similar information to be collected and reported at different times, this can add to costs by increasing the overall reporting requirement. On the other hand, reporting obligations which call for different types of information at different times may lead to a smoother workflow and reduced burdens compared to those which concentrate these demands at a particular time.

This question asks whether the current timing of reporting could be better synchronised, or the frequency reduced, in order to reduce costs.

6.6.2 Method and sources of evidence

Evidence has been examined from the following sources:

- Inventory – analysis of differences in the frequency and synchronisation of timing between different items of legislation;
- Horizontal issues fiche on timing;
- Stakeholder views and examples – public consultation and workshops;
- Evidence from policy reviews and REFITs;
- Analysis of cost implications of changes in timing.

This provides a range of evidence on current issues regarding the timing of reporting. Assessment of the scope for synchronisation and streamlining to cut costs has drawn on the views of stakeholders as well as the analysis of the ICF team.

6.6.3 Evidence and analysis

The timing of reporting obligations varies widely across the environmental acquis.

Information in the reporting obligations inventory reveals that 81 reporting obligations require the Member States to regularly report to the Commission while 97 of the reporting obligations were either one-off or ad-hoc requirements. A one-off reporting obligation is for instance a requirement to transmit the list of competent authorities dealing with the legislation, which was the case for instance under the Invasive Alien Species Regulation¹⁵³ or the Access and Benefit Sharing Regulation¹⁵⁴. Other examples include when the Member State needs to notify the Commission on exemptions or penalties. Examples of ad-hoc reporting obligations include those requirements where the reporting is linked to the occurrence of a specific event. For instance, if a Member State decides to limit any incoming shipments of waste destined to incinerators that are classified as recovery under the Waste Framework Directive¹⁵⁵ it needs to notify the Commission.

Figure 13 presents the full overview of the frequency of reporting which also sub-categorises the regular reporting obligations. As indicated above the one-off and ad-hoc reporting obligations cover almost two-thirds of the reporting obligations. Out of the 79 regular reporting obligations the largest category is annual reporting obligations, but with more than half having reporting periods of more than two years, including a significant number (particularly in the water legislation) having a 6-year cycle. Some items of legislation have 3 year, 4 year or 5 year reporting cycles.

There are good reasons why the timing of reporting may vary between different items of legislation. Differences in timing may reflect, for example:

Differences in the purpose of reporting. Where reporting focuses on the state of the environment, there is a demand for frequent reporting of environmental information, often on an annual basis. This is the case, for example, for bathing water quality and air quality. Similarly, numeric reporting of progress towards targets (e.g. in relation to waste recycling) is also amenable to frequent reporting, often focusing on annual statistical data. On the other hand, reporting on implementation of legislation is often less frequent, particularly for those items of legislation with extended implementation timetables;

¹⁵³ EU Regulation (EU) No. 1143/2014 on Invasive Alien Species

¹⁵⁴ Regulation No 511/2014 of the European Parliament and of the Council on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union

¹⁵⁵ Directive 2008/98/EC on Waste Framework

Differences in policy cycles. Particularly for implementation of legislation, reporting may be aligned to the policy timetable, often reflecting deadlines set in the legislation itself. For example, reporting under the Water Framework Directive is aligned with requirements in the Directive for the completion and revision of River Basin Management Plans and Programmes of Measures.

Increasing the frequency of reporting also increases the time demands and administrative burdens of the reporting process (except in fully automated reporting systems). On the other hand, reporting needs to be sufficiently frequent to provide up-to-date and policy relevant information. An efficient reporting system will therefore balance the costs of more frequent reporting with the benefits of improving the timeliness of the data. Such a system is likely to involve reporting more frequently for some items of legislation than others, where it is cost effective to do so and where the pace of change is such that frequent reporting is justified.

Analysis of the timing of reporting obligations indicates that there are often significant differences in timing even for related items of legislation. For example, Table 9 summarises the timing of reporting for water-related legislation.

Table 9. *Timing of Reporting against water related legislation*

| Directive | Reporting obligation | Frequency | Last deadline for reporting |
|--|---|---------------|-----------------------------|
| Directive 2000/60/EC establishing a framework for Community action in the field of water policy | Programmes of Measures | Every 6 years | 22 December 2012 |
| | River Basin Management Plans | Every 6 years | 22 March 2010 |
| Directive 2008/105/EC of the European Parliament and of the Council on environmental quality standards in the field of water policy (consolidated version) | Report on monitoring of substances included in the Watch List | Annual | N/a |
| Directive 2007/60/EC of the European Parliament and of the Council on the assessment and management of flood risks. | Preliminary Flood Risk Assessment and Areas of Potential Significant Flood Risk | Every 6yrs | 22 March 2012 |
| | Flood Hazard Maps and Flood Risk Maps | Every 6yrs | 22 March 2014 |
| | Flood Risk Management Plans | Every 6 years | 22 March 2016 |
| Council Directive 98/83/EC on the quality of water intended for human consumption. | Report on Quality of Water for Human Consumption | Every 3 years | 28 February 2015 |

| Directive | Reporting obligation | Frequency | Last deadline for reporting |
|---|---|---------------|-----------------------------|
| Directive 2006/7/EC concerning the management of bathing water quality | Monitoring and Classification of Bathing Waters | Annual | 31 December 2015 |
| Council Directive 91/271/EEC concerning urban waste-water treatment. | Information on monitoring results Situation report on the disposal of urban waste water and sludge in MS areas | Every 2 years | 30 June 2014 |
| Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural source. | Monitoring and implementation report | Every 4 years | 30 June 2012 |
| Directive 86/278/EEC on the protection of the soil, when sewage sludge is used in agriculture. | Report on the use of sludge in agriculture: the quantities used, the criteria followed and any difficulties encountered | Every 3 years | 30 September 2013 |

Source: Reporting obligations inventory

The table suggests that there is potential to reduce administrative burdens by reducing the frequency of reporting under some Directives, thereby aligning them with those which report less frequently (Box 6.21).

However, this would need to be viewed against the potential loss of benefits from less frequent reporting, and in light of the information needs for the implementation of the relevant Directives. Reducing the frequency of reporting, while it could reduce costs, would only enhance efficiency if these cost savings outweighed the loss of benefits.

Box 6.21 Costs of reporting under the Urban Wastewater Treatment and Nitrates Directives

Analyses for this study (see fiches, Annex 3) estimate that biennial implementation reports under Article 17 of the Urban Wastewater Treatment Directive are likely to require average time inputs of 30 days per Member State every two years. In addition, an additional 60 days are estimated to be required for reporting by the EEA. For the Nitrates Directive, four-yearly implementation reports are estimated to require 100 days' input per Member State and a further 200 days at EU level. On the basis of these estimates, and using the Standard Cost Model and a daily average tariff of EUR 300, the administrative burden could be estimated to average around EUR 126,000 annually under the UWWTD and EUR 225,000 annually for the Nitrates Directive.

If the timing of reporting were reduced to every 6 years, as under the Water Framework Directive and Marine Strategy Framework Directive, and if it was assumed

that the time required would be reduced in proportion to frequency, this would result in a two thirds reduction in the time and cost of reporting under the UWWTD and a one third reduction under the Nitrates Directive. On this basis the annual reduction in administrative burden would be EUR 84,000 under the UWWTD and EUR 75,000 under the Nitrates Directive.

These rough estimates show that savings in administrative costs would be possible by aligning the timing of reporting obligations under these Directives. However, this would need to be viewed against the potential loss of benefits from less frequent reporting.

Participants in the stakeholder workshops highlighted the scope to reduce administrative burdens by streamlining timing under the water-related directives. It was also argued, however, that synchronisation of reporting should take account of the capacity of the Member State authorities, and that there could be problems and resource constraints if everything had to be reported at once.

One of the problems of reducing the frequency of reporting is that the available information becomes increasingly outdated as the time elapsed since the last report increases. For example, the EEA told us that MSFD reporting is of limited value for the evaluation of the EU Biodiversity Strategy as the timelines are not synchronised for the two policy cycles. Reporting on the implementation of the MSFD follows a six year cycle, with the next round of MS reports not due until the end of 2018. When the current EU Biodiversity Strategy is evaluated, the latest available MSFD data will date back to the beginning of the period covered by the Strategy.

6.6.4 Conclusions

There are significant differences in the timing of reporting under EU environmental legislation. There are good reasons for many of these differences, as differences in the purpose and content of different reporting obligations mean that variations in reporting timetables are appropriate. However, it is difficult to find a logical explanation for the very wide range of reporting cycles that are currently in place.

Reducing the frequency of reporting offers potential to reduce costs and administrative burdens, and there are examples where alignment of reporting obligations in related policy areas could achieve this. However, reducing frequency also brings risks that the benefits of timely information provision will be lost. Therefore the potential to enhance efficiency by streamlining the timing of reporting needs to be examined carefully on a case by case basis, taking account of the frequency needed to ensure that reporting is fit for purpose and delivers the benefits envisaged.

6.7 Could the promotion of active dissemination of data (in the context of Directives 2003/4/EC and 2007/2/EC) alleviate environmental monitoring and reporting burden whilst improving access for public authorities, businesses and citizens?

6.7.1 Introduction

Active dissemination involves Member States making efforts to ensure that environmental information is made available to citizens, businesses and other stakeholders. Where information is made publicly available – and can therefore be accessed by the European Commission, stakeholders and the public alike – this potentially raises the prospect of reducing the need for formal reporting at EU level.

The Access to Environmental Information Directive (2003/4/EC) obliges MS to make publicly available certain information (from environmental policies to environmental data) in certain formats. Under the INSPIRE Directive (2007/2/EC) Member States must make available in a consistent format spatial datasets in scope of the Directive and also create network services for accessing the datasets.

The question asks whether such active dissemination could alleviate the burden of environmental monitoring and reporting while improving access to information for public authorities, businesses and citizens. To answer it, it is necessary to assess:

- Whether active dissemination has the potential to reduce the need for formal reporting at EU level;
- Whether replacing formal reporting with active dissemination would lead to reductions in costs and administrative burdens; and
- Whether active dissemination would improve access to environmental information for public authorities, businesses and citizens.

6.7.2 Method and sources of evidence

The main sources of evidence used to address this question included:

- Analysis of active dissemination undertaken for this study;
- Horizontal issues fiche – role of active dissemination and scope for efficiency gains;
- Stakeholder views and examples – public consultation and workshops;
- Literature on active dissemination and INSPIRE, including INSPIRE REFIT, SIIF documents;
- Cost analysis – and assessment of potential effects of active dissemination on different cost factors.

The answer is able to draw on a range of evidence and examples of active dissemination, as well as the views of stakeholders and the analysis of the evaluators regarding its future potential and scope to reduce burdens.

6.7.3 Evidence and analysis

6.7.3.1 Legal framework

The mandate to the Fitness Check outlines the need to explore the feasibility of moving towards a 'zero reporting vision' based on active dissemination of information increasingly taking the place of formal reporting obligations. Whilst much of this has been driven by underlying technological changes, there are a number of legislative measures that have been implemented in recent years which have driven an expansion and promotion of active dissemination at the Member State level.

Article 7 of the **Access to Environmental Information Directive**¹⁵⁶ states (paragraph 1) that:

"Member States shall take the necessary measures to ensure that public authorities organise the environmental information which is relevant to their functions and which is held by or for them, with a view to its active and systematic dissemination to the public, in particular by means of computer telecommunication and/or electronic technology, where available."

The information to be made available and disseminated (paragraph 2) should also include details of all relevant policies, plans, programmes and international agreements relating to the environment, progress reports on policy implementation, reports on the state of the environment and activities affecting it, authorisations with a significant impact on the environment, environmental impact studies and risk assessments.

¹⁵⁶ Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC - <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32003L0004>

Finally, this article of the Directive also requires (paragraph 3) Member States to ensure that national, and, where appropriate, regional or local reports on the state of the environment are published at regular intervals not exceeding four years, and that such reports shall include information on the quality of, and pressures on, the environment.¹⁵⁷

Other legislation which is relevant to active dissemination includes the **INSPIRE Directive**¹⁵⁸, and the Directive on the re-use of public sector information¹⁵⁹.

The aim of the INSPIRE Directive is to facilitate better environmental policy across the EU. This involves inter alia:

- Improving the connections between and access to existing spatial data across the European Union at a local, regional, national and international level;
- Improving the sharing of spatial data between public authorities;
- Improving public access to spatial data.

Under INSPIRE Member States must make available in a consistent format spatial datasets in scope of the Directive and also create network services for accessing the datasets. The focus of the Directive on spatial datasets means that the main link to the Access to Environmental Information Directive's active dissemination requirements concerns "state of the environment" requirements in paragraph 3, rather than to the more administrative elements listed in paragraph 2.

The Directive on the re-use of public sector information aims to ensure that information held by public authorities is made available for reuse by commercial and non-commercial organisations and members of the public; this in turn is seen as generating new economic opportunities, and improving the transparency and public understanding of such information. While there is no direct reference in the Directive to either INSPIRE or the Access to Environmental Information Directive, there are clearly synergies between the policies. However, the Directive on re-use of public sector information, while it discourages Member States from placing barriers in the way of re-use, does not specify the design of systems for publishing data, or the extent to which coordinated "open data" portals should be used.

The Commission's Digital Single Market strategy of 2015¹⁶⁰ focuses on improving infrastructure (in its broadest sense) for the sharing of data, rather than issues such as which data Governments put online, and in what forms.

6.7.3.2 Different uses of active dissemination

EU environmental reporting obligations cover different stages of the Driving Force – Pressure – State – Impact – Response (DPSIR) cycle. The reporting obligations inventory for this study indicates that the majority of reporting obligations placed on Member States involve information on "Response"; that is, government action either to implement European legislative requirements, or plans and strategies adopted to respond to environmental data.

EU legislation makes it clear that active dissemination should cover a wide range of environmental information, including information on the state of the environment,

¹⁵⁷ Further provision under this article relate to the dissemination of information in relation to imminent threats, and to the scope for Member States to comply with their obligations by providing links to sites which store the information.

¹⁵⁸ Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) - <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32007L0002>

¹⁵⁹ Directive 2003/98/EC of the European Parliament and of the Council of 17 November 2003 on the re-use of public sector information - <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:02003L0098-20130717>

¹⁶⁰ https://ec.europa.eu/priorities/digital-single-market_en

pressures on it, and a wide range of policy responses (including policies, programmes, strategies and actions at different levels). Spatial information, as covered by INSPIRE, tends to focus on just the state of the environment and pressures on it.

It is intended that active dissemination should cover a wide range of environmental information relevant to reporting obligations. In order to assess its role in alleviating reporting obligations, it is necessary to consider its role in different contexts.

In the field of air quality, there have been significant advances in the provision of public information in recent years, driven by investment in new information systems linking the air quality monitoring network to online portals. These systems should help to reduce the administrative burdens of reporting, by reducing the time taken to process and transmit data, and may over time, help to fulfil EU reporting obligations.

Box 6.22 Public information on air quality

The directives on air quality require Member States to ensure that up-to-date information on ambient concentrations of different pollutants is routinely made available to the public. This is done by providing information on websites, in press and by public displays. The information needs to be updated as appropriate to the averaging periods. The relation to the different limit and target values needs to be clear. When information or alert thresholds are exceeded Member States need to inform the public about the exceedance and the actions that are eventually taken. This obligation is prescribed in detail in the different directives.

A number of EU level sources provide information to the public. The Air quality e-reporting database (<http://www.eea.europa.eu/data-and-maps/data/aqereporting-1>) is the public air quality database system collected and maintained by the EEA. It contains air quality monitoring data and information submitted by reporting countries throughout Europe. The air quality database consists of a multi-annual time series of air quality measurement data and statistics for a number of air pollutants. It also contains meta-information on, among others, those monitoring networks involved, their stations and their measurements. The database covers geographically all EU Member States, the EEA member countries and some EEA collaborating countries. The EU Member States are bound under the Air Quality Directives (2004/107/EC and 2008/50/EC) and the Commission implementing Decision 2011/850/EU to engage in a reciprocal exchange of information on ambient air quality. The Air quality e-reporting database viewers provide validated air quality data as well as unvalidated up-to-date data, viewable through interactive maps, covering the regulated pollutants.

