IMPROVING MEASUREMENT TO MANAGE THROUGH THE 7TH EAP: THE ROLE OF INDICATORS AND ACCOUNTING

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Authors
Leonardo Mazza
Patrick ten Brink

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Institute for European Environmental Policy
London Office
15 Queen Anne's Gate
London, SW1H 9BU
Tel: +44 (0) 20 7799 2244
Fax: +44 (0) 20 7799 2600

Brussels Office
Quai au Foin, 55/Hooikaai 55
B- 1000 Brussels
Tel: +32 (0) 2738 7482
Fax: +32 (0) 2732 4004

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Key Messages

The 7th EAP can be a major catalyst in improving the availability and use of indicators and accounts and ensuring that opportunities for integrating the wider evidence base into policy-making, implementation and evaluation are realised. This would support the Europe 2020 Strategy and the transition towards a resource efficient, green economy.

- The 7th EAP could specify more concrete steps to develop **indicators, indices, environmental and economic accounts** and efforts to ensure **timely availability of data**.
- The 7th EAP could more explicitly help to ensure the longer term development and use of **natural capital accounting systems** – covering stocks of natural assets and changes to the stocks (including degradation, flow of ecosystem services) - and accounting for the value of natural capital (**ecosystem capital accounts**).
- The 7th EAP could also continue to support application of the newly developed **composite index of environmental pressures** as a valuable tool alongside GDP and social indicators in policy debates.
- The 7th EAP could drive progress in **mainstreaming the use of resource efficiency indicators and their integration in the European Semester process**. These should, inter alia, take into account impacts embedded in imported materials and products.

1 Introduction

There have been growing demands for a more robust and comprehensive evidence base to respond to the multiple challenges facing policy makers. Within the EU an improved evidence base to support policy-making and monitor integration of environmental, social and economic considerations across policy areas would prove invaluable. This is recognised in the European Commission's proposal for a 7th Environment Action Programme (7th EAP) (COM(2012)710) which foresees measures to strengthen the scientific evidence base for environment policy and improve environmental integration as part of a wider effort to improve the enabling framework for EU environmental policy. Arguably, however, the measures announced under the thematic priorities identified in the proposal concerned with the evidence base for environment policy (priority objective 5), securing investment for environment and climate policy and getting the prices right (policy objective 6) and improving of environmental integration and policy coherence (policy objective 7) could link better to recent and on-going developments in the field of measurement and indicator development as well as identify existing gaps and their implications in a more comprehensive way. This paper sets out the context and state of play in the area of "measurement to manage", future needs and the potential role of the 7th EAP.

2 Context

The **Rio+20 Conference** held in June 2012 marked an important milestone. At the conference, fifty-seven countries and the European Commission supported a communiqué that called on governments, the UN system, international financial institutions and other international organisations to strengthen the implementation of natural capital accounting around the world and factor the value of natural assets like clean air and water, forests and other ecosystems into systems of national accounting. This was supported by 86 private companies which committed to collaborate

globally to integrate natural capital considerations in their decision-making processes. Countries also recognised the need for broader measures of progress to complement the dominant indicator of gross domestic product (GDP) to better inform policy decisions. They requested the UN Statistical Commission to launch a programme of work in this area.

The Rio commitments build on other initiatives including the **'Beyond GDP' Initiative** launched in 2007, the report of the **'Stiglitz-Sen-Fitoussi Commission'** and the **OECD's Better Life Initiative.** These initiatives have highlighted the limits of GDP as an indicator of economic and social progress and identified the need for a wider set of indicators to measure progress, true wealth and well-being. **Improved indicators** are also needed to reveal and track the evolution of both long-standing and emerging environmental issues, including resource scarcity, climate change impacts, biodiversity status and pressures. Although some sustainability indicators are taken into account in certain EU policies, they are not yet sufficiently influential and their informative value not fully appreciated by policy-makers and the public (Bassi et al. 2011).

There is also scope for further use of such indicators in policy-making processes, implementation and evaluation. A specific focus of the 7th EAP on "measurement to manage" could take forward work on **indicators, indices, environmental and economic accounts** as well as processes to **integrate the environmental dimension in relevant policy areas** and efforts to ensure more **timely availability of data**. This could reinvigorate the measurement agenda which needs a periodic push to ensure continuous improvement of these key policy tools.

