

Herbert Smith

European Energy Review **2010**

Special edition on the EU Third Energy
and Climate Change Packages



Herbert Smith in association with
Gleiss Lutz and Stibbe

Introduction

I am delighted to introduce the 2010 edition of European Energy Review which will again give an in-depth survey of current issues in the energy sector in 30 European jurisdictions.

2009 has been a busy year for the European energy sector:

- In April, the EU's Climate Change Package with its array of climate action and renewable energy measures designed to move the EU into a global leadership position in relation to emissions reduction measures entered into force.
- In September, the much awaited and at times controversial Third Energy Package entered into force, containing a wide range of measures intended to improve the working of the internal electricity and gas market in the now expanded European Union.

Therefore, this special edition of European Energy Review 2010 focuses entirely on the Third Energy Package and the Climate Change Package and the impact these two legislative packages will have in jurisdictions across Europe.

In addition to our Alliance partners Gleiss Lutz and Stibbe, who have contributed articles on Germany, the Netherlands and Belgium, respectively, this year we have contributions from Schönherr (Austria, Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia); Kromann Reumert (Denmark); Raidla Lejins & Norcoux (Estonia, Latvia and Lithuania); Roschier (Finland); Zepos and Yannopoulos (Greece); Arthur Cox (Ireland); Legance (Italy); Arendt & Medernach (Luxembourg); Zammit Pace Law (Malta); Arntzen de Besche (Norway); Esquivel (Portugal); Advokatfirman Vinge (Sweden); and Homburger (Switzerland).

The Climate Change Package is the EU's first attempt to create a comprehensive European legal regime covering the carbon and renewable energy sectors, helping to inform investment decisions in these sectors by securing a future for carbon trading and laying the foundations for future investment in renewable technologies, biofuels and the development of carbon capture and storage. Many authors from Central and Eastern Europe point in their articles to the particular difficulties and efforts that the Climate Change Package seems to cause in their jurisdiction, largely due to structural issues linked to the coal dependency of some countries, the current low utilisation of renewable energy sources and the investment requirements triggered by the provisions of the Climate Change Package.

Whilst the Third Energy Package and in particular its unbundling regime was a cause of concern in some jurisdictions, the introduction of de-facto four unbundling options has enabled a somewhat softer application of the unbundling regime originally envisaged by the Commission. As such, the TEP did not bring the clear sea-change for the current unbundling situation that the Commission had originally set out to achieve. However, the TEP does bring considerable clarification on a number of existing rules, particularly in the area of third party access exemptions and, with the creation of the Agency for Co-operation of European Energy Regulators, could be said to herald the beginnings of a European energy regulator. Given that the full effect of the transposition of the TEP into national law will only become apparent in 2013, it is perhaps too early to venture an opinion on the effectiveness of the TEP whose success or otherwise will necessarily lie in its practical application across all Member States.

Silke Goldberg

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January 2010

Energy law in Denmark

Implementing the Third Energy Package and the Climate Change Package in Denmark

By Anders Stubbe Arndal, partner, Kromann Reumert, Copenhagen

Introduction

Overall impact of the two packages

At present it is difficult to precisely assess the final impact of the Climate Change Package and the Third Energy Package in Denmark. The Danish Government is at the moment deliberating in detail how to most suitably transpose the Two Packages. Also, it is difficult to say how the political decision-making process in the Danish Parliament ("Folketinget") turns out. This article reflects some of the present considerations about the implementation of the Two Packages into Danish law.

Timetable for transposition of the two packages

The Danish Government, ie, in this context the Danish Energy Agency (the "DEA"), has informed us that the Government aims at introducing a bill implementing the Third Energy Package in February 2010.

According to the DEA, the various elements of the Climate Change Package will be transposed and implemented gradually, and not all dates for implementation have yet been determined.

Amendments to the Danish Act on Emission Allowances (the "CO₂-kvoteloven") will be carried through in two stages. A bill concerning certain procedure rules on information retrieval implementing Article 9 a(2) of the New EU ETS Directive was introduced on 8 October 2009. In 2011-2012 the essential amendments, such as the allocation mechanism, will be carried through.

The main issues in the public debate

The Danish debate about the Third Energy Package has focused mainly on whether the new unbundling regime will be efficient. Some have argued that the unbundling of the energy sector at EU level will be too slow due to the introduction of the ITO model.

There has been little public debate on the Climate Change Package. Historically, the EU has tended to agree with the Danish positions on the matter. Some NGO's have argued, though, that the Package is lacking in ambition. In the renewable energy area, there have been some discussions on how to best arrange things in practice to meet the 20% renewable energy requirement.

Third Energy Package

Unbundling

The TSO landscape will not change very much in Denmark following the introduction of the new unbundling regime.

The ownership unbundling regime, ie, the separation of operation of gas pipelines and electricity networks at transmission level from the business of producing or supplying either gas or electricity, is in practice already transposed concerning the overall electricity and gas infrastructure in Denmark, ie, through the Act on Energinet.dk (Consolidated Act No. 224 of 16 March 2009).¹

Section 1 of the Act on Energinet.dk stipulates that the overall electricity and gas infrastructure, for which Energinet.dk is responsible, must remain public property.

Energinet.dk is an independent public undertaking owned by the State of Denmark as represented by the Danish Ministry of Climate and Energy. The company (Energinet.dk) was established 1 January 2005 pursuant to the Danish Act on Energinet Danmark.

According to the homepage of Energinet.dk (www.energinet.dk) the company owns the gas transmission grid and the 400 kV electricity transmission grids in Denmark. The company is also co-owner of the international connections between Denmark and the

Nordic countries and Germany. Furthermore, the company has at its disposal the 132 kV and 150 kV electricity grids and access to natural gas storage facilities in Denmark.

Energinet.dk has its own Board of Directors and the company's wholly owned subsidiaries Eltransmission.dk A/S and Gastransmission.dk A/S operate and maintain the electricity and gas transmission grids.

Energinet.dk is the result of a merger between Eltra, Elkraft System, Elkraft Transmission and Gastra. The merger took place on 24 August 2005 with retrospective effect from 1 January 2005.

Energinet.dk's tasks are to:

- maintain the overall security of supply of electricity and gas in both the short and the long term;
- develop the Danish electricity and gas transmission infrastructure;
- create objective and transparent conditions for competition within the energy markets and oversee that competition works;
- carry out coherent and comprehensive planning, taking account of future transmission capacity requirements and the long-term security of supply;
- support environmentally friendly electricity production and the development and demonstration of technologies for environmentally friendly energy production; and
- calculate the environmental impact of the energy system as a whole.

Energinet.dk's finances must be balanced. Most of its turnover stems from tariffs which must be approved by the Danish Energy Regulatory Authority ("DERA"). The financial regulation of the Energinet.dk is determined by an Executive Order (Executive Order No. 965 of 21 September 2006).

During the EU decision-making process it was discussed whether Denmark would have an unbundling problem in relation to the New Electricity and Gas Directives because the Danish state owns both DONG Energy A/S (an energy company which is engaged in production and supply of energy) and Energinet.dk. The conclusion was that because the State ownership of DONG Energy is represented by the Danish Ministry of Finance and its ownership of Energinet.dk is represented by the Danish Ministry of Climate and Energy, ownership is divided among two separate legal persons. Accordingly a sufficient unbundling regime is already in place.

