



Action taken to address climate and energy priorities in the EU Member States, and prospects for implementation of the climate action and renewable energy package

A Review for the European Climate Foundation

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The views expressed in this report are solely those of the authors and not necessarily those of their institutional affiliations, nor those of the funder.

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## Key Messages

These messages are based on an initial review of the prospects for implementation of the recent Climate Action and Renewable Energy (CARE) legislative package by the 27 EU Member States.

- The agreement of the CARE package represents an unprecedented achievement, but significant implementation challenges lie ahead; not least overcoming policy stagnation on climate issues in some Member States, a consequence of an uncertain economic future and a lack of political will or both.
- Policy mechanisms currently being proposed for the delivery of CARE targets are, in essence, more of the same ie for renewable energy the key instrument is anticipated to remain feed in tariffs, albeit in an extended form.
- Despite the current financial crisis, action to tackle energy efficiency issues in Europe's economies remains limited. Improved efficiency, a sharp increase in renewable energy and a decline in traditional fossil fuel use are all essential by 2020. While renewable energy use is rising, this is not yet part of a more coordinated effort to reshape Europe's energy usage.
- Many Member States are looking particularly to an increase in renewable heat from biomass to deliver a significant portion of commitments. In many cases it remains unclear how they will simultaneously source both the technologies and raw materials to deliver this shift.
- Across Europe the targets for the delivery of renewable energy are repeatedly highlighted as challenging, more so than those for emission reduction. A consequence of the economic downturn has been a drop in emissions, due to a slow down in industrial activities; simultaneously, however, this has threatened the funding for the delivery of renewable energy infrastructure.
- Europe faces a new economic reality; while citizens are anticipated to remain concerned about climate change, they will want to prioritise action that helps to deliver economic stability and jobs into the future. The way in which national governments choose to portray the long term benefits of a lower emission and more energy secure Europe will be important as well as the substance.
- Government action to build on the ambitious targets adopted in December 2008 requires a new kind of leadership on a continental scale.

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# **SUMMARY OF FINDINGS**

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## **1 PURPOSE AND SCOPE OF THIS REPORT**

The EU frequently has been accused of being long on big plans and short on effective implementation. Anticipated failure to meet the 2010 renewable energy targets, late transposition and ineffective implementation of the cogeneration Directive (2004/8/EC) and the energy performance of buildings Directive (2002/91/EC) are examples of recent problems.

Much effort was expended by politicians, and those hoping to influence them, to ensure the adoption of the EU climate action and renewable energy (CARE) legislative package in December of 2008. All of its elements will, however, be subject to the significant implementation challenges inherent in ambitious EU legislation.

This paper provides an early overview of the prospects for implementation of the CARE package across the EU at Member State level, as of spring 2009. It is based on reviews of the legislative state of play in all 27 Member States based upon: detailed case study assessments of developments in the Czech Republic, France, Germany, Hungary, Italy, Poland, Spain, and the United Kingdom; and 19 desk-based, Member State reviews.

This review builds on a survey of Member State activities assembled by IEEP from input given to the European Parliament by governments – covering policies up to 2007<sup>1</sup>. This study looks at more recent policy developments and future actions currently anticipated. However, as a limited desk-based study examining all 27 Member States it cannot fully capture the situation in each one of them. Further detailed work would be needed on an ongoing basis to monitor Member States' progress towards 2020 and key interim milestones.

## **2 A QUANTITATIVE OVERVIEW OF MEMBER STATE PERFORMANCE TO DATE AND FUTURE TARGETS**

The following section presents national achievements in terms of emission reductions and level of anticipated future effort. Moreover, it examines the future targets and plans for two key delivery mechanisms ie emission reduction under the EU ETS and increased renewable energy capacity. On these foundations comments on national progress are set out in section 3.

### **2.1 Achieving emission reductions**

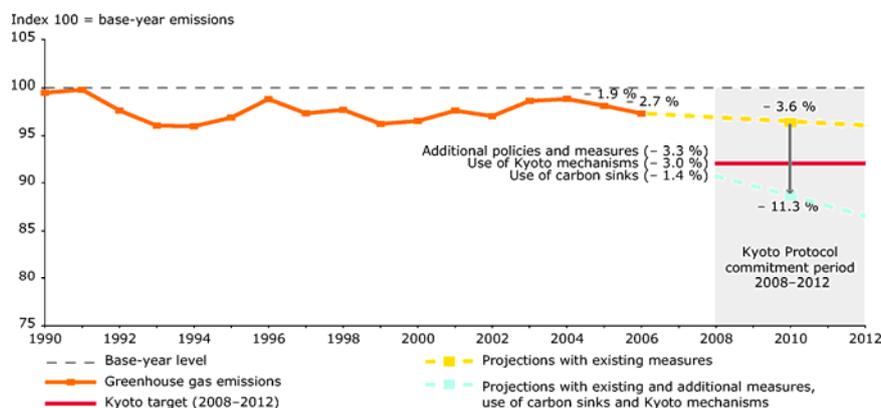
Levels of greenhouse gas emission reduction delivered and required vary between EU Member States, and will continue to do so under the effort sharing provisions of the CARE package. The ultimate goal, however, is the delivery of overarching reduction targets for Europe in a way that is broadly equitable. In its annual assessment of European performance in meeting Kyoto Protocol goals, the European Environment Agency finds that the EU-15, the EU-12 and the EU-27 as a whole are likely to meet their collective (in the case of EU-15) and individual obligations - see Figure 1 and Figure 2.

