# Reviewing EU budgetary resources for meeting climate change and energy policy objectives

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The scale and severity of the climate and energy policy challenges faced by Europe is more apparent by the day. Within a year a fundamental decision on the global response to climate change will need to be negotiated in Copenhagen with the EU in a pivotal position. A year of turmoil in commodity prices has heightened concerns about energy security, now further aggravated by the dispute over Russian gas supplies delivered through the Ukraine. Not surprisingly, two-thirds of respondents to the European Commission's recent consultation on the EU budget in 2008 considered climate change to be Europe's greatest future test, and half expressed strong concern about energy issues. As the debate on the shape of the EU budget in future intensifies, a further review of the climate and energy dimension is timely. This paper reviews some of the developments that have occurred during the last year and considers the implications for the EU budget.

From the outset it is worth emphasising that Europe is at an early stage in securing the revolution in energy supply and the wider economy that will be needed to meet the goal of a secure low carbon economy. A range of policy interventions will be needed over a period of several decades, alongside substantial private and public investment. While it is impossible to specify the precise level of investment required, or the burdens that will fall on public expenditure, it is worthwhile to try to establish a sense of scale and to consider how far the EU Budget could have a role in a robust policy mix over the period to 2020 and beyond.

Before looking at potential costs we consider some of the developments that have occurred over the last twelve months since the Budget Committee's last report on the topic.

## 1. Developments over the last year

## a.) The Science of Climate Change

The science has not stood still over the last year and yet again the sense of urgency over climate change has increased. The recently agreed EU climate and energy package was devised originally against the background of the Intergovernmental Panel on Climate Change's Fourth Assessment Report, completed in 20071. This represented a comprehensive overview of climate science to that point, and has been the basis of many analyses since it was published. However, subsequently more research results have been released, most of which indicate that climate change is likely to be an even larger problem than even the AR4 indicated.

For example in a study<sup>2</sup> of over 30,000 physical and biological processes at global level scientists for the first time attributed to climate change shifts in phenomena such

<sup>&</sup>lt;sup>1</sup> IPCC 2007. Fourth Assessment Report.

<sup>&</sup>lt;sup>2</sup> Rosenzweig et al. 2008. 'Attributing physical and biological impacts to anthropogenic climate change' Nature 453, 353-357

as migratory patterns and the timing of pollen release. Concerns about the survival of species have increased and raised the urgency of adaptive measures on the agenda.

Studies released in 2008 indicated that methane emissions have surged, though the origin is not yet clear<sup>3</sup>. Nitrogen trifluoride, a gas used in modern electronic devices like flat-screen TVs, was hypothesised by Prather et al.<sup>4</sup> to become an important greenhouse gas as use of such equipment expanded. Weiss et al.<sup>5</sup> then confirmed that NF3 concentrations have risen 20-fold in the atmosphere over the last 30 years.

Arctic sea ice in 2007 and 2008 was at its lowest levels since the first satellite data became available in 1979. As sea ice melts, it reveals water, which is darker than ice and accelerates warming in a positive feedback loop. IPCC predictions that sea ice could vanish between 2040 and 2100 seem to have been too conservative – some feel it could be much sooner.

In addition, accelerated Arctic regional warming represents a further risk to permafrost, in which large amounts of methane are buried. Lawrence et al.<sup>6</sup>, echoing work of several others, find that accounting for accelerated Arctic ice loss would raise permafrost melting rates by a factor 3.5 compared to the trend without factoring in the ice loss. The danger of reaching an irreversible tipping point is increasingly considered a real one.

The impacts of climate change on Europe's environment and society were set out in a report by the European Environment Agency and others, published in September 2008.<sup>7</sup> This report presents new monitoring and assessment information, reviews past trends in the climate, its current state and possible future changes in relation to 40 indicators, and identifies the most vulnerable sectors and regions. It sets out the considerable challenges of adaptation as well as mitigation in Europe describing in some detail the likely impact on ecosystems and human health of current trends.