A part of the Danish electricity transmission network is, however, not owned by Energinet.dk. Part of the 132 kV and 150 kV electricity grids is still owned by both publicly and privately owned vertically integrated electricity companies in accordance with the Danish Electricity Supply Act. Concerning this part of the electricity transmission network, the Government, ie, the Danish Ministry of Climate and Energy, is considering introducing an unbundling regime in line with the ISO option, so that grid ownership can be retained by the

relevant companies, but operation of the grids must be undertaken by separate companies.

Overall, the new unbundling regime will probably only have a minor impact on the Danish electricity and gas market.

The energy regulator

The Danish Energy Regulatory Authority ("DERA") is an independent authority engaged in supervision of monopoly companies in the Danish energy sector, ie, electricity, natural gas, and district heating. The DERA was established as early as 1 January 2000, replacing the former Electricity Price Committee and Gas & Heating Price Committee.

The tasks of the DERA are to secure efficient and transparent energy markets in Denmark and to ensure effective and non-discriminatory access to the networks. The DERA regulates and controls tariffs, prices, and terms of supply set by the monopoly companies.

The DERA can issue binding decisions on national companies. The decisions may be appealed to the Danish Energy Board of Appeal ("Energiklagenævnet").

Through its secretariat, the DERA also plays an active part in Nordic and European cooperation among regulatory authorities.

The DERA's exercise of authority is regulated by a separate chapter (Chapter 11) in the Danish Electricity Supply Act. According to Section 78(2) of the Act, the DERA is an independent commission not subject to instruction from the Minister of Climate and Energy. In pursuance of Section 78(5), the Danish Competition Authority, an agency under the Danish Ministry of Economic and Business Affairs, offers secretarial assistance to the six DERA members and its chairperson. Moreover, it follows from Section 79 that the members of the DERA are appointed by the Minister of Climate and Energy for a limited period. They must be independent of energy sector parties and have legal, economic, technical, environmental, commercial, and consumer-related knowledge. (The same follows from the Danish Natural Gas Supply Act.)

Overall, it is the understanding of the Danish Government that the DERA is in practice already sufficiently independent to satisfy the New Electricity and Gas Directives. Therefore, the Government is looking to implement the new Electricity and Gas Directives only by changing the text of the Danish Electricity and Gas Supply Acts so as to clarify that the DERA is fully independent of both industry interests and the Government.

However, the Government is still considering whether the DERA's administrative attachment to the Danish Competition Authority and the Danish Ministry of Economic and Business Affairs can be retained as a result of the new Electricity and Gas Directives. Alternatively, the DERA will have to be removed, physically and functionally, from the Competition Authority and re-established as a separate entity with its own staff.

As some uncertainty remains, the Government may possibly ask the European Commission whether it will be sufficient to make a more explicit provision regarding DERA's independence in the Electricity and Gas Act.

The new Electricity and Gas Directives do not entail major changes of the tasks and duties of the DERA. Only minor changes to the Electricity and Gas Acts will be necessary, one such change being a clear mandate for the DERA to cooperate with the Agency for the Cooperation of Energy Regulators (ACER).

The changes brought by the Third Energy Package to the Danish energy regulator seem mostly insignificant and will likely have little impact on the energy market.

Transparency

In our opinion the measures in the Third Energy Package seem appropriate and suitable for obtaining a more transparent energy market. The new unbundling regime seems to be a step in the right direction. The question is, however, whether it will be effective enough if many Member States go for "the third option" - the ITO model.

ACER and enhanced powers for national regulators contained in the New Electricity and Gas Directives will probably also have positive effects on the transparency of the energy market in the EU.

Time will tell if the Third Energy Package is sufficient or if a "Fourth Energy Package" will be necessary.

Climate Change Package

New EU ETS Directive

EU emission trading scheme

The current EU Emissions Trading Scheme (ETS) Directive is implemented in the Danish Act on Emission Allowances (Act No. 493 of 9 June 2004 as amended). The New EU ETS Directive is very comprehensive and calls for fundamental changes to the Danish Act on Emission Allowances, such as change of the allocation mechanism, the amount of free allowances, and the sectors and type of installations covered by the scheme. A bill concerning certain procedure rules on information retrieval implementing Article 9 a(2) of the New EU ETS Directive was introduced on 8 October 2009.

The GHG reduction decision

The GHG Reduction Decision leaves it to the Member States to introduce the necessary means to fulfil the national obligations to reduce emissions. Therefore, the Decision as such has no direct legislative consequences. However, the DEA says it does expect that Danish legislation will be amended as a consequence of the Decision. The Government is currently analyzing the ability to reduce emissions from non-EU ETS sectors. The farming industry is considered most likely to face new emission reducing measures.

The renewable energy directive

The current Renewable Energy Directive is implemented in the Danish Act on Renewable Energy (Act No. 1392 of 27 December 2008) and the Danish Electricity Supply Act

(Consolidated Act No. 1115 of 8 November 2006). The DEA anticipates minor amendments to these two Acts, as a consequence of the new Directive, eg, concerning Guarantee of Origin certificates. New rules on the use of renewable energy and biofuel in the transportation sector will also be required. However, the principal task for the Government right now is to write a national renewable energy action plan for the European Commission concerning expansion of renewable energy in Denmark.

The new rules on grid access for small renewable generation do not cause amendments to Danish legislation. In pursuance of the Danish Electricity Supply Act every person has the right, against payment, to make use of the collective electricity grid for the transport of electricity.

Collective electricity-supply companies may not differentiate among system users or user categories or favour their own subsidiary companies or owners.

The CCS directive

The existing Danish Subsoil Act (Consolidated Act No. 889 of 4 July 2007) addresses the use of the subsoil for storage purposes, including storage of Carbon Dioxide (CO₂). The CCS Directive contains a system for the allocation of exploration and storage licences in connection with the deployment of carbon capture and storage. It contains also a number of rules regarding monitoring, etc. of the stored CO₂. However, it is still up to the individual Member States to decide for themselves if they want to use CCS technology and, if so, to determine the location of such CCS project. The rules of the new directive are expected to be implemented into Danish law in the form of an amended Danish Subsoil Act. Only minor amendments are considered necessary.

In 2008, licences were issued to Vattenfall and DONG Energy (two energy companies operating in Denmark) to undertake preliminary investigations of the Danish subsoil with a view to assessing the potential for CO₂ storage. In this context, Vattenfall, in autumn 2008, performed a 2D seismic survey of the subsoil northwest of Aalborg in northern Jutland in order to map the Vedsted structure, a geological reservoir at a depth of between one and two kilometres below the surface.

If storage proves to be feasible here the intention is to establish a full-scale CO₂ capture plant at Nordjyllandsværket, capturing CO₂ by means of post-combustion technology and then transport it, in liquid form, to the storage facility through a pipeline 30 kilometres long.

However, under the present global economic conditions, Vattenfall has decided to focus its further development regarding CCS on the demonstration plant in Germany (Jämschwalde) and other sites, shelving the CCS project in Denmark until CCS becomes commercially viable. Vattenfall states that they hope to be able to restart geological investigations in 2011-2012.

For more information please refer to the report, "Denmark's Oil and Gas Production and Subsoil Use '08", page 30-31, which can be downloaded from the DEA homepage (www.ens.dk).