From the review of these graphics two things are immediately apparent: first, for the EU-15, the gap between historical trends and compliance in the commitment period is quite large. Additional measures at the Member State level, if successful, will play a part in filling this disparity; but more significant will be the import of carbon credit through the Clean Development Mechanism (CDM) and international emissions trading of assigned amount units from countries with excess supply. Secondly, for the

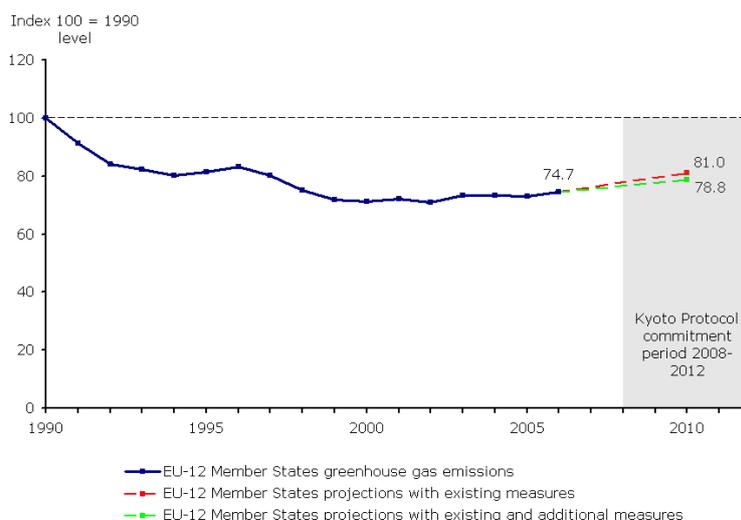
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<sup>1</sup> <http://www.europarl.europa.eu/activities/committees/studies/download.do?language=en&file=17631#search=%20national%20legislation%20>

EU-12 there is little difference anticipated between recent trends forecast using current measures, and those based on the use of additional measures. The EU-12 have in general exceeded their targets, a consequence of historic events and economic transformation post-1990. Despite economic growth driving emissions upwards, there is little pressure upon these countries to deliver extensive, additional cuts or to adopt ambitious, additional measures.