3 Current status

In Europe, recent progress has been made in implementing the Beyond GDP agenda outlined in the 2009 Communication on GDP and Beyond (COM(2009)433). This includes the development of an Environmental Pressure Index, efforts towards achieving "now-casting" and timely spatially explicit available data, as well as the dissemination of information to widen support, encourage progress and mutual learning (see Beyond GDP web page).

Progress was also achieved in the area of environmental-economic accounting. Eurostat has, together with National Statistical offices, been developing 'environmental accounts' for several years. This culminated in the adoption of the **Regulation on European Environmental Economic Accounts** in 2011 (No 691/2011), under which Member States are required to regularly report data and publish accounts on air emissions, environmental related taxes by economic activity and economy-wide material flows from 2012. The aim is to ensure consistent and timely production and dissemination of these accounts rather than introduce entirely new ones at this stage. However, the Regulation does foresee that regular reports on its implementation (to be submitted by 31 December 2013 and every three years thereafter), be accompanied, if appropriate, by proposals for the introduction of additional accounting modules. One of these could for example be the ecosystem capital accounts that the EEA is preparing in a fast-track process (EEA, 2011).

The EU's **Shared Environmental Information System (SEIS) (COM(2008) 46 final**) sets out an approach to streamline the collection, exchange, and use of the data as well as the information required for the design and implementation of environmental policy and associated indicators. The proposed 7th EAP's specific call for the further implementation of the Shared Environmental Information System principle of 'produce once, use often' is welcome.

EU's commitments in the area of measurement have also contributed to spurring progress in these matters at the global level. The EU committed to incorporating biodiversity in national accounting systems with the adoption of the **'Aichi Accord' - CBD Strategic Plan 2011-2020** and to promote integration of these values in accounting and reporting systems with the adoption of its **Biodiversity**

Strategy to 2020 (COM(2011)244 final). The **TEEB initiative,** co-financed by the European Commission, also endorsed strengthening indicators and accounting systems for natural capital and the rapid inclusion of physical accounts for ecosystem stocks, degradation and services (TEEB, 2011). The proposed 7th EAP helpfully reiterates that further efforts are needed to measure the value of our ecosystems and the cost of their depletion.

In 2012, the UN Statistical Commission adopted the **System for Environmental-Economic Accounts (SEEA) Central Framework (SEEA Volume 1)** which provides internationally agreed standards, definitions, classifications, accounting rules and tables for producing internationally comparable statistics on the environment and its relationship with the economy. In addition, some of the sub-systems of the SEEA framework focused on specific resources or sectors have been finalised (water) or will be shortly (energy). Sub-systems on fisheries, land and agriculture are also being prepared. Finally, work on **experimental ecosystem accounts (SEEA Volume 2)** is on-going and expected to be completed in 2013. EU's recent commitments and increasing experience in using such accounting systems may further facilitate their wider adoption, especially if the EU decided to more actively engage in sharing its experience globally, for example by joining the WAVES partnership that was launched in Nagoya in 2010 and aims to promote sustainable development by ensuring that the national accounts used to measure and plan for economic growth include the value of natural resources.

Such information collection and accounting systems are not without costs but are potential building blocks of a new approach; moving beyond a yearly snapshot of GDP growth to a more in-depth appreciation of the interrelationships between the economy, society and the environment. Commitments to integrating the values of biodiversity and ecosystems in national accounts could go even further to present a picture of the stock of natural capital and its depreciation/appreciation.

4 Need for "measurement to manage"

In the area of **natural capital accounting**, governments, private companies and international organisations in Rio identified the need for coordinated action to:

- develop institutional arrangements to strengthen the implementation of natural capital accounting;
- develop science-based methodologies for natural capital accounting to complement GDP and corporate performance measurements; and
- pilot and demonstrate the economic, social and environmental aspects of scaled up and integrated approaches to natural capital accounting

In addition, given recent EU commitments to decouple economic growth from resource use (EC, 2011a), there remains a need for mainstreaming sustainability by applying and integrating environmental and wider sustainability **indicators** in a range of key policy areas at EU level. The Europe 2020 Strategy and related resource efficiency flagship initiative, commitments to a green economy and biodiversity protection each offer rationales and opportunities for progress in this regard.