The Biofuel Directive

The Biofuel Directive is expected to be transposed into Danish law by amendments to the existing Executive Order on Quality of Petrol and Diesel (Executive Order No. 884 of 3 November 2003) and amendments to the existing Executive Order on Sulphur Content in Solid and Liquid Fuel (Executive Order No. 1663 of 14 December 2006).

Emission standards for cars

There is no Danish legislation on the area of emission standards for cars. However, due to Decision 2000/1753/EU, Denmark is today subject to a monitoring obligation of emissions from cars. The Emission Standard Regulation extends the monitoring obligation by including information concerning the emission "footprint" of cars. The provisions of the Emission Standard Regulation are directly applicable.

footnote

1. An English translation (non-certified) can be downloaded from the following link: http://www.energinet.dk/NR/rdonlyres/276B7459-243C-4A83-BE5F-0FCFFC1BC0CF/0/Act_on_Energinetdk.pdf. (Please notice that the Act has been amended twice since the translated version was made available.)

Energy law in Europe

By Silke Goldberg, a senior associate in Herbert Smith's London office

The Third Energy Package of the European Union

The Policy Context: From Sector Inquiry to Third Energy Package

In 2005, the European Commission undertook an inquiry into competition in gas and electricity markets (the "Sector Inquiry") based on Article 17 of Regulation 1/2003¹ on the implementation of the EC Treaty rules on competition, aimed at assessing the prevailing competitive conditions and establishing the causes of the perceived market malfunctioning.

The Sector Inquiry examined eight key areas of the European energy market:

- 1) market concentration/market power;
- 2) vertical foreclosure (most prominently inadequate unbundling of network and supply);
- 3) lack of market integration (including lack of regulatory oversight for cross-border issues);
- 4) lack of transparency;
- 5) price formation;
- 6) downstream markets;
- 7) balancing markets; and
- 8) liquefied natural gas (LNG).

The final report of the Sector Inquiry (the "Final Report")² showed, for instance, the level to which the unbundling requirements of the Second Gas and Electricity Directives, respectively, had been implemented across the EU had negative repercussions on the functioning of the market as a whole and on incentives to invest in networks.

As a consequence of the somewhat patchy implementation of the applicable unbundling provisions, the Final Report found new market entrants often lacked effective access to networks (in the case of gas transmission networks) and storage and liquefied natural gas terminals despite the existing unbundling provisions.

The Final Report pointed out further derivative reasons as to why these effects were particularly felt:

- The operators of the relevant network infrastructure were often suspected of favouring their own affiliates and thereby discriminating against other market participants.
- The continued vertical integration of energy undertakings led to a situation, according to the Final Report, in which operational and investment

decisions are not taken in the interest of network/ infrastructure operations, but on the basis of the supply interests of the relevant integrated company. Grid connections for power plants competing with those of the network owning energy company were also found to be affected as well as investments in interconnection infrastructure.

- The integration and concentration of generation/ imports and supply interests within the same group of undertakings reduces the incentives for incumbents to trade on wholesale markets and leads to sub-optimal levels of liquidity in these markets³.
- In relation to trades on the wholesale market, the Final Report argues that "the prevalence of long-term supply contracts between gas producers and incumbent importers makes it very difficult for new entrants to access gas on the upstream markets" and that electricity generation assets are held by "few incumbent suppliers or are indirectly controlled by them on the basis of long-term power purchase agreements [...] giving the incumbents control over the essential inputs into the wholesale markets"⁴. The resulting low levels of market liquidity constitute, according to the Final Report, an entry barrier to both gas and electricity markets⁵.

By way of a legislative follow-up to the results of the Sector Inquiry, the European Commission published, on 19 September 2007, a proposal for a Third Energy Package which, after intense negotiations amongst EU Member States and between the Council and the European Parliament was finally adopted on 13 July 2009 and entered into force on 4 September 2009 (the "TEP").

The TEP contains three Regulations and two Directives.

- Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC (the "New Electricity Directive");
- Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC (the "New Gas Directive");
- Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators (the "ACER Regulation");

- Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003 (the “New Electricity Regulation”); and
- Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005A Gas Regulation amending and completing the existing Gas Regulation 1775/05 (the “New Gas Regulation”).

This overview article briefly describes and analyses the most important provisions of the TEP, which, broadly, cover five main areas:

- unbundling;
- regulatory oversight and cooperation;
- network cooperation;
- transparency and record keeping; and
- access to storage and LNG facilities.

For an analysis as to how individual aspects of the TEP will impact the regulatory regime of a specific jurisdiction, please refer to the relevant national chapter in this edition of European Energy Review.

A new unbundling regime⁶

One of the most important features in the New Electricity and New Gas Directives is the “unbundling” regime, ie the separation of the operation of gas pipelines and electricity networks at transmission level from the business of producing or supplying either gas or electricity⁷.

With the shift away from centrally owned transmission (transport) network in the wake of the liberalisation of the EU energy sector, investment adequacy became a concern⁸, especially in relation to vertically integrated Transmission System Operators (TSOs) who might have short-term, compelling reasons not to invest in networks if such investments would come to benefit their competitors. The Commission has consistently argued that the unbundling of TSOs will augment the EU’s supply security as it seems to lead to increased investments in the network facilities. Given that the aforementioned main investment disincentive has been removed, this, together with the unbundling regime, will contribute to furthering the supply continuity and reliability.

In its Impact Assessment⁹, the Commission argues that within three or four years of TSOs undergoing ownership unbundling, investments in the networks in both the electricity and gas sectors had doubled. In some cases, for instance in the Spanish REE (year before unbundling: 2002, network investment: 203m; year after unbundling: 2003, network investment: 215m), the Czech CEPS (2002: CSK 506.6m; 2003: CSK 1388.3m), and the Dutch Gasunie (2004: 114m; 2005: 257m), this upwards trend was even stronger¹⁰.

The Commission continues to argue that the same increase in network investment cannot be shown for vertically integrated TSOs. However, there seems to

be a methodical inaccuracy in the data used by the Commission: the authors of the Impact Assessment concede that for vertically integrated TSOs “there is generally less data on network investment publicly available”¹¹. The Impact Assessment nevertheless proceeds to draw the comparison on the basis of the data available for some of the German, French and Italian TSOs and to argue that, whilst there was an increase in network investment in recent years, this was less significant than in the case of those TSOs that had undergone ownership unbundling¹².

Whilst the Commission and European Parliament originally backed full ownership unbundling in both the gas and electricity sectors, political pressure from Member States opposing unbundling meant that a compromise had to be found. Under the agreement between the Council and the European Parliament, Member States have three options:

- full ownership unbundling;
- the independent system operator (ISO) model; or
- the independent transmission operator (ITO) model.

The ownership unbundling approach entails a full separation between the operation of gas and electricity transmission networks from supply and production/generation activities. Under this regime, operators of gas and electricity grids can no longer be affiliated or be part of a group which is also active in supply, generation or production/generation. The operator of the network will be required to own and control the network.

Under the unbundling regime a person or company may, under certain circumstances, still be able to hold shares in both a network operator and a supply/production undertaking as long as these shares represent a non-controlling minority interest. A minority shareholder, who may not have voting or other blocking rights in the undertakings, nor be allowed to appoint members of the undertakings’ boards. No person may be a member of the boards of both undertakings. This provision is of particular relevance to non-sector investors (eg, pension funds).

