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EU climate and energy policies post-2020
Energy security, competitiveness and decarbonisation

SUMMARY

The European Commission recently presented its proposals for post-2020 climate and energy policies. It is now up to Parliament and Member States to reach an agreement.

The current "20-20-20" targets focus on decarbonisation through the reduction of greenhouse gas (GHG) emissions, the deployment of renewable energy sources and energy efficiency measures.

The global context for energy and climate policies has changed since these targets were adopted in 2008. The economic crisis has prompted concerns about the impact of energy prices on households and on industrial competitiveness. The shale gas revolution, made possible by hydraulic fracturing technology, has helped the US reduce its energy imports and brought down energy prices. Global emissions of greenhouse gases continue to rise while an international climate agreement is being negotiated.

The European Commission has proposed a 40% target for GHG reductions by 2030 and a 27% target for the market share of renewable energy sources, but as yet no new target for energy efficiency. The European Parliament supports three binding targets for 2030: a 40% reduction in GHG emissions, at least 30% renewable energy sources and a 40% target for energy efficiency. Member States and stakeholders are divided over the appropriate level of ambition and over the need for binding targets for renewables and energy efficiency.

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EUROPEAN PARLIAMENT

EU climate and energy policies

Europe is in the midst of a debate about medium-term (2020-30) climate and energy policies that would promote cost-efficient decarbonisation, and provide certainty for investments in long-lived energy infrastructure. The European Commission (EC) has proposed a policy framework, centred around a core target for reducing GHG emissions, whereas the European Parliament (EP) favours separate targets for GHG reductions, renewable energy and energy efficiency.

Targets for 2020

The EU's current climate and energy policies, part of the Europe 2020 strategy, are focused on preventing dangerous climate change by reducing emissions of greenhouse gases (GHG). The targets for 2020 are a 20% reduction in GHG emissions compared to 1990, a 20% market share for renewable energy sources, and a 20% improvement in energy efficiency. These so-called "20-20-20" targets were agreed by EU leaders in 2007 and enacted through legislation set out in the 2009 climate and energy package .

The 20-20-20 targets have so far had mixed results. With an 18% reduction in GHG emissions by 2012, the EU is likely to achieve its 20% target for 2020. In 2011, 13% of final energy consumption came from renewable sources. While some Member States (MS) are on track to achieve their targets for the market share of renewables, others will have to make additional efforts. Only a 17% improvement in energy efficiency is expected from measures under the 2012 Energy Efficiency Directive.

Objectives for 2050

In 2009, the European Council agreed the long-term objective of reducing EU GHG emissions by 80-95% by 2050, compared to 1990 levels, in the context of similar reductions by other developed countries. To outline the path towards such a low-carbon future, the EC presented roadmaps for a competitive low-carbon economy, resource efficiency, energy and transport.

Policies for 2030

In order to bridge the gap between the targets for 2020 and long-term objectives for 2050, the EC adopted a Communication on 22 January 2014 on a policy framework for climate and energy in the period from 2020 to 2030. It proposes a binding GHG reduction target of 40% and a binding target of 27% for the market share of renewable energy sources, but so far no energy efficiency target. It is accompanied by a legislative proposal for reforming the EU Emissions Trading System (ETS), a Recommendation on hydraulic fracturing (fracking), as well as a report about energy prices and costs. The EC did not, however, propose renewal of the Fuel Quality Directive, which will end in 2020.

On 5 February 2014, the European Parliament (EP) voted in favour of three binding targets for emissions reductions, renewable energy sources and energy efficiency, referring to the Commission's proposal as “short-sighted and unambitious”.

The European Council of 20-21 March 2014 called on Council and EC to analyse the implications of the EC proposals on individual MS, to review the Energy Efficiency Directive and to develop an energy efficiency framework. It aims to take a final decision on the new policy framework no later than October 2014, in good time to submit the EU's offer for the international climate negotiations by early 2015. It also called on the EC to present, by June 2014, a comprehensive plan for reducing EU energy dependence.

Competing objectives

The challenge for climate and energy policies is to balance three objectives: security of energy supply, competitive energy prices, and decarbonisation.