To a certain extent, these results confirm what has already been demonstrated or expected. Nevertheless, they underline the fact that climate change is already happening and having measurable and significant impacts on the environment and environmental services. The science therefore highlights the need for much faster, broader and intensive adaptation policies and measures within and beyond the EU, in addition to essential mitigation measures.

# b.) Energy Markets

The last twelve months have witnessed exceptional volatility in oil prices with corresponding impacts on other forms of energy, inflation and economic performance. Increased uncertainty in the market has reduced the incentive to invest in long term energy solutions, particularly in conjunction with the current credit crunch and

<sup>&</sup>lt;sup>3</sup> Geophys. Res. Lett. **35**, L22805; 2008 and Nature **456**, 628–630; 2008

<sup>&</sup>lt;sup>4</sup> Geophys. Res. Lett. **35**, L12810; 2008

<sup>&</sup>lt;sup>5</sup> Geophys. Res. Lett. **35**, L20821; 2008

<sup>&</sup>lt;sup>6</sup> 'Accelerated Arctic land warming and permafrost degradation during rapid sea ice loss. David M. Lawrence, Andrew G. Slater, Robert A. Tomas, Marika M. Holland, Clara Deser. Preprint. Submitted to Geophysical Research Letters, 2008.

<sup>&</sup>lt;sup>7</sup> EEA 2008. Impacts of Europe's changing climate – 2008 indicator-based assessment

reduced capital availability. The impacts are also felt in carbon prices which are lower than required to encourage sustainable long term investment decisions.

At the same time, the dispute between Gazprom and the Ukraine leading to a shutting off of supplies to parts of Europe has opened up an additional concern about the security of energy supplies and dependence on gas, which is imported on a growing scale into Europe. Whilst gas is a relatively low carbon fuel it is not a panacea for the needs of the coming decade and it may become increasingly expensive.

In these circumstances the need for clear policy signals and appropriate public sector investment is particularly strong. Both climate change and energy security require strategic investment in improved energy efficiency and sustainable supplies, with a much larger role for renewables in the supply mix. And if coal is to survive and moderate increasing reliance on gas, carbon dioxide capture and storage (CCS) will have to be rolled out quickly.

#### c.) The Credit Crunch and Economic Recession

The inhibitions to long term investment have been compounded greatly by the credit crunch and contraction of the European economy. It is unclear how long the downturn will last but many analysts do not expect a return to previous growth levels for several years. Although this could result in reduced energy demand in parts of the economy and provide some stimulus to improve efficiency as a cost saving measure, there will be sustained pressure on private sector investment, and consumer resistance to products built to higher specifications, including some that are more energy efficient. Short term reductions in industrial emissions could result in companies purchasing carbon credits at a low price, banking them for future use. The ability of the Emissions Trading System to deliver longer term reductions in emissions remains, but its effectiveness in the short term may be diminished.

These concerns point to the value of more strategically planned public expenditure in order to protect long term goals as well as to relieve the worst impact of the recession. The European Commission has recognised this connection to some degree and proposed a "European Economic Recovery Plan" in a Communication of 26th November. This included proposals relating to climate change, energy infrastructure and aid to sectors affected particularly by the recession, such as the car industry which will benefit from a "European Clean Transport Facility". The significant focus on climate, energy and "smart" investment in the plan is welcome, although some of the likely outcomes, such as more motorway investment, will not be helpful from an energy efficiency perspective. Whereas a substantial intervention is envisaged, "in a consistent and coordinated manner" in the words of the Ecofin Council in December, most of the funds concerned will be national in origin.

It can be questioned how far the national responses will address more strategic climate and energy concerns, especially since they are not constrained by any European guidelines. For example, the UK government, which is certainly not without interest in green investment, announced a package of measures in November which included about £800 million of apparently additional expenditure on motorways and trunk roads compared with £300 million on railways (mainly new carriages) and £210 million of funding for improved insulation and heating systems in low-income

households. VAT was reduced across the board rather than being targeted at products where greater consumption might yield public benefits. Not surprisingly, this effort was described by the officially appointed Sustainable Development Commission as "undermined by short-term thinking"<sup>8</sup>.