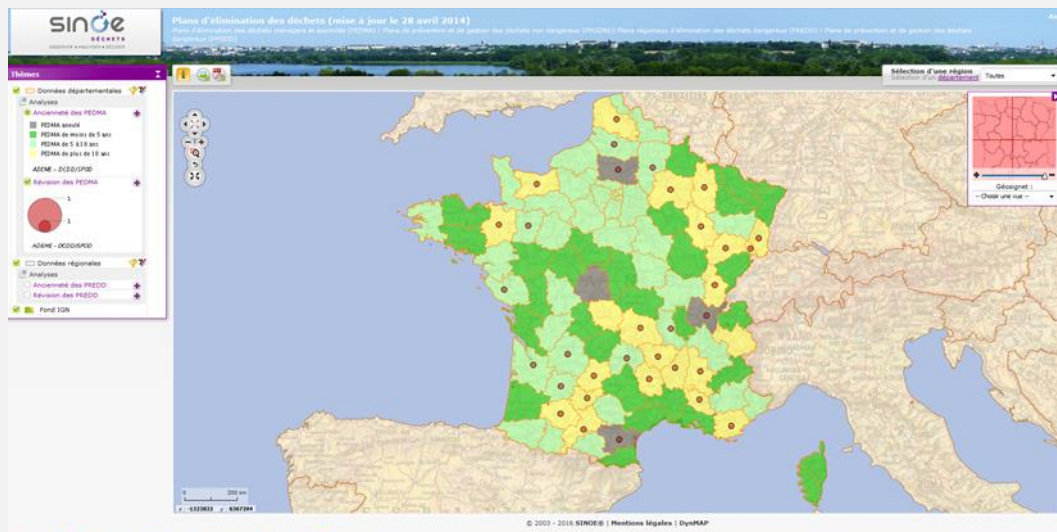
Many member states also provide up-to-date information online through interactive websites.

Information can also be found online about environmental plans and strategies in the Member States. A review of examples of active dissemination of waste management plans suggests that there is significant variation between Member States, and that there are differences in the completeness, timeliness and coverage of the information available, as well as the ease of its accessibility (Box 6.23).

Box 6.23 Examples of active dissemination of waste management plans

France

Information on departmental waste management plans can be found through the national government data site at www.data.gouv.fr



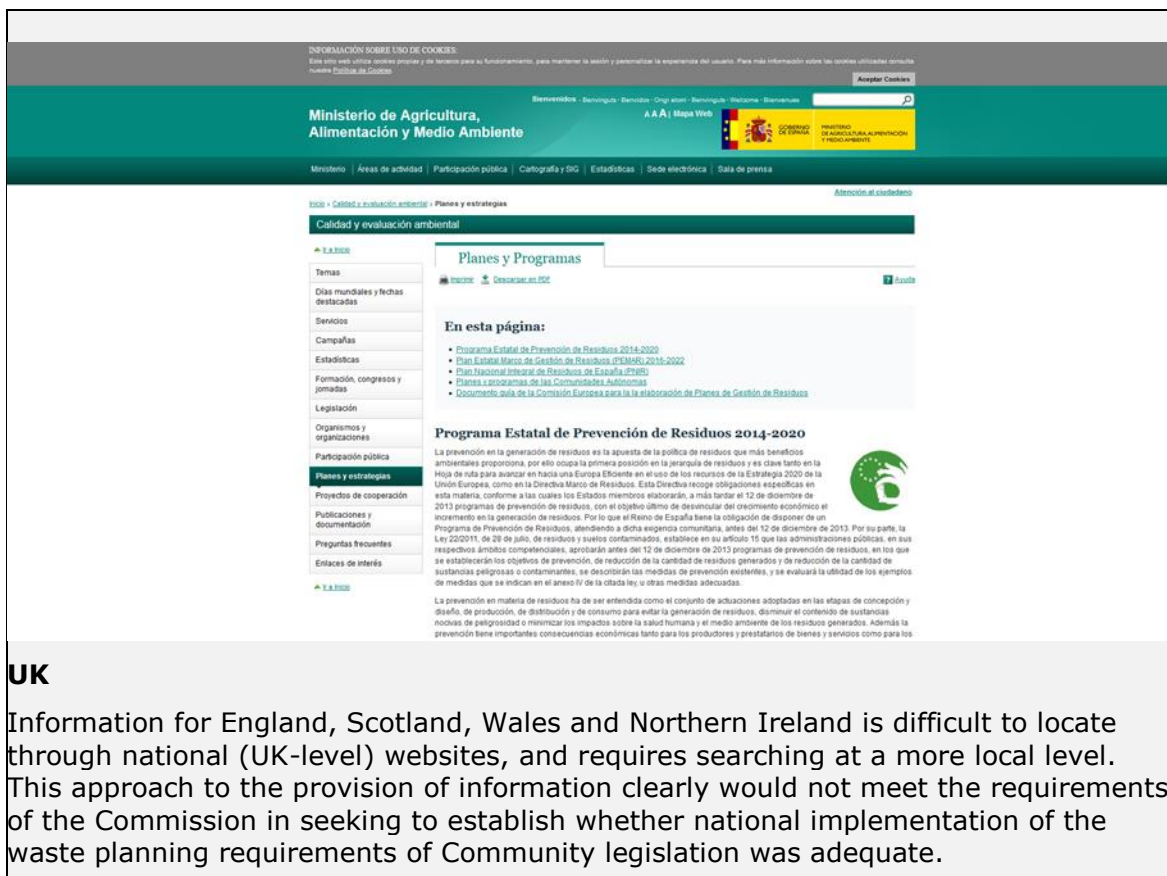
Clicking on the individual Departments on the map takes the user to a zipfile of the relevant plans and associated documents, at departmental or regional level. This tool is easily useable and provides fairly complete information to assess compliance with the relevant requirements in the Waste Framework Directive 2008/98/EC for implementation of waste management and prevention plans. The route to finding the online information is not straightforward, but, if accompanied by clear protocols on how the information should be communicated, it could perform some of the functions associated with the information provisions in the legislation. Other elements of the current information requirements in the waste framework directive (for example, information on waste oil management, and on extended producer responsibility schemes) would be less easy to incorporate in a similar mechanism, without making it significantly less useable for members of the public.

Hungary

Hungary has a page of reasonably full information on waste management planning, with links to the relevant plans, which can be accessed by using the Hungarian terms for waste management plans in a search engine. However, finding this information may not be straightforward for individual citizens unfamiliar with the relevant terms. Another challenge is to identify whether the plans are still in place or might have been superseded.

Spain

The Spanish Agriculture and Environment Ministry has an easily found page with full documentation for national plans, and plans of the autonomous communities, which would seem to provide both full information on the process and the plans themselves for individual citizens, and an adequate resource for Commission-level checking of the completeness of Member State implementation of the planning requirements of the Waste Framework Directive.



The screenshot shows the website of the Spanish Ministry of Agriculture, Food and Environment. The main navigation bar includes the ministry's name and various service links. The page content is focused on 'Calidad y evaluación ambiental' (Quality and environmental evaluation). A sidebar on the left lists various topics and services. The main content area features a section titled 'Planes y Programas' (Plans and Programs) with a sub-section 'En esta página:' (On this page:). This section lists several key documents and programs, including the 'Programa Estatal de Prevención de Residuos 2014-2020' (National Program for the Prevention of Waste 2014-2020), the 'Plan Estatal Marco de Gestión de Residuos (PEMAR) 2016-2022' (National Framework Plan for Waste Management), and the 'Plan Nacional Integral de Residuos de España (PNIRE)' (National Integral Plan for Waste of Spain). Below this, there is a detailed section for the 'Programa Estatal de Prevención de Residuos 2014-2020', which explains the government's commitment to waste prevention and the specific objectives and measures outlined in the program.

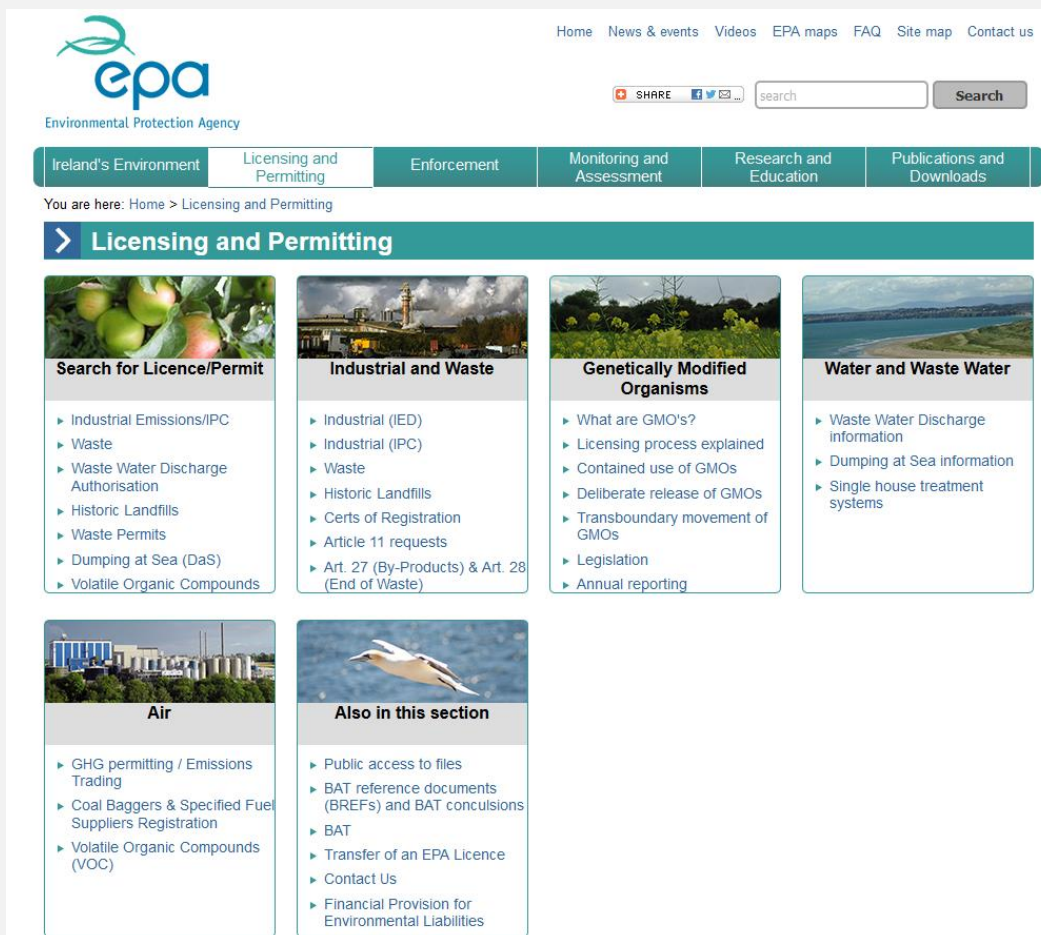
UK

Information for England, Scotland, Wales and Northern Ireland is difficult to locate through national (UK-level) websites, and requires searching at a more local level. This approach to the provision of information clearly would not meet the requirements of the Commission in seeking to establish whether national implementation of the waste planning requirements of Community legislation was adequate.

Some Member States have also made advances in online dissemination of permitting information. The example of Ireland is given in Box 6.24.

Box 6.24 Active dissemination of authorisations and monitoring of installations in Ireland

Ireland's environmental protection agency has invested substantially to improve its licensing information over recent years. Its website now provides (at <http://www.epa.ie/licensing/>) a relatively clear and easily navigable mechanism for citizens to identify relevant permitting information.



The main licensing and permitting page is shown above, and can be reached by clicking on

“Licensing and Permitting” on the EPA’s homepage. Clicking on, for example, “Waste” on the page above takes the user, via a declaration page, to a choice between a number of search criteria. Asking to see, for example, all of the landfills in a County provides a clickable list of licensed landfill sites, with each site page then providing access to relevant documentation.

Similar mechanisms exist for other types of installation permitted under other regulatory mechanisms. The information provided appears to enable citizens to exercise full oversight over relevant environmental permits in their locality; and would also enable initial scrutiny of the enforcement of environmental regulation, for example by the Commission in response to complaints from third parties.

While good examples of the provision of information in relation to specific types of installation exist in other Member States, the Irish system appears to be unusual in both its completeness and its ease of use.

The screenshot shows the EPA website interface. At the top, there is a navigation menu with links for Home, News & events, Videos, EPA maps, FAQ, Site map, and Contact us. Below this is the EPA logo and the text 'Environmental Protection Agency'. A search bar is located on the right side of the header. The main navigation bar includes categories like Ireland's Environment, Licensing and Permitting, Enforcement, Monitoring and Assessment, and Research and Education. The breadcrumb trail indicates the user is in 'Licence Details' for a specific application.

Licence Details

Details of Application

| | |
|-----------------------------------|--|
| Reg No. | W0017-03 About Licence RSS Feeds |
| Applicant Name: | Limerick City and County Council |
| Facility Name: | Gortadroma Landfill Site |
| Location of Facility: | Gortadroma, Ballyhahill, Co. Limerick, Limerick. |
| Type of Facility: | Landfill |
| Main Class of Activity: | 3.5 |
| Other Classes of Activity (more) | 3.1,3.4,3.6,3.7,3.11,3.13,4.2,4.3,4.4,4.9,4.10,4.11,4.12,4.13, |
| Application Date: | 2/07/2004 |
| Licence Status: | Replaced by Reg No: W0017-04 (IED) |
| Under Review/Replaced By: | Reg No. W0017-04 (IED) |
| Latest licence for this facility: | Reg No. W0017-04 (IED) |

Decision Details:

| | |
|---|------------|
| Proposed Decision issued date: | 26/04/2005 |
| Closing date for objections to Proposed Decision: | 23/05/2005 |
| Final Decision issued date: | 22/09/2005 |

Documents

To view electronic documents (if any) for this application, click on the buttons below. These open in a new window. All documents available in electronic format are presented as Adobe Acrobat PDF files. If you have any problems opening or displaying a document in your browser, right-click on the file and save it to your computer.

Licence application documents:

View applicant documents | View EPA documents
View Third Party documents | View Miscellaneous documents

[More information on the licence application process](#)

Licence enforcement documents:

View Licence Enforcement Documents

[More information on licence enforcement](#)

Do you wish to contact the EPA about this licenced facility?

A variety of developments have been made in the dissemination of spatial data in Bulgaria and Poland (Box 6.25).

Box 6.25 Developments in dissemination of spatial data in Bulgaria and Poland

In Bulgaria, some state structures have launched spatial data portals that allow public access to the data they administer, such as the Ministry of Health, Ministry of Defence and the Land Registry. Thematic portals are also in place for water and biodiversity. In addition, authorities participate in multilateral data exchanges projects and initiatives (such as DanubeFloodRisk, DanubeGIS, WISE). Regular newsletters are circulated on various thematic topics such as air quality to support Member States-level dissemination. Nonetheless, the usability of this data by the Commission and EU is generally poor – with information largely available only on request (often for a fee) and strong variations in the quality and accessibility of information available between government authorities.

In Poland, an effective Spatial Data Infrastructure has been established that brings together different administrative units and supports engagement with third parties

such as academic institutions and private companies. Both regional and thematic data portals have been established following several years' training and capacity-building in INSPIRE. The Polish Association for Spatial Information is seen to play an important role in coordinating this process, with some tasks formally delegated to third parties such as the National Heritage Board of Poland. Other important resources include an e-learning platform targeted largely at municipal governments and scientific and technical conferences are held annually. INSPIRE-related datasets are freely available to public authorities and there are ongoing efforts to support co-development of data standards. In general, the usability of this data on the website is thought to be strong, but could be improved further by making data available in English. There is also felt to be a need for greater transparency.

The examples above demonstrate the significant advances in active dissemination in recent years. They indicate that active dissemination of environmental information covers a wide range of environmental data. As well as information on the state of the environment, information on environmental pressures, permitting arrangements, plans and strategies is increasingly accessible online.

The review suggests that this information is currently insufficiently comprehensive or easily accessible to meet the demands of environmental reporting requirements. However, recent rates of development suggest that active dissemination could, in future, provide much of the information currently covered by EU environmental reporting obligations.

One of the limitations of active dissemination with regard to EU environmental monitoring and reporting is that online datasets often vary in their format, the range of data covered, the specification of the data included, the regularity at which data are updated, the quality management processes applied, and the routes used to access them. This diversity significantly reduces the fitness for purpose of many MS online datasets with regard to EU level reporting. The sections on effectiveness and relevance above stressed that data needs to meet a number of conditions with regard to quality, completeness and consistency in order to be fit for EU reporting purposes.

The INSPIRE Directive aims to tackle these issues by promoting the harmonisation of spatial datasets across the EU, though this is an ambitious and challenging goal that will take many years to achieve.

The Commission has introduced Structured Implementation and Information Frameworks (SIIFs) as a means of addressing this challenge. The initiative has been applied successfully in the case of the Urban Wastewater Treatment Directive, demonstrating that online platforms can fulfil EU environmental reporting needs (Box 6.26).

