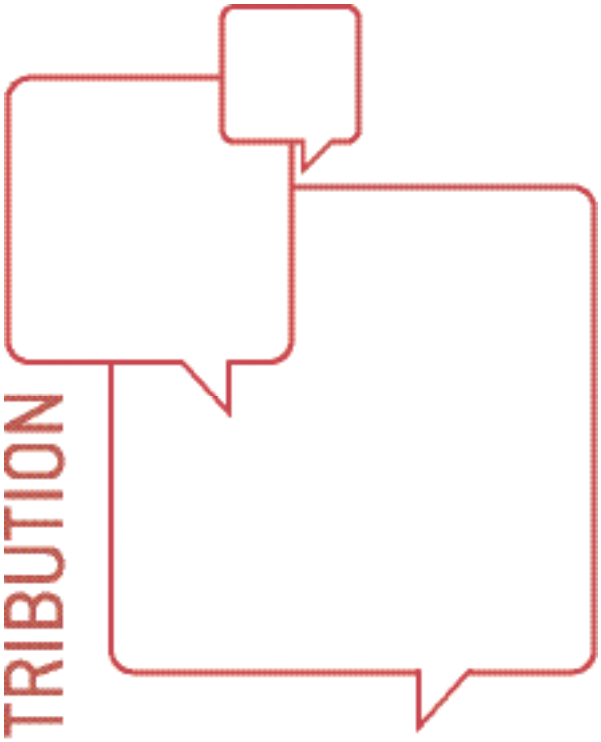
BRUEGEL POLICY CONTRIBUTION



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EU CLIMATE POLICY: DIVIDING UP THE COMMONS

Prepared for the 398th Meeting of the Economic Policy Committee on 30 August 2007

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EU Climate Policy: Dividing up the Commons[1]

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In its Communication of 10 January 2007 on a European energy policy the Commission set three major policy objectives: environmental sustainability, security of supply and competitiveness. These objectives were backed by the European Spring Council in March 2007. The Council gave the mandate to the Commission to develop the policy instruments necessary to meet them.

An important challenge to address in the design of such policies is to what extent trade-offs between these objectives exist and how a European approach can help to reduce such trade-offs. An example of such trade-off is the conflict between environmental sustainability and competitiveness: climate policy has a cost that is likely to be translated into higher energy prices, which might in turn affect the competitiveness of national industry. Member States are therefore tempted to relax their environmental policies (or to limit the extent to which environmental costs are priced into energy) in order not to place their domestic firms at a competitive disadvantage.

National trade-offs are resolved differently by Member States, as they face different exogenous factors (such as geography and natural resources) and have different preferences (such as towards nuclear energy or renewables). Europe's advantage is that it is capable of relaxing the national trade-offs by enlarging the range of alternative solutions. In other words, more of everything is possible, *potentially* leading to an improvement for all the players.[2] How can a common European policy relax the national trade-offs between climate change policies and competitiveness?

1) The challenges for the EU

The EU has committed to an ambitious climate change agenda. The main elements of this agenda include the reduction of carbon emissions by 20 percent (from the 1990 level) and the increase in the share of renewables in the energy mix to 20 percent by 2020. Such targets imply a burden for the economy and will therefore have an impact on the competitiveness of EU economies, especially if other trading partners do not adopt similar policies.

The challenge facing Europe now is how to **meet the targets** at the **minimum cost** and how to allocate the costs of meeting such targets in such a way that they have as much as possible a **neutral impact on competitiveness** within the EU and vis-à-vis other trading partners.

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[1] I thank Emanuele Ciriolo and Salvatore Dell'Erba for their help in the preparation of this note. This is based on research in progress at Bruegel.

[2] See Röller, Lars-Hendrik, Juan Delgado and Hans Friederiszick. *Energy: Choices for Europe*. Bruegel Blueprint Series. March 2007. Available at www.bruegel.org

In order to implement such targets, a number of policy instruments have been put into place to date. Such instruments involve, in some way or another, taxation on energy and on industry. Examples of such instruments are carbon pricing schemes (such as the European CO2 trading scheme) and renewables subsidies/taxes. In both cases, they imply additional burdens for firms either via the imposition of direct burdens on them or via the increase in the cost of electricity.