In the ISO approach, vertically integrated companies may retain the ownership of their network assets, but the network is managed by an ISO. The ISO has to be an undertaking or entity which is completely separate from the vertically integrated company and must perform all functions of a network operator. The ISO entity will need to comply with the same unbundling requirements as other network operators. As such, the ISO may not hold any interest in a supply/production undertaking.

In order to strengthen the ISO model, the TEP provides for a number of additional regulatory controls: the network owner which is still active in supply or production will have to legally and functionally unbundle that part of its company which owns the network, and will be required to finance the investment decisions made by the ISO. The identity of the ISO will be approved by the Commission (with the input of the new Agency for the Co-operation of Energy Regulators); and, once appointed, the ISO has to commit to complying with a ten year network investment plan agreed by the regulatory authority.

The third option, the ITO model, was introduced as a compromise model after eight Member States felt that both ownership unbundling and the ISO approach were unsuitable for their national regulatory regimes. It preserves integrated supply and transmission companies, but obliges such companies to comply with additional rules to ensure that the two activities are operated independently, such as:

- preventing the management of TSOs from having certain positions of responsibility, interest or business relationships, directly or indirectly, with the relevant vertically integrated undertaking. This should apply to the majority of management for three years prior to their appointment;
- placing a minimum period of six months prior to the appointment of a person to the rest of the management team of the TSO during which that person may not hold any management position or exercise any other relevant activity in the vertically integrated undertaking. The rules are intended to encourage the relevant national regulator to vet the executive management;
- examining network development and investment decisions taken by an ITO to ensure they are consistent with relevant Community-wide plans;
- working against discriminatory behaviour by the ITO (and on the influence exerted by the relevant vertically integrated undertaking), and restricting the ITO's access to the capital market, to be overseen by a supervisory body; and
- enforcing compliance with the ITO provisions. Penalties, depending on the breach, are defined in respect of the turnover of the ITO or of its relevant parent company. The ultimate penalty for a persistently non-compliant ITO model would be the mandatory introduction and designation of an ISO.

The Commission is to conduct a specific review of the ITO-related provisions, using effective and efficient unbundling as a benchmark, two years after implementation. Such a review would, in turn, lead, no later than three years after implementation, to proposals to ensure fully effective independence of the TSO where necessary.

The ITO model will only be applicable in Member States where TSOs belong to a vertically integrated undertaking. Member States that have already introduced the ISO model or mandatory ownership unbundling models will not be able to revert to a TSO model. Therefore, the ITO model constitutes the lowest threshold for network unbundling which will in future be legally possible across the EU.

The ITO model can perhaps best be characterised as the "status-quo-plus" model in that it will allow Member States such as France, Austria and Germany to maintain current arrangements where transmission system operators (TSOs) belong to a vertically integrated undertaking.

In addition, the New Gas and New Electricity Directives contain, in Article 9(9) in each case, a specific provision for the situation in Scotland, where the transmission networks are owned by the two Scottish transmission companies (Scottish Power and Scottish and Southern

Energy) and operated by National Grid. The current model in Scotland is considered to fall short of the ISO model but held to be an effective model for the independence of the transmission system operator.

A softened third country clause

The original Commission proposal for the TEP contained a so-called "third country clause", thought to be aimed at Russian energy giant Gazprom, which would have required non-EU countries to comply with the EU regime if they wished to acquire a significant interest in, or control over an EU transmission network, and would have given the Commission a right to intervene in relation to such acquisitions. In the adopted version of the TEP, the third country clause has been slightly softened, although the principle of the application of the unbundling regime to non-EU companies and tight controls over third country investments in EU TSOs remains firmly established.

The TEP provides that national regulatory authorities ("NRAs") are to certify TSOs before they are allowed to take up their function as TSOs. Under the new third country clause, national regulators are required to refuse certification of a TSO if the relevant company does not comply with the unbundling requirements, and its market entry would jeopardise the Member State's or the EU's security of supply. In addition, national regulators must notify the European Commission if:

- a transmission system owner or operator that is controlled by a party from a non-EU country applies for certification; or
- if any circumstances arise which would result in a party from a non-EU country obtaining control of a transmission system owner or operator.

Transmission system operators (rather than the transmission system owners) must notify the relevant NRA if any circumstances arise that would result in an entity from a non-EU country acquiring control of the transmission system or its operator. The relevant NRA must also seek the view of the European Commission as to whether the foreign entity passes the unbundling and energy security tests and take "utmost account" of the Commission's view.

When making a decision in relation to energy security, both the NRA and the Commission must consider the particular facts, international law and any agreement between the EU or the Member State and the relevant non-EU country to address energy security. The implication is that the absence of such an agreement will make an approval much less likely.

However, given that the unbundling provisions have been softened to include the ITO model, it is thought that compliance with the unbundling provisions of the TEP will now be easier for non-EU companies as TSOs may, under the ITO model, remain part of a vertically integrated energy company.

Regulatory oversight

Whilst the Second Electricity and Gas Directives¹³ required Member States to establish NRAs, these had different

levels of authority and independence in various Member States. Whereas some in some Member States, NRAs had become well-established bodies with substantial powers and resources, regulatory authorities in other Member States had only recently been established, with their powers weaker or dispersed over different governmental bodies and subject to ministerial or governmental control of varying degrees

Under the New Electricity and Gas Directives¹⁴, the NRAs have to be legally distinct and functionally independent of any other public or private entity, and that its staff and any member of its decision-making body act independently of any market interest and neither seek nor take instruction from any government or other public or private entity. For that purpose, NRAs will have to have an independent legal personality, budgetary autonomy, appropriate human and financial resources and independent management.

In the New Electricity and Gas Directives, the NRAs have seen their market regulation powers strengthened, and have been assigned additional tasks, in particular in the following areas¹⁵:

- monitoring compliance of transmission and distribution system operators with third party access rules, unbundling obligations, balancing mechanisms, congestion and interconnection management;
- reviewing the investment plans of the transmission system operators, and providing in its annual report an assessment of how far the transmission system operators' investment plans are consistent with the Europe-wide 10-year network development plan;
- monitoring network security and reliability, and reviewing network security and reliability rules;
- monitoring transparency obligations;
- monitoring the level of market opening and competition, and promoting effective competition, in cooperation with competition authorities; and
- ensuring that consumer protection measures are effective.

For the first time in European energy legislation, the TEP is setting specific objectives with a clear European dimension for the NRAs. The New Gas and New Electricity Directives provide that NRAs' objective is to "promot[e], in close cooperation with the Agency, regulatory authorities of other Member States and the Commission, a competitive, secure and environmentally sustainable internal market in natural gas within the Community, and effective market opening for all customers and suppliers in the Community, and ensuring appropriate conditions for the effective and reliable operation of gas networks, taking into account long-term objectives¹⁶".

As the Sector Inquiry has shown, the European energy market has some way to go before it functions as an effective market which would be better capable of allocating scarce resources on time, and improve investment decision making on generation and infrastructure assets.

The effectiveness of the NRA's strengthened powers will, however, need to be demonstrated in practice and it will be sometime after the adoption and transposition of the TEP into national laws before an evaluation will be possible.

Agency for the Co-operation of Energy Regulators

In order to reinforce the position of regulators at European level and to institutionalize their co-operation, the ACER Regulation creates the Agency for Co-operation of Energy Regulators ("ACER").