Box 6.26 Structured Implementation and Information Frameworks (SIIFs)

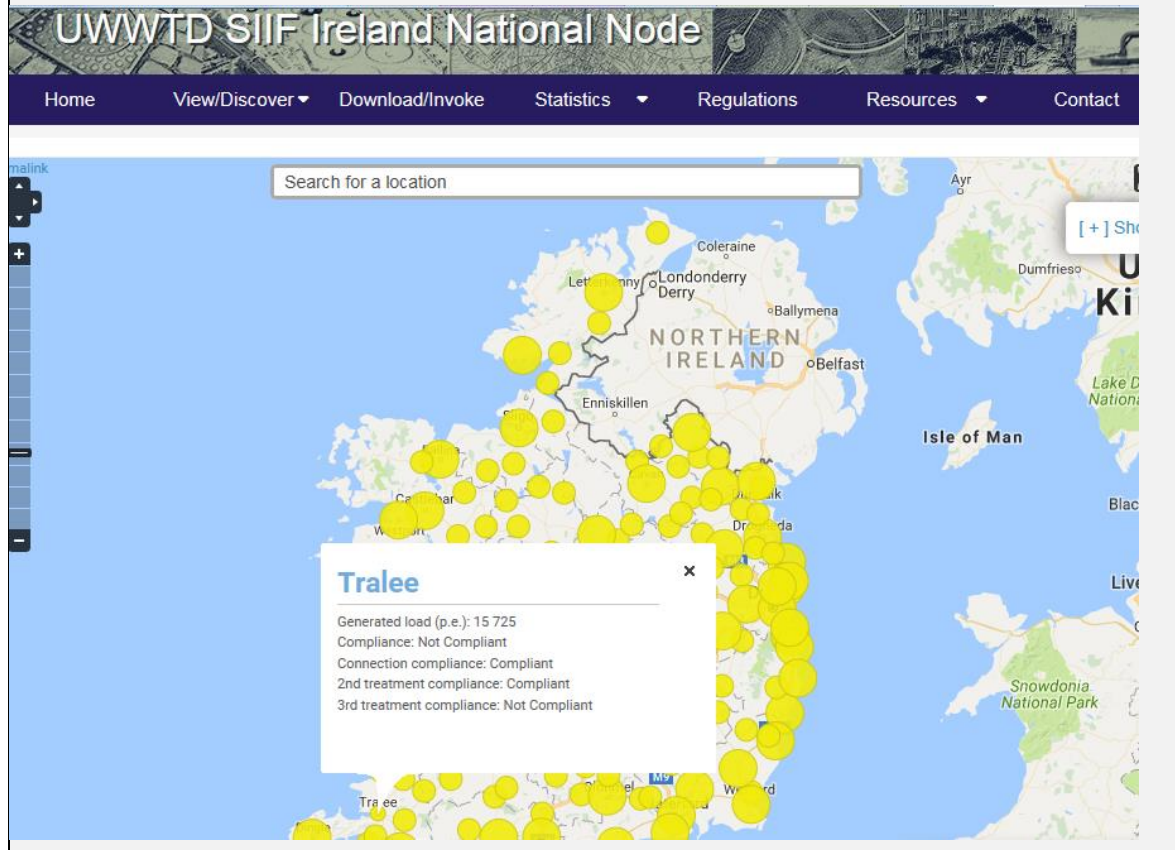
The European Commission has introduced Structured Implementation and Information Frameworks (SIIF) as a means of information management to implement the INSPIRE and public access to environmental information directives. SIIFs aim to guide the development by Member States of consistent and transparent information systems that track implementation of environmental law on the ground and make this information accessible online.

Since 2012, the European Commission has run a pilot programme under the Urban Waste Water Treatment Directive (UWWTD, 91/271/EC) to improve reporting processes and data dissemination towards the public by the development of Structured Implementation and Information Framework (SIIF). It is intended that improved data management will contribute to better implementation of the Directive and reduction of administrative burden, as well as allowing efficient fulfilment of

requirements under the INSPIRE Directive (2007/2/EC) and Directive on public access to environmental information (2003/4/EC).

So far several EU Member States have been involved in the development of national UWWTD SIIF, including the development of improved IT systems and websites on urban waste water data. The Commission is also working with the European Environmental Agency to improve the way to organise and disseminate the information at EU level.

In autumn 2015, the European Commission agreed that the platform could be used for biennial national reporting of UWWTD implementation, under Article 16 of the UWWTD Directive.



Active dissemination is often seen as offering potential to reduce administrative burdens, by reducing the need for reporting at EU level. However, in assessing the potential to reduce burdens it is important to recognise that:

- Substantial investments have been made – and more are required - in the development and maintenance of information systems and online portals, and in the harmonisation of datasets and reporting formats between Member States. Implementation of the INSPIRE Directive has involved substantial investments by the Member States. Active dissemination is therefore not a low cost option;
- To meet the objectives of environmental reporting obligations, a number of conditions need to be satisfied. These include the need to ensure consistency and comparability of the information reported by MS, and to apply quality checks to ensure that data are complete, accurate and error free. As a result, in order to fulfil requirements for environmental reporting, active dissemination needs to adhere to common agreed processes and formats. This suggests that a number of elements in the process of EU reporting (agreement of common formats and definitions, establishment of templates, quality checking of data,

dialogue between EC and MS to resolve anomalies or seek further information, a process that it is already addressed by the INSPIRE legal framework) would be needed. Because most of the time consuming elements of existing reporting obligations would be required, this reduces the scope to reduce administrative burdens.

For these reasons, it is questionable whether active dissemination of environmental information offers great potential to reduce the administrative burdens of reporting. It does, however, offer great opportunities to enhance the benefits of reporting, by:

- Increasing public access to the reported information;
- Enhancing the timeliness of information dissemination, by making data available simultaneously to the public, other stakeholders and the Commission; and
- Potentially reducing the perceived burden of reporting, which becomes a shared exercise in information dissemination, rather than merely an obligation for MS to report at EU level.

Box 6.27 Findings from the INSPIRE Evaluation

The Commission Staff Working document presenting the results of the REFIT of INSPIRE argues that the development of such a European spatial data infrastructure should result, amongst other benefits, in the reduction of administrative burdens and the creation of new business opportunities. The example of Ireland is cited, where investments in connecting the digital infrastructure between authorities reduced the time to prepare a report on industrial installations for the European Union from months to days.

Although this reduction in burdens resulted from the data infrastructure, rather than being related to active dissemination, the latter has generated a wide range of benefits. Businesses are now using such administrative data to provide better services to the public (such as combining predictions on weather and air quality or integrating real-time traffic information in business processes such as updating satellite navigations with road construction sites). Also insurers are increasingly using geographical data to improve profitability by improving their understanding of risks at locations and verifying the content of claims. Moreover, real estate companies are increasingly factoring in environmental information, e.g. when determining house prices (e.g. whether they are situated in a flood risk area) and utility network operators are leveraging spatial data to avoid excavation damage.

Indeed, stakeholders participating in the workshops and public consultation questioned whether active dissemination will significantly reduce the costs of reporting, arguing instead that it will contribute to better access to reported data and better information services.

The greatest potential for cost reduction may lie in better streamlining – for example if online dissemination occurs in a more joined up way and allows data to be used for a range of reporting purposes. Participants in the stakeholder workshop highlighted the potential for development of standardised tools and protocols to support data harvesting in specific areas – for example, WFD River Basin District data, or MSFD harvesting data in line with Regional Seas Conventions.

6.7.4 Conclusions

Active dissemination has considerable potential for replacing traditional reporting obligations to the Commission, with significant co-benefits, helping to enhance public access to the reported information as well as the timeliness of information dissemination.

However, reaching a point at which it could fulfil that purpose could itself involve a considerable investment of administrative (including legislative) effort at EU, member state, and sub-national levels. Because the existing obligations associated with the specification, collection, processing, quality checking and transmission of data would still need to be fulfilled, it is arguable whether active dissemination offers significant potential to reduce administrative burdens. However, the perceived burden of reporting could potentially be reduced, since reporting would be fulfilled through a shared exercise in information dissemination, rather than merely an obligation for MS to report at EU level.

SIIFs offer a promising approach to addressing both the needs of individual pieces of EU legislation, and a structured approach to the use of active dissemination to provide a coherent picture of Member State level implementation.

Issues which would need to be addressed in taking forward such an approach include:

- The overlap between information needed by the Commission and the information for which national website publication has co-benefits in terms of public access to information. Not all of the reasons for reporting obligations in EU legislation (for example, legislator interest in checking whether EU requirements have been implemented correctly; legislator requests for a review of the effectiveness of EU legislation) will generate information of wider public interest. If the information provided is of little or no broader public interest, there may not be a clear rationale for the use of online dissemination as a mechanism to replace or supplement EU reporting obligations.
- The extent to which a focus on EU reporting obligations is compatible with the needs of individual users; if site navigation requirements are distorted to meet the needs currently addressed by reporting obligations, the principal purpose of Member State online dissemination of information may be less effectively achieved.
- The potential need for legislative requirements on Member States to maintain, communicate to the Commission the location of, structure in accordance with EU needs, and keep up to date, the relevant online information.
- The administrative and other costs potentially associated with the legislative and administrative changes required – in particular, with the need to secure agreement on the detail of SIIFs, and (potentially) on a harmonised approach to the structuring of information.
- The potential value of a single European portal providing access to the information disseminated at Member State level.
- A voluntary approach, in which the Commission provides Member States with guidance on the use of active dissemination as a means of meeting reporting obligations, could have some value; although the Commission would need to be confident of sufficient uptake from Member States of such an approach in order to justify the investment of time and resources in designing the necessary structured information frameworks.

7 Coherence of the EU Environmental Monitoring and Reporting System

7.1 Introduction

Coherence is concerned with how well different EU interventions work together, both internally and with other interventions in other policy areas. Analysis of coherence examines evidence of EU interventions working well together (e.g. to achieve common objectives or as complementary actions), as well as examples of tensions (e.g. objectives which are potentially contradictory, or approaches which are causing inefficiencies).

In the case of regulatory monitoring and reporting, analysis of coherence examines how well different reporting obligations work together, and whether there are overlaps, duplications or inconsistencies. It also needs to consider how well reporting obligations relating to environmental legislation work with those in other policy areas (e.g. climate, agriculture) and with international obligations.

There are three specific evaluation questions under this theme. In addition, the separate fiches included in Annex 5 on coherence with other policy areas, and coherence with international reporting obligations contain relevant material on broader coherence issues.

7.2 Is some data reported multiple times, when it could be reported once and then used for multiple purposes?

7.2.1 Introduction

A principle of environmental monitoring and reporting is that overlap between reporting requirements should be minimised. Where the same data is required for more than one piece of legislation, it should be reported only once and then shared between the data managers for those legislative areas. Overlaps can generate unnecessary additional reporting, with attendant administrative burdens, and potentially reduces the credibility of data if there is a lack of consistency in either the content or the presentation of overlapping datasets. For data sharing to be feasible, the data reported must be satisfactory for each item of legislation in terms of its specification, quality and timeliness.

The evaluation question asks whether there are instances when the same data is reported more than once, and if there are, whether the multiple reported instances could be replaced with a single reporting instance. To answer it, it is necessary to assess:

- Whether there are identifiable instances where the same data is reported multiple times under different legislation?
- For such instances, whether it is feasible for this information to be reported only once and then shared between the data managers for each piece of legislation?
- Whether particular actions are necessary to remove/avoid instances of overlapping reporting.

7.2.2 Method and sources of evidence

The main sources of evidence used to address this question were:

- Stakeholder consultation – ranked opinion on importance of avoiding overlap principle;
- Analysis of the inventory;
- Stakeholder view and examples – public consultation and workshops;
- Recent evaluations and REFITs; and
- Internal Commission understanding shared with the research team on links between reporting under the environmental acquis and reporting in other areas of EU policy.

The answer to this question is illustrated with numerous comments and suggestions made by stakeholders, who point to many instances of perceived incoherence and overlapping reporting obligations. Further investigation is needed in each case to assess the issues in more detail and to examine whether change is required.

7.2.3 Evidence and analysis

This section looks first at the evidence in respect of internal coherence of the environmental acquis, and then at coherence of the environmental acquis with other areas of EU policy

Internal coherence of the environmental acquis

Stakeholders responding to the public consultation emphasised the importance of achieving coherence between reporting obligations, rating the principle "collect once and use many times" as the most important principle of environmental monitoring and reporting (Section 2.2.3).

As part of the development of the inventory of reporting obligations, a number of reporting requirements have been identified as presenting some explicit or de facto links with other reporting requirements under other environmental legislations (EU or international). While this does not imply that there are overlaps in reporting, it illustrates areas where these are most likely to occur and whether there may be opportunities to develop common tools and streamline data and reporting processes.

Recent efforts to streamline different items of legislation and avoid overlaps between reporting requirements have been made at EU level, most notably through the REFIT programme.

Other actions such as SEIS (see Box 7.1), INSPIRE, and open data policies more broadly are providing increasing opportunities to share data between organisations. This has the potential to support the removal of existing instances of multiple reporting, and provide an effective and efficient way of ensuring that data already being collected for one purpose is not re-requested for another i.e. it will significantly ease the process of establishing whether information is already being collected and if so, accessing that information. However, such initiatives remain in development. INSPIRE is not due to be fully implemented until 2020, and there remain a number of challenges before full interoperability of data is achieved.

Box 7.1 The role of SEIS in supporting the principle of 'report once, use many times'

The "Shared Environmental Information System (SEIS)" was established to improve the collection, exchange and use of environmental data and information across Europe. SEIS aims to create an integrated, web-enabled, EU-wide environmental information system by simplifying and modernising existing information systems and processes.

The Water Information System for Europe (WISE) is a prominent example of an initiative taken forward under SEIS. It is an ongoing effort to streamline reporting activities under Directive 2000/60/EC establishing a framework for Community action in the field of water policy and the Floods Directive and the Marine Strategy Framework Directive.

The SEIS Implementation Outlook (EC, 2013) highlighted that national reporting approaches (i.e. the variety of methods used for generating the data and existence of different databases that are not interconnected), still hinder ongoing efforts under SEIS to simplify, streamline and modernise their existing systems and processes, and make them web-enabled. Indeed, data is too often collected based on a single-purpose requirement only while others may have similar needs. This results in public authorities collecting and maintaining their own databases, storing their own environmental information and data at various geographical scales. This often hinders the SEIS principle "collect once and share for many purposes".

The question of perceived or experienced overlaps received much attention from stakeholders during consultations and was illustrated with different examples. Robust

evidence of existing overlaps and inconsistencies related to current monitoring and reporting obligations in EU environmental law were also collected in recent evaluation studies (e.g. E-PRTR REFIT evaluation). Table 10 provides an overview of potential data and information being reported multiple times across different items of legislation.

In seeking to address issues of overlapping/dual reporting, it was suggested that an overarching rather than legislation-specific approach would be necessary, as well as better coherence between the working groups of relevant directives.

Table 10. Evidence of potential overlaps between reporting obligations linked to EU environmental legislation

| Areas of overlap or inconsistency | Evidence |
|--|---|
| <i>E-PRTR and EU water law - Inventory of emissions, discharges and losses of priority substances into water</i> | In relation to EU water law, coherence issues arise between E-PRTR and Directive 2008/105/EC on environmental quality standards (EQSD) according to the E-PRTR REFIT evaluation. This is mostly due to Member States' requirement to produce inventories of emissions, discharges and losses and report on these (under Article 5) using the information collected under the E-PRTR. Despite coherence being an explicit objective of EQSD (see Recital 21), Member States face practical issues as the substances covered by the EQSD are evolving, taking account of new threats, such as endocrine disrupters, and differ from E-PRTR substances. A further difference concerns the timing of reporting (e.g. the E-PRTR is an annual report, while the Priority Substances Directive requires a report on an inventory every six years). However, the E-PRTR REFIT evaluation acknowledges the latter is more a point of difference than a real coherence issue. |
| <i>E-PRTR and EU water law - Reporting on discharges from WWTPs</i> | The E-PRTR REFIT evaluation highlighted a specific point of incoherence between the Urban Waste Water Treatment Directive (UWWTD) and the E-PRTR. While the E-PRTR requires reporting on discharges from Waste Water Treatment Plants (WWTPs) covered by the UWWTD, the threshold for reporting under E-PRTR is WWTPs with a population equivalent of 100,000 or more. This does not match thresholds for much of the UWWTD (e.g. 150,000 or 10,000 population equivalent for sensitive areas), creating differences in reporting between the directives. |
| <i>E-PRTR and IED – Industrial point sources and data reported</i> | The public consultation made in the context of the E-PRTR REFIT evaluation viewed the coherence between E-PRTR and IED as generally strong. However, some disagreed and commented that IED has included new activities and some thresholds in Annex I that are not the same as E-PRTR activities. Some also consider that the system of collection of data from installations/activities that are regulated under the IED and E-PRTR is not integrated, complementary or coherent. This often reflects situations in particular Member States, such as Germany, where reporting obligations stemming from the IED often use the same data as from E-PRTR, but require different formulas to compute the requested figures according to a representative of the German Federal Environment Agency interviewed. It was suggested that BREF process should specifically address the pollutants that are covered by E-PRTR in terms of the emissions and monitoring requirements so as to provide more accurate release data. |