Security of supply

The EU is heavily dependent on energy imports – more than half of its energy consumption comes from imports. Two-thirds of the natural gas consumed and 85% of oil are imported. Security of energy supply is thus an important concern, in particular for Member States (MS) that have few indigenous energy sources and depend on a single supplier for most of their energy needs.

Security of supply can be achieved by different means. Diversification of imports can reduce dependence on individual suppliers, and supply contracts can ensure deliveries at competitive prices. Energy infrastructure, such as oil and gas pipelines and electricity transmission grids, may have to be constructed or upgraded in order to diversify supply and create cross-border connections.

Indigenous energy sources help to reduce dependence on imports. These include conventional (coal, gas, oil) and unconventional (shale gas and shale oil) fossil fuels and renewable energy sources (hydropower, solar, wind, and biofuels). However, as sunshine and wind are not always available, a growing share of solar and wind power poses challenges for the stability of electricity supply, which need to be addressed through back-up generation capacity, energy storage and better grid interconnections. Gas-powered and nuclear electricity generation are other options for ensuring a stable electricity supply while reducing emissions, compared to coal.

The US has been able to reduce its dependency on imports by increasing its own gas and oil production through the application of hydraulic fracturing. In Europe, further exploration is needed to assess the potential of fracking for energy production.

Competitiveness

Falling gas and electricity prices, made possible by the 'shale revolution', have made the US an attractive location for energy-intensive industries. There is concern – exacerbated by the economic crisis – that higher energy prices in the EU could damage the competiveness of European industry and discourage industrial investments in the EU.

The EC released a Communication and report on energy prices and costs that shows higher energy costs in the EU than in many other regions, and a widening gap. Inside the EU, there are significant differences in energy prices between MS and industrial sectors. Rises in electricity prices are driven mostly by taxes and levies, and network costs.

Separate national support schemes for renewables and fragmented European energy markets are considered to contribute to high energy prices. IHS warns that rising prices for energy from renewable sources (RES) could endanger German industrial competitiveness. Completion of the internal energy market, due in 2014, should lead to lower prices.

Decarbonisation

With no universal climate commitment, global CO_2 emissions have risen 36% since 2000, reaching 34.5 billion tonnes in 2012. If GHG emissions grow at this rate for the next two decades, the internationally agreed target of limiting global warming to below 2°C is likely to be missed.

Falling emissions in Europe and the US are more than compensated by rapidly rising emissions in other parts of the world, notably in Asia. China's per capita emissions are now almost as high as the EU's. However, reduction commitments under the Kyoto protocol apply only to developed countries. Moreover, for the 2013-20 period, commitments were made only by the EU, other European states and Australia. As the EU accounts for only 11% (and falling) of global GHG emissions, EU action alone can have only a limited impact on global climate change.

An international climate agreement – applicable to all countries – is due to be concluded in 2015 and come into force in 2020. However, the outcome is far from certain, as developed and developing countries disagree about their respective responsibilities, and Canada, Australia and Japan have recently lowered their ambition to reduce GHG emissions. UN Secretary-General Ban Ki-moon has invited heads of state and government, along with stakeholders, to a Climate Summit in September 2014.

Apart from reducing climate change, decarbonisation is considered to bring further benefits such as less pollution, technology leadership, 'green' jobs and reduced dependence on energy imports (for countries without primary energy sources).

Climate and energy targets for 2030

Opinions are divided over whether decarbonisation can be best achieved with a single GHG reduction target, or if additional targets for renewable energy sources (RES) and energy efficiency are needed.

Proponents of a single "technology neutral" target consider that this is enough to set the path for decarbonisation, and that it should be left to the markets to achieve in the most cost-effective way. They contend that dedicated support for renewable energy sources and energy efficiency will lead to distortions and non-cost-effective outcomes.

Others argue that separate targets for RES and energy efficiency are needed to overcome market failures. They see the RES and energy efficiency sectors as drivers for growth, innovation and employment.

Cuts in greenhouse gas emissions

Current EU policy

There are two mechanisms for achieving the 2020 target of reducing GHG emissions by 20% compared to 1990 levels: an EU-wide cap on GHG emissions under the Emissions Trading System (ETS), and national targets for sectors not covered by the ETS. The ETS applies to more than 11 000 power stations and industrial plants, as well as aviation. For the non-ETS sectors (such as transport, buildings, agriculture and waste), national targets are set in the Effort Sharing Decision.