ACER will be governed and its institutional setting will be based on the standard rules and practices for Community regulatory agencies. However, to ensure the necessary independence of regulators at the European level, ACER will be unique in that it will have a separate board of regulators. This board will be solely responsible for all regulatory matters and decisions. It will function alongside an Administrative Board which will be responsible for administrative and budgetary matters. The Director, appointed by the Administrative Board, after consulting the Regulatory Board, will be chosen from a shortlist adopted by the Commission. The Director will represent ACER and shall be responsible for the day-to-day management. In addition, the structure of ACER will include a Board of Appeal, which is competent to handle appeals against decisions adopted by ACER.¹⁷

The budget of ACER will come from the general budget of the European Communities, from fees paid to ACER in relation to third party access exemption decisions where the relevant infrastructure is in more than one member state and from voluntary contributions.¹⁸

ACER will generally be competent to:

- issue opinions addressed to Transmission System Operators;
- issue opinions addressed to regulatory authorities;
- issue opinions and recommendations addressed to the Commission;
- take individual decisions on technical issues.

As such, ACER may, upon a request from the Commission or on its own initiative, provide an opinion to the Commission on all issues related to the purpose for which it has been established.

Other tasks of ACER include the provision of an opinion to the Commission on:

- the draft statutes, list of board members and draft rules of procedure; and
- the technical or market codes, on the draft annual work programme and the draft 10-year investment plan of the European Networks of Transmission System Operators for Electricity and Gas, respectively (see below).

ACER may, in accordance with its own work programme or at the request of the Commission, adopt non-binding guidelines to assist regulatory authorities and market players in sharing good practice and promote cooperation between the national regulatory authorities and between regulatory authorities at regional level¹⁹.

At the request of any regulatory authority or of the Commission, ACER will also issue opinions on whether a decision taken by a regulatory authority complies with any guidelines referred to in the New Gas and Electricity Directives and New Gas and Electricity Regulations. Likewise, a national regulatory authority may call on ACER to issue an opinion where the national regulator encounters difficulties with the application of the Guidelines referred to in the same Directives and/or Regulations²⁰.

ACER can be the competent authority to decide the regulatory regime for infrastructure connecting at least two Member States and grant exemptions from the third party access regime where the relevant infrastructure concerned is located in the territory of more than one Member State²¹.

Compared to the version of the ACER Regulation originally proposed by the European Commission, the adopted version mandates ACER with a range of additional tasks, which have widened ACER's scope considerably. ACER's tasks now include:

- participation in the development of European network codes;
- monitoring the development of the energy markets, in particular in relation to retail gas and electricity prices;
- monitoring the implementation of the TSO's 10-year infrastructure investment plans; and
- establishing non-binding "framework guidelines" on conditions for access to the network for cross-border electricity and gas exchanges²².

Whilst ACER's competencies are often expressed to be of an advisory nature, the ACER Regulation does grant it decision making powers in some areas, in particular in relation to cross-border projects and co-operation. It also seems to assume the role of "Regulator of last resort" in situations where, in Member State with an ISO-System, the national regulator has failed to appoint an ISO in the prescribed time.

On a number of topics, ACER may issue own-initiative opinions; on other issues, the Commission may request an opinion from ACER. This relatively vague framework seems designed to leave ACER some freedom to fully define and exercise its role. Depending on whether or not its Director steps up to this challenge, ACER may well prove to be the first step towards a European regulator.

Although the ACER Regulation has entered into force in September 2009, it is unlikely that ACER will be fully operational before the Directives of the TEP have been transposed into national law, as the Articles in the ACER Regulation relating to ACER's policy and legal task will only be applied once Member States have implemented the New Electricity and New Gas Directives in order to avoid any inconsistencies in the regulatory regime.

However, various organs of ACER could be set up quickly. This would include the Board of Regulators, the Administrative Board, the Director of ACER, and his/her staff as well as the Board of Appeals. It is likely that the establishment of ACER will be a priority area of work for NRAs during the next two years. ACER is likely to

be initially located in Brussels and to be relocated at a later date. So far, Slovenia, Hungary and Romania have expressed their interest in hosting ACER.

Cooperation between Transmission System Operators

It has been argued that the electricity outages in Europe over the last few years have been due to technical failures in the networks rather than shortages in generation capacity or fuel²³. The increasing energy demand and simultaneous import dependency of the EU will require improved transmission networks able to cope with the "energy traffic" created by the export and import electricity and gas in peak demand conditions.

Cooperation in grid operation is therefore indispensable, especially in the electricity sector, where co-operation between TSOs will make an important contribution to network reliability particularly in heavily interconnected areas. The greater transparency will allow investments to be made where they are most effective and improving network reliability through coordinated investments²⁴.

The New Electricity and Gas Regulations²⁵ formalise the cooperation between transmission network operators, which at present is channelled through platforms such as GTE and ETSO, through the establishment of a European Network for Transmission System Operators for the electricity and gas sector ("ENTSO-E" and "ENTSO-G", respectively). The ENTSOs will in turn be responsible for four core areas²⁶:

The first concerns the development of coherent market and technical codes needed for the integration of the electricity and gas markets, which the ENTSOs are tasked to develop in co-operation with ACER and the Commission. The benefit of such coherent European codes generally to be found in the intended elimination of inconsistencies at national level regarding, eg, tariff structures, capacity allocation rules, balancing arrangements and trading timetables and security of supply measures. At present, such differences in market design lead to market segmentation, with some national markets remaining split into different local tariff or balancing areas. However, at the same time, the development of the European network codes will necessarily cause some friction to the existing, national approaches and is likely to be a long-term project the results of which will not be available for some time to come even after the transposition of the New Electricity and New Gas Directives into national law.

The second area of co-operation concerns the research and innovation activities of common interest. Under this heading, the ENTSOs are to identify, finance and manage research and innovation activities necessary in relation to the technical development and evolution of the European electricity and gas networks, in particular to promote security of supply and energy efficiency and to enable penetration of low carbon technologies.

The third area of co-operation relates to the coordination of grid operation, ie, to exchange network operational information and the coordinated publication of information

on network access, and the fourth main area of co-operation is the co-ordination of the planning of network investments and the monitoring the development of the transmission network capacities. The two ENTSOs must publish a European-wide and ten year forward-looking investment plan every two years.

The overall effect of the increased co-operation of TSOs in the framework of the strengthened ENTSOs will undoubtedly be a greater degree of market harmonisation which in turn might result in better network and operational reliability and as such in better supply security. Therefore, given the range of issues with which the new ENTSOs will be charged, the question arises whether the ENTSOs are only a stepping stone on this journey towards greater network harmonisation and interoperability, the next stop being a single European TSO under ACER as the single European regulatory authority.

Transparency and record keeping obligations

The New Electricity and New Gas Directives also set out a number of record keeping obligations on electricity generators, gas network operators, and supply undertakings who will be required to keep record of all data relating to operational decisions and trades.

The Commission hopes that such obligations will enable regulators to effectively assess allegations of market abuse and study past behaviour of market participants. In particular, the Commission believes that a review of the relevant records will enable regulators to investigate whether operational decisions were based on sound economic reasoning rather than attempts to manipulate the market. The Commission has stated that these record keeping obligations will, in case of some types of traders (eg, banks), not be in addition to relevant record keeping obligations of such traders under the Markets in Financial Instruments Directive.

It is therefore proposed that prior to adoption of guidelines defining record keeping requirements, the Agency for the Cooperation of Energy Regulators and the Committee of European Securities Regulators (CESR) will advise the Commission on the content of the relevant guidelines.