Analysis of the use of environmental indicators in policy areas that are key for achieving the diverse range of existing environmental objectives shows that there are a number of indicators that focus on state and pressures, while fewer measure impacts and responses. As a result, indicators seem to be used predominantly in the early phases of the policy cycle, e.g. for problem recognition and decisions on policy options, rather than in later phases. There is therefore scope to use indicators further, especially in the later stages of policy development (Bassi et al. 2011).
For example, in the area of **agriculture policy**, the importance of **public goods** aspects (such as carbon storage in soils, water retention, purification and flood control) merits additional efforts to

develop biodiversity and ecosystem service indicators and ensure that wider public goods can be taken into account in decisions, funding allocations, investments, instrument design, implementation, monitoring and evaluation.

In order to implement the EU's commitment in the area of **resource efficiency**, a basket of resource efficiency indicators relating to materials, energy, water, land use and associated targets should be developed, building, *inter alia*, on the material flow accounts (MFA). Eventually indicators for monitoring the EU's resource use and efficiency should factor in resources embedded in products that are imported and exported (indirect flows/ecological rucksack). This would require further research efforts on resource related indicators that better account for impacts embedded in products (JRC, 2010) and more robust lifecycle inventory data.

In addition, **resource availability and stocks** should be systematically monitored and reported. Introducing indicators in sectoral policies will be important for target setting and monitoring resource use by specific sectors and/or products, especially those with the largest environmental impacts (e.g. housing, food and drink, and mobility). It will be critical to assess the level of decoupling of resource impacts from economic growth and implications for future resource availability, prices, impacts and, ultimately, the sustainability of our socio-economic model and practices (Bassi et al, 2011).

Sustainability indicators have an important role to play in monitoring the achievement of the EU's **climate change** targets. In particular, GHG emissions, energy intensity, the share of renewable energy consumption in total final energy consumption as well as embedded carbon in products (e.g. carbon footprint) require policy relevant and adequate measures to be applied at different levels. Indirect impacts of climate policy including land-use and biodiversity should also be taken into account through appropriate measures. In addition, there is an increasing need for indicators to support the mapping of priority areas for climate adaptation (Hjerp et al, 2012). Indicators also have an instrumental role in mainstreaming climate objectives across relevant policy areas (Medarova-Bergstrom et al, 2011).

The development of a coherent and robust system of sustainability indicators to account for both outcomes and results is critical in the context of **Cohesion Policy (CP)**. Indicators should be embedded at the level of policy, programme, project and possible even in the new Partnership Agreements. This will improve understanding of the impacts of operational programmes (OPs) under CP and the development path encouraged by investments, instruments and governance. It would also create a valuable evidence base to support decisions by regional policy makers (e.g. informing investment in infrastructures and encouraging job creation while committing to environmental objectives such as carbon neutrality or no net loss of biodiversity) and help them to appreciate inter-linkages between economic, social and eco-systems (Hjerp et al, 2010).

Recognition of the over-exploitation of **EU fisheries** resources and damage to the marine environment underlines the importance of good indicators to measure stocks, assess the state of marine ecosystems, determine sustainable yields, set targets, monitor progress, measure the performance of the Common Fisheries Policy and the impact of the flow of services to communities.
Finally, cutting across policy areas, the issue of **ecological thresholds and tipping points** is of particular concern, as are issues of resource limits and planetary boundaries. Sustainability indicators have a key role to play as they can inform the proximity of such ecological and resource thresholds and the speed with which we are moving closer to them, allowing for the timely development of adequate policies to prevent crossing thresholds and addressing critical trends. The Commission's proposed 7th EAP rightly identifies the need for advanced research and modelling tools to better understand these complex issues. It suggests that this could involve investment in closing "data and knowledge gaps, mapping and assessing ecosystem services and understanding the role of

biodiversity in underpinning them (…)". In this context, it would be beneficial if the 7th EAP highlights that the purpose of this research would be to underpin the development possible future targets to ensure critical trends are recognised and tipping points and thresholds are not crossed.