2) Climate change policies and competitiveness

Carbon pricing schemes have an impact on competitiveness since they impose a burden on emitters. If we use exports as a proxy for competitiveness we observe that the carbon content of exports differs across countries (see Figure 1). This means that a price on carbon would affect differently the economies of different countries, even if it were applied evenly. This could create incentives either not to implement any carbon pricing scheme at all (such as in the US) or to exclude some sectors from the scope of the scheme (through generous grandfathering of emission allowances to specific sectors).

In addition, the sources of carbon intensity vary from country to country depending on the composition of their export baskets, the energy intensity of their production, the carbon intensity of their technologies and their energy mix. The cost of reducing emissions varies depending on the sources of such emissions. This might imply different costs to different countries. In order to reduce the cost of climate change, it is important that adjustments are made where they are least costly but paid by those responsible for the damage.

A European approach to carbon pricing can help to reduce the costs of abating carbon emissions by promoting emissions abatement where it is least costly and can help to guarantee the competitive neutrality of the scheme by preventing national governments from relaxing its application to specific sectors. The current ETS design already seeks to capture this approach. However, there are still some aspects that can be improved in order to increase the cost effectiveness and the competitive neutrality of the scheme (such as, amongst others, broadening its scope in order increase its effectiveness and the possibilities to reduce emissions, avoiding national allocation plans that create distortions within sectors across Europe, and increasing auctioning of emission permits in order to achieve an efficient allocation of allowances).

Similarly, since producing energy from renewable sources is currently more costly than producing conventional energy, the imposition of a quota for renewables implies higher costs for producing electricity. Since electricity is a major input for industry, this will result in higher costs for industry.

Currently, instruments to support renewables in Europe have a national scope. Countries have developed different schemes[3] which means that a kwh of electricity from renewable sources is remunerated differently depending on where it is produced. The different support schemes in place plus the different electricity prices across the EU imply that the cost of renewables to the final user differs substantially across the EU (see Figure 2).

[3] The most common schemes are feed-in tariffs which are price subsidies per kwh generated using renewable sources and green certificates which are tradable certificates granted for each kwh generated using renewable sources. The price of such certificates is determined by market forces. A system of feed-in tariffs is in place in Germany and Spain. Green certificate schemes are in operation in the UK and Italy.

The national scope of support schemes might result in inefficient investments, ie, investment might not necessarily take place where it is most efficient but where the price (including the subsidy) is higher, which in turn might increase the total cost of reaching the renewables target. In addition, if the additional costs are passed on to national consumers via electricity prices, governments might be reluctant to push for an increase in the share of renewables in order not to increase the burden on domestic firms.

Minimising the costs of reaching the target would require that national support schemes be compatible and that cross-border trade of renewables objectives be possible (which would not necessarily imply a common support scheme across Europe). Competitive neutrality would require that the financial burden be spread uniformly among electricity consumers across the EU. This implies that, in order to achieve a neutral impact on competitiveness, it is essential that the cost-sharing rule allocates the total costs of meeting the target across countries irrespective of each country's potential for deployment of renewable energy technologies. Each country should then be free either to promote domestic renewable sources or to make use of tradable certificates in order to meet their targets.