**Figure 1: EU-15 emissions trajectory and forecast emissions in the Kyoto compliance period (EEA, 2008<sup>2</sup>).**

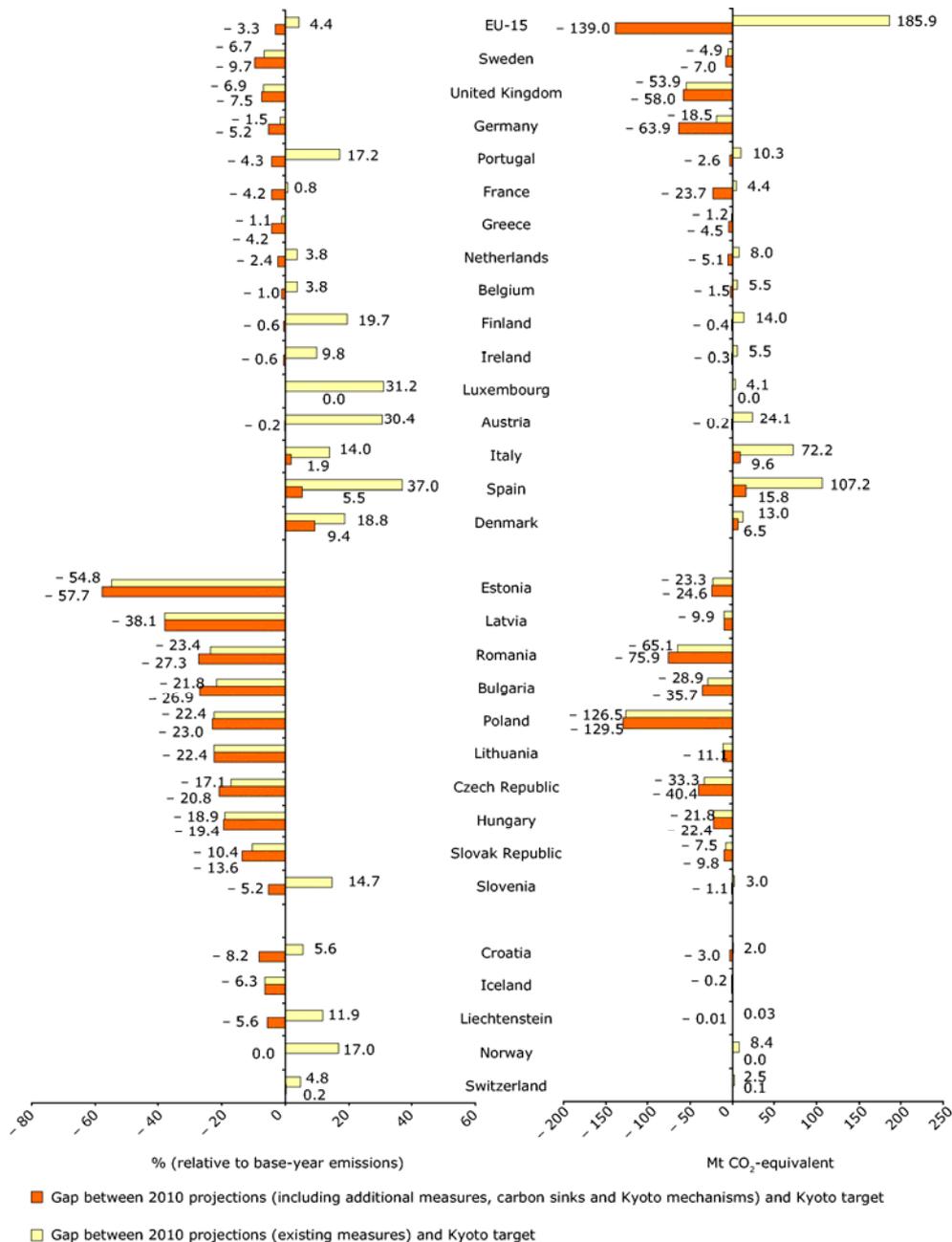


**Figure 2: EU-12 emissions and forecasts for the Kyoto compliance period (EEA, 2008).**

From the averages presented above, it is not immediately obvious that performance varies dramatically between different Member States (see Figure 3). To some degree, such variation was anticipated by the ‘burden sharing’ approach, which allowed some Member States to increase their emissions while others compensated for this by accepting deeper cuts. There are, however, some among those with increased targets, such as Spain and Ireland, which have so far exceeded their allowable increases substantially. At present only Italy, Spain and Denmark are anticipated to overshoot their targets when taking into consideration further measures and external project crediting. On the other hand, over-compliance by some Member States

<sup>2</sup> EEA 2008 - Impacts of Europe's changing climate - 2008 indicator-based assessment - [http://www.eea.europa.eu/publications/eea\\_report\\_2008\\_4](http://www.eea.europa.eu/publications/eea_report_2008_4)

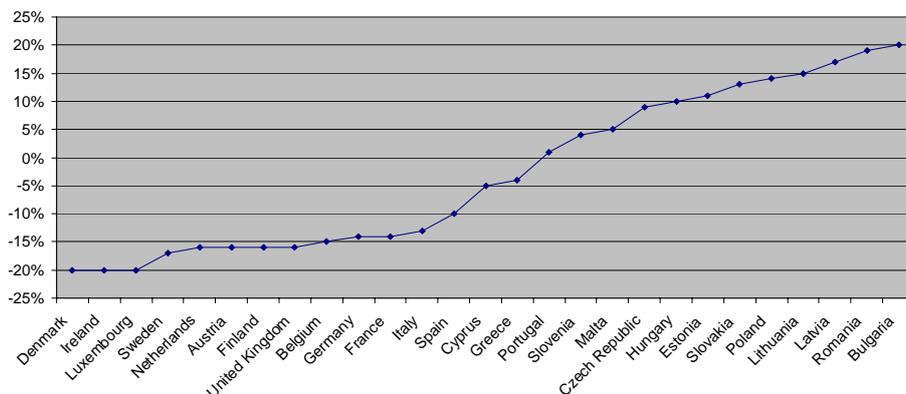
makes the average (projected) emission levels well below those required. Some kind of trading is anticipated to occur to ensure both collective and individual compliance by the end of the commitment period.



**Figure 3: The gap to burden sharing or Kyoto targets (EEA, 2008). Much of the EU-15 has to rely on additional measures, sinks and the mechanisms to close their gaps (orange bars), while the EU-12, aside from Slovenia, are comfortably over-complying.**

In contrast to the emission reduction targets set out in the burden sharing agreement for the delivery of the Kyoto commitments, under CARE Member State national reduction obligations for the 2013-2020 period have been divided into two portions. This split requires part of the reduction to be supplied by the EU emissions trading scheme (EU ETS). This portion would be delivered in line with a centralised cap-setting methodology (still under development) and hence will not be apportioned to individual Member States. The remaining reductions necessary should be delivered by all sectors outside the ETS and are divided between Member States. This 'effort

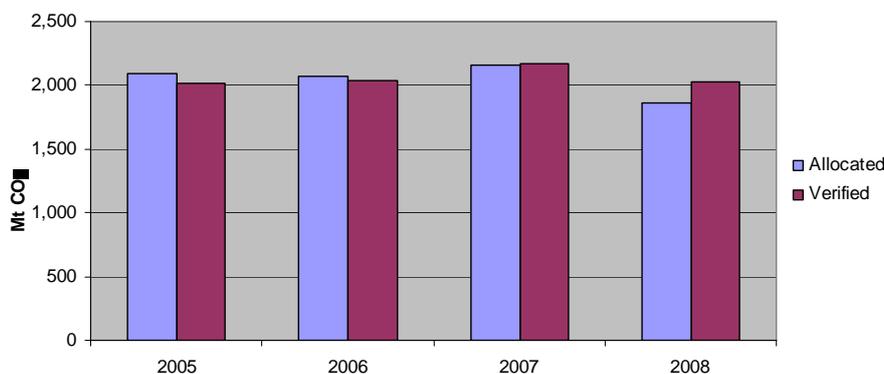
sharing' should achieve an average 10% reduction below 2005 levels and is divided among Member States according to GDP (see Figure 4 for the breakdown of Member State effort sharing requirements).



**Figure 4: 2020 effort sharing obligations: a range from cuts of 20% below 2005 levels for the highest-GDP countries, to increases of 20% for the lowest GDP countries.**