| Areas of overlap or inconsistency | Evidence |
|--|---|
| | <p>Feedback from the targeted consultation conducted in the context of the E-PRTR REFIT evaluation highlighted the following coherence issues: i) The activity list needs to be harmonized with IED, for example intensive animal rearing; ii) There is a lack of harmonised methodology regarding calculation of pollutants and this leads to different approaches and hence different results; iii) The data are only a subset of the overall emissions 'footprint' for industrial activities due to the thresholds applied and it can be difficult to interpret the significance of yearly variations as facilities can move above and below the thresholds.</p> |
| <p><i>Habitats Directive and Marine Strategy Framework Directive – Reporting on geographical scope, species and effort distribution</i></p> | <p>According to the Spanish Ministry of Agriculture, Food and Environment, the need to submit reports under the Habitats Directive (Article 17) and the Marine Strategy Framework Directive (MSFD) (reports for marine species) creates inconsistencies in the geographical scope (management units vs. bioregions), in the species (targeted species vs. all marine species of the Habitat Directive), and in the effort distribution (in terms of monitoring programmes).</p> |
| <p>Nature Directives, MSFD and WFD - pressures</p> | <p>Feedback (EEA, France) identifies that common 'pressures' are reported under these directives, and that there is sufficient overlap that harmonisation of reporting on pressures would be beneficial.</p> |
| <p><i>UWWTD and WFD – The notion of "sensitive areas"</i></p> | <p>Responses from the EEA and the Spanish Ministry of Agriculture, Food and Environment identify differences in "sensitive areas" under the Urban Waste Water Treatment Directive (UWWTD) and the Water Framework Directive (WFD) and reporting at different spatial scales.</p> |
| <p><i>Birds Directive and AEWA – Different overlapping fields</i></p> | <p>According to the Spanish Ministry of Agriculture, Food and Environment, the report for the Birds Directive and the report for African-Eurasian Waterbird Agreement (AEWA) have various overlapping fields. Examples include reporting on latest population estimate for the breeding and the wintering population which requires data such as year, population unit, minimum and maximum population size, and population data quality. The direction and quality of population trend for the breeding and wintering population also have to be reported twice under both requirements.</p> |
| <p><i>Directive on persistent organic pollutants and Directive on the banning of exports of metallic mercury and certain mercury compounds and mixtures and the safe storage of metallic mercury – Data on life cycle of chemicals</i></p> | <p>According to the Spanish Ministry of Agriculture, Food and Environment, the data to be reported under the legislation covering the entire life cycle of chemicals (e.g. Regulation 850/2004/EC on Persistent Organic Pollutants and Regulation 1102/2008/EC on the banning of exports of metallic mercury and certain mercury compounds and mixtures and the safe storage of metallic mercury) are often also reported under other legal obligations linked to specific sector activities, such as production and trade, use in goods and/or products, industrial emissions, waste, contaminated sites/soils.</p> |

| Areas of overlap or inconsistency | Evidence |
|---|---|
| Directive 86/278/EEC - information on sewage sludge used in agriculture | The Spanish Ministry of Agriculture, Food and Environment reported that data is collected separately on a biennial and triennial basis. The stakeholder suggested that the use of separate questionnaires result in different sources of information being used. Integration into a single questionnaire may improve accuracy of the statistics. |
| <i>Food law and Marine law</i> – Concentration of contaminants in seafood | The Spanish Ministry of Agriculture, Food and Environment also highlighted that reporting requirements under Regulation 1881/2006 setting maximum levels for certain contaminants in foodstuffs and the Marine Strategy Framework Directive (MSFD) result in similar data (i.e. concentration of contaminants in seafood) being submitted by Member States. |
| <i>EU Air and climate policy</i> – Atmospheric emissions inventories | Many stakeholders have called for a deeper harmonisation of individual inventories (e.g. NECD inventory, LRTAP inventory, etc.) used for reporting on air/emission levels and climate under LRTAP, LCPD, E-PRTR, ETS and UNFCCC. While there are many similarities between monitoring and reporting for air and climate, fostering synergies between both areas seems, apart from institutional difficulties, a logical step to merge these reports into one “air emissions related” report. Concrete suggestions such as dividing reporting requirements on facility data (e.g. covering IED, E-PRTR, ETS, UWWTP-D, LPS and LCP) and on national data (e.g. EU-MM, NECD, LRTAP, ODS, F- gas D) have been made by Member States such as the Netherlands. This should also encourage harmonised reporting timing and harmonised formats and categorisations. |

Coherence of environmental legislation with other EU policy areas

More detailed analysis of the interaction of environmental and other monitoring and reporting systems in other areas of EU policy is set out in the fiche on the issue included in Annex 5. We summarise here the main points identified in relation to each of the areas considered.

Climate policy

The key area of potential overlap identified is the requirement for emissions inventories under the Greenhouse Gas Monitoring Mechanism Regulation (MMR), and air quality legislation including the National Emissions Ceiling Directive (NEC). There are also potential overlaps between the gathering of installation-level information under the European Emissions Trading System, the E-PRTR, and the Industrial Emissions Directive. Our initial assessment is that there is a good understanding by technical experts responsible for inventories in the different Member States of the overlap between the two reporting systems, although there may be scope for some additional improvement in respect of a harmonised reporting cycle.

There are overlaps for certain substances reported under the MMR and NEC (CO, SO₂, NO_x, VOC), coherence between the MMR and NEC has improved. The Commission proposal for a Regulation on the Governance of the Energy Union (adopted on 30 November 2016) recognised the overlap and established a requirement to report on the consistency of the information and the checks conducted (it is apparent that there are sometimes discrepancies in the information reported), and established a requirement that MS' existing GHG inventory national systems are amended to allow access to data resulting from other reporting instruments. The timing of reporting

(amended under the new NEC¹⁶¹) and templates used are aligned to the extent feasible, given that both the MMR and NEC are also linked to MEA reporting requirements. The degree of incoherence does not appear to present significant additional data collection burdens; although may present some issues regarding data comparability and use. However, further analysis of the scope for and possible benefits of streamlining would appear valuable, both in relation to data on pollutants and to information on policies and measures.

Overlaps in substances reported on for the ETS and E-PRTR are well known (CO₂, N₂O, PFCs, CH₄, HFCs, SF₆). Some stakeholders (notably Spain and through the E-PRTR REFIT), identified that discrepancies in the specification of data reported under each can make comparison and validation work more complex. Further work to harmonise, and to better understand the links between, ETS legislation and the IED and E-PRTR could be valuable.

Agriculture

There is little formal overlap between the relevant reporting obligations under the CAP and under environmental legislation (except in the case of the voluntary codes of good agricultural practice under the Nitrates Directive, and good agricultural condition and other requirements of the CAP). However, in some cases (for example, greening payments, or agri-environment and climate agreements), they are clearly aimed at similar outcomes. There may be scope for more systematic use of the CAP data retained by paying agencies to enable bodies responsible for implementing birds and nature legislation to better understand the likely impacts of regulatory and public expenditure mechanisms.

Statistics

While in principle there is a good level of coherence, with waste statistics reporting focused on assessing waste volumes and waste management routes, significant concerns have been reported over the course of the project in respect of discrepancies in the information collected, in particular on the definitions used for hazardous waste. Further assessment of the scope for alignment of definitions would therefore be valuable.

The Environmental Economic Accounts Regulation appears to give rise to little concern among stakeholders about conflicting requirements, although there is significant overlap between its requirements and the requirements of the reporting obligations under the environmental acquis.

Fisheries

Our initial assessment suggests there is little conflict between reporting under the Common Fisheries Policy (CFP) and reporting under the environmental acquis. However, there may be scope for better use of CFP data by Member States in their reporting under environmental legislation.

Sustainable Development Goals

The Commission has made clear¹⁶² that it intends to use the UN Sustainable Development Goals (SDGs) adopted in 2015 as a key element in the European policy framework. It is therefore important in the assessment of the potential future coherence of environmental policy monitoring and reporting obligations to understand how well they meet with the requirements of the SDGs and the 230 indicators of progress towards achieving the SDGs. Environmental policy contributions are indicated in Table 11.

¹⁶¹ now adopted by Council and Parliament, and due to enter into force on 31 December 2016.

¹⁶² See COM (2016) 739 final "Next steps for a sustainable European future: European action for sustainability"

Table 11. Relevance of environmental monitoring and reporting data to SDGs

| SDG | Linked Environment policy | Relevance of data |
|--|---|---|
| SDG 6: Sustainable water for all | Water legislation | Generally good coverage, some gaps (including identification of population exposure) |
| SDG 9: Resilient infrastructure | SEA Directive, Environmental Impact Assessment Directive | Limited coverage of SDG requirements, although an important contributor to good policy design |
| SDG 12: Sustainable consumption and production | Waste legislation (and current circular economy proposals) | Combination of waste legislation and Eurostat provides good coverage, with only minor gaps |
| SDG 14: Conserve oceans and marine resources | Water Framework Directive and Marine Strategy Framework Directive | Generally good coverage |
| SDG 15: Protect terrestrial ecosystems, and manage forests sustainably | Nature legislation, and legislation on timber imports (FLEGT, etc) | Some good coverage, in combination with CORINE data, etc |
| SDG 16: Inclusive societies for sustainable development, access to justice | Access to Environmental Information Directive; Public Participation Directive; Access to Justice Regulation | Limited reporting under the relevant environmental legislation. |
| SDG 16: Inclusive societies for sustainable development, access to justice | Access to Environmental Information Directive; Public Participation Directive; Access to Justice Regulation | Limited reporting under the relevant environmental legislation. |

7.2.4 Conclusions

Internal Coherence

There are a range of overlaps between different reporting requirements associated with the EU environmental law, and numerous examples are cited by stakeholders of data being reported on multiple occasions for different uses, often using rather different definitions and specifications.

Examples of incoherencies emerge from the interactions between the E-PRTR and other EU legislation such as the IED (particularly Annex I definitions and for LCP inventories), EU waste and water law, and INSPIRE. A lack of comparability in the information provided by the Member States, due not only to the variety of methods used for generating the data, but also to an evident lack of consistency in the reported information, suggests that further efforts are needed to harmonise reporting requirements.

Specific attention also needs to be paid to the technical detail of the legislation on waste statistics, to ensure that it matches as far as possible the definitions in waste legislation; and to ensure that the potential for streamlining of the inventory requirements in the NEC and in climate change legislation respectively, is identified and taken forward at the next opportunity for revision of the respective legislation (or, where possible, through changes to implementing acts).

There are ongoing initiatives (e.g. SEIS, INSPIRE) providing avenues for streamlining reporting requirements, standardising definitions, codes and nomenclatures which will support efforts to reduce and avoid multiple reporting. This, however, seems to create significant challenges because of the complicated nature of the INSPIRE data model and the wide range of often conflicting definitions and data specifications to be addressed. Therefore, the need for harmonisation of specific legislative requirements as well as a more overarching approach to the harmonisation of environmental data seems to be needed.

Coherence with other areas of EU policy

Broadly, there are limited areas of incoherence between the environmental acquis and other areas of policy, although examples of incoherencies emerge from the interactions between the E-PRTR and IED on one side, and the ETS Directive (reporting on facility data) on the other side. . Specific attention needs to be paid (i) to the technical detail of the legislation on waste statistics, to ensure that it matches as far as possible the definitions in waste legislation; and (ii) to ensuring that the potential for streamlining of the inventory requirements in the NEC and in climate change legislation respectively, is identified and taken forward at the next opportunity for revision of the respective legislation (or, where possible, through changes to implementing acts).

7.3 Is data reported (including to other parts of the Commission) but then full use not made of it?

7.3.1 Introduction

The more use that can be drawn out of any given dataset, the greater its beneficial value in comparison to the costs of its provision. The evaluation question asks whether there are opportunities to extract more value from the data that is reported by using it for additional purposes beyond its original legislative need. This includes whether information reported under legislation in other policy areas can be used to improve the information available for monitoring and reporting against environmental legislation.

7.3.2 Method and sources of evidence

The main sources of evidence to address this question include:

- Analysis of the inventory;
- Stakeholder views and examples – public consultation and workshops; and
- Internal Commission understanding shared with the research team on links between reporting under the environmental acquis and reporting in other areas of EU policy.

7.3.3 Evidence and analysis

There exist numerous instances of information being reported once at EU level and then used multiple times. This includes both instances where the multiple uses concern EU policy areas, and where multiple uses are also relevant to international reporting required by multilateral environmental agreements to which the EU and its Member States are parties.

An illustration of this principle is provided by the data reported initially under the air emission annual data reporting obligations (CLRTAP/EMEP) which are re-used by EEA to support the production of its regular assessment products and services (e.g. State and Outlook of the Environment Report (SOER), Annual air quality report, annual EU Convention on Long-range Transboundary Air Pollution emission inventory report). The same data are also used by Eurostat and DG ENV for computing emissions, agro-

environmental and other indicators and for official (international) reporting under UNECE.

Another example is the information on Natura 2000 sites (Special Protection Areas, Birds Directive) and (Sites of Community Importance/Special Areas of Conservation, Habitats Directive) which are used by EEA for its SOER, State of Nature reports, Natura 2000 Barometer and viewer, and the European Nature Information System (EUNIS). This information is also used for DG AGRI's yearly statistical and economic information reports and by international organisations such as the Convention on Biological Diversity (CBD) and UNEP World Conservation Monitoring Centre (WCMC) for its World Database on Protected Areas (WDPA).

An analysis of the data flow mapping of EEA's Central Data Repository (CDR) – showing all current and agreed future regular data flows reported by countries or companies through EIONET Central Data Repository (CDR) and/or Business Data Repository (BDR) – finds that 22 out of 74 data flows reported by countries and companies through EIONET CDR and/or BDR are used by other EU partners (e.g. ESTAT, JRC). Only 7 out of 74 data flows reported by countries and companies through EIONET CDR and/or BDR are used by other international organisations (e.g. WHO, OECD, IEA, FAO). The analysis of the data flow mapping of EEA's Central Data Repository (CDR) suggests that while some data is shared across EU and international organisations, other data flows might remain relevant for only a single purpose.

While evidence of data being used multiple times seems to exist, it is difficult to discern instances of data being reported to one organisation or part of an organisation, but then it not be fully used by others.

However, there was very little specific evidence generated on this issue from the research tools deployed in this evaluation. The sole example identified was that of Vessel Monitoring Systems (VMS) data held by International Council for the Exploration of the Sea (ICES). The EEA is unable to access the data and hence relies on analysis produced by ICES; however this does not cover all of the EU marine sub-regions.

Our analysis of related policy areas identified some cases where there was a prima facie possibility that full use of the available data sources was not being made.

For example, agricultural legislation requires a wealth of information to be maintained by paying agencies (and made available for audit) through the Land Parcel Identification System (LPIS) on both the specific characteristics of agricultural land and the detailed practices adopted at farm level, but has relatively limited requirements for the transmission of that data to EU level. Lack of transmission is in part due to the volumes and complexity of the data that would be involved. This barrier to transmission is an example of an issue that may be surmountable through alternative reporting approaches, such as data harvesting. While limited formal overlaps between reporting obligations seem to exist, it seems likely that there is scope for significantly greater use, at Member State and regional level, of the data available from paying agencies to inform national and regional policy-making on the extent to which the objectives of various elements of European environmental policy are being delivered (water quality, particularly nitrates pollution; biodiversity impacts; emissions to air, particularly ammonia). Greater use of agricultural data could help EEA's understanding of the various pressures on land and support its comprehensive reports on the state of, trends in and prospects for the environment across all 39 member countries and cooperating countries of the EEA.

7.3.4 Conclusions

While there exists little evidence of data being reported but then full use not made of it at EU level, the principal opportunity appears to be in maximising the potential for use of the information generated by other areas of EU legislation in contributing to the understanding of issues covered by environmental legislation. In some cases, notably

in relation to data from CAP instruments (and data from the CFP reporting requirements), there is potential for it to develop in future in ways which provide harvestable data to a consistent format, with the potential for either improving the quality of information available under the environmental acquis and making it available to support EEA's comprehensive reports on the state of, trends in and prospects for the environment.

7.4 Is there coherence between reporting to the EU level and to other international levels?

7.4.1 Introduction

Both EU legislation and international agreements place reporting obligations on EU Member States. In such instances, a lack of coherence between related EU and international obligations may unnecessarily increase the costs of reporting, or may diminish the value of the datasets.

Incoherence may occur due to overlaps, duplications or inconsistencies in terms of the reported data (e.g. the indicators, their methodologies and structure) or the reporting processes (e.g. reporting tools, formats and timing).

The evaluation question asks whether there are instances of related reporting obligations occurring under EU and international legislation and if so, whether they are coherent with each other. To answer it, it is necessary to assess:

- Whether there are instances of reporting obligations stemming from both EU and related international legislation; and
- For such instances, to test their coherence in terms of the data, its structure and the reporting process (e.g. format, timing).

7.4.2 Method and sources of evidence

The main sources of evidence to address this question include:

- Inventory of reporting obligations;
- Stakeholder views and examples – public consultation and workshops; and
- Review of documents e.g. evaluations / REFITs.