Thus, while the recovery plans developed by the Member States with support from the European Investment Bank and other institutions have the potential to stimulate public and private expenditure in a way that addresses the climate/energy dilemma, it is far from clear that this will be the outcome in practice. A stronger European slant to a recovery plan could reduce the tendency to target funds according to more transitory political requirements.

### d.) The New Policy Framework

The package of EU climate and energy legislation agreed in December provides an important set of targets, albeit subject to revision after Copenhagen and still pending development of some of the policy machinery required to meet them. The package puts the EU ahead of other OECD members and particularly the US in its climate policy, but some of the measures proposed have been agreed in an amended form, reducing their potential impact relative to the texts advanced by the Commission or relevant committees of the Parliament. Some of the changes worth noting were:

- Auctioning of Emissions Trading Scheme (EMS) allowances will not apply to
  the whole power generation industry until 2020 rather than 2013. This may
  result in investments in cleaner energy and new capacity being deferred in
  some Member States and the revenues from auctioning will be
  correspondingly lower, with potential implications for government investment
  in the climate and energy sector;
- Outside the power sector other industrial emitters will need to purchase only 20 per cent in 2013 and only 70 per cent of their allowances through auction in 2020. The 100 per cent level may not be reached until 2027 or later;
- Furthermore, industrial emitters classified as energy-intensive will not be required to pay for allowances before 2020 at the earliest. Again cheaper allowances may defer investments;
- The compound effect of these changes is to reduce the estimated revenue from auctions from around €50 billion a year to perhaps nearer €30 billion by 2020;
- The scope for the power generation industry and other emitters to buy carbon credits from outside the EU has been increased to the 50 per cent level, utilising either the Clean Development Mechanism (CDM) or Joint Implementation (JI) mechanisms. This is a further weakening of the incentive for domestic investment;
- More positively, 300 million ETS allowances will be earmarked for certain energy investments, most notably CCS Demonstration plants. This fund could amount to €6-9 billion, depending on the price of CO₂ at the time. Operators of new plants with an output of more than 300 Mega watts are required to assess whether suitable CO₂ storage sites and transport facilities are available and if it is technically and economically feasible to retrofit the plant for CO₂ capture.

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<sup>&</sup>lt;sup>8</sup> ENDS Report 407, December 2008

• The regulation setting mandatory standards for emissions from new cars was agreed but with a more relaxed timetable for manufacturers. The new fleet average requirement of 130 grams per kilometre will not need to be met by the whole of a manufacturers' output of new cars until 2015 instead of 2012. This will mean that manufacturers have considerable additional breathing space; work by IEEP suggests that the average emissions from new cars in 2012 may still be around 150 grams per kilometre<sup>9</sup>. It will in turn take longer before the cohort of cleaner cars meeting the 130 gram standard, comprise the bulk of the European fleet. Since cars account for around 12 per cent of EU emissions of CO₂, this puts a larger burden on other sectors of the economy to deliver reductions in emissions. At the same time the industry will receive additional financial help both at the national and the European level. This will include soft loans from the EIB potentially in the region of €40 billion.

In short, the December package reaffirms the 20 per cent targets while leaving open the ratcheting up of the EU's emission reductions to the more demanding 30 per cent level. At the same time there has been a weakening of some of the regulatory mechanisms whereby Member States and corporate emitters are to be motivated to meet these targets. With the exception of the new funding allocation, primarily for CCS demonstration plants, the potential pool of resources available for investment from ETS auction revenues has diminished. With the very substantial opportunities for European emitters to access credits via CDM or JI there is a danger of slower progress than required in meeting the EU's share of the global mitigation effort. This makes it all the more important to consider how a 30 per cent reduction could be achieved by 2020. It also reinforces the case for the EU to meet the 20 per cent targets for energy conservation and for the share of renewables in energy supply. Both will be challenging to achieve and depend on a rapid programme of action in the next two to three years to build the necessary capacity and infrastructure. With no financial penalties for Member States which fail to meet their targets, there will be a continued need for financial inducements, as was demonstrated by Member States and sectoral interests in the horse trading sessions to secure the package under the French Presidency in December.