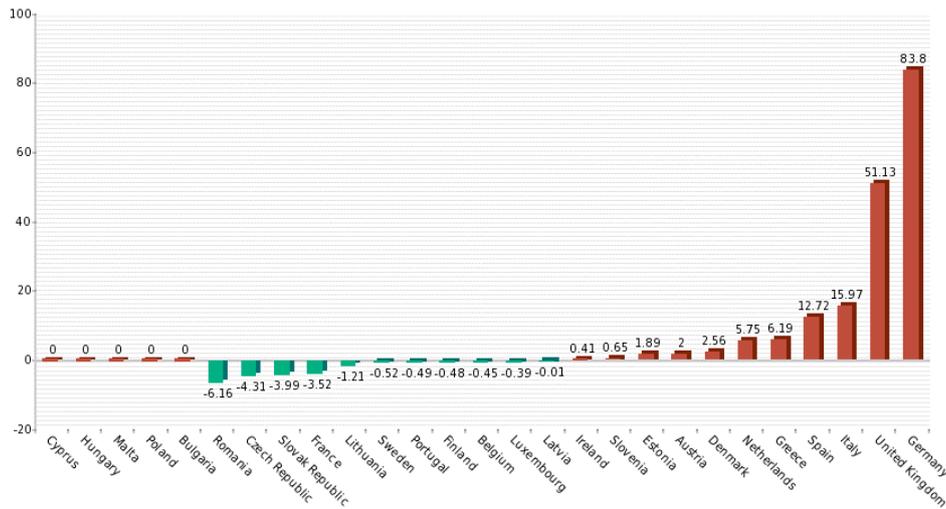
## 2.2 The role of emissions trading

Emissions trading has, since its conception, been presented as a key means of driving emissions reductions from major sections of European industry. The first two years of operation, however, did nothing to inspire confidence that such an outcome was likely. The level of allocations were above annual emissions, causing CO<sub>2</sub> prices to plunge and stay low through to the end of the 2005-7 trading period. The commencement of the second trading phase in 2008, has seen two firsts: the first fall in emissions from the previous year; and the first significant gap between allocated and verified emissions (see Figure 5).



**Figure 5: Allocated rights vs. verified emissions for the first four years of the ETS. In the first two years emissions were significantly below allocations (data taken from the CITL).**

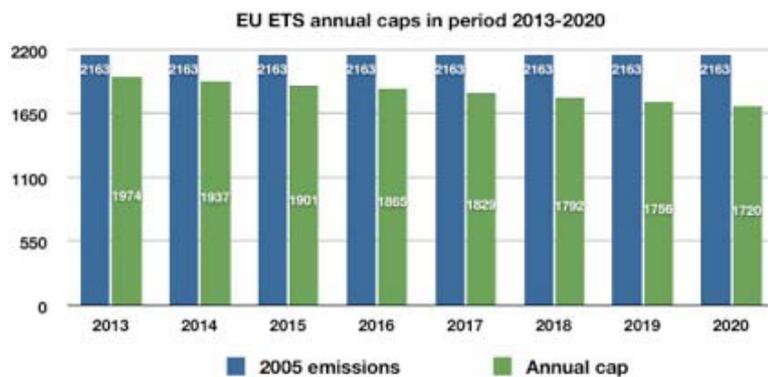
Emissions from installations within the EU ETS for 2008 vary significantly per country, though largely in line with industrial output and carbon intensity. Germany and the UK show by far the highest excess of emissions compared to allocation, with primarily new Member States showing a surplus of allowances (see Figure 6). This is evidence both of sharp economic downturns in the new Member States, and a continuation of the slack given to their industrial sectors due to their easy-to-reach Kyoto targets. The latter is something the Commission's significant paring down of second phase National Allocation Plans did not fully counteract.



**Figure 6: Demonstrating the gap between emissions and allocation (the x axis) by Member State for 2008 (Mt CO<sub>2</sub>) – emissions above the level of allowances appear in red, excess allocation in green (carbonmarketdata.com)**

With external credit from CDM entering the system, and lower 2009 emissions anticipated due in large part to the economic crisis, carbon prices have not returned to their levels of the summer of 2008. A February 2009 analysis<sup>3</sup> indicates that the overall picture is one of relatively easy compliance anticipated in the period to 2012, with allocations and external crediting likely to exceed demand until 2013. This is primarily a consequence of a downward revision of emissions in the 2009 to 2012 period, due to the financial crisis.

Between 2013 and 2020, the EU ETS is intended to drive much of the reductions needed to deliver the emissions target of 20 per cent below 1990 levels by 2020: whilst non-ETS sectors must deliver a decline in emissions of 10 per cent below 2005 levels by 2020, the EU ETS needs to deliver a reduction of 21% below 2005 levels. The total allocation of emission allowances will decline linearly over this period, and should imply real and increasing levels of scarcity from 2013 onward (Lewis 2009, *ibid*, and Figure 7).



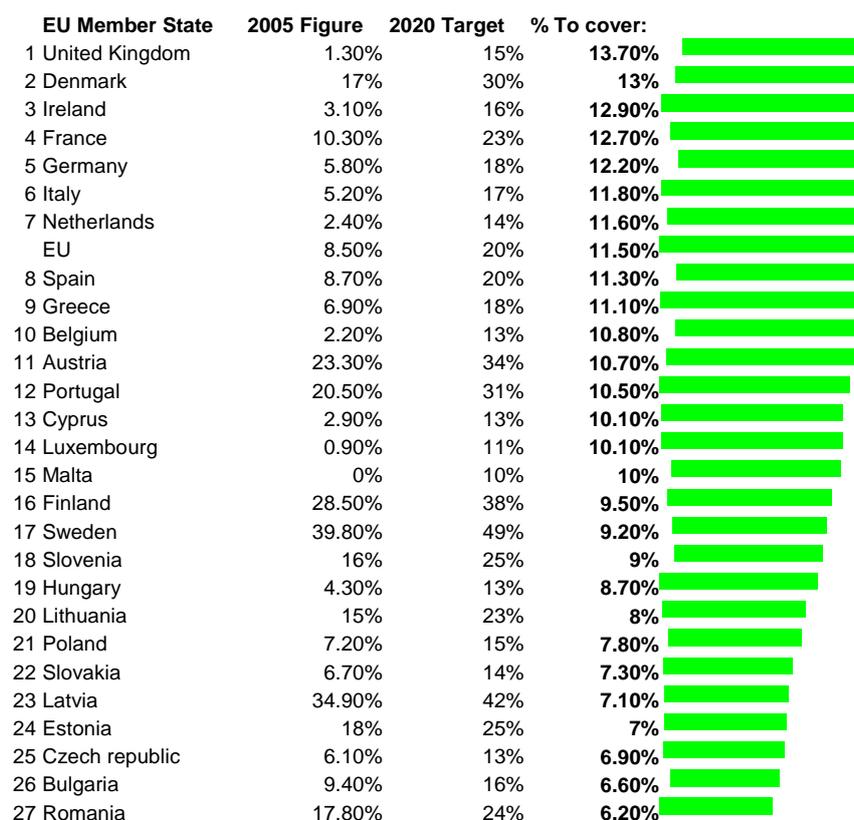
**Figure 7: Caps set by the revised ETS Directive for the post-2012 period (Tomas Wyncs, CAN-Europe).**

