The climate and energy proposals put forward by the European Commission on January 23, are perhaps the most important plans to come out of Brussels since José Manuel Barroso became president of the Commission in 2004. The European energy sector will never be the same again.

Action at last

The Berlaymont building houses the new European Commission headquarters in Brussels. Photo: Corbis

by Hughes Belin

The most fitting comment on the European Commission's new legislative package on energy and climate was not uttered by its president, José Manuel Barroso, who tends to label all the Commission's actions as being 'historic'. Rather, the liberal member of the European Parliament, Graham Watson, attending the presentation of the package at the Parliament managed to capture the significance of these proposals, the expectations of the European business world and public opinion in the member states in a single sentence when he described it as being 'the most important act to be passed by the Barroso Commission in that it responds to the most serious threat facing citizens'.

The right time

At the end of 2006, the world fight against climate change took on a new direction. This was due to two highly publicized actions, each of which touched their respective audiences.

The first was Al Gore's film "An Inconvenient Truth" which raised public awareness about the seriousness of the consequences of global warming. An Oscar for the best documentary and the Nobel peace prize (jointly awarded to the Intergovernmental Panel on Climate Change, IPCC) further increased public awareness.

It was the Stern report, compiled by Tony Blair's advisor, Sir Nicholas Stern that triggered the response of the business community. The report paints a very gloomy picture of the negative impact that climate change would have on the world economy. And most importantly it speaks of the price of inaction: doing nothing could cost 5% of the world's GDP annually, now and for the indefinite

future. The price could even go up to 20% of the world's GDP if collateral damages are included. On the other hand, taking action to reduce greenhouse gas emissions would imply an annual cost in the region of 1% of global GDP.

Europe's legislative machine has been slow to respond to the climate change issue. When he took the reins of the European Commission in mid-2004, José Manuel Barroso made it a point of honour to stop the legislative avalanche set in motion by his predecessor Romano Prodi. As a result his staff, and particularly those working in Directorate General Transport and Energy (DG TREN), have been in the wilderness, so to speak, for the past two years. Meetings of the Council of energy ministers have been unbelievably and scarily vacuous these past few years. Barely a single text came out of the council, at a time when Vladimir Putin's power trips and the sharp rise in oil prices regularly hit the headlines.

Now there is the "energy and climate package" of 23 January. And as Graham Watson has said, this is the most important proposal to come out of Brussels during the existence of the Barroso Commission. The energy sector is about to find itself in turmoil because a reduction in greenhouse gasses, particularly CO_2, is going to have to become a reality. The question is of course how and where?

Chess game

Despite the impatience of many, the European climate strategy has been implemented slowly, transparently and amid a great deal of consultation. The European emission trading system (ETS) went through its teething phase in 2005. Frenzied lobbying by industry at the time led to an overallocation of CO_2 emission allowances. Was this a genuine beginner's mistake or a bluff? The Commission sacrificed its castle to set up its bishop and managed to save the King. The ETS works, Kyoto is in force and the emission trading market is now a reality, likely soon to become global. It has already resulted in a 7% reduction in emissions from sectors covered by the scheme.

And now the time has come for it to be revised: a golden opportunity to add the finishing touches to this ambitious climate strategy. Once bitten, twice shy, and wary of its critics, notably European governments, the Commission has launched consultation after consultation. To such a degree that one could not help doubting the political convictions of its leaders. Nevertheless, in an unprecedented move, the Commission, just over a year ago, presented its "energy package", which although it contained no legislation, did introduce a new step, hitherto unforeseen in the treaties, into the European decisional process: an open and transparent consultation with member states following a nine month public consultation launched by a Green Paper on energy.

The energy and climate package introduces limits that no political leader wants to hear. The 20% reduction in greenhouse gasses in the European Union between 1990 and 2020 implies a 14% reduction compared with 2005 emission levels.

The Commission has translated these figures into concrete terms, divided

José Manuel Barroso, President of the European Commission (right), discusses the climate package with Graham Watson, member of the European Parliament. Photo: Getty Images

between the different greenhouse gas emitting industrial sectors, not only of CO_2 but also nitrogenous gases and perfluorocarbon.

After 2013, life will change radically for industry. Allowances will be allocated for eight years instead of five as is currently the case. Other sectors, such as energy-intensive industries (aluminium) will be added to the ETS. The rule is relatively simple: businesses that can pass the carbon costs onto their clients, such as electricity generators, will have to buy their allowances by auction, others, subject to global competition will be allocated allowances for free – to begin with – after which they will have to gradually buy a bigger and bigger share until they get to 100% in 2020.

