

The mix of ambitious climate and energy policies

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A debate has – most notably as a result of the introduction of fixed caps within the framework of emissions trading – been raised about the need for using additional instruments of climate and energy policy. A common line of argument is that the targets set within the emissions trading scheme are going to be met with a high degree of certainty, and flexibility among the regulated stakeholders will lead to market-based discovery processes. Additional instruments would only generate additional costs and would therefore have to be rejected. However, the broader and empirical analysis shows that a policy mix will be necessary to achieve ambitious climate and energy policy targets even when emissions trading is a central pillar of these policies. To avoid arbitrary choices for the design of a policy mix, it should be carefully designed and based on the specific foundations:

1. For reasons of effectiveness, but also of dynamic efficiency, well-directed measures for increasing radical innovations (backstop technologies of ambitious climate protection strategies, such as many renewable energies or CCS technology) are necessary. Specific policies to address innovation can also contribute to other policy goals (lead markets, ecological modernisation etc).
2. A number of climate options are – in spite of their high (national) economic attractiveness – not implemented due to diverse barriers and preferences geared to other ends (above all, energy-saving measures). Complementary and targeted instruments will be needed to address these structural barriers (information, adjustments of provisions within rental law). However, these measures are also justified by complimentary policy targets, e.g. on energy efficiency to lower vulnerability of consumers and industries to high and volatile energy prices.
3. The necessity of decarbonising an existing energy or economic system which involves very capital-intensive or durable capital stock in important areas in a comparatively short time frame can necessitate the well-directed change of market design and/or the creation of new sub-markets, which in combination with carbon pricing would only then make possible the implementation of low-emission solutions in the specific context of competition (e.g. capacity or storage markets as an addition to current bulk energy markets based on energy amount).
4. Many of the (foreseeable) emission reduction options to be realised in ambitious climate policies entail high investments in infrastructure. Complementary instruments in conjunction with (necessary) infrastructural development thereby constitute a second, strategically essential approach to developing a robust climate policy.
5. Since emission trading schemes that are currently being implemented or are under development will (have to) remain incomplete in terms of the sectors and areas covered, at least in the years ahead, complementary measures are necessary to improve the effectiveness of the emissions trading scheme, e.g. with regard to combined heat and power or to combat leakage effects.
6. In the case of sectors for which the robust and consistent determination of emission data is not possible (agriculture, forestry, land use, and land use changes), regulatory or support instruments will have to be used while a cap-and-trade instrument like emissions trading inevitably requires reliable data to be available under very tight tolerance limits for data uncertainties.

7. Rents arising for sellers of emission allowances as a result of the introduction of cap-and-trade instruments can sometimes make well-directed interventions based on distribution policy necessary; they can also be implemented using complementary instruments.

In summary it can be concluded that against the background of the empirical findings that have been made available up to now and especially against the background of the (necessary) ambitiousness of future climate policy, effective climate protection can only be achieved through the interplay of different instruments. A balanced mix of an emission trading system, or other measures of carbon pricing, and other instruments is urgently needed. It is not expected that severe efficiency losses will result from the implementation of additional strategies and instruments to complement emissions trading.