<sup>3</sup> Mark Lewis, 'The ETS review: unfinished business', Deutsche Bank, 23 February 2009.

### 2.3 Increasing the proportion of energy from renewable sources

Directive 2001/77/EC required Member States to achieve 12 per cent of renewables in their national energy supply by 2010. Despite renewables growth of 55 per cent from 1997 to 2005, the proportion of energy from renewables had only reached 8.5 per cent EU wide by 2005; 10 per cent by 2010 now seems likely, meaning Europe will miss its (admittedly non binding) 12 per cent goal. Uptake of biofuels has been very uneven, with only Germany and Sweden reaching the 'reference value' of 2 per cent of all transport fuels to be sourced from biofuels in 2005 set by the Directive 2003/30/EC. The Directive's target of 5.75 per cent of transport fuels from biofuels by 2010 is also unlikely to be achieved.

In setting the 2020 renewable energy target of 20 per cent and differentiating this between Member States, the new renewable energy Directive (in line with the Commission's original proposals) is not based on the physical potential within a country. Instead Member State commitments are defined by assigning about half the current gap to the target of 20% renewable energy evenly among all Member States, giving them all a 5.5% share increase; the remaining gap is divided between Member States primarily according to GDP per capita, with small adjustments to reward early action (see Figure 8). The result is that a rich country like the UK must deliver the most substantial increase: jumping from a 1.3% share to 15% in just 11 years. Denmark's required increase would have been higher were it not to have gained credit for its significant efforts to date – with well over 10 times the UK's share of renewables in 2005.



**Figure 8: 2005 proportions of renewable energy by member state, their 2020 targets, and the gap to be covered: ranked by the largest gap ([www.energy.eu](http://www.energy.eu)).**

### **3 IMPLEMENTING THE CARE PACKAGE – AN OVERVIEW OF MEMBER STATE APPROACHES**

#### **3.1.1 *Overarching Policy Measures***

Many Member States have adopted either one or a series of overarching national laws on addressing climate issues; primarily to implement targets under the Kyoto Protocol and, to a lesser extent, EU policy measures. These are then supplemented by specific policy measures at the national or the regional level (in federal systems) designed to deliver a shift in greenhouse gas emissions and the energy system. With the adoption of the CARE package these core policies will need to be refocused in order to meet the twin challenges of 20 per cent of energy sourced from renewable sources and an EU-wide reduction in emissions by 20 per cent in 2020 (or 30 per cent depending on an international deal).

Some Member States have adopted separate strategies for climate issues and for energy issues (eg Denmark, Czech Republic), while others are making attempts to centralise efforts in this field (eg Climate Change Bill in Lithuania or the Dutch 'Clean and Efficient: New Energy for Climate Policy'). Other Member States have complemented strategies on climate and energy with those on other linked priorities (eg Portugal has adopted a strategy for reducing oil dependency).

In many Member States efforts are being made to coalesce and better coordinate climate action either through the development of joint government ministries (eg Denmark and the UK), through the use of inter-ministerial decision making (eg Greece) or through the development of bodies with oversight over climate issues (eg the development of the National Climate Change Committee to coordinate efforts in Lithuania or the Climate Change Committee in the UK). Others, however, are yet to effectively coordinate policy with the danger of multiple measures leading to confusion and uncertainty, often acting as a barrier to the roll out of low carbon technologies (eg support for renewable energy in Hungary).

#### **3.1.2 *The Emissions Trading Scheme***

Policy measures related to emissions trading primarily focus, as might be anticipated, upon the implementation of the EU Emissions Trading Scheme (EU ETS). These have included legislation for the establishment of the infrastructure for trading (eg the division of responsibilities between national and regional regulators in Belgium) and to enable the use of credits derived from flexible mechanisms ie Joint Implementation (JI) and the Clean Development Mechanism (CDM). The development, adoption, revision and implementation of National Allocation Plans under the EU ETS feature as an important policy process in all Member States. The requirement to reduce planned levels of allowances for phase II of the EU ETS is repeatedly highlighted, with several Member States still in the process of challenging the Commission's proposed caps as being too demanding. Finally, differences in implementation progress across the EU 27 can be identified with Bulgaria and Romania, as the most recently acceded Member States, several steps behind the EU 25.

The recycling of auction revenue and the activities this should support remains a topic of significant debate. In the case of the Czech Republic it is highlighted that this potentially offers the basis for a publicity campaign for emission reductions, given the possibility of providing funds to help cut energy bills, for example, through providing grants for green investment. In other Member States it is proposed to use auctioning revenue to promote the future development of low carbon technologies indirectly, for example, in Germany the majority of revenue will be allocated to research in this field.