5 "Measurement to manage" priorities for the 7th EAP

The Commission's proposed 7th EAP represents a step in the right direction by calling for "further efforts to measure the value of our ecosystems and the cost of their depletion" and recognising the need to step up "work to develop a system of environmental accounts, including physical and monetary accounts for natural capital and ecosystem services". Although it falls short of proposing a clear roadmap outlining concrete steps and milestones for achieving this by 2020, it usefully recognises that implementing this agenda will require "developing and applying alternative indicators that complement and go beyond GDP to monitor how sustainable our progress is and continuing work to integrate economic indicators with environmental and social indicators, including natural capital accounting". With the adoption of the revised SEEA, the Rio commitment to developing sustainable development goals and the commitment to measure progress in ways that better incorporate the environmental and social dimensions at the 4th OECD World Forum on Statistics, Knowledge and Policy, 2012 has seen an unprecedented consensus emerge around the measurement tools and approaches that could form the bedrock for better informed policy-making in the future. The potential of improved evidence to enhance overall governance can't be disregarded in the 7th EAP, which must act as a major catalyst and provide an enabling framework for progress in both the short and long-term as set out below.

6 Supporting indicator development in the short-term

In the short-term (to 2020), the 7th EAP could take forward the development of both "high" level indicators and more policy area specific **indicators and targets for delivering the objectives of the Roadmap for a Resource-efficient Europe**. The Commission's proposed 7th EAP mentions that additional indicators to measure progress towards a resource efficient European economy will be developed but is not concrete about where and how these will need to be used as we get closer to 2020. The 7th EAP could outline measures to institutionalise targets and indicators on resource efficiency by 2013 for key resources (land, water, materials, carbon and nutrients) as well as resource limits. These targets and indicators, especially if integrated in the **European Semester** could help to influence policy integration and monitoring of related efforts as well as enable a discussion on the long-term transition needed by 2050 and essential intermediate milestones, including 2030 targets. This would advance the Europe 2020 Strategy to one of the most developed existing integrated high-level reporting systems.

Sound information on the state of the environment and on the key trends, pressures and drivers for environmental change remains essential for the development of effective environmental policy. The Commission's acknowledgement that the work programme in this area needs to build on on-going efforts to develop a **Shared Environmental Information System (SEIS)** in its proposal for a 7th EAP is welcome.

Robust and timely data and evidence is critical for developing the most environmentally relevant indicators within relatively short time spans. In selecting indicators one needs to consider their potential for generating **short term estimates and now-casts** and their suitability to set targets based on **"environmental sustainability thresholds"**. This is arguably something that the Commission's 7th EAP proposal could make more explicit.

Environmental policy integration (EPI) would be supported by the **biodiversity and climate proofing of EU expenditure**. Reducing pressures on the environment will require that the most environmentally harmful aspects of EU spending be reconsidered and reduced where possible. The

7th EAP, in the process of clarifying tools and procedures for this proofing to be carried out, should also foresee scope for identifying indicators suitable for playing instrumental roles in those proofing processes, linking to the reform of environmentally harmful subsidies (EHS), another potential priority for the 7th EAP (ten Brink et al 2013).

EPI could be further supported through the application of the newly developed **composite index of environmental pressures.** The 7th EAP could support this process, thus ensuring that it is used as originally intended, i.e. alongside GDP and social indicators in policy debates.

7 Support to building the statistical basis for long-term indicator development

Given the long-term perspective of the 7th EAP to 2050, a statistical base to support future policy development, target setting and assessment needs to be further developed. A key priority will be to identify suitable **2030 targets and appropriate measures.** The next decades will be characterised by transition processes in key economic sectors; it will be important that there is a thorough evidence base to make the impacts of policy action on the environment evident. The 7th EAP could also support Member States ambitions for building the statistical basis for **long-term indicator development.**

The 7th EAP should also prepare, in a more concrete way, the ground for supporting and responding to the UN SEEA's more ambitious endeavours, such as the development and inclusion of **ecosystem capital accounts** into national accounting frameworks and increase the EU's role in the WAVES partnership. This could potentially serve as a basis for the development of ecosystem services indicators that would allow better consideration of services provided by ecosystems (that are currently considered external to the economy because they are ignored by the market). Support to the EEA's efforts in testing the feasibility of ecosystem capital accounts should continue. Depending on the results of the on-going fast-track implementation process, the 7th EAP should foresee that these accounts be used to inform policy-making in specific policy areas and progress towards specific targets, such as target 2 of the EU Biodiversity Strategy to 2020 ("by 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15 % of degraded ecosystems").

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