

1. Targets: The backbone of the EU energy and climate vision

On 10 January 2007, the European Commission outlined the European Union's 'energy and climate change vision' based on two principal documents:

- Communication on "An energy policy for Europe", and
- Communication on future climate change policy for the period post-2012 when the Kyoto Protocol expires, entitled "Limiting global climate change to 2°C: The way ahead for 2020 and beyond".¹

These two documents have been complemented by several other sectoral policy proposals on renewables, the functioning and implementation of the internal market, infrastructure (notably electricity interconnectors) and sustainable coal, nuclear and energy technologies. In its own words, the Communication on "An Energy Policy for Europe" aims at "combating climate change, limiting the EU's external vulnerability to imported hydrocarbons, and promoting growth and jobs, thereby providing secure and affordable energy to consumers".

Within the European Commission, the most controversial issue has been the nature of long-term targets. While greenhouse gas emissions reduction targets² and a binding EU target to source 20% of all energy from renewables by 2020 have been relatively uncontroversial from the beginning, the issue of additional sector-specific targets, for example for renewables as a share of electricity generation, and possibly for heating and cooling, transport and for combined heat and power, has been more difficult. The discussion about the need for these additional sectoral targets is likely to continue and come to the fore again in the negotiations in the Energy and Environment Councils in February, to be finally settled in the European Council on 8-9 March 2007.

¹ Com (2007) 1 final and Com (2007) 2, respectively, both of 10.1.2007

² The European Commission has proposed to reduce emissions by at least 20% below 1990 levels by 2020.

Looking for the cure-all? Targets and the EU's New Energy Strategy

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2. Have targets worked in the past?

Targets have been used by the EU to achieve certain policy objectives since its beginnings. The EEC Treaty set a target for creating a Customs Union, which was achieved ahead of schedule. A similar approach was used to create the internal market by 1992. As it is generally assumed that this so-called '1992 internal market programme target' has been met, it is considered a success. On various occasions since 1992, the EU has attempted to apply this apparently successful formula. For example, it formulated sectoral targets for renewable energy for electricity (see Jansen et al., 2005) and biofuels³. Moreover, there have been long-term climate change targets as contained in the European Council Conclusions from 22-23 March 2005, which expressed the aspiration to reduce CO₂ emissions by industrialised countries, including the EU, by 15-30% by 2020.

Not surprisingly, the issue of targets has come up repeatedly in the discussions over the new energy and climate policy. Energy Commissioner Andris Piebalgs, for example, raised the question of whether to set a number of long-term 'sectoral' targets such

³ Renewable electricity is covered by the 2001 renewable electricity Directive that set a target of 21% as the share of electricity to be generated in the EU member states from renewable energy sources by 2010. It sets out differentiated member state targets while providing full discretion to member states on how to achieve these targets. The 2003 biofuels Directive on the promotion of biofuels and other renewable fuels for transport established indicative targets for member states. The Directive was backed up by the European Commission's "EU Strategy for Biofuels" to help meet the 2010 target – setting a 5.75% market share for biofuels in the overall transport fuel supply.

as for energy efficiency or energy intensity, renewables, the EU emissions trading scheme (EU ETS) but also for technology projects. One could also think of targets for combined heat and power (CHP), carbon capture and storage (CCS), strategic gas storage or energy security.⁴ Commission President José Manuel Barroso has also considered the idea of an EU target for the use of low-carbon energy within the EU.

The recent EU record on targets, however, is mixed at best. Witness the difficulties to make progress towards achieving the Lisbon target to transform Europe into “the most competitive and dynamic knowledge-driven economy by 2010”, or meeting the Maastricht criteria related to the eurozone or targets agreed for renewable energy for electricity or biofuels in transport. Is this attachment to targets a sensible way forward or merely a sign that other policies do not work?

3. Distinguishing types of targets

It is important to distinguish among different categories of targets. The first are *hard* targets, such as the greenhouse gas emissions reductions targets under the Kyoto Protocol. For EU member states, these are legally binding, and if they are not achieved, sanctions will kick in. A similar but distinct second category are the so-called ‘*indicative* targets’ such as those mentioned above on renewable energy for electricity and for biofuels.⁵ They are still mandatory but differ from hard targets in the level of commitment required. Member states need to make an effort to meet them, but they can divert from them to some degree if they have good reasons. It is unclear how a lack of achievement will be sanctioned. A final category includes *aspirational* targets. These express long-term objectives or aspirations, such as the EU target that “the overall global mean surface temperature increase should not exceed 2°C above pre-industrial levels” or a 15-30% reduction in CO₂ emissions by 2020. The so-called ‘Lisbon objective’ of making the EU the most competitive economy falls in the same category. Similarly, the 20% reduction target of energy consumption formulated in the Energy Efficiency

⁴ A concept of energy security targets has been as developed jointly by the Energy research Centre of the Netherlands (ECN) and the Clingendael Institute (see Scheepers et al., 2006).