While overlaps between EU and international reporting obligations can be mapped in a structured way, assessment of the extent to which these give rise to issues of coherence has relied to a large extent on the views expressed by stakeholders. The examples given would benefit from further analysis to assess the extent to which they give cause for concern.

7.4.3 Evidence and analysis

Analysis presented in Section 6 of Annex 5 identified a number of multilateral environmental agreements (MEAs) with overlaps with EU environmental legislation. In some instances there is coherence between the reporting requirements of the EU legislation and those of the MEAs. For example:

- Shipments of Waste Regulation (EC No 1013/2006). The Regulation establishes a system for the supervision and control of shipments of waste within EU borders and with the EFTA, OECD and third countries which are party to the Basel Convention. The Basel Convention is a global environmental treaty which regulates the transboundary movements of hazardous wastes and provides obligations to Parties to ensure that such wastes are managed and disposed of in an environmentally sound manner. Parties to the Basel Convention are required to transmit to the Secretariat, at the end of each calendar year, their respective national reports pursuant to Article 13, paragraph 3. Regulation

2013/2006 mirrors this, requiring Member States to forward to the EC a copy of the report submitted to the Basel Convention. Further EU reporting obligations are then imposed on top of this. These include annual reports, providing further information deemed necessary by the EU institutions, a three-yearly implementation report as well as ad-hoc/one-off reports (e.g. on institutional arrangements). The timing of regular reports is aligned with that of reporting to the Basel Convention (end of the calendar year).

- E-PRTR Regulation (EC No 166/2006). The regulation establishes a European system based on the UNECE Protocol on Pollutant Release and Transfer Registers. The Protocol sets minimum requirements, which means that Parties are free to include additional pollutants and facilities, and the Parties to the Protocol are required to work towards convergence between PRTR systems. This regulation expands the number of substances concerned by adding 5 substances, deemed relevant for EU Member States, to the 86 listed in the Protocol and determines common Protocol implementation approaches, enforcement provisions and guidance, to promote consistency of data across the EU. The Regulation therefore places additional reporting obligations on operators of facilities with regard to the 5 additional substances, but these apply to a limited number of facilities across the EU. It places an obligation on Member States to report to the Commission every three years a report covering aspects of implementation as well as data provided in accordance to Article 7 (i.e. from the annual reporting of facilities for the E-PRTR).

Commission reviews of legislation have sought to identify and remove instances of incoherence between EU and international reporting obligations. For example:

- The National Emission Ceilings (NEC) Directive (2001/81/EC) relates to the 1999 Gothenburg Protocol and the 1979 Convention on Long-range Transboundary Air Pollution (CLRTAP). All pollutants from the Directive are also reported under CLRTAP and the Gothenburg Protocol (the Gothenburg Protocol came into force after this directive but during the time of its implementation – in 2005). The reporting obligations for the Directive were harmonised circa 2008 to improve coherence. A revised directive to replace Directive 2001/81/EC in order to “address the highly significant remaining health risks and environmental impacts posed by air pollution in the Union, and to align Union law with new international commitments following a revision of the Gothenburg Protocol in 2012” has now been adopted by Council and Parliament, and enters into force on 31 December 2016. While the reporting obligations are changed, there will be no additional reporting beyond that already required under international obligations.
- Nature Directives: the reporting of derogations under the two directives and the Bern Convention has been streamlined.

While efforts can be made to ensure that the information and associated analyses and data formats are coherent, it is not always feasible to establish reporting under a single system i.e. the information, while consistent, needs to be reported twice to the two different requesting entities. This can be considered as an incoherence; although one which may have limited administrative cost associated with it. For example, under the Shipments of Waste Regulation (see above), the information submitted to the Basel Convention secretariat has to be resubmitted to the Commission, but this amounts to simply a re-transmission of the already submitted reported. Similarly, even where there is coherence between EU and international reporting obligations, there may be a need for additional reporting to the Commission such as on implementation where this is not required under international obligations, as is the case under the E-PRTR Regulation.

A number of areas of potential incoherence were identified by stakeholders in response to the consultation and workshops relating to this study and the Make it Work initiative (see Box 7.2).

The Water Framework Directive is identified multiple times by stakeholders, with seemingly contrasting views expressed. This demonstrates that, particularly for large complex areas of legislation such as the WFD, which has links to a wide variety of potential sources of pollution, and a wide range of consequent or linked environmental impacts, establishing an understanding of coherence and whether there are justifications for those incoherencies or opportunities to improve coherence, may not be straightforward.

Box 7.2 Examples identified by stakeholders of coherence and incoherence with international obligations

Examples of coherence cited by stakeholders:

- WFD - monitoring sites are used for OSPAR and MSFD (on going) (Source: France national authorities)
- UWWTD - MS reporting informs reporting to the OECD (Source: France national authorities)
- The Prior Informed Consent Regulation (PIC, Regulation (EU) 649/2012) - is consistent with the Rotterdam Convention (Source: Feedback from Spain national authorities)
- Examples of incoherence cited by stakeholders:
- Birds Directive - there is much overlap with reporting for the conventions: Convention on Migratory Species (UNEP), Agreement on the Conservation of African-Eurasian Migratory Waterbirds, Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention; Council of Europe). The requirements differ in frequencies, reporting on longer term and/or short-term trends, geographical borders (EU, Europe or Eurasia). Reporting for the CBD is at a more general level. (Source: MiW Thematic Sessions – Nature)
- WFD/MSFD – for reporting of contaminants data in the sea (water, biota and sediment), the format of data, methodology of assessment, and matrix to be assessed differ under WFD, MSFD and the Regional Sea Conventions (RSCs). This makes it almost impossible to have only one monitoring / data processing system to fulfil the reporting processes (Source: feedback from Spain national authorities).

7.4.4 Conclusions

There are a number of linkages between EU environmental legislation and multi-lateral agreements, and the reporting obligations associated with each. There are examples of both coherence and incoherence between these obligations.

Examples of coherence occur even in cases where the EU legislation has additional requirements beyond those of the multi-lateral agreement, and hence imposes additional reporting obligations, provided that there is no inconsistency between the two sets of requirements, that there is a clear policy justification for the additional reporting required, and provided the submission of information is streamlined and coordinated as far as possible,

The Commission's evaluation and REFIT programme has been successful in identifying and resolving several cases of incoherence. However, there appear to remain some areas of incoherence, with incoherence across a range of aspects from timing, indicators, assessment methods and formats, which could usefully be addressed in further reviews.

8 EU added value of the EU Environmental Monitoring and Reporting arrangements

8.1 Introduction

Analysis of EU added value examines the extent to which the benefits from EU interventions are additional to those which would have resulted from interventions initiated at regional or national levels by both public authorities and the private sector. It typically involves a critical examination of the arguments for intervention at EU level, as well as an examination of changes which are due to EU intervention, rather than other factors. Evaluation of EU added value brings together the findings of the other criteria, presenting the arguments on causality and drawing conclusions, based on the evidence to hand, about the performance of the EU intervention and whether it is still justified. Typically, the likely consequences of a hypothetical counterfactual scenario – involving the removal of EU level intervention – are also considered.

In the case of monitoring and reporting, assessment of EU added value is concerned with the benefits that are derived from EU wide reporting obligations, as compared to an alternative system in which reporting took place only within the Member States (and internationally).

There are two evaluation questions under this theme.

8.2 What is the additional value resulting from reporting to the EU intervention(s), compared to what could be achieved by Member States at national and/or regional levels?

8.2.1 Introduction

The additional value resulting from reporting at EU level can be examined:

- In theoretical terms – critically examining the rationale for action at EU level; and
- In terms of the results achieved, examining whether these results could have been achieved by action at national or regional level alone.

Both of these elements are important – understanding the rationale for EU level intervention helps to inform the analysis and provide a theoretical reference point for assessing what has been achieved in practice. Examining the actual benefits delivered enables us to assess whether the anticipated EU added value has actually been achieved.

8.2.2 Method and sources of evidence

Examination of EU added value needs to build on the findings of the rest of the evaluation, particularly relating to the benefits of monitoring and reporting, and then to add an additional layer of analysis to examine these from an EU added value perspective. The assessment needs to be set in the context of an understanding of the rationale for intervention at EU level.

The sources of evidence therefore include:

- EU literature on EU added value – to review the criteria used to test EU added value;
- Policy documents and legislation on EU environmental monitoring and reporting, to examine the objectives of monitoring and reporting and the rationale for EU level action;
- Details of purpose and benefits of reporting (inventory and fiches) with respect to EU added value criteria;

- Evidence of the benefits of monitoring and reporting at EU level, from the questions on effectiveness and efficiency above;
- Stakeholder views – from the public consultation and workshops; and
- Analysis of the above – to critically examine whether the purpose and benefits could have been achieved without EU level action.

8.2.3 Evidence and analysis

Environmental monitoring and reporting obligations, like all requirements linked to EU legislation, should be subject to the principle of subsidiarity, which is fundamental to the functioning of the European Union¹⁶³. In this regard, there is a need to demonstrate a clear case for reporting at the EU level, compared to reporting at the local or national levels only.

The added value of EU policy interventions is normally assessed with reference to particular criteria, such as the delivery of EU public goods, the need to address trans-boundary issues, the added benefits through co-operation and economies of scale that can be achieved through EU level action, and/or the need to act at European level in order to achieve co-ordination or coherence with other EU policies¹⁶⁴. The Better Regulation Guidelines state that EU added value may result from different factors, including co-ordination gains, improved legal certainty, greater effectiveness or complementarity.

In the case of monitoring and reporting, there is a strong rationale for EU level intervention, given that a primary objective is to inform the implementation and development of EU environmental law. This clearly requires information to be available at EU level on the state of implementation of the environmental acquis, and on whether EU legal obligations are being met. EU level activity is therefore central to addressing the objective that monitoring and reporting should allow for an assessment of whether EU legal obligations are being met.

However, there are also potentially elements of EU added value in each of the main objectives of the EU environmental monitoring and reporting system (Table 12). Responses to the public consultation indicate that each of these objectives is widely endorsed by stakeholders.

Table 12. EU added value dimension of objectives of environmental monitoring and reporting

| Objective | EU added value dimension |
|--|--|
| A. Demonstrate compliance with a legal obligation. | Requires collection of consistent information at EU level on implementation and compliance across the 28 EU MS |
| B. Determine if the objectives of legislation are being achieved effectively and efficiently, including, where appropriate, ensuring a level playing field of the internal market. | Consistent information at EU level is needed to inform assessment under the EU Better Regulation agenda. EU level reporting can help to inform action to maintain a level playing field. |
| C. Inform the other EU institutions as well as the public and stakeholders at EU level on the progress of | EU level overview gives comparable information on the state of the environment in MS, and assessment of MS progress in taking actions required by EU law. EU level information allows |

¹⁶³ <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=URISERV:ai0017&from=EN>

¹⁶⁴ See, for example, Medarova-Bergstrom, K., Volkery, A. and Baldock, D. (2012) Criteria for maximising the European added value of EU budget: the case of climate change, IEEP, Brussels http://www.ieep.eu/assets/888/IEEP_-_EU_value_added_and_climate_change_March_2012.pdf

| Objective | EU added value dimension |
|---|--|
| implementation and the identification of gaps. | citizens to compare environmental information with other MS. EU level overview helps to add an additional level of independent scrutiny. |
| D. Help inform the understanding of an environmental issue and so help to improve decision making, e.g. policy evaluations or impact assessments. | Consistent information is needed to inform understanding of policy issues at EU level, and to inform policy evaluations and impact assessments. |
| E. Identify and spread good practices amongst Member States. | Reporting at EU level helps MS to learn from each other about best practices in implementation. Co-ordination at EU level helps to promote experience sharing and adoption of effective and efficient reporting systems and practices. |

These different dimensions of EU added value present a strong case for intervention at EU level with regard to environmental monitoring and reporting. In order to review the implementation and effectiveness of EU environmental legislation, it needs to be possible to compile consistent and comparable evidence at the EU level. This helps highlight some of the common and distinct challenges inherent in implementation, and the overall and relative effectiveness of EU legislation, across different regions, Member States and localities. The Commission itself needs regular and consistent information on how successfully EU laws are being implemented across the EU, in order to be able to confirm whether implementation is satisfactory, at various specific locations. This can also be crucial in supporting enforcement.

While they depend on a certain degree of EU level action, these objectives could potentially be met – at least to a certain extent - by alternative systems involving a greater degree of active dissemination by the Member States and data harvesting at EU level. However, as sections 4 (relevance of the current reporting system compared to alternative methods such as data harvesting) and 6 (potential for reduced administrative burdens through active dissemination) make clear, achieving the EU level objectives of the monitoring and reporting system is dependent on action at EU level to agree definitions and data formats, quality check data, and promote the consistency, accessibility and timely availability of the relevant data.

This suggests that – however the overall system of monitoring and reporting develops in the future - there is clear added value in EU level intervention in pursuit of the specified objectives.

The added value of EU level reporting with respect to the comparability of data between Member States was emphasised in the recent evaluation to support the REFIT of the E-PRTR Regulation.

Box 8.1 EU Added Value of E-PRTR

The recent evaluation to support the REFIT of the E-PRTR examined the added value of having an EU level Register, as compared to registers at MS level only.

The analysis found that, though the EU added value was sometimes limited by the lack of additional information or completeness of data, the E-PRTR adds value above that of the implementation of the Protocol by the Member States alone. The E-PRTR is valued by users for improving transparency of industrial activities. The Register promotes comparability of data published by Member States and enables comparing industrial emissions across the EU. These added values are recognised by all categories of stakeholders in the various consultation processes of the REFIT analysis.

Another area where the added value of EU level reporting is clear is for transboundary issues, which are relevant for many of Europe's environmental challenges. One respondent to the public consultation argued that as many of the problems legislation seeks to address are transboundary, there are clear benefits in EU level action to ensure that data reported are cross-comparable.

Discussions at the stakeholder workshops presented mixed views of the EU added value of environmental monitoring and reporting. While the EU added value of action to inform the implementation of EU environmental legislation was widely accepted, some participants expressed the view that the objective of informing the public could be met by action at MS level (Box 8.2).

Box 8.2 Views on EU Added Value presented at the stakeholder workshops

A number of participants in the April 2016 stakeholder workshop were keen to stress the importance of monitoring and the benefits of data generated both in terms of demonstrating compliance with EU legislation, and highlighting issues and learning points in the implementation of this legislation within national regulatory frameworks.

Discussion on EU added value at the September 2016 workshop in Barcelona included the following points:

- A number of participants noted the importance of having comparable data on EU Member States in order to indicate a 'level playing field'.
- It was argued that, since reporting relates to EU legislation, EU added value is clear and a proportionate approach is needed to the assessment.
- It was suggested that making information publicly available on the internet could be a substitute for reporting in many cases.
- Some stakeholders questioned whether EU level data is useful to citizens and whether this information might be better provided by MS, within a national context. For example, bathing water quality could be usefully presented with other local level information relevant for potential visitors to water bodies. Reporting to the EU could be reduced, and better links made to national websites where data is available.
- It was recognised that investment is required to set up robust data harvesting approaches as an alternative to EU level reporting. Constantly changing reporting needs can prevent investment occurring. Text information cannot be so readily harvested and hence is less amenable to data harvesting.

Source: Report of stakeholder workshops (Annex 6)

The nature and extent of EU added value may vary according to the context. In particular, the history of environmental regulation varies between Member States and this may influence the impact that EU law has on reporting practices (Box 8.3).

Box 8.3 EU Added Value with respect to WEEE and Packaging/ Packaging Waste

In some MS (e.g. Germany, Austria, etc.) where WEEE and PPW reporting had been adopted prior to EU legislation, the impact of EU law has probably been relatively limited. Those MS tend to view EU reporting as an instrument to provide information for planning and strategy (stakeholder consultation). On the other hand, MS such as Bulgaria, Romania and Croatia have been more significantly impacted by EU rules. For example, the reporting process in those MS is seen as assuring the implementation of national targets (and company targets) and exercising control over proper implementation of requirements set by the Directives (stakeholder consultation).

8.2.4 Conclusions

The analysis indicates that EU level reporting delivers clear benefits that could not be achieved through reporting at MS level alone. In particular, meeting the objectives of allowing for an assessment of whether EU legal obligations are being met, and indicating how well the legislation is working at EU level, is dependent on action at EU level to ensure that consistent, timely and quality checked data are provided.

The objectives of informing stakeholders and the public about the state of the environment and actions to improve it could be achieved to a large extent by action at MS level, though there is some added value in providing stakeholders and the public with access to environmental information which is consistent and comparable across EU Member States.

While the added value of intervention at EU level is clear, the sections on relevance and efficiency indicate that addressing the objectives of reporting is not necessarily dependent on the EU monitoring and reporting arrangements in their current form. Alternative approaches involving active dissemination and data harvesting could play an increasing role in future, providing that co-ordinating actions are undertaken at EU level to ensure that the data provided is fit for purpose, and therefore continues to provide this EU added value.