The unfurling of the current economic crisis is noted to have had several important impacts in the operation of emissions trading. Firstly, several Member States are

noted to be reconsidering the apportionment of revenue received from the trading of surplus AAUs. For example, proposals in Poland were initially put forward for allocating this money to an 'EcoFund Foundation', but it is now believed that ministries are pushing for this to be incorporated into the state budget. If the crisis continues this may lead to pressure for auction revenues to be used for general government purposes. Secondly, the crisis has led to a shrinking in industrial output in many countries, resulting in lower emissions for 2008 and 2009 than anticipated. According to recent analysis Spanish industry sold 20 million tonnes of CO<sub>2</sub> emission allowances in 2008, equivalent to 400 million Euros. The majority of these allowances were from Spain's cement and tile industry, sectors strongly affected by the financial crisis. The sale of these permits is believed to have acted as a life line for many of these companies, helping them maintain liquidity. Finally, burgeoning concern over the competitiveness of industry has led certain Member States - primarily those most sceptical of the CARE process - to focus efforts on ensuring that as great a proportion of their industry as possible is exempt from future auctioning requirements, thereby continuing to receive free emission allowances. For example, the Italian government is noted as coordinating information in an attempt to maximise the proportion of their industrial sector considered at risk of carbon leakage.

### **3.1.3 Renewable Energy, including renewable transport fuels**

It is in the field of renewable energy development that there are the most extensive and varied policies. Across Member States there are measures in place to support, directly fund, prioritise and mandate the use of renewable energy with a variable emphasis upon electricity, transport and heat. Most of these are intended to directly contribute to meeting either a target for the roll out of renewables generally, or more specifically targets for the use of eg CHP, renewable heat, renewable transport fuels, the generation of renewable electricity or the use of renewable energy within specific sectors.

Based on the information gathered, the most commonly used policy instrument at present for the support of renewable electricity production is a feed in tariff. The extent of the subsidy and the focusing of this varies greatly. Such tariffs are applied inter alia in Spain, Germany, Greece, Lithuania, Denmark and Cyprus. For renewable transport fuels, and specifically biofuels, the most commonly identified policy measure is the exemption of fuels from excise duty. The pattern of support for renewable heat is more mixed with some Member States heavily promoting this while others offer little support. Common mechanisms for promoting renewable heat include grants and tax exemptions (eg in Cyprus and Greece). In many Member States growth in renewable heat or CHP from biomass is highlighted as offering the greatest opportunities for expansion of renewable energy use eg in Hungary and the Czech Republic. Several see the development of renewable heat policies as a priority to ensure their delivery of the CARE targets.

Central to the promotion of renewables in many Member States are economic instruments. Such policy mechanisms noted include: the taxing of electricity consumption (eg Cyprus), direct government spending to deliver renewables (eg Denmark, Sweden for wind, Ireland), tax breaks for investment in renewable energy (eg Malta for solar), the application of a tax on CO<sub>2</sub> production with exemptions applied to specific renewable technologies (eg Denmark), the exemption of certain renewable fuels from taxation/VAT (eg Greece, Malta). In addition many Member States offer grants or loan support for the development of renewable projects. In some this support is extensive; Sweden is reported to have reserved €37.8 million for supporting the market introduction and further expansion of wind power. For others it is EU funding that is anticipated to be crucial for the delivery of renewable energy expansion, eg in Poland government commitment to renewable energy is relatively low and EU funds are highlighted as the main hope for future expansion.

Some Member States have chosen to use their legislative powers to support renewable energy production, rather than employing purely economic means. In order to promote the roll out of small scale renewable energy several Member States have adopted obligations for the inclusion of RES in new building projects, which is often coupled with broader efforts to increase the efficiency of buildings and the promotion of passive solar housing (eg Denmark and Portugal have adopted obligations requiring the use of solar heating systems in new buildings). Portugal has also used powers to adopt a law enabling the use of public marine areas to produce electricity from wave power.

### **3.1.4 Carbon Capture and Storage**

Few Member States were identified as having any existing policies or measures in place in relation to the development of Carbon Capture and Storage (CCS). Where measures were identified, these primarily related to the development of demonstration projects, the allocation of research funding for CCS development or its application, or statements of intent. Policy and legislation are, however, moving quickly in some countries as real commercial-scale projects seem closer to taking place. Numerous Member States are noted as intending to launch demonstration projects in this field. Several countries are placing significant faith in CCS as one of the few mechanisms by which they are likely to achieve significant reductions, in light of limited political interest in emission reduction and renewable energy deployment.

### **3.1.5 Non ETS Sectors**

Outside the power and ETS sectors, key measures for emission reduction focus on addressing transport and the efficiency of buildings both domestic and industrial. More limited mechanisms are noted relating to agriculture and waste.

In the transport sector Member States commonly have in place policies promoting modal shift, mobility plans, the promotion and upgrading of public transport. However, the most concrete efforts are focused on attempts to 'green' road transport. Many Member States have relatively recently adopted mechanisms that distinguish in terms of taxation between different types of vehicles. Under such schemes clean vehicles can receive tax reductions (eg in Belgium); or levels of vehicle, VAT or road taxes are modulated based CO<sub>2</sub> emissions (eg Cyprus, Finland, Ireland, Luxembourg, Sweden). The modulation of tax linked to the level of CO<sub>2</sub> emissions from vehicles is the most commonly noted mechanism adopted in order to combat road transport emissions, although this remains particularly controversial and politically unacceptable in Germany. Denmark has taken this concept further having introduced a tax on CO<sub>2</sub> for industrial enterprises in 1993; companies can receive a rebate on this tax if they undertake certain measures including introducing energy savings.