Access to storage and LNG facilities

The New Gas Regulation largely serves to make the currently voluntarily applicable Guidelines for Good Third Party Access Practice for Storage System Operators (GGPSSO) of the Madrid Forum binding on relevant market participants as the GGPSSO were generally found not to have been widely implemented.

In addition, the New Gas Directive establishes legal and functional unbundling rules in relation to storage system operators who are part of supply undertakings²⁷ and enhance the powers of NRAs to oversee access to storage²⁸.

Taken together, the New Gas Directive and the New Electricity Regulation are set to overhaul the current rules for exemptions from regulated third party access for major new infrastructure²⁹. The European legislators believe that

a streamlined procedure for applying for and granting exemptions, as well as a clarification of some of the conditions, would benefit the market generally. The Article 36 of the New Gas Directive is therefore considerably more detailed than the currently applicable Article 22 of the Second Gas Directive, thus providing a clear list of applicable conditions and detailed procedural provisions. This procedure however, has at the same time become more complex due to the added involvement of ACER in the decision making process where the infrastructure crosses the border of two or more Member States.

In addition, the Commission will be proposing guidelines to assist applicants and regulators in applying the conditions for an exemption. Under these guidelines, the minimum requirements for the allocation of capacity and congestion management provisions for the new infrastructure that have so far been applied on a case-by-case basis are likely to become general requirements applicable to all interested parties.

Other TEP elements

The New Gas Directive also promotes “regional solidarity” for energy supply security by requiring Member States to co-operate in the event of “severe disruptions” of gas supply. This could be particularly important in case of interrupted supply as seen this winter in Hungary and Slovakia as a result of the Russia–Ukraine gas dispute³⁰.

In addition, Member States are tasked with taking measures to address energy poverty such as National Energy Action Plans or benefits in social security systems to guarantee necessary energy supply to vulnerable customers³¹.

Implementation - the way forward

Member States have until March 2011 to transpose the majority of the provision in the New Electricity and Gas Directives into national law, the exception being the “third country clause” which will need to be transposed by March 2013. The New Gas and Electricity Regulations and ACER Regulation have entered into force as of September 2009; however, in order to avoid a discrepancy between the exemption regime for new infrastructure in the gas sector, which is contained in the New Gas Directive and the corresponding regime in the electricity sector which is contained in the New Electricity Regulation, the latter will only be applied as of 3 March 2011. Likewise, Articles 5-11 of the ACER Regulation, which deal with detailed tasks of ACER, will only be applied from that date.

Conclusion: The Third Energy Package of the European Union

Whilst the introduction of de-facto four unbundling options, the TEP did not bring the clear sea-change for the current unbundling situation that the Commission had originally set out to achieve. However, the TEP does bring considerable clarification on a number of existing rules, particularly in the area of third party access exemptions.

The TEP also gives legal status to Commission guidelines and generally expands the Commission's competence to give guidelines powers in a number of legal policy areas, which is a change from the current practice by which the Commission de-facto already issues such guidelines, through the publication of non-binding staff working papers, eg, on the meaning of legal, managerial and accounting unbundling or the third party access exemption regime which were never formally legitimized but had come to be perceived as official guidelines on the relevant topics.

The harmonisation of the competencies of NRAs and the introduction of ACER has been interpreted as a necessary step towards a European regulator, although some commentators have expressed concerns, also against the background of the new European objectives for the NRAs, that the latter will be kept busy with a rich array of monitoring tasks whilst decision making power in questions of regulatory policy is being shifted to ACER and the ENTSOs.

Whilst some voices can already be heard to wish for a Fourth Energy Package, given that the full effect of the transposition of the TEP into national law will only become apparent in 2013 it is perhaps too early to venture an opinion of the effectiveness of the TEP whose success or otherwise will necessarily lie in its practical application across all Member States.

The EU Climate Change Package

In January 2008, the European Commission proposed a legislative package focussed on a range of measures designed to shape the European Union's climate change policies and actions (the "Climate Change Package") which was adopted at first reading in the co-decision procedure, having been discussed at the European Council of 12 December 2008. In accepting all of the amendments the European Parliament adopted on 17 December 2008, the Council definitively adopted the new acts on 6 April 2009, thereby passing the Climate Change Package into European law.

The Climate Change Package contains four Directives, one Regulation and one Decision:

- Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community (the "New EU ETS Directive");
- Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020 (the "GHG Reduction Decision");
- Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directive 2001/77/EC and 2003/30/EC (the "Renewable Energy Directive");

- Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 200/60/EC, 2001/80/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006 (the "CCS Directive");
- Directive 2009/30/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 98/70/EC as regards the specification of petrol, diesel, and gas oil and introducing a mechanism to monitor and reduce greenhouse gas emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterway vessels and repealing Directive 93/12/EEC (the "Biofuel Directive"); and
- Regulation (EC) No 443/2009 of the European Parliament and of the Council of 23 April 2009 setting emission performance standards for new passenger cars as part of the Community's integrated approach to reduce CO₂ emissions from light-duty vehicles (the "Emission Standard Regulation").

In this overview article, the key elements of the Climate Change Package are described and analysed. For a detailed analysis as to the impact the Climate Change Package will have in EU Member States, please refer to the relevant national chapters in this edition of European Energy Review.

New EU ETS Directive

The New EU ETS Directive amends the currently applicable version of the EU Emissions Trading Scheme and introduces a number of important changes to the EU ETS that will take effect from Phase III (2013-2020) of the scheme, and provide a clearer sense of the future of the scheme. The main changes include a declining emissions cap, increased auctioning of allowances and longer trading phases. The increase in auctioning will be introduced more slowly than was proposed by the European Commission when it announced the climate and energy package in January 2008.

In particular, the New EU ETS Directive expands the EU ETS to cover new activities and gases, including:

- carbon dioxide emissions from the petrochemicals, ammonia and aluminium sectors;
- nitrous oxide emissions from the production of nitric, adipic and glycolic acid; and
- perfluorocarbon emissions from the aluminium sector.

Although much of the attention on Phase III has surrounded its expansion, the New EU ETS Directive confirms that the EU ETS will continue to be focused on large energy-intensive sectors.

One of the main features of the New EU ETS³² Directive is the increased harmonisation and centralisation of the operation of the EU ETS. As such, the allocation of allowances will be made centrally rather than by Member States under National Allocation Plans. This change

from the current practice which EU ETS participants have claimed has led to competitive distortions within sectors due to different allocation rules being adopted by Member States. Likewise, the administration of the New Entrant Reserve (equivalent to 5% of total annual allowances to be awarded) will be centralised; and records relating to allowances, and trading in allowances, will be held in a central register rather than in national registries. The proceeds from auctioning 300 million allowances reserved for new entrants to the EU ETS will be used to support renewable energy projects and up to 12 CCS demonstration projects³³.

Overall, the New EU ETS Directive decreases to the new EU-wide allowance cap. From 2013, the cap will decrease year on year by 1.74% of the Phase II cap from the total amount of 1.974 billion allowances in 2013 to 1.720 billion in 2020 (equivalent to an overall reduction of 21% in allowances available by 2020 compared to 2005). After 2020, the cap will continue to decrease by 1.74% per year, but this rate of reduction may be revised by 2025; and allowances issued from 2013 onwards can be banked for use in any subsequent phase of the scheme³⁴.