⁵ Renewable electricity is covered by the renewable electricity Directive, which sets out differentiated member state targets while providing full discretion to member states on how to achieve these targets. For biofuels, fulfilling the target is principally left to member states albeit within an EU framework.

Action Plan⁶ can be seen as an aspiration or illustration. Such targets are meant to guide policy-making. Distinguished from EU targets should be legally-binding obligations based on EU policies. An example of the latter is the EU emissions trading system, which is an EU policy that obliges member states to set a cap for the covered sector in such a way that it, inter alia, allows the member state to comply with the Kyoto Protocol target.

4. Best practice of target-setting

Proponents argue that targets can be useful in achieving policy objectives or moving sectors in a certain direction. And even if targets are not met in full, the result is likely still to be better than what would have been obtained in their absence. Opponents argue that targets segment the internal market, if the targets are national or differentiated between member states. The internal market may be distorted as in the case of the EU ETS, where the cap is set by each member state separately (see Zetterberg et al., 2004; PriceWaterhouseCoopers, 2005; Egenhofer, Fujiwara, Ahman & Zetterberg, 2006), while rent-seeking by lobbies is encouraged (Michaelowa, 2004; Fullerton & Metcalf, 2001). In addition, if targets are too ambitious, there is a risk of imposing excessive costs, making targets politically untenable, which might eventually lead to a reversal of policy. Under such a scenario, the international credibility of the EU in the area of climate change might suffer as a consequence.

There should be little problem with the first category of targets. They are legally binding and thus enforceable, they rely on standard EU policy formulation and implementation and they are by definition compatible with the internal market.⁷ More importantly, EU law based on the co-decision procedure has to undergo an integrated impact assessment (see Renda, 2006) and faces scrutiny through inter-service consultation between the various directorates-general in the European Commission and subsequently in the Council and European Parliament structures (van Schaik et al., 2006). More problematic are indicative or aspirational targets or EU targets that express a vision of where the EU and its member states want to go in a given time. The risks are especially high if ‘EU target setting’ becomes a substitute for EU policies, for example in the absence of appropriate EU competencies or a lack of consensus within the EU. In such cases, national solutions can undermine the internal market.

⁶ Measures proposed in the Energy Efficiency Action Plan do not meet the 20% target.

⁷ By definition, EU law is compatible with EU primary, secondary and case law such as the provisions on the internal market and competition.

Defining the objectives

Targets constitute an important intervention in the market. The more targets there are, the less flexibility there is for the market to allocate resources. Ultimately, targets can degenerate into ‘planning’ tools, overriding market incentives and reinforcing rent-seeking. Given these potential negative impacts on markets, targets should meet a number of preconditions.

- *Objectives should be significant.* Targets should only be used if the objective is significant, e.g. energy security or long-term climate change. Even then, however, targets should be carefully analysed to anticipate their impact on the internal market. It is important to choose an appropriate baseline to ensure that different sectors and/or member states face similar challenges.
- *Objectives must be realistic and achievable.* There should be some guarantee that the required result can be achieved in an efficient way. Objectives should be realistic and achievable at a reasonable cost, i.e. that ‘what is needed’ is broadly in line with ‘what is possible’. This means that objectives are quantifiable, i.e. can be proven to be achieved. One should be careful not to overload targets. Targets can only fulfil one objective⁸ and not several at the same time, although all costs and benefits⁹ should be factored in when targets are set.
- *Objectives must be properly formulated.* The most critical point is to formulate the target in the proper way. It is particularly important to define the required outcome (e.g. near-zero carbon power generation) rather than prescribe the possible solutions (e.g. renewables, nuclear, CCS, etc.). In that way, the market will be able to choose the most economic solution. However, sectoral targets (e.g. for renewables, CCS) may be needed for a transition period, to avoid crowding out certain technologies, which would result in a smaller technology portfolio for near-zero-carbon technologies than otherwise would be the case. For example, most if not all new renewable-generation technologies will need to be subsidised for a certain period, not the least of which purpose to bring down the costs.

⁸ E.g. boosting renewables to bring down technology costs, increasing biofuels to increase supply flexibility for transport fuels or achieving a certain number of CCS projects for demonstration purposes.