8.3 What would be the most likely consequences of stopping or repealing the existing EU reporting requirements and replacing them by increased transparency and active dissemination?

8.3.1 Introduction

The question seeks to assess the likely consequences of replacing EU level environmental monitoring and reporting with alternative arrangements which involve Member States making the relevant information publicly available.

“Transparency” is taken here to mean that the information reported is not only made visible to stakeholders and the public, but is also accompanied by appropriate explanation of the definitions, methods, and assumptions employed. Ideally these should be consistent to allow comparability across the EU. Active dissemination is the process of making this information publicly available, and, through appropriate promotion and communications, raising awareness of it (Section 6.7).

To address the question, it is necessary to use a “what if” scenario to examine whether the objectives of EU environmental monitoring and reporting could be met by an alternative system involving greater transparency and active dissemination at MS level, and what would be the consequences for the benefits of the current system under such a scenario.

Two scenarios can be assessed. The first would involve repealing existing reporting obligations and replacing them with a voluntary, Member State led approach to active dissemination of environmental data. A second scenario would involve some form of legal requirement for Member States to disseminate information relevant to the implementation of EU environmental legislation.

8.3.2 Method and sources of evidence

This question can be addressed through the following methods and evidence:

- Review of documentation/ literature on active dissemination, including section 6.7 above, to define a scenario in which greater transparency and active dissemination take the place of current reporting arrangements;
- Review of objectives of environmental monitoring and reporting and analysis of whether/ how they could be achieved through such a scenario;

- Review of evidence of benefits from effectiveness and efficiency questions, and analysis of consequences for these under the alternative scenario; and
- Analysis of likely consequences (including likely costs, benefits and risks) of the alternative active dissemination scenario compared to current EU level reporting arrangements.

8.3.3 Evidence and analysis

Section 6 demonstrated that there have been significant and widespread developments in active dissemination in the EU in recent years, covering a wide range of environmental policy fields and relevant to a range of different stages in the DPSIR cycle, including policy responses as well as changes in the state of the environment and the impact on it.

The demand for environmental information from stakeholders and the public, Member States' interests in disseminating environmental information, continuing advances in IT, as well as relevant EU legislation such as the Access to Environmental Information (2003/4/EC) and INSPIRE (2007/2/EC) Directives mean that growth in active dissemination of environmental information is likely to continue in the future, even if there is no legal obligation to report environmental information at EU level. As a result, much of the information currently available online about the state of the environment, pressures on it, and actions being taken by the Member States to implement environmental policies, would continue to be available to the public and to the EU institutions.

The review in section 6 found that the accessibility of this information online is currently variable, such that some items of information would be more easily found by stakeholders, the public and EU policy makers than others.

The main concern that would arise if current reporting obligations were repealed would relate to the completeness, quality, consistency and timeliness of available environmental information.

Section 4 addresses the question of whether the current arrangements for EU environmental monitoring and reporting remain relevant, compared to alternative approaches such as data harvesting. It concludes that, even allowing for recent technological advances, the current processes of reporting remain relevant, and that opportunities to replace them with data harvesting are limited by gaps and deficiencies in the current data infrastructure, as well as the challenges of ensuring that data are consistent and comparable, available in a timely fashion, complete and sufficiently quality-checked.

Section 5 noted that the effectiveness of environmental reporting is significantly influenced by factors such as the quality, completeness, consistency and timeliness of the data reported. It highlights that, even under the current reporting arrangements where significant effort is invested in the development and application of common specifications, templates, guidance and quality management procedures, the effectiveness of the current reporting system is often compromised.

Should current reporting requirements be repealed, with only voluntary mechanisms for active dissemination left, there would be a significant risk of increasing:

- **Gaps in the information reported** – with a tendency for Member States to follow their own interests, or to supply the most easily provided data, rather than those most relevant to assess implementation, compliance and development of EU law;
- **Inconsistencies in reported data** – including differences in definitions, specifications and assessment methods – unless some mechanism remained in place to ensure common approaches between Member States;

- **Varying timelines for information provision** - in the absence of legally specified deadlines;
- **Variable quality management procedures** – in the absence of common quality management processes – affecting the robustness of data and the confidence of users; and
- **Differences in the accessibility and navigability of the information provided** – in the absence of common templates and access routes.

These risks could have significant consequences for the ability of the reporting system to meet its stated objectives (Table 13).

Table 13. Possible consequences of repeal of EU requirements for objectives of the reporting system, and replacement with only voluntary active dissemination

| Objective | Possible consequences |
|--|---|
| A. Demonstrate compliance with a legal obligation. | In the absence of a legal requirement, MS would presumably decide what information to provide. Data gaps, inconsistencies and quality issues would be expected, presenting challenges for a full and consistent assessment. |
| B. Determine if the objectives of legislation are being achieved effectively and efficiently, including, where appropriate, ensuring a level playing field of the internal market. | Information about how well the legislation was working at MS level, relevant to assessment of its costs and benefits, might still be provided, but gaps and inconsistencies would present challenges for EU level assessment. Comparative assessment relevant to the “level playing field” would be difficult. |
| C. Inform the other EU institutions as well as the public and stakeholders at EU level on the progress of implementation and the identification of gaps. | MS would be able to provide information to stakeholders and the public in a way that they deemed appropriate. This could help to focus efforts on the most relevant needs in the national context. However, a loss of comparability between MS would be expected, diminishing some aspects of understanding, and the greater degree of independence afforded by an EU level overview would be lost. |
| D. Help inform the understanding of an environmental issue and so help to improve decision making, e.g. policy evaluations or impact assessments. | MS might report information considered most relevant for assessments at national level. EU level evaluations and impact assessments would be expected to suffer from deficiencies in the consistency, comparability and completeness of evidence. |
| E. Identify and spread good practices amongst Member States. | MS would be able to access information provided by each other online, but best practice sharing would be hampered by the loss of common reporting formats, mechanisms and working arrangements. |

As a result, it is unlikely that repealing EU legal obligations and replacing them with a Member State led approach to active dissemination of information could meet the objectives of the EU environmental monitoring and reporting arrangements.

However, as indicated in Section 6, promotion of active dissemination of relevant environmental information, coupled with arrangements for data harvesting at EU level, could meet the objectives of EU environmental monitoring and reporting if action was

taken at EU level to specify requirements, establish reporting timetables, define templates and data management protocols, and ensure quality management. This would require significant co-ordinating action at EU level. Because of the need to ensure compliance with the specified arrangements, some form of legal obligation to disseminate the relevant information would also be likely to be necessary.

In the future, technological developments offer the potential to develop solutions that could replace some aspects of the current reporting system. For example, participants in the fourth stakeholder workshop argued that Copernicus, the European earth observation programme, offers potential for EU wide solutions for monitoring the state of the environment, complementing or potentially replacing some current reporting obligations.

8.3.4 Conclusions

The likely consequences of stopping or repealing the existing EU reporting requirements and replacing them with a voluntary, Member State approach involving increased transparency and active dissemination would be the emergence of a system that continued to provide much information about the state of the environment and the actions being taken to improve it. However, such a voluntary system would be unlikely to be fit for purpose in providing sufficient information about the state of implementation of the EU environmental acquis or the compliance with current legal obligations.

While increased transparency and active dissemination have the potential over time to meet the objectives of the current reporting arrangements, this is likely to depend on a continuing legal requirement to provide the information needed, as well as common arrangements and standards for data specification, quality checking and presentation. If existing legal obligations to report were repealed, it is likely that new legislation, designed to ensure minimum standards of information provision to address EU policy needs, would be required.

9 Conclusions

9.1 Overall conclusions on: Relevance; Effectiveness; Efficiency; Coherence; EU Added Value

9.1.1 Relevance

Current reporting processes remain relevant, but opportunities for alternative approaches are increasing.

Advances being made by MS and the EU with open data policies will provide increasing opportunities to consider alternative approaches to reporting, most notably data harvesting. Initiatives such as INSPIRE will help to cement these opportunities. However, there are few existing examples of reporting using alternative approaches, and these have not yet realised their full potential. Regardless of the approach taken to reporting, many of the current steps in the reporting process – most notably quality checking and subsequent analyses – will remain relevant. It is essential to ensure that mechanisms are in place that enable data obtained through alternative approaches to be appropriate for use in legal proceedings i.e. it must be officially approved.

Other challenges are already present within the reporting system, but have a new dynamic when establishing an alternative reporting process (e.g. persistent issues with timeliness of data provision and the need to ensure that information is up-to-date and available at the point of harvesting). These challenges need to be satisfactorily addressed to ensure that the value of the information received is not eroded and to ensure that new approaches replace rather than simply run in parallel to existing approaches.

Technological developments are supporting ever more sophisticated approaches to citizen science. Whilst there remain challenges e.g. regarding quality assurance, there may be an opportunity for citizen science to support greater collection of state and pressure indicators to complement traditional environmental monitoring and reporting. Future development of the monitoring and reporting system needs to be alert to this and ensure that its development is enabled.

The costs of infrastructure and addressing challenges mean that alternative approaches may be most appropriately taken forward where there are clear benefits of doing so. For example, data harvesting may provide the greatest benefit where it is desirable to provide access to large volumes of data on a regular basis, or where there is consistent and relevant publicly accessible information that fits the Commission's needs.

The REFIT programme has successfully addressed some issues of irrelevant and obsolete reporting requirements, but there are opportunities for further change, and continued action is necessary to maintain relevance over the longer term.

The Better Regulation agenda has provided an approach for the systematic review of legislation and the associated reporting obligations. Through evaluations there have been a number of successes in improving and amending reporting obligations in order to ensure and enhance their relevance. These evaluations need to continue, with reporting checked in detail each time including in terms of the coherence with the overall strategic (top-down) vision for reporting.

However, opportunities remain for further enhancements. Indeed, the constantly evolving context within which legislation operates, as well the maturity of legislation and its implementation, mean that the relevance of many aspects of reporting will continue to change over time.

While it is important to ensure that reporting obligations remain relevant, it is also important that their relevance is clear and understood by stakeholders in order to ensure appropriate resources are put to, and application made of, reporting requirements.

Key performance indicators on the implementation and effects of environmental legislation could play an increasing role in environmental reporting, but would require a new and structured approach within the reporting system.

The use of indicators and scoreboards varies widely across the acquis, and there appears to be an increasing focus on the use of KPIs, however there is currently no structured or consistent approach to their use. In particular, reporting obligations rarely present KPIs in a structured way to assess the effects of implementation at different levels (i.e. outputs/results/impacts) as advocated in the Better Regulation Guidelines. To establish the appropriateness of adopting KPIs more broadly, a structured and systematic review is required. This would require work to define a common framework and to examine whether and how it might work for each item of legislation. In addition, there is overlap in the scoreboards in place, and the indicators used in them are not always consistent, and this could benefit from some streamlining.

The process of reporting has taken advantage of advances in technology, although these are not being universally exploited and progress is ongoing.

The process of reporting has taken advantage of advances in technology - from e-reporting to enhanced spatial data infrastructures to earth observation techniques - but these opportunities are not being universally exploited. Continued efforts are required to ensure broader adoption of not only new, but existing technologies and established systems, such as Reportnet. Existing initiatives which can serve reporting,

such as INSPIRE and Copernicus, need to be delivered in a joined up way to ensure that their potential benefits for reporting can be realised.

9.1.2 Effectiveness

The effectiveness of the reporting arrangements have improved greatly in recent years, but there remain widespread problems with the completeness, quality and timeliness of information received through reporting obligations.

It is clearly evidenced that the quality and timeliness of reporting has been improving. However, there remain problems with Member States compliance with reporting obligations, including issues with the completeness, quality and timeliness of submission, apparent across numerous areas of the environmental acquis.

A number of factors influence the completeness, quality and timeliness of reporting, including the requirements and timing laid out in the obligations, the adequacy of the guidance provided to support Member States' fulfilment of the obligations and the sufficiency of Member State and EU quality checks.

While the information requested is broadly sufficient, deficiencies in Member States' reporting mean that the available information is sometimes insufficient to establish an understanding of the state and the effectiveness of implementation of the environmental acquis.

A majority of reported information is geared towards monitoring and assessment of implementation rather than the state of the environment and gaps in the information requested are more likely with regard to the latter.

Of more importance is the broad number of instances where reporting obligations are not adequately satisfied. Indeed, it is difficult to find an EU implementation report or evaluation where there is not some comment regarding the deficiencies in the available information. However this does not always mean that information is insufficient.

There have been improvements in the information made available, with further efforts ongoing, informed by the Commission's REFIT programme. In addition the Commission's Environmental Implementation Review (EIR) will provide a new focus on what type of information and data are needed to best identify the "distance-to-target" and gain a better understanding of implementation challenges from a cross-cutting perspective.

An increasing body of information is being made available by Member States and the Commission on an open access basis. However further efforts are required to ensure that the available information is relevant and realistically accessible to non-technical audiences.

The rapid and ongoing advance in technology has seen active dissemination emerge as the principal route through which citizens' access to environmental information is delivered. A number of major initiatives are working to deepen and refine how environmental information is made available and shared. Information obtained through monitoring and reporting, both as part of mandatory and voluntary data flows, is an important part of the information provided to citizens.

However, while there has been a significant increase in the availability of information, there remain barriers to access for citizens and non-technical audiences. There are ongoing challenges in ensuring that the information being made available is both meaningful (i.e. presented in appropriate terminology and within an appropriate context to aid interpretation) and accessible in practice (i.e. available through easy to navigate portals and accessible using non-specialist software). Ongoing initiatives,

notably INSPIRE¹⁶⁵ and SIIFs¹⁶⁶, should provide appropriate platforms to address these challenges.

Environmental monitoring and reporting is a critical input to the evidence base for decision making. However there are some instances where issues with that evidence base have had a detrimental effect on the ability to draw robust conclusions and hence make defensible decisions.

Information from environmental monitoring and reporting is widely used to support evaluation, impact assessment and decision making more broadly. While there are often issues identified with the sufficiency of the evidence base provided by environmental monitoring and reporting, this does not mean that robust conclusions cannot be drawn and appropriate decisions taken.

However, there have been a number of examples where the evidence base has been deemed insufficient. Deficiencies in Member State reports can limit the available sample, creating potential biases in the analysis (particularly regarding effectiveness) and hence open up any decisions made based on these analyses to challenge. Information on costs (and benefits) is often lacking, limiting the extent to which aspects of efficiency can be examined.

Table 14. Summary of evaluation findings of the effectiveness of reporting in delivering its objectives

| Objectives of monitoring and reporting | Evaluation findings |
|---|---|
| A. To demonstrate compliance with a legal obligation. | This is the most important objective, which is widely satisfied by the current arrangements. However, it is common for there to be deficiencies in the completeness, quality and timeliness of Member State reports, which can affect the ability to determine compliance. |
| B. To determine if the objectives of legislation are being achieved effectively and efficiently, including, where appropriate, ensuring a level playing field of the internal market. | Deficiencies in reporting can introduce bias to analyses that undermine conclusions on efficiency; a lack of information on costs often prohibits analyses of efficiency. As such, additional data collection efforts are typically required to satisfactorily address these objectives. |
| C. To inform the other EU institutions as well as the public and stakeholders at EU level on the progress of implementation and the identification of gaps. | A broad range of information is made available to stakeholder groups. Open access data policies and improvements in presentation and sharing of information are enhancing access for all stakeholder groups. Further improvements can be made, notably for citizens, whose requirements typically differ from those of technical or policy audiences. |
| D. To help inform the understanding of an environmental issue and so help to improve decision making, e.g. policy evaluations or impact assessments. | Reporting provides an important input to the evidence base to support decision making and informs evaluations and impact assessments. However there are instances where the completeness/quality of reported information has been insufficient to draw robust |

¹⁶⁵ <http://inspire.ec.europa.eu/>

¹⁶⁶ A concept introduced in COM(2012)95

| Objectives of monitoring and reporting | Evaluation findings |
|--|--|
| | conclusions and hence make evidence-based decisions. |
| E. To identify and spread good practices amongst Member States | Member State reports provide information that can be useful for identifying and sharing best practices. However this information typically requires further assimilation and interpretation in order draw this out, through bespoke processes set up to identify and share best practices. |

9.1.3 Efficiency

The overall costs of monitoring and reporting are moderate and proportionate to the benefits, but some stakeholders express concerns about disproportionate costs for certain ROs

In overall terms, the costs of monitoring and reporting as required by EU legislation are moderate, and represent a small proportion of the costs and benefits of environmental legislation in total. Reporting plays an important role in the implementation of EU environmental legislation and delivers significant benefits. In general, the costs of monitoring and reporting appear to be proportionate to the benefits achieved. However, some Member States and stakeholders express concern about disproportionate costs, and negative perceptions about the efficiency of the current arrangements are particularly prevalent where data providers are unclear of the purpose and benefits of reporting. This suggests a need to communicate more clearly to ensure that those who incur the costs understand the purpose and benefits of reporting.