A major change will be a shift away from allocating allowances to operators free of charge, to a process involving the compulsory auctioning of allowances. Free allocations of allowances will be phased out progressively, with 20% of available allowances being auctioned in 2013, increasing to 70% in 2020, with a view to the full quota of allowances being auctioned in 2027³⁵.

For the electricity sector, stricter rules will apply in that no allowances will be allocated free of charge to electricity generators as of 2013 (except for district heating schemes, high-efficiency combined heat and power schemes, and where eligible Member States have opted to derogate from this rule). Member States are to conduct auctions, with 90% of the allowances to be auctioned being given to Member States in proportion to their verified emissions for 2005, and the remaining 10% of allowances being given to Member States with lower per capita income. A further provision has been added to allow a redistribution of 2% of auctioned allowances to take into account Member States which, in 2005, had achieved greenhouse gas emissions reductions of at least 20% compared to 1990 levels (the twelve "new" Member States and Greece and Portugal will benefit from this measure)³⁶.

The option available to Member States to exempt small installations has been extended to cover all small installations regardless of sector or the nature of the activity undertaken. The emissions threshold below which an installation is classified as "small" has been raised from 10,000 to 25,000 tonnes of carbon dioxide emitted per year. In addition, in the case of combustion installations, the capacity threshold has been raised from 25 MW to 35 MW. Member States have also been given the option of excluding hospitals from the exemptions³⁷.

Member States may compensate certain installations for EU ETS costs passed on to them through higher electricity prices if these costs might otherwise expose

them to the risk of carbon leakage. The Commission will amend its guidelines on state aid for environmental protection to allow this compensation to be granted.

In order to assist Member States with less developed generating infrastructure and economies, certain Member States may opt to derogate from the rule preventing the allocation of allowances to electricity generators free of charge. This option will only be available where certain conditions relating to the interconnectivity of the electricity grid, the share of fossil fuels in electricity generation, and GDP per capita are fulfilled. Even if the option is exercised, 30% of the allowances available for electricity generators must be auctioned in 2013, rising progressively to 100% by 2020, and the Member State must invest in energy infrastructure, clean technologies and energy diversification an amount equal to the market value of the free allocation. In addition, free allocations can only be made for emissions from installations that are operational or under construction no later than the end of 2008.

The adopted version of the New EU ETS Directive contains detailed provisions as to the criteria that will be used to determine sectors exposed to a significant risk of "carbon leakage" (such as the relocation of manufacturing or other activities covered by the scheme outside the EU where similar emission reduction constraints have not been imposed). The Commission will identify those sectors that will face significantly increased production costs, ie, costs comprising (more than 5% of its gross value added) and international competition (more than 10% non-EU imports and exports). The publication of the Commission's list of affected sectors is due by 31 December 2009. By June 2010, the Commission will review carbon leakage generally in light of any international agreement that is reached which may substantially reduce the risk of carbon leakage. The Commission has stated that this could involve maintaining or adjusting the proportion of allowances received free of charge by sectors deemed to be at risk of carbon leakage³⁸.

With regard to credits generated by Clean Development Mechanism (CDM) and Joint Implementation (JI) projects, the New EU ETS Directive envisages two scenarios³⁹.

Generally, the New EU ETS Directive extends the ability to use credits generated by CDM and JI projects issued in respect of emission reductions occurring before 2013 or generated by projects established before 2013 into Phase III of the EU ETS.

Prior to or without a global successor agreement to the Kyoto Protocol, operators of relevant installations will be able to use credits allocated to them for the period 2008-2012 that they have not already used. This could represent up to more than one third of the emission reductions required between 2013 and 2020. However, in this scenario, only credits from project types which were accepted by all Member States during the 2008-12 period will be eligible for use to guarantee that JI/CDM credits are treated equally throughout the EU ETS. Provided that the new credits do not increase the overall number

of credits available, JI/CDM credits from new energy efficiency or renewable energy projects that promote sustainable development could be used in accordance with agreements concluded with third countries; and JI/CDM credits derived from new projects that started from 2013 onwards would be allowed from Least Developed Countries without the need to conclude an agreement with these countries (if CERs stem from project types accepted by all Member States during 2008-2012)⁴⁰.

If a global successor agreement to the Kyoto Protocol has been reached, the limit on the use of JI/CDM credits will be automatically increased by up to half of the additional reduction effort and operators of participating installations may, in addition to the credits provided for in the New EU ETS Directive, use CERs, ERUs or other approved credits from third countries which have ratified the international agreement on climate change succeeding the Kyoto Protocol⁴¹.

In another change from current practice, the EU ETS will, from 2013, be extended to cover the capture, transport and storage of carbon dioxide. However, in order to support the development of CCS, operators will not need to surrender any allowances for carbon dioxide that is permanently stored in a licensed CCS facility (see section below on the CCS Directive).

Member States are obliged to transpose the New EU ETS Directive into national law by 31 December 2012. In order to avoid any legal uncertainty, the New EU ETS Directive specifies that the relevant directives amended by the New EU ETS will continue to apply until 31 December 2012.

The GHG Reduction Decision

The GHG Reduction Decision sets binding greenhouse gas emissions targets for individual EU Member States for sectors of the economy not covered by the EU ETS and provides an indication of the extent to which Member States will be required to address and reduce emissions from non-EU ETS sectors (such as surface transport, construction, and agriculture) over the next decade.

The targets for individual Member States amount to an average reduction of 10%⁴². This reduction, combined with the agreed 21% reduction for EU ETS sector emissions, is designed to ensure that the EU meets its current overall target of a 20% reduction in emissions by 2020.

Those Member States with lower per capita income and strong prospects for future economic growth (mostly the “new” Member States) may increase their greenhouse gas emissions by up to 20% by 2020 compared to 2005 levels, whereas Member States with higher income per capita must reduce their emissions by up to 20% by 2020. A reduction target of 16% has been set for the UK, and a reduction target of 14% has been set for Germany and France. The individual targets are the same as those proposed by the Commission when it announced the climate and energy package in January 2008, but they will be reviewed if an international agreement succeeding the Kyoto Protocol can be agreed⁴³.

In order to set a trajectory to meet the target of a 20% reduction in emissions by 2020, the GHG Reduction Decision also sets annual binding emissions limits for each Member State. Several flexibility measures are provided allowing Member States to bank and borrow up to 5% of limits between years; transfer “overachieved” emissions reductions between Member States; and use, without limit, credits generated by emissions reduction projects within the EU⁴⁴.

The GHG Reduction Decision allows Member States that are required to reduce their emissions, or are allowed to increase them by up to 5%, to use an additional amount of CERs equal to 1% of 2005 emissions. These CERs can come only from CDM projects in less developed countries and are only available to Member States that meet certain conditions (de facto, it is thought that the only Member States that could benefit from this measure are Austria, Finland, Denmark, Italy, Spain, Belgium, Luxembourg, Portugal, Ireland, Slovenia, Cyprus and Sweden)⁴⁵.

Member States already monitor and report greenhouse gas emissions annually. The GHG Reduction Decision now provides that, if a report indicates non-compliance with a limit for a given year (taking into account any use of the flexible measures or CDM/JI credits), the Member State will have to submit a corrective action plan to the Commission detailing the measures they intend to take to rectify the situation⁴⁶. If a Member State fails to take corrective action, formal enforcement action can be taken⁴⁷.

