

## **RISKS AND CHALLENGES IN THE PROCESS OF IMPLEMENTATION OF THE EU CLIMATE PACKAGE**

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### **1. INTRODUCTION**

The European Commission's 60 billion Euros climate action and renewable energy package has received a mixed reaction from the Member States, environmental organisations, industry and experts. More precisely, the Commission proposed a 20 % cut in carbon dioxide emissions so that by 2020 they are 20 % lower than in 1990. In the case of an international agreement, the target could be increased to 30 % by 2020.

The restructuring of Europe's energy markets has attracted the attention of more than just traditional players in the energy sector. In the light of increasing concerns about climate change, environmental sustainability, economic growth and security of energy supply, a growing chorus of voices has chimed in for the shape of the EU's future energy policy. Reaching the targets set in the new package will be quite challenging. Some of the EU countries have very low level of renewable energy use and they are already scoping a vast expansion of wind energy offshore.

Energy-intensive industries which are included in emissions trading continue to receive the necessary CO<sub>2</sub> allowances free of charge. Thus, the package should apply to steel, aluminum and cement production.

While most parties agree that Europe's energy policy should simultaneously guarantee security of supply, competitiveness and environmental sustainability, stakeholders differ widely on how these objectives should be achieved.

The success of the internal energy market will also be heavily dependent on a predictable and stable carbon price, without which electricity producers across Europe will be unable to make correct investment and business strategy decisions.

The paper will discuss the reactions towards the new package of measures, the new challenges and the possible scenarios in the process of its implementation.

### **2. THE NEW PACKAGE**

The new EU package<sup>1</sup> include an improved emissions trading system (ETS) covering more emissions and allowing firms in one EU country to buy allowances in any other and an emission reduc-

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<sup>1</sup>Climate and energy measures approved in December 2008, <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=20081217&secondRef=TOC&language=EN> (accessed 24/03/2009)

tion target for industries not covered by the ETS (e.g. buildings, transport, waste) so that everyone is contributing.

### **3. WHAT EXACTLY WILL CHANGE?**

These are the targets according the package:<sup>2</sup> for the power plants and energy-intensive industries, emissions to be cut to 21% below 2005 levels by 2020. This will be achieved by granting fewer emission allowances under the EU Emissions Trading System (ETS), covering some 40% of total EU emissions. For sectors not covered by the ETS, e.g. transport, except aviation, which will join ETS in 2012; farming; waste; and households, emissions to be cut to 10% below 2005 levels by 2020.<sup>3</sup>

More precisely, these targets are planned to be achieved through binding national targets, with higher reductions for richer countries and limited increases for the poorest ones. Renewables will produce 20% of all the EU's energy by 2020, through binding national targets which vary from 10% for Malta to 49% for Sweden (climate and energy measures approved in December 2008). At least 10% of transport fuel in each country must be renewable: biofuels, hydrogen, green electricity, etc. It also includes promotion of safe use of carbon capture and geological storage (CCS) technologies, which could eventually remove most carbon emissions from fossil fuels used in power generation and industry.

The package<sup>4</sup> thus focuses on three important areas: emissions cuts, renewables and energy efficiency. Changes have been made to the original package unveiled by the European Commission to address European industrialists' concerns about green measures potentially making them uncompetitive at a time of weak global demand.<sup>5</sup>

However, the overall 20-20-20 targets have been kept:<sup>6</sup> a 20% cut in emissions of greenhouse gases by 2020, compared with 1990 levels; a 20% increase in the share of renewables in the energy mix; and a 20% cut in energy consumption.

The EU package builds on the international commitments.<sup>7</sup> These commitments only run until 2012. A UN conference will take place in Copenhagen in December 2009 (Countdown to Copenhagen, 2009) for the new targets for the post-Kyoto world.

Also, there is an expectation that US President Barack Obama will embrace green targets (Going "Green" to Enhance Brand Appeal, 2008). But China, India and other significant industrial powers will also have to come on board if global warming is to be tackled effectively.