#### e.) Public Attitudes

Whilst these are difficult to judge, the results of a recent Eurobarometer survey on Europeans' attitudes towards climate change published in September indicate that two-thirds of European citizens consider climate change to be among the most serious problems facing the world today. When presented with the EU's climate and energy targets for 2020 the majority of respondents considered the targets to be 'about right' or 'too modest'.

At the same time, there is a considerable challenge of public awareness, which needs to be increased if there is a realistic chance of meeting the December targets. For example, a significant majority of citizens from the twelve newest Member States (with the exception of Slovenia) and in Mediterranean countries consider themselves to be ill-informed about climate change and how to combat it. This lack of knowledge

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<sup>&</sup>lt;sup>9</sup> T&E 2008. Reducing CO<sub>2</sub> Emissions from new Cars: A Study of Major Car Manufacturers': Progress in 2007. Brussels.

is confirmed by the fact that 30 per cent of those surveyed think that CO<sub>2</sub> emissions only have a marginal impact on climate change while fifteen per cent do not know whether CO<sub>2</sub> emissions have any impact at all.

#### f.) The International Context

In addition to this unavoidably partial snapshot of developments in Europe, reference should be made to the changing international context. Particularly significant are the change in the US administration, continued turmoil in the Middle East, the economic downturn affecting large parts of the world and the hard-line attitude of Russia with respect to gas supply and gas prices. In the US the Obama administration is expected to adopt a new approach to climate change, which is likely to be linked to a substantial programme of public investment in an ambitious economic recovery plan. This increases the chances of securing a deal for a post Kyoto agreement in Copenhagen this year and further raises the pressure on the EU to meet its existing targets and take the lead in arguing for a 30 per cent cut in emissions at a global level.

If the changes occurring over the last year could be summarised they suggest a growing level of concern about climate change and energy security reflecting not only political attitudes but also scientific advance and demonstrable changes in the global energy market. The EU has taken the historic step of adopting the 20-20-20 package whilst acknowledging that further effort is required. Much of this can be achieved through regulation and market forces, particularly if the carbon price is sufficiently high to guide investments in the right direction. However, with the current recession, uncertainties over energy and carbon prices and the reduction of regulatory pressure, the need for incentives and public investment is likely to be greater than it may have appeared a year ago. Over the next two to three years, in the current budget period, the case for a strong climate and energy dimension to economic recovery plans that are widely recognised to be needed is overwhelming.

### 2. The Costs of Climate Mitigation and Adaptation

The 2008 CEPS report on climate, energy and the EU budget quotes a number of estimates of the total costs likely to arise in the EU¹0. The authors emphasise the uncertainties and suggest that the annual costs are likely to be above €60 billion per annum. This uncertainty remains but the Commission has made an attempt to calculate the costs of meeting the requirements of much of the 20-20-20 package, as originally proposed, rather than as agreed. This is not the same as the total cost of addressing the climate challenge but it is an important component of the whole.

The European Commission's impact assessment (SEC(2008) 85/3) of three central measures in the proposed energy and climate package estimates the costs of achieving the 20-20-20 targets on a variety of assumptions and by reference to a number of different scenarios. The complexity arises in recognizing the interplay of various factors and options. Assumptions for oil prices are relatively low compared with those reached in 2008 and a carbon price of  $\le 39$  per tonne of  $\le 39$  per tonne of  $\le 39$  per tonne of  $\le 39$  projected. Direct

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<sup>10</sup> CEPS 2008. Does the EU have sufficient resources to meet its objectives on energy policy and climate change? European Parliament Study. Brussels.

economic costs in the year 2020 range between 0.25 and 0.71% of EU GDP, depending on the use of instruments such as renewable energy trading and CDM credits. The "cost efficient reference option" which assumes that both the 20 per cent GHG reduction target and the renewable energy targets are met by 2020, is estimated to cost \$\circ{1}{2}\$1 billion annually or around 0.58 per cent of GDP by this date. However, if CDM and JI are used on a significant scale, the costs could be considerably lower than this.