By 2012, the EU had reduced its GHG emissions by 18%, compared to 1990. The 20% target for 2020 is thus likely to be achieved. In the non-ETS sector, 15 MS emitted less than their national target for 2020.

Commission proposal

The EC proposes a 40% reduction in GHG emissions by 2030, compared to 1990 levels. This reduction is to be achieved by reducing the annual number of emissions allowances in the ETS, and by national targets for the non-ETS sectors.

In order to coordinate national policies, a new governance structure is proposed. Member States would draw up national plans, which would be assessed by the EC.

European Parliament
The EP calls for a GHG reduction of *at least* 40%, complemented by binding national targets for energy efficiency and renewable energy sources.

Member States
Most of the MS that responded to the EC's public consultation favour a GHG reduction target, although some want to make it conditional on the outcome of the international climate negotiations. The Green Growth Group – energy, climate and environment ministers from 13 MS – calls for an "ambitious target-based post-2020 policy framework" and for a reform of the ETS. Poland opposes an EU target before the conclusion of an international climate agreement, arguing that unilateral commitments weaken the EU's negotiating position.

A number of MS, including the UK and the Czech Republic, favour a single target for GHG reductions. The UK had proposed a unilateral EU target of 40%, which could be raised to 50%, conditional on a comprehensive global agreement. Poland and the Czech Republic want technology-neutral policies, where the ETS is the main instrument. Denmark prefers to continue with the current system of three EU-wide targets.

Experts and stakeholders
Business Europe supports a single target for GHG emissions, which should take into account the outcome of the international climate negotiations in 2015. Eurelectric supports a single technology-neutral GHG reduction target of at least 40%. Cefic (chemical industry) considers the proposed targets too demanding and warns of de-industrialisation. Europia (petroleum industry) worries that overlapping targets and unilateral EU ambition could have a negative impact on the European refining industry.

The Committee of the Regions advocates three binding targets – including a 50% GHG reduction – and points out the crucial role of local and regional authorities in the implementation of policies. Energy Cities, an association of over 1 000 European cities, expresses similar views.

Environmental groups (Climate Action Network, Greenpeace, WWF) call for binding targets for GHG reduction (55%), RES (45%) and energy efficiency (40%).

Economists warn that interactions between multiple targets, at EU or national level, are likely to reduce the effectiveness of the ETS, and lead to higher costs and higher emissions. German think tank CEP argues that the EC should adjust its roadmaps to take into account the possibility that climate negotiations might fail. The European Policy Centre (EPC) welcomes the fact that the 40% target "provides direction without dictating the means", and calls for a single market for renewable energy, as well as concrete measures to promote energy efficiency.

Regarding international climate negotiations, some argue that the EU needs a credible climate policy if it wants to negotiate a global agreement, while others fear that setting a target too early will weaken the EU's negotiating position.

Targets for renewable energy sources
Current policy
The Renewable Energy Directive, adopted in 2009 as part of the climate and energy package, sets an EU-wide target to achieve a 20% share of renewable energy sources (RES) in gross final energy consumption by 2020. This target is broken down into binding national targets for the MS, taking into account their wealth and resource base.

By 2011, RES had reached a share of 13% of final energy consumption. Estonia has already met its national target, while France and the UK were farthest away and would have to make additional efforts to meet their respective targets.

Commission proposal
The EC proposes a binding 27% target for 2030. However, this target would be binding only at EU level. Without national targets, MS would remain free to determine their energy mix, and opt for other low-carbon energy sources such as nuclear.

European Parliament
In its resolution of 5 February 2014, the EP calls for an RES target of *at least* 30%, to be implemented by national targets.

In response to the EC's communication on renewable energy beyond 2020, the EP resolution of 21 May 2013 called for targets and milestones for the post-2020 period and for an RES share *above* 30%.

Member States
Ministers from eight MS, including France and Germany, have called for a separate RES target.

Experts and stakeholders
A group of 92 European companies supports mutually reinforcing targets, including a binding target for RES. The European Renewable Energy Council, representing Europe's renewable energy companies, favours a binding 45% target for renewable energies.