Scientists say global warming is already happening and predict that if the planet's temperature rises more than 2C above the pre-industrial level there will be more extreme weather phenomena and rising sea levels, threatening coastal areas. Northern Europe is getting wetter and the south drier, Arc-

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<sup>2</sup> See Ibid

<sup>3</sup> See Ibid

<sup>4</sup> See Ibid

<sup>5</sup> BBC news/EU climate package explained, January 2009

<sup>6</sup> See ibid, Climate and energy measures approved in December 2008

<sup>7</sup> Kyoto Protocol, 1997

tic summer sea ice is melting faster than expected, many plant and animal species are moving further north and uphill.

Deforestation and the burning of fossil fuels are blamed for the warming effect, because they increase the main greenhouse gas, the carbon dioxide (CO<sub>2</sub>), in the atmosphere. The target of cutting greenhouse gases by at least 20% by 2020, compared with 1990 levels will rise to 30% if an international agreement is reached committing other developed countries and the more advanced developing nations to comparable emission reductions.

Under the ETS, permits for emitting CO<sub>2</sub> are distributed under a system of national allocations. The permits are traded, so big polluters can buy extra ones from greener enterprises. The ETS covers about 10,000 heavy industrial plants across the EU - notably power plants, oil refineries and steel mills. All major industrial emitters of CO<sub>2</sub> are to be brought under the ETS eventually and the scheme will also include greenhouse gases other than CO<sub>2</sub> - nitrous oxide and perfluorocarbons. According to the package<sup>8</sup> in the first and second ETS trading periods (2005-2012) the EU decided to give most of the CO<sub>2</sub> permits to power plants and energy-intensive industries for free. The original plan was that from 2013 such enterprises would have to buy all their permits at auction. But industrial lobbies, particularly in Germany and Italy, complained that the cost would be too great, at a time of economic hardship. Poland, whose power plants are 95% reliant on coal, argued that the extra cost of buying permits would mean an unacceptable rise in electricity prices - a fear echoed by its former communist neighbours. Therefore, EU leaders made some concessions<sup>9</sup> denounced by green campaigners. Full auctioning will be delayed for industrial sectors where there is a proven risk of "carbon leakage" - that is, a risk that jobs or plant could be relocated to non-EU countries where the rules on emissions are more lax.

Poland and other former communist countries will get about 12% of the revenues from the ETS, as help to clean up their heavy industry. Plants in the poorer EU states still heavily reliant on fossil fuel, including ones which were not integrated into the main EU power network in 2007, will only have to buy 30% of their CO<sub>2</sub> permits in 2013. Full auctioning will not apply to them until 2020. A substantial amount of the emissions cuts will be achieved through carbon "offsets" - the practice whereby enterprises in the EU get carbon credits by sponsoring green projects in developing countries. The projects have to comply with the mechanisms set up by the Kyoto Protocol.<sup>10</sup> Credits not already used up in the 2008-2012 ETS period can be banked and carried over into the 2013-2020 period.

Some environmentalists say the use of carbon offsets will seriously weaken the impact of the EU's climate package in Europe. Green MEP Claude Turmes, one of the European Parliament's top negotiators on the package,<sup>11</sup> said at the EU Summit that revisions meant only one-fifth of the world's emission cuts would be made in Europe. He said EU leaders had given away "too much to the big polluters".<sup>12</sup> An Oxfam spokeswoman, Elise Ford, said the EU package "looks too much like busi-

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<sup>8</sup> See Ibid, Climate and energy measures approved in December 2008

<sup>9</sup> See Ibid

<sup>10</sup> Kyoto Protocol, 1997

<sup>11</sup> See Ibid, Climate and energy measures approved in December 2008

<sup>12</sup> EU summit: 19.03.2009

ness-as-usual tied up in a green ribbon".<sup>13</sup> Sectors not covered by the ETS account for about 60% of all EU greenhouse gas emissions. Chief among these are road and sea transport, buildings, services, agriculture and smaller industrial installations.<sup>14</sup>