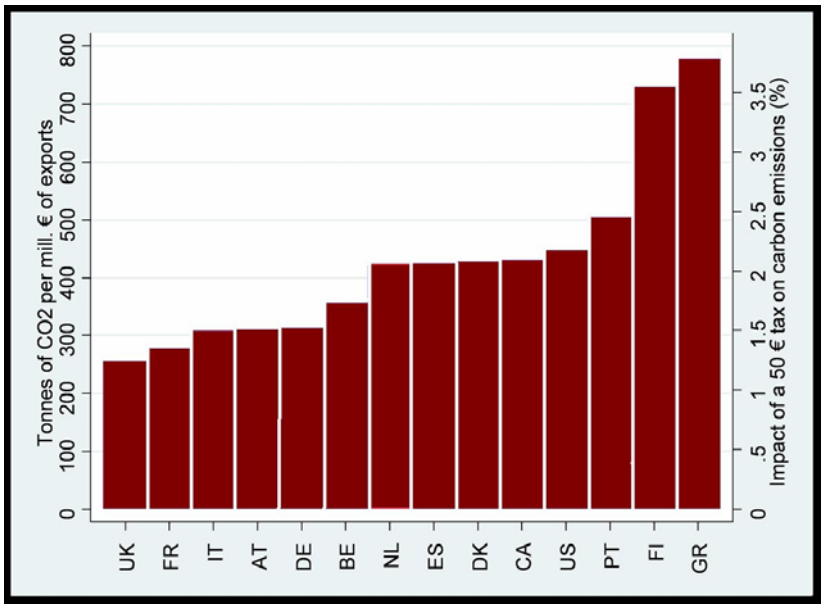
3) Conclusions

In summary, in order to reduce the impact of climate policies on competitiveness Europe needs to design a regulatory framework that both minimises the cost of meeting the targets and allocates the costs across Member States in a competitively neutral way. This requires that such instruments have a European dimension in order to take advantage of complementarities between Member States. This European dimension should include:

- Tradable instruments which allow not only minimising the global cost of meeting the target but also separating physical quotas (ie obligations to perform within national borders) from financial burdens (ie obligations to contribute to the cost of any target).
- Competitively neutral national quotas which place equivalent burdens on equivalent sectors. For carbon markets, this implies that firms emitting the same amount of CO2 should bear the same burden irrespective of their location. For the renewables target, this implies that electricity consumers across Europe should bear the same burden irrespective of their countries' potential for renewable energy.
- Links between different instruments targeting to curtail carbon emissions (ie carbon pricing schemes, renewables obligations, efficiency standards, energy taxes) in order to facilitate the use of the least costly instrument in each circumstance.
- Not allowing the possibility of adopting national solutions for specific sectors which not only reduces the effectiveness of any scheme but also results in different impact on competitiveness within the EU.

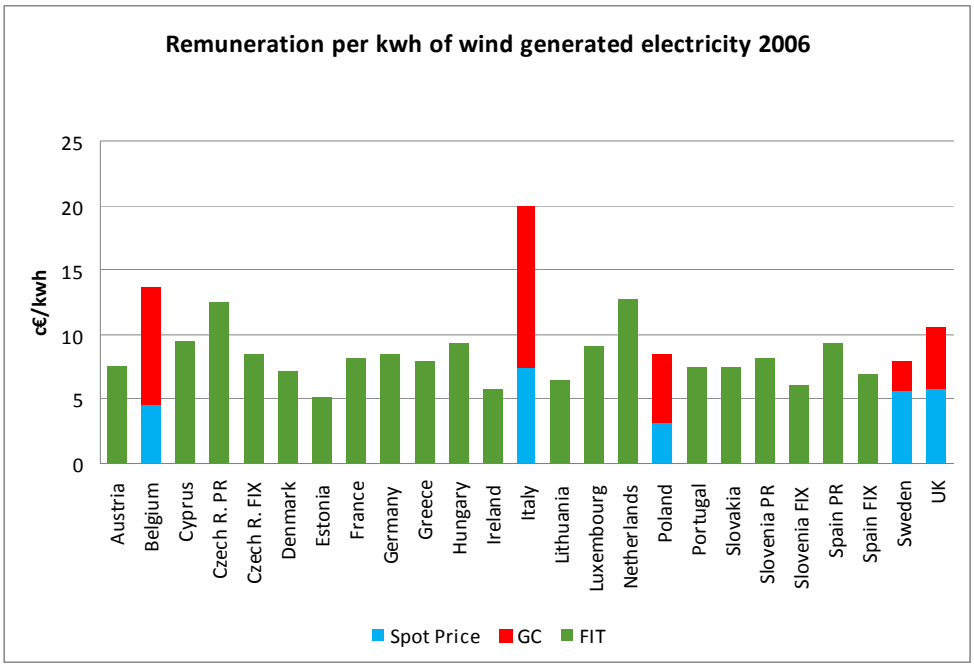
A **single market for energy** is in any case the basis for a common approach to EU climate policy. A common policy will not have a common impact across the EU if markets are not connected and prices do not converge.

Figure 1. Direct and indirect carbon content of exports



Source: Own calculations from OECD, EUROSTAT, Statistics Canada and EIOLCA. Data for 2001-2002

Figure 2. Subsidies to renewable energy



Source: Own Calculations based on European Commission, National Authorities and Power Exchanges