⁹ For a full analysis of costs and benefits of different climate change options, see Egenhofer, Jansen, Bakker & Jussila Hammes (2006).

EU or member state targets

Targets can be set at the member state or the EU level. From an internal market and allocation perspective, targets would be ideally set at the EU level, but the current heterogeneity of member states in terms of economic development, the structure of the energy sector – particularly in power generation – and national preferences, makes this very difficult. Another factor is the limited power that the EU can exercise – in general – to enforce targets, unless they are part of an EU law. As a result, the EU has broken down overall targets into national targets (e.g. the 1998 Burden-Sharing Agreement for the Kyoto Protocol), but this has given rise to fears of market distortions in the industrial and power sectors. Similarly, member state policies to stimulate electricity generation from renewable sources have triggered concerns over barriers to trade affecting competition and distortions to competition (Jansen et al., 2005).

The level of ambition

If the deadlines for achieving targets are set on an excessively short-term basis, they can create rigidities, whereas long-term targets can lack credibility. Long-term targets are political by definition, in that they express a political ambition on the part of a generation of politicians. The fact that such targets are seldom based on an economic analysis of the costs and benefits of different options and tend to be ambitious can mean that they may turn out to be excessively costly. This can undermine political acceptability with the result that the next generation of politicians will abandon them. In extreme cases, this can result in ‘boom-and-bust’ cycles, as we have seen in the field of renewables in the US. Therefore, the credibility of targets should therefore increase the more realistic, i.e. achievable, they are. An important additional factor accounting for the credibility of a target is whether it makes allowances for member state differences and preferences, as discussed in the previous section, e.g. resource endowment or CO₂ intensity.

One way of potentially overcoming this credibility gap would be to formulate a set of **minimum targets** or obligations at EU level, with individual member states being free to go further if they wished.¹⁰

Credible implementation strategies

Targets can only make a difference if they are backed up by implementation strategies. Long-term targets usually make explicit trade-offs (e.g. between competitiveness of industry and climate change targets) that need to be settled. These trade-offs are

¹⁰ The UK and Sweden, for example, have done precisely that in the area of climate change targets.

more likely to be addressed when the detailed implementation strategies are formulated by the EU or by member states. If an implementation strategy is formulated by the member states, it is indispensable that the European Commission is allowed to judge whether a strategy is credible and to track its progress, while at the same time enabling an examination of whether the member state policies interfere with the internal market and more generally, are cost-effective.

5. Conditions for targets to work in the EU

From this brief analysis, we can identify a number of key conditions that are crucial to make indicative or aspirational targets work in the EU. If these are met, targets can be useful in steering investment in a certain direction while avoiding the most important risks: market segmentation, rent-seeking, lack of credibility or reversal of a policy leading to stranded investment.

- Targets are a good means to **express a vision** of what the EU and its member states hope to achieve.
- They need to be **long-term** to allow sufficient time for the necessary investment to follow.
- At the same time, targets need to be **credible**.
 - a) Credibility can be increased by ensuring that targets are **realistic** and **achievable** – based on sound economic analysis.
 - b) They need to be backed by detailed and realistic implementation strategies either at member state or EU level.
 - c) Targets need to be **quantifiable**, in order to ensure that their achievement can be measured.

- Another way of overcoming a potential credibility gap could be to formulate **minimum targets** or obligations at EU level with member states being free to take further measures.
- Since targets constitute a significant intervention, they should only be applied in cases where the objective to be achieved is **significant**.
- Targets must concentrate on **outcomes** (e.g. near-zero carbon technologies) instead of prescribing the solution (e.g. carbon capture and storage, renewables, nuclear or fusion). In that way, the market will be able to choose the most economic solution. However, sectoral targets may be needed for a transition period to avoid crowding out certain technologies.
- Targets are best expressed on an **EU-wide** basis in order to ensure that resources are optimally allocated. Any specification of targets and their implementation needs to respect member state differences and preferences as long as they do not undermine the internal market. The European Commission has an important role to play in this regard.

If targets are expressed at member state level, policy should be guided by the following:

- If quotas or obligations are used, **they should be tradable across borders** to ensure the greatest efficiency and convergence of costs across the EU.
- If subsidies are used, the **overall level of subsidy** for the same product or service per member state should be **comparable** (to prevent investors from shopping around and starting a race for subsidies).¹¹
- There should only be a **few, and ideally only one target**, to avoid the incompatibility of targets which creates additional rigidity.

¹¹ The same principle should apply if a tax or constraint is used, although this point may be more theoretical. It is very difficult for a member state to maintain a situation in which it treats 'its' industries worse than other member states.

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