In order to change emission patterns some Member States are also offering subsidies for the scrapping of older vehicles (eg Cyprus subsidises the scrapping of vehicles over 15 years old while many others, including France and Germany, are offering this on cars of 10 years in age or based on a particular mileage). This is the most commonly proposed 'green stimulus' measure noted, although is proving controversial, especially given that certain Member States have placed relatively weak restrictions on the qualification for this incentive. For example in Italy the levels of CO<sub>2</sub> emissions from newly purchased cars can be up to 140g of CO<sub>2</sub> per km for petrol vehicles, well above the proposed EU target of 120g. The overall impact on net emissions as a consequence of these measures is highly debateable.

Specific support for certain types of cleaner vehicles is being offered in a limited number of countries: Denmark is explicitly promoting hydrogen power and electric cars; Ireland has set a target for 10 per cent of all vehicles to be electric by 2020; and Sweden provides subsidies to filling stations for offering biogas and other renewable

fuels. To supplement more formal subsidies several Member States are noted as providing information tools to aid the greening of the transport sector. For example, Belgium provides a guide to CO<sub>2</sub> emissions for car purchasers and promotes 'eco friendly' driving. Finally, the 'green stimulus' packages adopted in several countries also promote modal shifts to public transport and the upgrading of these networks – although this is repeatedly overshadowed by the scale of support for purchasing new cars (eg Italy).

Efficiency gains are essential in order to deliver effective emission reductions. A handful of Member States have been noted as adopting specific targets for the reduction for energy consumption (eg Denmark, Portugal). In the majority of Member States most efficiency gains are anticipated to be delivered primarily through some form of building standards and savings within industry. Building codes represent a common mechanism for attempting to ensure the efficiency of new or refurbished buildings. The Netherlands appears to have one of the more stringent approaches to this, setting out standards within its building Decree with sanctions being applied by authorities in the event of a breach. In some cases requirements are intended to ensure the state takes a lead in emission reduction, for example in Bulgaria any state or municipality owned project whose floorage exceeds 1000m<sup>3</sup>, is to conduct a periodic review of their fuel and energy consumption with a view to optimising usage.

Several Member States are explicitly promoting the replacement and better maintenance of certain energy devices in houses eg central heating boilers, air conditioning units (eg Cyprus; Lithuania has adopted a programme for the refurbishment of multi family buildings which it hopes will increase the efficiency of such developments constructed before 1994). Others, meanwhile, are choosing to promote low energy building by supporting research and development activities (eg Finland). Ireland has adopted a National Energy Efficiency Action Plan that brings together measures on greening public procurement, support for efficiency measures in SMEs and incentives for households to upgrade the efficiency of older housing stock. Other Member States are noted as having adopted similar plans in response to Directive 2006/32/EC on energy end use efficiency and energy services (eg Luxembourg, Latvia, Lithuania). Finally, under green stimulus initiatives several Member States are promoting the better insulation of homes eg the UK, although there are questions as to the proportion of financing that is actually new.

Within the agricultural sector measures noted tend to focus on the reduction in emissions of Nitrous Oxide (N<sub>2</sub>O) (eg Belgium, Denmark, Greece). Some countries note that they are undertaking efforts to reduce emissions by promoting forestry (eg Flanders in Belgium is providing financial support for afforestation and reforestation, Greece is putting in place measures to prevent and control forest fires, Lithuania has developed a forest policy from 2007-2010 for promoting reforestation with native species). How far these initiatives are really 'new' is less clear. Efforts in the field of waste policy are also noted for some countries; however, these tend to focus on the reduction of methane emissions via the more effective use of biodegradable waste, as per the requirements of the landfill Directive.

#### **4 FOCUSING FUTURE EFFORTS**

Many Member States have overarching measures determining the ambition of emission reductions, use of renewable energy etc. As highlighted in section 3.1.1 these are currently focused upon delivery of the Kyoto targets or existing, less stringent, targets under EU Directives on the use of renewable electricity or renewable transport fuel. Only a limited number of Member States have adopted targets in excess of EU requirements. Under the new CARE package these targets are substantially extended and made more rigorous in terms of their binding legal

nature. All Member States will, therefore, need to adopt new climate and energy measures firstly to transpose the CARE measures, but also to fundamentally reset their level of ambition. For some this will prove a significant challenge given the multitude of different policies that exist in these fields already (eg Czech Republic) and the lack of integration of climate and energy issues within policy making (eg Hungary). In these cases implementing CARE effectively would require a fundamental overhaul and preferably more harmonisation of policy measures.

The survey suggest that only a few leading Member States, including Sweden and Germany, can be identified as already having put forward new legislation based upon the CARE package (although policies in Sweden in particular are more ambitious in their goals). The majority of Member States have announced their intentions to amend policy objectives; exceptions include Italy and Poland where there appears little political momentum yet towards adopting initiatives to implement CARE requirements.

Whilst there are limited cases where governments have so far been unwilling to take implementing actions forward, a broader challenge is whether governments have both the political will and the ability to deliver the necessary level of change. For example in February 2009 the Federal Minister for Climate Change and Energy in Belgium announced that work on a new climate law will begin after regional elections in June. However, a new climate law is anticipated to be difficult to achieve given the current balance of power in Belgium. Similarly, in the Czech Republic uncertainty over the political landscape means that while policy can be developed, creating the political climate to deliver sufficient change in the short term may be problematic.