The same impact assessment estimates that the value of renewable energy would need to be of the order of  $\leq$ 45 to  $\leq$ 50/MWh to achieve the 20% target. Separating out the cost of meeting the renewables target alone indicates it will cost on the order of  $\leq$ 9.1 billion in 2020, or 0.19% of GDP.

The EU's energy efficiency action plan (COM(2006) 545) makes reference to the large energy savings potential of taking the measures proposed without emphasising the costs of doing so – though the avoided energy costs are estimated to be around €100 billion per year. Costs are assumed to fall on Member States and no estimates are offered. The impact assessment of the larger climate package builds in an assumption of meeting the action plan goals, which lowers costs of meeting other targets: e.g., using less energy means needing to build less renewables capacity. Again, the costs of achieving those efficiency gains are not assessed, only the net benefits are reflected. These results build on scenarios constructed with the Primes model in 2006¹¹, which showed that improved energy efficiency is helpful to the development of renewables, permitting the achievement of more demanding goals at lower cost.

Adaptation costs at the EU level, are not much easier to estimate but there are a number of studies contributing to a growing literature. 12 13 14 These studies, in general, show that the 'net' impacts on Europe may be modest (e.g. with respect to agriculture, net mortality, energy supply), but emphasise the strong distributional effects between north and south. Some of the greatest impacts are in the poorest parts of Europe.

The 2007 Commission Green Paper entitled 'Adapting to climate change in Europe – options for EU action', did not attempt serious estimates of potential costs although one of the draft versions had suggested that aid for adaptation measures should become an integral part of the EU budget. This disappeared from the final revision.

In response, on 10 April 2008, the European Parliament adopted a non-binding resolution on the Green Paper<sup>15</sup>, calling on the Commission to undertake a study of

<sup>&</sup>lt;sup>11</sup> Mantzos, L. and P. Capros, 'European energy and transport: scenarios on energy efficiency and Renewables' prepared for DG Transport and Energy, 2006.

<sup>&</sup>lt;sup>12</sup> EEA (2007), 'Climate Change: the cost of inaction and the cost of adaptation', Technical report No 13/2007.

<sup>&</sup>lt;sup>13</sup> Feyen L., Dankers R., Barredo J.I., Kalas M., Bódis K., de Roo A., and Lavalle C. "PESETA- Flood risk in Europe in a changing climate".

<sup>&</sup>lt;sup>14</sup> Richard J.T. Klein and Asa Persson, 'Financing Adaptation to Climate Chnage: Issues and Priorities', ECP Report No.8, October 2008

<sup>&</sup>lt;sup>15</sup> European Parliament resolution of 10 April 2008 on the Commission Green Paper on 'Adapting to climate change in Europe - options for EU action' (COM(2007)0354).

the economics of adaptation, maintaining that an analysis of the costs and benefits of adaptation will 'stimulate' action in this area.

The Communication from the Commission regarding its Annual Policy Strategy for 2009 (COM(2008) 72 final), a document to inform the preparation of the Commission Work Programme for 2009 (COM(2008) 712/2), emphasised work on adaptation both at EU level and to help developing countries. However, the final Communication on the Commission Legislative and Work Programme 2009 does not contain any reference to adaptation.