The efficiency of the current arrangements could be improved further, even after significant gains in recent years

Factors such as the frequency of reporting, the processes employed, and particularly the numbers of organisations required to provide data all affect the costs of reporting. Overall, experience suggests that the factors affecting the efficiency of reporting are increasingly understood, and that refinements in reporting systems and processes have led to some improvements in efficiency in recent years. However, some deficiencies in reporting processes and practices remain (e.g. incomplete uptake of e-reporting by Member States, changes in reporting formats and processes over time, inadequate guidance), such that there is scope for further gains in efficiency. In particular, reporting obligations need to be examined through a bottom-up approach that is undertaken in a way that ensures consistency with a strategic vision of what constitutes best practice.

Enhanced systems and processes are increasing efficiency at Member State level

There are wide variations in reporting systems and practices between Member States, with variations, for example, in the uptake of electronic reporting practices. Recent years have seen investment in new electronic formats and information systems, often requiring significant investment but greatly speeding up reporting processes, while also promoting data sharing and enhancing public access to environmental information. It is clear that there is scope for examples of good practice to be replicated and scaled-up across the EU, and that there are ongoing developments of systems and processes both at MS and EU level which are enhancing efficiency over time.

There is scope for further improvements in the efficiency of processes, particularly through further use of IT and involvement of EEA

Changes to the reporting processes which affect the Standard Cost Model parameters – especially the number of entities, the frequency of reporting, and the time taken to report – hold the potential to reduce costs. The key challenge is ensuring that any changes do not undermine the usefulness of the information and the ability to satisfy the reporting obligation objectives. Efficiency improvements can be made to reporting processes through better use of technology – an area where an overwhelming number of public consultation respondents felt there is currently room for improvement in environmental reporting as a whole – although this may require investment in new equipment, processes and capacity-building. Other factors – such as arrangements for service provision, the guidance and templates issued, and the languages used – also affect the efficiency of the process. Evidence suggests that such process improvements are seen as offering greater opportunity to reduce burdens than are reductions in the reporting obligations themselves. However, given the investments of time involved to develop efficient reporting systems, it is also important that, once they have been developed, they remain stable over time. Achieving efficiency in the reporting process requires an appropriate balance to be struck between seeking process improvements, and avoiding unnecessary and disruptive changes to the system.

Harmonising the timing of reporting could reduce costs, but potential effects on benefits would also need to be considered

There are significant differences in the timing of reporting under EU environmental legislation. There are good reasons for many of these differences, as differences in the purpose and content of different reporting obligations mean that variations in reporting timetables are appropriate. However, it is difficult to find a logical explanation for the very wide range of reporting cycles that are currently in place. Reducing the frequency of reporting offers potential to reduce costs and administrative burdens, and there are examples where alignment of reporting obligations in related policy areas could achieve this. However, reducing frequency also brings risks that the benefits of timely information provision will be lost. Therefore the potential to enhance efficiency by streamlining the timing of reporting needs to be examined carefully on a case by case basis, taking account of the frequency needed to ensure that reporting is fit for purpose and delivers the benefits envisaged.

Active dissemination can increase the efficiency of monitoring and reporting, but more by increasing benefits than reducing costs

Active dissemination has potential for replacing traditional reporting obligations to the Commission, with significant co-benefits, helping to enhance public access to the reported information as well as the timeliness of information dissemination. Because the existing obligations associated with the specification, collection, processing, quality checking and transmission of data would still need to be fulfilled, it is arguable whether active dissemination offers significant potential to reduce administrative burdens. However, the perceived burden of reporting could potentially be reduced, since reporting would be fulfilled through a shared exercise in information dissemination, rather than merely an obligation for MS to report at EU level.

The reporting system is complex and diverse, and there is great scope for simplification

The research and consultations highlight the overall complexity and diversity of the current environmental monitoring and reporting arrangements, with great variations in numbers and types of reporting obligations, types and specification of data required, frequency of reporting, reporting formats and processes. While reporting requirements will inevitably vary in line with differences in legislation, there would appear to be scope for simplification and harmonisation, perhaps within some form of

common framework. For example, where similar types of reporting obligations (e.g. implementation reports, reporting of administrative details, reporting of derogations and exemptions, reporting on the state of the environment etc.) can be identified, there may be potential to work towards common approaches for each. The starting point would be some form of typology of reporting obligations that worked across the environmental acquis. Such an approach might help to inform future developments, such as the greater use of active dissemination as well as attempts to improve coherence between reporting obligations.

9.1.4 Coherence

There are instances of overlaps of reporting across the environmental acquis. Improvements in data sharing should provide increasing opportunities to remove and avoid these overlaps.

There are a range of overlaps between different reporting requirements associated with the EU environmental law, and numerous examples are cited by stakeholders of data being reported on multiple occasions for different uses, often using rather different definitions and specifications.

There are ongoing initiatives (e.g. INSPIRE) providing avenues for streamlining reporting requirements, standardising definitions, codes and nomenclatures which will support efforts to reduce and avoid multiple reporting.

There is a lack of evidence on whether information is reported (including to other parts of the Commission) but then full use not made of it. Improvements in data sharing should provide increasing opportunities to identify and capitalise on opportunities that do exist.

There are a number of examples where data sharing across EU level organisations is occurring, but little evidence of data being reported but then full use not made of it at EU level. Two examples were identified where difficulties in accessing data prevents full use being made of that data. However there may be many other instances where full use is not being made of data because potential secondary users do not know that it is collected or available. Improvements in data sharing – both between Member States and between EU organisations – should open up opportunities to explore and gain greater access to a wider pool of data and hence increase the use of data being collected across the EU.

There are many good examples of coherence between EU and international reporting; however there remain a number of areas of potential incoherence

There are examples of both coherence and incoherence between EU and international reporting obligations. Examples of coherence seem to occur where the EU legislation has additional requirements beyond those of the multi-lateral agreement and hence seeks additional reporting obligations associated with these. Incoherence may occur due a number of reasons, including differences in timing, indicators, assessment methods, and formats.

9.1.5 EU Added Value

EU level reporting delivers clear benefits that could not be achieved through reporting at MS level alone

Action at EU level is needed to ensure that consistent, timely and quality checked data are provided. This is necessary to meet the objectives of allowing for an assessment of whether EU legal obligations are being met, and indicating how well the legislation is working at EU level. EU level intervention is not essential to inform stakeholders and the public about the state of the environment and actions to improve it, but there are added benefits of providing access to environmental information which is consistent and comparable across EU Member States.

Alternative approaches – such as active dissemination and data harvesting – offer the potential to meet the objectives of reporting in future, if certain conditions are met

While information could be made available in other ways, such as through active dissemination, accompanied by data harvesting at EU level, co-ordinating actions are required at EU level to ensure that the data provided are consistent and fit for purpose. It is likely that, if current obligations were repealed, much information would still be available about the state of the environment and the actions being taken to improve it, but that this would not provide sufficiently robust information about the state of implementation of the EU environmental acquis or the compliance with current legal obligations. The latter would depend on a continuing legal requirement to provide the information needed, as well as common arrangements and standards for data specification, quality checking and presentation.

9.2 Overall observations on the fitness for purpose of the current arrangements

The overall performance of the EU environmental monitoring and reporting arrangements can be examined with reference to the principles identified in Section 2.2.3, as defined in the Better Regulation Guidelines.

Table 15. Performance of environmental monitoring and reporting relative to the Better Regulation monitoring principles

| Principles | Findings of the evaluation |
|---------------------------------|---|
| Comprehensiveness / sufficiency | Section 5 (effectiveness) found that, in general, reporting obligations are sufficiently complete to cover the information required by policy-makers, stakeholders and the public. However, gaps in the data reported by Member States are apparent in some areas, weakening the evidence base and reducing the effectiveness of reporting. Streamlining the system to focus most on what matters, and increasing the use of KPIs (Section 4) could help to enhance the completeness of the evidence base. In this sense aiming for “comprehensiveness” is not necessarily appropriate if it risks weakening the focus on the most policy critical information. |
| Proportionality | Section 6 (efficiency) concluded that the costs of the monitoring and reporting arrangements are generally proportionate to their benefits. However, some Member States and stakeholders express concern about disproportionate costs, and negative perceptions about the efficiency of the system are particularly prevalent where data providers are unclear of the purpose and benefits of reporting. This suggests a need to communicate more clearly to ensure that those who incur the costs understand the purpose and benefits of reporting, as well as looking at opportunities to increase the (co-)benefits of monitoring and reporting at the local/regional level. |
| Minimisation of overlap | Stakeholders responding to the public consultation rated the principle that information should be collected once and used many times as of highest importance. Section 7 (coherence) found some instances where there are overlaps between reporting obligations, within EU legislation and between EU legislation and multi-lateral agreements, suggesting that there is potential to improve the coherence of the system. Improvements in data sharing infrastructure will support efforts to remove and avoid overlaps, and increase opportunities for multiple use of |

| Principles | Findings of the evaluation |
|---------------|---|
| | information in the future; although it is not clear that this has yet had much impact. |
| Timeliness | Section 5 (effectiveness) highlighted significant concerns about the timeliness of reported information, which appears to be a significant factor limiting the effectiveness of reporting in some areas. There are wide variations in timeliness – with reporting under the Bathing Water Directive widely cited as an example of good practice. Timeliness is not only affected by delays and other hindrances in the reporting process for a given obligation. It is also affected by incoherence in the reporting cycles between legislation i.e. where data reported under one piece of legislation is also required for use by another, but the assessment point for each are not aligned. |
| Accessibility | EU reporting plays an important role in enhancing public access to environmental information (Section 5). However, there is potential to improve the accessibility of information further, and enhanced use of IT, enabling active dissemination of environmental information, is resulting in significant progress in this area. Further efforts to improve the presentation of information, its structure and routes of access e.g. with wider development of SIIFs, will help to increase the benefits of improved access, particularly for the general public. |

Overall, this suggests that the current arrangements perform quite well relative to some principles (comprehensiveness, proportionality, accessibility) but that there is room for improvement in others (e.g. quality, timeliness, overlap and consistency issues) for some areas of legislation.

Ongoing developments – in life-cycle stages of legislation implementation, policy contexts and needs, scientific knowledge and technology – mean that the specific requirements for reporting under individual areas of legislation are constantly evolving and require ongoing maintenance to ensure that they continue to deliver upon their objectives and conform to the above principles.

9.3 Recent trends and possible future directions

The analysis indicates that the EU environmental monitoring and reporting arrangements are evolving rapidly, both through policy changes and advances in reporting processes and practices.

There is a significant landscape of European environmental legislation. Built up over the years to address specific environmental issues and integrate the environment into broader areas of policy, the environmental *acquis* is at a level of maturity at which the focus is now on enhancing the legislation that is in place – ensuring that it is performing as it should and remains relevant to changing contexts.

In this regard, the Commission's programme of better regulation has introduced the Regulatory Fitness and Performance (REFIT) programme which aims at making sure that EU laws deliver their intended benefits for citizens, businesses and society while removing red tape, lowering costs and making EU laws simpler and easier to understand.

A number of major initiatives have been completed or are underway and have provided for enhancements to be made to the environmental monitoring and reporting arrangements. Examples include:

- On waste legislation, a new Circular Economy Package has been proposed by the Commission, which contains proposals to simplify reporting obligations.

This includes repealing obligations to prepare tri-annual implementation reports and focusing instead on statistical reporting of outcomes;

- The E-PRTR REFIT is exploring options to enhance the effectiveness and efficiency of reporting, and its coherence with reporting under the IED and other legislation.
- The INSPIRE REFIT concluded that enhanced application of INSPIRE can facilitate environmental reporting and active dissemination. At the same time, the reporting under the INSPIRE Directive was assessed as being in need for simplification.

Furthermore, recent years have seen simplification and harmonisation of reporting under other areas of legislation, such as for water, nature and industrial emissions.

At the process level, the use of information technology has widely improved reporting processes, bringing time savings and efficiencies and helping to enhance the accessibility of the reported information. This has often required substantial investments at the EU and MS levels. Most fundamentally, the advent of e-reporting has provided for substantial improvements in efficiency and also, in many instances, quality. An important development was the EEA's Reportnet facility – although it is notable that despite it being 15 years since its launch, its use is not yet universal across Member States.

Technological developments have continued to provide opportunities to move the process of reporting forward onto ever more sophisticated systems which present both potential benefits and challenges. These are linked with wider trends in data and knowledge management, which are providing for greater access, sharing and interoperability of information and systems.

SEIS was launched in 2008, which aims to enhance knowledge by “modernising and simplifying the collection, exchange and use of the data and information required for the design and implementation of environmental policy”. In 2012, the SIIF concept was formally adopted¹⁶⁷. A SIIF is closely related to the concept of SEIS, but with a specific focus on specific legal text and on information at Member State level.

Together with INSPIRE, action in these areas are opening up possibilities for new ways of reporting, such as data harvesting, and supporting greater public access to information. For example, the development of SIIFs has enabled active dissemination to emerge as an alternative to EU reporting under the Urban Wastewater Treatment Directive.

These developments present major opportunities and, given the macro-level trends of the information age, this is clearly the direction that information exchanges for environmental reporting will be heading. However, there remain notable challenges to be overcome and not insubstantial investment costs. The pace of system evolution must be such that ongoing technological developments serve the needs of the system rather than drive or overshadow them. It must also ensure that late adopter Member States are supported to avoid a gulf in reporting capabilities opening up, which may undermine or prohibit the realisation of the benefits on offer.

Examples suggest that the active dissemination of environmental information by Member States, accompanied by data harvesting at EU level, could meet many of the objectives of reporting in future. However, there are critical challenges to ensure that what is in principle an action designed to provide information to multiple stakeholders can serve the specific needs of environmental monitoring and reporting – for example, it must guarantee that the harvested information is suitable for use in legal proceedings.

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The analysis suggests that there is room for improvement in a number of areas of reporting. Ensuring that the reporting system evolves to maximise its usefulness requires ongoing action at two levels. Firstly, it requires continuation of the Commission's REFIT programme, to provide a continuous evaluative cycle of maintaining the fitness for purpose of the reporting requirements of specific legislation. Secondly, it requires further implementation and development of cross-cutting data management and open access initiatives that will support the next evolutionary shift in reporting approaches and provide for a step-change in the realisation of the benefits of reporting.

9.4 Emerging options for improving environmental monitoring and reporting

Possible changes to the arrangements for monitoring and reporting could address a series of issues and opportunities, as follows (Table 16).

Table 16. Areas of potential for further change

| Issue/ opportunity area | Action | Potential benefits/ cost savings |
|---|---|---|
| Key performance indicators | Examination of the potential for a more structured approach to KPIs in accordance with Better Regulation Guidelines. Would require a change in focus to reporting more on results rather than implementation. | Potential to save costs through more streamlined, focused reporting, and enhance benefits through better clarity, more structured assessment of policy performance and greater focus on what matters most. |
| Improved support for delivering existing data flows | More user-friendly formats and interfaces, and improved clarity and completeness of technical guidance (including translation of guidance and/or access to support for clarifications) that not only explains the requirements but also the purpose. | More consistent interpretation of requirements and increased willingness to deliver as the relevance is clear. Provides for the delivery of more comprehensive, comparable and better quality information. |
| Harmonisation of processes | Harmonisation of processes towards a corporate business process building on EEA approach. This could include, for example, harmonisation of organisational arrangements, reporting formats, briefings and guidance, quality management protocols etc. | Overall simplification of system, greater certainty for data providers, benefits from sharing of good practice. |
| Timing | Examination of potential to harmonise frequency of reporting, by reducing frequency in some areas aligning reporting in related areas of legislation. May require amendment of legislation. | Potential cost reductions, although loss of benefits must be considered if frequency is reduced. Alignment may create peak periods in work effort and demands on resources, which may present challenges for timely delivery against deadlines. |

| Issue/ opportunity area | Action | Potential benefits/ cost savings |
|--|---|--|
| | | Overall potential to move towards a simpler and more harmonised system overall. |
| Information sharing and systems interoperability | Wider development and application of common frameworks i.e. building on INSPIRE, SEIS and SIIFs, which promote integrated reporting and interoperable data management systems and support greater active dissemination. | Benefits from enhancing public access to information while meeting EU reporting requirements. Potential for long-term efficiency savings from streamlined and automated reporting. Benefits of real-time data access (where relevant) will provide for more responsive policy action. Access to larger underlying data sets will provide for more in-depth and fine-grain analyses. |
| Coherence | Explore potential to address identified issues of coherence of reporting across the acquis, in relation to coherence between items of environmental legislation, with reporting in other EU policy areas and with international agreements. A number of issues are identified in Table 17 below, and require a case by case assessment. Greater use of interoperable reporting systems could support improved data sharing and hence coherence. | Potential to reduce administrative burdens where similar data need to be reported more than once. Potential to increase the value of reported data by supporting multi-use of data, particularly between environment and other policy areas. |
| Simplification | Consideration of the potential to define a common typology/ framework for reporting, to highlight commonalities and differences and inform further harmonisation. Possible link with KPIs. | Potential benefit in enhancing transparency, informing future actions and reducing complexity over time, as well as helping to increase the focus on what matters most. |
| Regulatory review | The ongoing process of reviewing the stock of environmental legislation – e.g. through REFITs – offers specific opportunities to examining the ongoing relevance, coherence, effectiveness and efficiency of reporting arrangements in each area. | Potential to ensure that the reporting system remains relevant and up-to-date, and responds to changing needs and opportunities. |

9.5 Information gaps and further research needs

The analysis demonstrates that the EU arrangements for monitoring and reporting are highly complex and that assessing their performance, and identifying opportunities for them to work better, is far from straightforward. Stakeholders offer a range of often conflicting views about what is working well, what is working less well, and what needs to change. This report draws overall conclusions about the relevance, effectiveness, efficiency, coherence and EU added value of the current arrangements, and identifies some general directions for change as well as numerous suggestions about possible improvements in specific areas.