Some regard the target as lacking ambition, since a 27% RES share is considered necessary for achieving the 40% GHG reduction, according to the EC.

Analysts point out that there is a potential conflict between market liberalisation and climate-related state interventions in the energy market, which affect the energy mix and are therefore the responsibility of the Member States.

Energy efficiency targets
Current policy
The Europe 2020 strategy sets a non-binding target of a 20% increase in energy efficiency. In practice this means a 20% reduction of primary energy consumption compared to the hypothetical projected consumption for 2020, or a 13.5% reduction compared to 2005.

The Energy Efficiency Directive, which came into force in December 2012, sets out measures that Member States have to take to improve their energy efficiency. These include the renovation of public buildings, energy audits for large companies and an obligation for energy utilities to help customers reduce their energy use.

MS set their own indicative national targets. They have until April 2014 to submit action plans and until June 2014 to implement the provisions of the Directive.

The measures set out in the Directive are expected to result in a 17% efficiency improvement by 2020. Additional efforts would be needed to reach the non-binding 20% target.

Commission approach
The EC plans an assessment of the Energy Efficiency Directive in the summer of 2014 and therefore chose not to propose new targets before the review was carried out.

European Parliament
The EP resolution of 5 February 2014 calls for a binding energy efficiency target of 40%, which should be implemented by means of individual national targets.

Research findings
Research carried out for the Coalition for Energy Savings found that the EU has a potential for 41% cost-effective end-use energy savings by 2030, which would help reduce GHG emissions by 49-61% and boost competitiveness and employment.

Reform of the Emissions Trading System

Current situation
The EU Emissions Trading System (ETS) is suffering from an oversupply of GHG emissions allowances, largely due to the economic crisis – and to a lesser degree the displacement of fossil fuels by renewables. Although the ETS achieves its goal of limiting GHG emissions, the current price of emission allowances is too low to incentivise the substitution of gas for coal, or investment in low-carbon technologies such as RES or carbon capture and storage. A decision to postpone the auctioning of allowances (backloading) has had little effect on their price.

Commission proposal
The EC put forward a legislative proposal to introduce a market stability reserve to the ETS, in order to avoid excessive supply or shortages of allowances. Starting from 2021, allowances would be placed in a reserve if the number of allowances in circulation exceeds 833 million. Allowances from the reserve would be released when there are fewer than 400 million allowances in circulation. The mechanism would be completely automatic and predictable, without the need for any political decisions.

European Parliament
The EP supports a structural reform of the ETS, insisting that it must remain fully market-based. The EP calls on the EC and MS to encourage the deployment of carbon capture and storage technologies.

Reactions and Positions
Research suggests that the proposed stability reserve could lead to greater fluctuation in the carbon price and become a source of instability. Industry analysts warn that state support for renewables may weaken the ETS.

Hydraulic fracturing

Current policy
At present, there are no EU-wide rules on hydraulic fracturing ("fracking"). MS have divergent approaches: some are keen to use fracking technology to explore and exploit indigenous shale gas reserves, whereas others have banned fracking on their territory.

Commission Recommendation
The EC adopted a non-binding Recommendation concerning the use of hydraulic fracturing for the exploration or production of shale gas/oil. The Recommendation mostly concerns environmental aspects of hydraulic fracturing, which can have cross-border impacts. The public should be informed about any chemicals used in the process. MS remain free to choose their approach to shale gas: they may go ahead with exploration or choose to ban fracking.

MS that decide to use fracking are invited to apply the recommendation by July 2014, and report annually to the Commission. The EC will review national measures within 18 months, and decide if the voluntary approach is working or if EU legislation is needed.

European Parliament

The EC Recommendation is broadly in line with the EP resolutions of 21 November 2012 on the industrial and environmental aspects of shale gas and oil. Despite EP requests, a new environmental impact assessment Directive will not mandate environmental impact assessments for exploration and extraction of shale gas.

Experts and stakeholders

The climate impact of shale gas can vary according to different circumstances: if it is an additional energy source or displaces RES, an increase in GHG emissions will result. Climate scientists warn that the development of shale gas, a fossil fuel, is incompatible with international commitments on climate change. If, on the other hand, shale gas were to replace more polluting fuels such as coal, it could lead to a cost-effective reduction in GHG emissions.

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