A much larger question is the cost of adaptation to climate change in the developing world and the share of this that will be met by the EU. Forecasts of the costs range widely, with the World Bank at the lower end, US\$28 - 67 billion, the UNFCC Secretariat rather higher with an estimate of US\$28 - 67 billion, Oxfam at \$50 billion or more and the UNDP at \$86 - 109 billion. The major items of expenditure include flood defences, new and improved infrastructure, the adaptation of food production and the relocation of communities and industry.

Whilst there is an international Adaptation Fund, which will become operational in 2009 as a result of a decision at the UN Poznan Conference in December 2008, currently this contains only modest resources derived from a 2 per cent levy on CDM projects. As it stands, it will provide millions rather than billions of dollars for developing countries with a budget of less than €250 million to 2012. However, the EU is now under pressure to agree a position on more serious funding for adaptation, to show a willingness to contribute more if it expects developing countries to sign up to a new agreement. Adoption of a position on international adaptation initiatives, including funding for the post-Kyoto climate regime, is expected this spring.

Various models for adaptation finance have been mooted, including earmarking reserves from ETS credits and a "Global Climate Financing Mechanism" that would involve borrowing money from international markets. The idea is that funding should be additional to current development aid commitments and therefore genuinely new. However, many Member States are reluctant to accept this principle, and most are not maintaining conventional aid at target levels already agreed. This suggests that the contribution to funds should not be organised at a purely national level if it is to be credible to the developing world. This could be a substantial new call on the EU public and private sectors. If hypothetically, payments were to reach a level of \$50 billion a year, it would not be difficult to argue that the EU's share might be in the range of \$10 – 14 billion.

### 3. Implications for the EU Budget

There is a sharp contrast between the significance of the climate and energy issues on the European agenda and the resources devoted to these topics in the EU budget.

<sup>&</sup>lt;sup>16</sup> Stockholm Environment Institute 2008. SEI Policy Brief. Financing adaptation to climate change.

Expenditure on climate change measures in the current EU budget is rather modest, although energy infrastructure projects attract support from the Structural and Cohesion Funds, and both climate change and energy issues are issues of significance for the research budget.<sup>17</sup> While this tells us little about the value of the expenditure that does occur or the level that might be appropriate, it does raise questions about the EU's capacity to simultaneously implement an ambitious package of domestic measures and take the lead in international negotiations for a new climate deal with no new resources to increase its budgetary capacity. There are also questions about the coherence of the EU budget in relation to the energy performance of the economy and the sustainability of its infrastructure. Indeed, there has yet to be a comprehensive analysis of how expenditure from the EU budget affects the EU's overall progress towards its new climate objectives. Some of the measures supported at present, through the Structural Funds, will increase the carbon intensity of the economy. <sup>18</sup> A more detailed study of the climate impacts of the budget would be helpful.

As in other areas of policy it is a goal of climate policy to meet the growing list of objectives as efficiently as possible, minimizing costs to society along the way. To a considerable degree, objectives can be met by regulatory measures and the operation of the market if the right signals can be given. However, it is argued here that these mechanisms alone cannot be relied on to be effective, and that public expenditure will be needed on a larger scale than anticipated to maintain the rate of progress needed to meet highly ambitious goals. To date progress in energy efficiency in particular has occurred at a much slower rate than will be required to meet the 2020 targets and many Member States have made limited progress in expanding their energy capacity. The rate of investment in new technology and energy efficiency is in danger of being too low without a strong lead from the public sector in research and development, infrastructure development, pilot projects, public procurement, technology transfer, assistance to sectors facing severe and rapid dislocations and other interventions. Whilst there is an understandable reluctance to commit public funds until market mechanisms have been fully explored, the time constraints are severe and investment flows may be reduced considerably by the combined impact of the credit crunch and the recession. The recent fiscal stimulus initiatives put in place by many European governments provide an opportunity to direct funds at climate priorities, such as improvements in energy efficiency, but there is a danger that other priorities will prevail; this is an example of where the capacity to deploy European funding to catalyse Member States co-funding would be useful.