The chance of future policy mechanisms for the stimulation of emission reductions, in the majority of Member States appears to be more of the same, ie the continued use of the same instruments, albeit in an extended format. For example, many Member States are still planning to make use of feed in tariffs to stimulate renewable energy production, complemented by a mixture of standards and fiscal incentives to deliver efficiency. In terms of renewable energy, substantial new policy efforts are anticipated to promote renewable heat and ensure a wave of new investment.

No Member States are reported as seriously considering the use of emission performance standards (EPS) for limiting CO<sub>2</sub> emissions from industrial plants at present although this option has been promoted by a number of NGOs. It was commented by one interviewee from the UK that having both a flexible mechanism under the EU ETS and fixed limits on emission levels could be inefficient. One Member State representative commented that this prospect may promote interest in and expansion of nuclear power. There is, however, a growing debate about the level of ambition that can be delivered through trading instruments alone, with EPS potentially offering a parallel route to deliver essential decarbonisation of the power sector. It is, therefore, considered important that EPS be kept on the agenda as an option to ensure the continued reduction of emissions, should the results from the operation of the EU ETS prove insufficient.

Green stimulus opportunities, aimed at combating the current financial downturn, are reported in several countries. In many Member States there has been criticism of the scale of funding available for promoting investment in green technologies, especially when compared to the overall level of support. Moreover, while there are some measures in place mooted as 'green', their framing in certain Member States has lead to concern as to whether these actually deliver significant environmental improvement or are helpful in a transition to a low carbon economy. For example, subsidies for the purchasing of new cars following the scrapping of old vehicles have come under attack. In some Member States the connection between environmental protection and jobs has not clearly been made. There are also concerns that funding

being used now is simply being brought forward from budgets for future years, actually cutting funds later down the line.

## **5 CHALLENGES FOR THE IMPLEMENTATION OF THE CARE PACKAGE**

The scale of the challenge posed by the delivery of CARE varies extensively across Member States. It reflects the difference between current achievements and future targets and the scale of pre-existing ambition; in addition the state of established infrastructure for the delivery of change and marginal costs associated with the achievement of additional reductions are key factors. For example, it is noted that Bulgaria has yet to effectively implement some key historic EU policy measures, including the EU ETS; therefore, the scale of the administrative challenge posed by CARE is substantial. In other Member State policies for renewable energy support remain confused and ambiguous, requiring significant revision to make them effective vehicles for delivering the ambitions of CARE.

In relation to renewable energy some Member States, specifically those dependent upon large scale hydro, where there is no real opportunity for expansion, are faced with the proportion of their production of renewable electricity potentially dropping – unless they rapidly diversify into the use of other renewable resources. This highlights a key challenge, identified for several Member States, the continued expansion in energy demand and the lack of dynamism in promoting energy conservation. Even for Member States commonly highlighted as leaders in this field, for example Denmark and Germany, it is noted that the increase in renewable energy is not being matched by a reduction in the usage of fossil fuels. In the case of Denmark, this has resulted in renewable electricity being exported to other Member States and the maintenance of greenhouse gas intensive coal fired plant. The threefold challenge of delivering a major increase in renewable energy, significant reduction in energy demand and simultaneous reduction in the use of fossil fuels will be of considerable economic significance; failing to achieve any one of the three will mean that targets may fail to be met. The existing policy measures identified often do not effectively link up these three strands resulting in action that is not sufficiently joined up or coordinated. The delivery of energy efficiency alone was noted as a key challenge for several Member States (eg Netherlands, Luxembourg and Germany).

Many Member States appear to be relying heavily on the rapid rollout of new renewable energy capacity in order to ensure their delivery of the CARE package. The need to deliver a suite of renewable energies simultaneously across the electricity, heat and transport sectors was viewed as a political challenge by many. There is a fear that effort could be spread too thin, with the prospect of transforming a multitude of markets appearing daunting. This is exacerbated by a feeling, in several Member States, that there is a lack of coordination between government departments and between the different levels of governance ie national, regional and local. For Ireland this was noted as a particular concern in the transport sector.

Lack of political will to change energy systems was noted as a significant threat to the delivery of CARE; this is a challenge in a rising number of Member States especially given the ever burgeoning economic pressures. Climate change is low on the political agenda in several countries, and is not anticipated to be a key campaigning point in up coming national elections (unless clearly linked to the economic and job creation agendas). Reports produced by researchers in Italy, for example, have already stated that the lack of political interest means that the 2020 target is unlikely to be reached unless there is a heavy emphasis on the use of CDM, CCS and nuclear.

There are concerns that several Member States, while understanding that they must exploit eg biomass to deliver new renewable energy, have provided little clarity as

how this will be implemented ie where will plant be located/where will material be sourced from. Such supply chain issues for biomass (highlighted for a number of Member States as key future source of new renewable energy), and other renewables eg delivery of off and onshore wind, represent significant logistical challenges that need solving in a limited time span to deliver by 2020.

Following on from the current financial crisis Europe looks set to be in a period of budgeting restraint and reduced confidence for some time; evidence from the European Parliament election campaigns suggests that many citizens while remaining concerned about environmental issues, are likely to be responsive only if the new economic reality is taken into account. For example, there is interest if environmental and climate issues can clearly be linked to benefits such as job security and future economic recovery. Perhaps this represents an opportunity when addressing efficiency issues, with the new emphasis on financial rigour extending to energy use. Conversely this may also pose a threat, if in striving to meet EU level targets for emission reduction or renewable investment it is perceived that additional costs are being placed upon consumers. This is a fine line to balance and relies significantly on the way national governments choose to portray the long term benefits of a lower emission and more energy secure Europe.