Industry lobbies put a lot of pressure on the Commission and its powerful vice-president, Günther Verheugen, a keen supporter of large industries, to get better conditions. In fact, the Commission has left itself room for manoeuvre by including a review clause in 2010 or thereabouts to finalize the rules for this business category. Based on the results of international negotiations on the post-Kyoto agreement – expected to be completed in 2009 – the Commission will be able, if necessary, to get things back on course by imposing a "carbon tax" on products imported into Europe, in order to establish a level playing field with countries not subject to the same carbon restrictions. It will produce a carbon leakage report (describing the difference between the emissions produced by a factory that has relocated to a country where carbon restrictions don't apply and the emissions produced by the same factory if it had stayed in the EU) to evaluate, in concrete terms, the impact of carbon restrictions in Europe on relocations.

However that may be, the aim is to achieve a linear reduction in allowances, and therefore emissions, of 21% between 2005 and 2020 for industries covered by the ETS. Worth noting is the fact that the Commission, to ensure that the measures are financially viable, has allowed numerous small businesses to opt out from the ETS, provided member states find an equivalent way, such as a carbon tax, of limiting their emissions.

The Commission has also, for the first time, proposed a limit on overall emissions of -10% compared with 2005 levels for all business sectors not covered in the ETS.

In the same way as the effort sharing defined by the Kyoto protocol, which set the general reduction target of EU emissions at -8%, to be distributed among the EU countries, the target of reducing emissions by 14% by 2020 compared to 2005 levels will be unevenly distributed between EU member states. This will be achieved, on the one hand, via the ETS allowance allocation process which is to be fully coordinated throughout Europe and, on the other hand, via the caps for emissions produced by sectors not included in the ETS for each member state. These figures range from -20% to +20%, with stricter caps being imposed on more developed countries, while the new member states benefit from less stringent caps 'to support their economies'.

Help needed

While some might describe these targets as ambitious and others as inadequate,

the fact is that this is what European leaders have agreed on in March 2007: a 'unilateral' reduction in European emissions of 20% in 2020 compared to 1995 levels. This figure may go up to 30% with a post-Kyoto international agreement. Environmental NGOs have protested the negative signal given out to the international community by the Commission's conservative stance. By choosing the lowest possible target, the Commission is clearly not counting on reaching an agreement, although it did give itself the possibility of getting things back on course in 2010.

It now only remains to reduce 2020 emissions by 14% compared to 2005 levels. Still, that's not nothing - the cost will be in the region of €90 billion annually in 2020, the equivalent of 0.6% of GDP or '€3 per inhabitant per week', as indicated by Barroso.

To achieve these targets, the Commission has introduced a series of incentives for member states: promoting renewable energy sources; promoting carbon capture and storage (CSS) and a framework which is favourable to environmental state aid. These new measures come on top of earlier measures such as the European Action Plan for energy efficiency, published little over a year ago, in line with the 2006 energy efficiency directive.

Renewables

The other important element of the 23 January legislative package is undoubtedly the revised regulation relating to renewable energy sources in electricity, heating/cooling and transport. The European legislation is supposed to stimulate the sector sufficiently to achieve the average target of 20% renewables in the total energy consumption in the EU by 2020, including a minimum of 10% biofuels in fuels used for transport in all member states.

Apart from the minimum target imposed on the transport sector, member states are free to choose how they wish to spread the efforts between these sectors. The burden sharing in reaching this target of 20% (we are currently at 8.5%) is, as expected, the subject of hard fought discussions between member states.

The 2007 report on the green electricity directive (2001/77) noted that renewables are subject to discrimination and that, in practice, the sector is struggling to develop because of administrative red tape. Consequently the future directive will refrain from harmonizing support mechanisms as the Commission feels that this would be 'premature'. Neither does the draft directive forget to indicate that the full unbundling of transmission system operators would contribute significantly to opening the infrastructures to energy generators from renewables.

In short, to reach the renewables target, the directive recommends the convergence of support mechanisms, more flexibility in administrative and planning procedures, construction and procurement rules, information and training. It also proposes new planning rules and administrative procedures and makes proposals to avoid repeating previous mistakes: one-stop shops, proportional charges, planning deadlines, better information for the public and professionals and new minimum limits in renewable energy consumption for new buildings.

> *Meetings of the Council of energy ministers have been unbelievably vacuous*

The directive also tackles the thorny but critical issue of guarantees of origin. The current system will be improved and standardized, and will include a system of mutual certification recognition. Trading of guarantees of origin will be possible for those member states which choose to partake.

Imported green energy can only be taken into account for the purposes of the directive if it represents a net addition to total production of such electricity. Renewables produced and consumed abroad will not be taken into account.

Biofuels

The most innovative aspect of the new directive, apart from merging two directives with nothing in common except the fact that they both deal with renewable energy, is the introduction of environmental viability criteria for biofuels.