Areas where public investment particularly at the EU level could contribute to meeting climate goals include:

- Research and development on a more ambitious scale, including pilot projects and new market development;
- Technology transfer, both within Europe and at a global level;

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<sup>&</sup>lt;sup>17</sup> IEEP, Adelle et al. 2008. Turning the EU Budget into an Instrument to Support the Fight against Climate Change. Swedish Institute for European Policy Studies. Stockholm.

<sup>&</sup>lt;sup>18</sup> IEEP, Adelle et al. 2008. Turning the EU Budget into an Instrument to Support the Fight against Climate Change. Swedish Institute for European Policy Studies. Stockholm.

- The construction of new infrastructure and modification of existing facilities, for example, for the more rapid development of renewable energy and larger scale use of efficient public transport;
- Improvements in energy efficiency. Implementation of the EU Action Plan for Energy Efficiency has proceeded far more slowly than planned and key measures, such as that for the Energy Performance of Buildings have not been taken forward with great vigour by national authorities. At the present pace the 20 per cent efficiency improvement target could easily be missed. Whilst this stems largely from a failure of implementation, there is a place for public investment to maintain momentum, particularly in the case of lower income families and poorer parts of the EU;
- Adaptation costs within the EU, including investments which anticipate the impact of a changing climate by improving the efficiency of water management for example;
- Adaptation costs in the developing world as well as technical assistance;
- Improved public and wider institutional understanding of the implications of the new directions in climate/energy policy and the challenges associated with establishing a low carbon economy.

Most public expenditure will occur at a national level but there are a number of reasons for establishing a larger climate focussed component in the EU budget, both in the short term and beyond 2013. These are both theoretical and practical and extend beyond the essentially political argument that the budget should be more aligned to the Union's greatest challenges over the coming decades.

In theoretical terms there are advantages in terms of economic efficiency and political leverage in addressing many aspects of climate policy at a European rather than a national level. It is a classic example of a global problem where co-ordinated national policies and responses are required and spill over impacts can be large. There is a danger of under investment in some countries acting as free riders while others move forward<sup>19</sup>. European action counters this and allows the Member States collectively to have greater leverage on other actors in the global arena. This is one justification for the pooling of responsibility for climate issues that has taken place at the EU level, with regard to burden sharing as well as regulation. Some level of pooled expenditure is helpful to support the other policy mechanisms in use at a European level.

While the arguments for EU expenditure on adaptation are less strong, theoretically, than for mitigation, since the spill-over effects are much smaller, there is a case for allocating EU resources to this area. Adaptation requirements will be highly uneven within the EU and there are equity and cohesion considerations pointing at a sharing of this burden. Sharing the costs of adaptation also reinforces the case for action on mitigation in those Member States which are more reluctant to act or face greater resource constraints.

Adaptation in the developing world is required because of climate change caused mainly by emissions from industrial countries and so they have significant responsibility for the

<sup>&</sup>lt;sup>19</sup> Ecorys 2008. A study of EU spending. Published by DG Budget.

costs entailed. Since the EU acts on behalf of the Member States in negotiating most of the international climate agreements, it is well placed to take the lead in negotiating transfers from Europe. If individual Member States act alone the impact on international agreements will be weaker and the credibility of the financial commitments made will be smaller.

At a more empirical level it is clear that the climate debate is proceeding at a different pace in different Member States and levels of commitment to action vary. Some of the most cost-effective investment opportunities are in the new Member States where climate is not necessarily the key development objective. A clear signal that there is some willingness at an EU level to reinforce a primarily regulatory approach with selective investment and support would balance the overall strategy for addressing climate change in Europe.

In conclusion, it is time to move climate change into the EU budget debate at the highest level as well as seeking to ensure that the existing pattern of expenditure supports the creation of a low carbon economy as far as possible. There is already scope for accommodating climate issues in the budget because of lower than anticipated expenditure on the CAP and this should be a first step. Beyond this, work should begin on creating climate as a significant structural element in the Budget from 2013.

David Baldock 14 January 2009