The whole car industry has been set an average emission target of 120g of CO<sub>2</sub> per kilometre by 2012 for new cars, compared with current levels of 160g/km. The target for 2020 is 95g/km.<sup>15</sup> But CO<sub>2</sub> emissions vary from car to car, and manufacturers have been given a deadline until 2015 to meet their specific targets for each model. A key area of green innovation is carbon capture and storage (CCS) - new technologies that allow industrial CO<sub>2</sub> emissions to be captured and stored underground, where they cannot harm the climate. There are plans to build 10 to 12 big pilot plants in the EU by 2015, with a view to making CCS commercially viable by about 2020. The plants would be funded by revenue from the ETS. The EU package sets the goal of increasing renewable energy's share of the market to 20% by 2020, from around 8.5% today<sup>16</sup>

Within that goal 10% of transport fuels will have to come from renewables, including biofuels. The Commission wants a strict certification system to ensure that only biofuels achieving a real cut of at least 35% in CO<sub>2</sub> emissions will be allowed.<sup>17</sup>

The renewables targets for Member States differ because they are at different stages in their use of wind energy, solar power, hydroelectric power and other green sources. The EU must embrace renewables not only to slow climate change but also because the EU's reliance on imported gas is set to increase. The creation of new jobs in renewable energy technologies is another benefit. Energy consumption is to be cut by 20% by 2020 through improved energy efficiency (climate and energy measures approved in December 2008). State aid can legitimately be used to promote emissions cuts and increase take-up of renewables, so long as it does not breach EU competition rules.

In December 2008 the Commission came up with new proposals for the EU to co-finance national and local schemes to promote energy-efficient housing.<sup>18</sup> If the plan is adopted, the EU can help Member States install double glazing, wall insulation and solar panels in housing, especially targeting low-income households.

Apart from all the benefits expected to occur with the implementation of the package<sup>19</sup> the scepticism towards it arises because some countries fear that they will face the biggest crisis within 6 or 7 years, by losing their generating capacity. Some countries are heavily reliant on imported Coal, Oil and Gas. Their Nuclear Power Stations will shut down in the next 7 years, before the final deadline. EU environmental directives also impose closure of Coal Fired Power stations and new emissions targets.

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<sup>13</sup> Oxam, 2009

<sup>14</sup> **Cronin, 2008**

<sup>15</sup> Climate and energy measures approved in December 2008

<sup>16</sup> See Ibid

<sup>17</sup> See Ibid

<sup>18</sup> BBC: EU climate package explained, 2008

<sup>19</sup> Climate and energy measures approved in December 2008

#### **4. POSSIBLE RISKS AND CHALLENGES**

Analysing the content of the measures, there are several possible risks in the process of their implementation: One is the fact that many countries had a lot of oil and gas which meant for many years they didn't have to think about where they are going to get their energy from in the future. The second is the environmental wave which led to lose touch with the value of nuclear power stations, which became dirty words and nobody wanted anything to do with them. Also, some countries are completely hamstrung by what Brussels is deciding about renewables, about biofuels and about lots of other things to do with their energy, the closing down of coal-fired power stations, so they are no longer masters in their own house,

With the adoption of the Environmental Directives, EU is imposing onerous targets for reduction of carbon emissions. It demands that by 2020, 20% of energy needs come from "renewable" sources, but this precludes using the proven alternative to fossil fuels - such as nuclear power. These may be considered as more costly solutions such as biofuels and wind turbines. The question thus is how to secure energy supplies in the best possible way, which means the most secure and cost-effective ways. The new package of measures implies to cut down in CO<sub>2</sub> emissions. That signifies a lot of renewable energy - but of course by far the most efficient way to get the maximum amount of energy is by building nuclear power stations. However, building nuclear power stations is not included in the renewables targets, although for some countries the cost of building 10 Nuclear Power Stations, which would provide a high percentage of energy requirements, would be less than 2 years contributions to the EU, such as the "green" taxes: Climate Change Levy, Emissions Trading Scheme, Vehicle Excise Duty, Congestion Charging, Landfill Tax, Fuel Duty, Renewables Obligation Certificates, Air Passenger Duty, etc.