Given the complexity of the system and the range of views expressed, some of the conclusions are somewhat tentative, and would benefit from further research and analysis.

Particular areas that would benefit from further research include:

- **Further analysis of identified issues with respect to specific items of legislation.** Stakeholders have flagged up a range of issues and concerns relating to different items of legislation (Table 17), identifying a possible need for change. Most of these issues are not straightforward – there are often conflicting views between different stakeholders about the need for change, or barriers that make it difficult to achieve in practice. Further research would therefore be helpful in many cases to examine the validity of the views expressed, and the advantages, disadvantages, opportunities and constraints for effecting change.
- **More detailed analysis of coherence issues.** Many of the issues highlighted relate to the coherence between different environmental reporting obligations, with reporting in other EU policy areas, and with reporting under international agreements. More detailed assessment is needed in most cases to examine how coherence could be improved, and the practicalities of achieving this.
- **More detailed analysis of timing issues.** The report notes that reductions in administrative burden could be made through harmonisation of the timing of reporting in some areas, particularly in areas such as the water legislation, where reporting takes place more frequently for some legislation (e.g. Urban Wastewater Treatment and Nitrates Directives) than others (Water Framework Directive). However, reducing the frequency of reporting also risks the loss of benefits through less timely data. It is not always clear whether differences in timing result from historical anomalies or a sound rationale. Analysis of the advantages and disadvantages of alternative reporting cycles would be helpful, to understand the case for and against harmonisation.
- **Analysis of the role of key performance indicators.** Building on the analysis in this report, a more detailed assessment could help to identify whether and how KPIs could contribute to reporting in particular areas of the environmental acquis. A common framework could be defined, identifying relevant output, result and impact indicators and assessing the potential to apply this in different areas of environmental legislation, and examining the feasibility of such an approach and its adequacy in meeting the objectives of the reporting system.
- **Analysis of the potential for simplification.** Consideration of the potential to define a common typology/ framework for reporting, to highlight commonalities and differences and inform further harmonisation. This links closely with the idea of key performance indicators above, but would not necessarily include KPIs and could be based on the common elements within the existing system. For example, where similar types of reporting obligations (e.g. implementation reports, reporting of administrative details, reporting of

derogations and exemptions, reporting on the state of the environment etc.) can be identified, there may be potential to work towards common approaches for each. The starting point would be some form of typology of reporting obligations that worked across the environmental acquis.

- **Analysis of opportunities for process harmonisation.** There would be merit in examining the potential for further harmonisation of reporting processes towards a corporate business process, building on the EEA approach. This could include, for example, examination of the potential for further harmonisation of organisational arrangements, reporting formats, briefings and guidance, quality management protocols and other aspects of the reporting system.
- **Research into the role of citizen science.** Analysis of the feasibility of citizen science to contribute to, or complement, the existing monitoring and reporting system, including definition of the types of indicator that could be included, as well as the practicalities of combining citizen science with the current reporting process.

9.6 Summary of issues by legislation

Table 17 below identifies the items of legislation that the evidence sources used in the evaluation indicate as being potential candidates for further investigation for improved monitoring and reporting.

It should be noted that the analysis presents a broad summary, distilling the large amount of information in the report and the different annexes. The purpose is to identify whether issues have been identified for a particular Regulation or a Directive, and the analysis is not provided at the level of individual reporting obligations. It is therefore possible that, for legislation with a number of reporting obligations, even if most of them do not give rise to concern, the presence of one may flag the Regulation or Directive for possible attention.

The analysis focuses on the sources of information, but ultimately all of the issues identified relate to the five evaluation criteria of effectiveness, efficiency, relevance, coherence and EU added value. For example, studies and stakeholder consultations may raise questions of whether the information is still policy relevant, efficiently collected and processed, effectively used, and coherent with other reporting activities.

It should be noted that the summaries reflect the extent of commentary on each item of legislation among stakeholders – they do not say anything about the balance of costs and benefits and do not imply that change is necessarily required. Items of legislation with more extensive reporting obligations and higher costs were more likely to capture the attention of stakeholders, because of challenges with regard to effectiveness, efficiency and coherence, even if they provide useful information and examples of good practice in reporting.

The following sections set out the methodology for summarising and scoring the issues raised.

9.6.1 Inventory of Reporting Obligations

Evidence from the inventory has been used to flag individual reporting obligations for further attention. Where an item of legislation has one or more such reporting obligations, it is flagged for further attention. The scoring focuses on:

- **Timing** – where there is a significant delay in production of a Commission report – regardless of whether the reason is a delay in Member State submission of information, delay in Commission analysis, or the complexity of the analysis required – we have taken this as a *prima facie* indicator of potential for

improvement. In order to assess the significance of the delay, we have taken into account the frequency of reporting, on the assumption that longer frequencies may explain or justify slightly longer delays, while more frequent reporting presumably requires greater urgency of analysis. (Where the delay divided by (1+ the log of the frequency of reporting) is greater than 500 days, we have flagged the RO for attention).

- The Commission opinion on usefulness has also been used. Where either the Member State reports, or a Commission report based on them is regarded as of "Low" value, we have flagged the reporting obligation for further attention, except where either is regarded as of "High" value; thus if the Member State reporting is regarded as of Low value, but the Commission summary report is regarded as of High value, the reporting obligation is not identified for further attention.

Directives are therefore flagged, based on the evidence on timing and perceived usefulness, as being a candidate for further analysis.

The scoring is represented in Table 17 as follows:

- Legislation flagged for both timing and perceived usefulness: ✓✓
- Legislation flagged for either timing or perceived usefulness: ✓

9.6.2 Scale of cost burden

Evidence from the fiches regarding the costs to the Member States has been used to flag items of legislation which have larger cost burdens. Those estimated in Table 8 as having either 'large' or 'fairly large' costs have been identified. The scoring is represented in Table 17 as follows:

- "Large" cost burden: ✓✓
- "Fairly large" cost burden: ✓

9.6.3 Evidence from the public consultation, the stakeholder workshops and other study consultations and feedback

Evidence provided from the Environmental Monitoring and Reporting public consultation (including position statements and supporting evidence provided), the supporting workshops, other consultation exercises undertaken and any other written feedback-received during the course of the study has been considered. Other evidence sources include other available research, Make it Work workshops/papers, and analysis conducted during the support study.

The scoring is represented in Table 17 as follows:

- Multiple responses have identified possible issues with reporting: ✓✓
- Single response / stakeholder has identified possible issues with reporting: ✓

9.6.4 Evidence from past or ongoing evaluation or other studies

Evidence from ongoing or recent evaluations (including under REFIT) and related studies has been used to indicate potential candidates for further investigation. The scoring is represented in Table 17 as follows:

- Clear evidence of issue to be addressed: ✓✓
- Some evidence of issue to be addressed: ✓

9.6.5 Good practice examples

The table also records those items of legislation for which one or more examples of good practice are identified in the report. These are marked with a 'Yes' in the table.

Table 17. Assessment for each item of legislation

| No. | Title of legislation | Evidence from the inventory | Scale of estimated cost burden | Evidence from public and stakeholder consultations | Evidence from past or ongoing REFIT, evaluations, etc. | Good practice examples identified? | Main issues |
|-----|---|-----------------------------|--------------------------------|--|--|------------------------------------|---|
| 1 | Ambient Air Quality Directive (AAQD) | | ✓ | ✓ | | Yes | Opportunities to better use data across related legislation. Good practice examples identified (e.g. harvesting, data access, indicators). |
| 2 | Ambient Air Quality Directive (As, Cd, Hg, Ni, PAH) | | ✓ | ✓ | | Yes | As 1. |
| 3 | Environmental Noise Directive (END) | ✓ | ✓ | ✓✓ | ✓✓ | | Data incomplete due to delayed implementation, sequence of reporting (i.e. maps versus action plans not ideal as too short) , data quality sometimes poor |
| 4 | Water Framework Directive (WFD) | ✓ | ✓ | ✓✓ | | Yes | Issues of coherence (with MSFD, nature Directives, international obligations); stakeholder complaints about high burdens; delays between MS and EC reporting; numerous good practice examples |
| 5 | Environmental Quality Standards Directive (EQS) | | | | ✓ | | Coherence issues (E-PRTR) |
| 6 | Floods Directive (FD) | | | | | Yes | |
| 7 | Marine Strategy Framework Directive (MSFD) | | ✓ | ✓✓ | ✓ | Yes | Coherence between MSFD, WFD and the Nature Directives could be improved: improved synchronisation (timing of reporting); and harmonisation of information (e.g. area/scale, indicators) |

| No. | Title of legislation | Evidence from the inventory | Scale of estimated cost burden | Evidence from public and stakeholder consultations | Evidence from past or ongoing REFIT, evaluations, etc. | Good practice examples identified? | Main issues |
|-----|---|-----------------------------|--------------------------------|--|--|------------------------------------|---|
| 8 | Drinking Water Directive (DWD) | ✓ | ✓ | ✓ | ✓✓ | | Issues of timeliness, frequency of reporting, data quality and completeness |
| 9 | Bathing Water Directive (BWD) | | | ✓ | | Yes | Good practice cited in timeliness, use of KPIs, guidance; some stakeholders question value of EU level reporting |
| 10 | Habitats Directive (HD) | | ✓ | ✓✓ | ✓ | Yes | Data quality issues, despite improvements; coherence with WFD, MSFD and international agreements; various examples of good practice |
| 11 | Birds Directive (BD) | ✓ | ✓ | ✓✓ | ✓ | Yes | Data quality issues, despite improvements; coherence with WFD, MSFD and international agreements; various examples of good practice |
| 12 | Invasive Alien Species Regulation (IAS) | | | | | | |
| 13 | European Pollutant Release and Transfer Register (E-PRTR) | ✓ | ✓ | ✓✓ | ✓✓ | Yes | Coherence issues (EQS, waste legislation, IED, UWWTD); delays in EC reporting; data quality issues; various examples of good practice |
| 14 | Industrial Emissions Directive (IED) | | ✓ | ✓✓ | ✓ | | Coherence issues (E-PRTR) |
| 15 | Sulphur Directive (SD) | | | | | Yes | Good practice example – new information system used for reporting |

| No. | Title of legislation | Evidence from the inventory | Scale of estimated cost burden | Evidence from public and stakeholder consultations | Evidence from past or ongoing REFIT, evaluations, etc. | Good practice examples identified? | Main issues |
|-----|---|-----------------------------|--------------------------------|--|--|------------------------------------|---|
| 16 | National Emission Ceilings Directive (NEC) | | ✓ | ✓ | | | Data quality, usefulness, coherence issues |
| 17 | Urban Wastewater Treatment Directive (UWWTD) | ✓ | ✓ | ✓ | ✓ | Yes | Issues with coherence (WFD, E-PRTR), frequency of reporting, usefulness; good practice (SIIFs) |
| 18 | Nitrates Directive (ND) | | ✓ | ✓ | | | Frequency and timing of reporting could be investigated |
| 19 | EMAS Regulation | | ✓ | | | | |
| 20 | Landfill Directive | ✓✓ | ✓ | ✓ | | | Delays, data quality and usefulness questioned |
| 21 | Mining Waste Directive | ✓ | ✓ | | | | RO21.1 considered to be of low usefulness |
| 22 | Volatile Organic Compound Directive (VOC Stage 1) | ✓ | | | | | Implementation reporting considered to be of low usefulness, but obsolete in practice |
| 23 | Volatile Organic Compound Directive (VOC Stage 2) | | | | | | |
| 24 | Seveso III Directive | | | ✓✓ | | | Some issues of coherence identified with Aarhus Convention, Helsinki Convention, JRC; some stakeholders unclear of purpose of reporting |
| 25 | Shale Gas Recommendation | | | | | | |

| No. | Title of legislation | Evidence from the inventory | Scale of estimated cost burden | Evidence from public and stakeholder consultations | Evidence from past or ongoing REFIT, evaluations, etc. | Good practice examples identified? | Main issues |
|-----|--------------------------------------|-----------------------------|--------------------------------|--|--|------------------------------------|---|
| 26 | Sewage Sludge Directive | ✓ | | ✓ | | | Questions of usefulness, double reporting, frequency of reporting, lack of quantitative indicators |
| 27 | Waste Framework Directive (WFD) | ✓ | ✓ | ✓✓ | ✓✓ | | Coherence/consistency of statistics, definitions cross waste legislation and with the Waste Statistics Regulation |
| 28 | Eco-label Regulation | | | | | | |
| 29 | Waste Shipment Directive | ✓✓ | ✓ | ✓ | | | Issues of coherence with other items of legislation, especially regarding definitions of hazardous waste |
| 30 | Batteries Directive | ✓ | ✓ | | | | Information under RO 31.1 considered of low usefulness |
| 31 | Packaging Waste Directive | ✓✓ | ✓✓ | | | | Issues of reported low usefulness, time delays in Commission reporting |
| 32 | PCB Directive | ✓ | | | ✓ | | Low usefulness, inadequacies in data provided. However, no further reporting is required. |
| 33 | End-of life Vehicles Directive (ELV) | ✓ | ✓ | | | | Low usefulness |
| 34 | WEEE Directive | ✓ | ✓✓ | ✓ | | | Definitional issues, coherence issues, and limited usefulness of reporting |
| 35 | RoHS Directive | ✓ | | | | | Limited usefulness of reported information |

| No. | Title of legislation | Evidence from the inventory | Scale of estimated cost burden | Evidence from public and stakeholder consultations | Evidence from past or ongoing REFIT, evaluations, etc. | Good practice examples identified? | Main issues |
|-----|----------------------|-----------------------------|--------------------------------|--|--|------------------------------------|---|
| 36 | Mercury Regulation | | | ✓ | | | Possible coherence issues with other policy areas |
| 37 | Paints Directive | ✓ | | | | | Commission experts indicated that the obligation to report on implementation has become obsolete in practice |
| 38 | POPs Regulation | | | ✓ | | | Possible coherence issues with other policy areas |
| 39 | REACH Regulation | ✓ | ✓ | | | | Indicator selection could be improved in order to enhance assessment of effectiveness |
| 40 | CLP Regulation | | | | | | |
| 41 | PIC Regulation | | | | | | |
| 42 | ELD Directive | ✓ | | | ✓✓ | | The nature & extent of information provided by MS is highly diverse, which impedes analysis and interpretation. No further reporting is, however, required. |
| 43 | EIA Directive | | | | | | |
| 44 | SEA Directive | | | ✓ | | | BirdLife argues that there is limited checking of compliance and implementation; quantitative indicators would help |
| 45 | INSPIRE Directive | ✓ | ✓ | ✓✓ | ✓✓ | | There are potential issues regarding degree of specificity and focus of the obligations |

| No. | Title of legislation | Evidence from the inventory | Scale of estimated cost burden | Evidence from public and stakeholder consultations | Evidence from past or ongoing REFIT, evaluations, etc. | Good practice examples identified? | Main issues |
|-----|--|-----------------------------|--------------------------------|--|--|------------------------------------|---|
| | | | | | | | and potential overlaps with information provided elsewhere |
| 46 | Access to Information Directive (A2I) | ✓ | | | | | Limited usefulness of MS and Commission reports. However, no further reporting is required. |
| 47 | CITES Regulation | | ✓ | | | | |
| 48 | Whale imports | | | | | | No further reporting is required |
| 49 | Seal pups Directive | | | | | | No further reporting is required |
| 50 | ABS Regulation | | | | | | |
| 51 | FLEGT Regulation | | ✓ | | | | |
| 52 | Timber Regulation | | ✓ | | | | |
| 53 | Ship Recycling Regulation | | | | | | |
| 54 | Medium Combustion Plants Directive (MCP) | | | | | | |
| 55 | Seals Products Directive | | | | | | |
| 56 | Asbestos Directive | ✓ | | | | | Information considered to be of low usefulness |
| 57 | EEA Regulation | | | | | | |
| 58 | Animal Testing Directive | | ✓ | | | | |

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