Not only must biofuels be able to perform minimum levels of greenhouse gas reduction (35% lower than their equivalent in fossil fuels), their production will have to meet with new environmental requirements. Biofuels that do not meet these requirements will not be recognized by the directive. This seems a step towards a solution of the conflict over biofuels which has been fought out by the biofuels sectors, the authorities, NGOs and other relevant parties. At last, clear rules have been defined to calculate greenhouse gas emissions produced by biofuels and those produced by their comparative 'fossil" counterparts. In terms of production, the Commission has defined a series of criteria on biodiversity as well as types of compensation for using co-products, thereby diversifying the raw material pool and, notably, promoting lignocellulosic material for the production of second generation biofuels. The rules state that biofuels may not be produced from raw material cultivated on land converted from high-carbon-stock or high-biodiversity uses and if made from raw material produced in the EU, they should comply with EU environmental requirements for agriculture.

The penalty regime for failing to meet the criteria will include exclusion from tax breaks and the exclusion of the incriminated biofuels from statistics relating to obligations and

national targets. The Commission has even suggested the physical tracking of biofuels for quick identification allowing them to be rewarded with a premium in the market

Carbon capture & storage: a must

In addition, the Commission has produced a new directive on carbon capture and storage. Hoping to boost the development of geo-sequestration of carbon, the Commission has also included the technology in its proposal for the revision of the ETS. Operators will not be able to earn extra allowances by burying carbon, but the CO_2 will simply be considered as 'not having been emitted'.

This latest CCS (carbon capture and storage) draft legislation has been long awaited because, by the Commission's own admission, the European Union's 27 member states cannot reduce their CO_2 emissions by between 60% and 80% by 2050 without the help of geo-sequestration. It is particularly important as most of Europe's coal driven power stations will be closed in the next ten years and they will not be replaced by 'zero emission' power stations if this is not required.

The effect of CCS on emission reduction will take a long time to be felt. The Commission estimates that 'in the EU alone, power sector CO_2 emissions reductions through CCS will reach (...) 161 MT in 2030 and 800-850 MT in 2050, representing respectively 3.7% and 18-20% of current overall CO_2 emission levels.'

State aid

The energy/climate package also includes a new Community framework for environmental aid. The existing framework dates back to 2001 and has already been extended until the end of 2007. The revision of this framework allows for support to be given to Community objectives for aid to 'clean' technologies. Referring to state aid funded by national governments rather than EU subsidies, the Commission's competition services feel that 'this aid should not only be authorized, but actively encouraged'.

The Commission allows state aid, banned in principle because it distorts competition in the internal market, in cases where it promotes certain European policies, such as the protection of the environment, in domains where the market proves to be inadequate. The polluter-pays principle, inscribed in the European treaty, is one such example because the internalization of the external costs of pollution is not applied, slowing the development of renewable energy sources.

Approximately 80% of environmental aids are in the form of tax breaks, which can last for periods of up to ten years.

As to support schemes for green electricity, Denmark, Germany and Spain have thus far recorded the best efficiency indices: 'high investment security combined with few administrative and regulatory barriers have stimulated strong, continued growth of the wind energy sector over the pas decade'.

The Commission sacrificed its castle to set up its bishop and managed to save the King

Countdown

Time is short to adopt the legislative package by the end of the legislature (June 2009). The last plenary of the European Parliament in April 2009 will be the last opportunity to formally adopt legislation before new European elections take place and a new Commission is appointed for a five-year term. If decision-makers fail to do so, everything will have to be re-discussed from scratch.

This is why the Commission services have worked so hard, even around the clock, to deliver the package by January 23. French Presidency of the Council already claimed it will just need one lecture to solve all energy issues in the pipe, i.e. including the liberalization package. Some doubt it: the European Parliament is tabling two readings. In any case, the next few months will be decisive for bringing this energy/climate package to life and decision makers will definitely have to give their everything to meet the tight institutional deadline. ■

Share of energy from renewable sources in final energy consumption in 2005 and the target share for 2020

	2005	Target
Belgium	2.2%	13%
Bulgaria	9.4%	16%
Czech Republic	6.1%	13%
Denmark	17.0%	30%
Germany	5.8%	18%
Estonia	18.0%	25%
Ireland	3.1%	16%
Greece	6.9%	18%
Spain	8.7%	20%
France	10.3%	23%
Italy	5.2%	17%
Cyprus	2.9%	13%
Latvia	34.9%	42%
Lithuania	15.0%	23%
Luxembourg	0.9%	11%
Hungary	4.3%	13%
Malta	0.0%	10%
The Netherlands	2.4%	14%
Austria	23.3%	34%
Poland	7.2%	15%
Portugal	20.5%	31%
Romania	17.8%	24%
Slovenia	16.0%	25%
The Slovak Republic	6.7%	14%
Finland	28.5%	38%
Sweden	39.8%	49%
United Kingdom	1.3%	15%

Source: Proposal for a "Directive of the European Parliament and the Council on the promotion of the use of energy from renewable sources". Brussels January 23 2008.