There are many countries, such as the UK for example, with a low base of renewable energy. This leads to additional costs for each household, unproportional among the countries within the EU. Some countries with a high base of renewable energy will face much less costs than the others.

The EU directives are encouraging to build wind turbines across the countries. However, there are many people in village halls who are trying desperately to protect their villages from these developments. It is a fact that the countries need thousands and thousands of wind turbines to meet even the minimum targets and half the time of course the wind doesn't blow so they don't turn. For example, in Germany they have found that their 19,000 wind turbines have not resulted in the closure of any of their conventional power stations - as they have been retained as back-up for when there is insufficient wind to turn the turbines, around 70% of the time. Power Stations on immediate standby are also a very expensive way to generate electricity, the equivalent of cycling to work whilst a car journeys behind, carrying your bags.

Building windmills may cost, per kilowatt of capacity installed, somewhere between 2 and 3 times the costs of building nuclear station. For some countries to commit to so many wind turbines in such a short time will require widespread extensions to the national grid, and whereas in a normal world the expense and inefficiency of these wind farms would price them out of the market lavish subsidies make wind farms very lucrative. It is known as the Renewables Obligation - and a single turbine can potentially earn the operators half a million pounds a year - of which 60% is subsidy.

Another risk is the perception of the new package is that the way it works with wind turbines or indeed any renewable source of electricity is that the people who sell electricity have to buy a percentage of their power from renewable sources and they pay twice the normal price for it. So there is a massive hidden subsidy, which people are all paying when they get their electricity bill.

All around the world there are many farmers who are turning over their fields to growing crops to produce biofuels, i.e., crops grown specifically to be processed as fuel for motor vehicles or burnt in power stations. It's supposed to be the green solution to energy problems. To meet that target, agriculture is turning arable land over to growing biofuels - harvested to be burnt in coal fired power stations - not for efficiency, but to meet quotas. Corn fields are now turning over thousands and thousands of acres to this stuff in a world that is desperately short of food. Crops have become twice as expensive compared to a year ago - and people in the world are starving while some countries are growing this stuff to burn instead of growing food. It isn't particularly CO<sub>2</sub> emission saving and it costs a great deal of money by comparison with even the inflated costs of oil today, and it abstracts from the world food production. Over half of the farmland in Europe may be needed to grow fuel for cars. The land needed to produce enough grain to fill the tank of a 4x4 car engine with bio-fuel, just once, would feed one person for a year.

The targets may be unachievable, and when the twenty seven EU states would turn to imported bio-fuels to meet targets, it may have disastrous consequences for global agriculture: millions of acres of land converted from food production to growing Biofuels. The USA and the EU have considerable influence - so much so that according to a leaked World Bank report, their demand for biofuels has pushed world food prices up an incredible 75%.<sup>20</sup>

Another highly debated issue is the Landfill Directive.<sup>21</sup> In many arable fields mounds have started to appear in the corners of crop fields. Closer inspection reveals they are heaps of industrial waste, sewage waste, human waste, waiting to be ploughed into the fields. The 1999 Landfill Directive, which means instead of putting filth and muck into a big hole in the ground and covering up and landscaping it, people now spread it across the land and call it compost. However, it may cause a stink. This is where the waste originates, local farmers are paid by the tonne to take it away, and stockpile it in their fields until they can spread it on the land. So this classifies as recycled - and if the local councils don't meet the tonnage of recycling they get fined directly by the EU. So whatever filth is in this, it isn't in the interests of the local council or environment agency to find anything wrong with it or prosecute seriously any illegal spreading of it for the simple reason that if they can't get rid of the waste they get fined.

## **5. CONCLUSION**

Some of the above mentioned objectives: reaching the biofuels targets; implementation of the Landfill Directives; wind power strategies and building wind farms; using biofuels and the influence it brings to world food prices; are often creating scepticism among the countries in the process of implementing the EU environmental policy measures. However, the negative effects that can be

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<sup>20</sup> World Bank Report, 2008

<sup>21</sup> 1999/31/EC

caused from the climate changes in the world, the energy crisis and the whole process of global warming are red signals that the world must respect and find the best way to overcome those problems.

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