The GHG Reduction Decision does not, however, include the enforcement mechanism requested by the European Parliament which would have required a Member State that fails to meet its target to pay an “excess emissions penalty” equivalent to the fines payable under the EU ETS - ie, €100 per tonne of carbon dioxide emitted.

The GHG Reduction Decision has already entered into force.

The Renewable Energy Directive

The Renewable Energy Directive promotes the use of renewable sources for electricity generation and sets a target for energy from renewables of 20% of total energy consumption across the EU by 2020, including a further target of 10% for energy from renewable sources for each Member State’s transport energy consumption.

In order to achieve the overall targets, the Renewable Energy Directive sets a mandatory national target for each Member State stating the overall share of gross energy consumption that must come from renewables, taking the differing levels of progress achieved by Member States to date into account⁴⁸. The mandatory national targets will provide certainty for investors and should encourage technological development. To ensure that the mandatory national targets are achieved, Member States are required to follow an indicative trajectory towards the achievement of their target and each will produce a National Action Plan. The plan will set national targets for the share of energy from renewable sources to be used to meet demands for transport, electricity, heating and cooling in 2020.

Member States are free to decide their preferred mix of renewable sources, but must present National Action Plans, based on an “indicative trajectory”, to the Commission by 30 June 2010⁴⁹. Progress reports must then be submitted every two years. The plans will need to be split so that three sectors are identified separately, namely: electricity, heating and cooling, and transport⁵⁰.

Member States can apply financial support schemes in relation to the mandatory targets, although it will not be mandatory to link these with schemes in other Member States. The Renewable Energy Directive also lays down rules relating to statistical transfers between Member States, joint projects between Member States and with non-EU countries, Guarantees of Origin, administrative procedures, information and training, and access to the electricity grid for energy from renewable sources⁵¹.

The Renewable Energy Directive contains a series of interim targets for all Member States, in order to ensure steady progress towards the 2020 targets:

- 25% of the overall 2020 target to be achieved between 2011 and 2012;
- 35% of the overall 2020 target to be achieved between 2013 and 2014;
- 45% of the overall 2020 target to be achieved between 2015 and 2016; and
- 65% of the overall 2020 target to be achieved between 2017 and 2018.

There are no financial penalties for failing to achieve these interim targets. The Commission does however reserve the right to issue infringement proceedings if Member States do not take “appropriate measures” to try to meet their targets.

Two or more Member States can cooperate on joint projects relating to the production of energy from renewable sources. Member States can also join forces with one or more non-EU countries on renewable electricity generation projects. Member States will be permitted to link their national support schemes to those of other Member States, and will be allowed under certain circumstances to count the import of “physical” renewable energy from third-country sources towards their targets. It will not be possible to count “virtual” imports, based on investments in non-EU countries towards a Member State national target⁵².

A system requiring open trading in renewable energy certificates between participants across Member States was rejected in favour of a system only permitting Member States themselves to transfer excess renewables credits. These “statistical transfers” can only take place if the Member State has reached its interim renewables targets⁵³.

The Renewable Energy Directive states that Guarantees of Origin in relation to renewable energy are only to be used to prove the quantity of energy from renewable sources in a supplier’s energy mix to final consumers. Member States must ensure that a Guarantee of Origin is issued in response to a request from a generator of

renewable electricity and that guarantees will be given in relation to each 1MWh generated⁵⁴.

In addition, the Renewable Energy Directive establishes binding criteria to ensure that biofuel and bioliquid production is environmentally sustainable. For the purposes of meeting national targets, energy from these sources must fulfil the requisite criteria. The criteria relate to biodiversity, the protection of rare, threatened or endangered species and ecosystems, and greenhouse gas emissions savings.

From 2017 onwards, the greenhouse gas emissions savings resulting from the use of biofuels produced in existing biofuel production plants must be at least 50% compared with the emissions from using fossil fuels. The greenhouse gas emissions from the use of biofuels produced in new installations must be at least 60% lower than those from fossil fuels. Unlike traditional, “first-generation” biofuels, it is thought that second-generation biofuels do not present the same risks to the security of food supplies as these biofuels are, for example, produced from wastes, residues, or biomass such as algae, wood residues, or paper waste. To promote those new, more sustainable alternatives, “second-generation” biofuels will receive double credits for the purposes of the overall 10% transport target⁵⁵.

In the past many smaller producers of renewable electricity have argued that a lack of transparency and restricted access to electricity grids has prevented them from competing in the market. The directive requires Member States to ensure that transmission and distribution system operators provide either priority access or guaranteed access to the grid for electricity produced from renewable energy sources. System operators will be required to provide any new generator wishing to be connected to their network with a timetable and a comprehensive estimate of costs associated with the connection. In addition, Member States are required to develop transmission and distribution grid infrastructure, intelligent networks, storage facilities and systems that can be operated safely while accommodating renewable generation⁵⁶.

In their National Action Plans Member States are required to assess whether there is a need to build new district infrastructure for heating and cooling using energy produced from renewable sources (including large biomass, solar and geothermal facilities) in order to achieve their mandatory 2020 national target. Local and regional administrative bodies should be advised to “ensure equipment and systems are installed for the use of heating, cooling and electricity from renewable sources, and for district heating and cooling when planning, designing, building and refurbishing industrial or residential areas”. In particular, they should be encouraged to include heating and cooling systems when planning city infrastructures⁵⁷.

Member States must transpose the Renewable Energy Directive by 5 December 2010.

The CCS Directive

The climate change and renewable energy package includes a directive which provides a framework for carbon capture and storage in the EU (the CCS Directive) supporting CCS as an emissions reduction option.

The key provisions of the CCS Directive are:

- the creation of a permit based CCS storage regime to be administered by Member States and the amendment of existing EU legislation which prohibits or inhibits CCS⁵⁸;
- the establishment of a regime for operators holding permits to pass long-term liability for leakage from storage sites to the licensing Member State, provided certain handover criteria are met⁵⁹; and
- requirements for all new combustion plants in the EU built without CCS to have space for CCS equipment and to have carried out studies into the availability of storage sites and the feasibility of “retro-fitting” capture equipment⁶⁰.

By joining up the funding mechanism under the New EU ETS Directive and the provisions of the CCS Directive, the Climate Change Package provides that CCS will be financially incentivised through the EU ETS from Phase III (2013 – 2020) and Member States can opt-in for the inclusion of CCS in Phase II (2008 – 2012) (see section on the New EU ETS Directive above). Specific funding for CCS is made available through its inclusion in the EU ETS and allocation of up to 300 million EU ETS allowances from the new entrant reserve to fund up to 12 CCS demonstration projects⁶¹. Support for such projects will be provided via Member States and the mechanics of how and when such support will be made available are currently unclear.

As a result of the CCS Directive, carbon dioxide stored in geological formations will not be classed as ‘emitted’ for the purposes of the EU ETS so that credit is given to power stations with CCS technology which will not be required to surrender allowances for carbon dioxide which is stored.

The CCS Directive envisages two types of permit. The first is an exploration permit to allow the specified exploration works to be carried out and entitling the permit holder to explore the area covered by the permit for suitable geological formations on an exclusive basis⁶². The second is a storage permit for the development and utilisation of geological formations within the permit area as storage sites for carbon dioxide, and allows the injection of carbon dioxide⁶³.

The criteria for the grant of a storage permit are rigorous and involve substantial site characterisation in order to assess its suitability for permanent storage. Applicants must also satisfy technical and financial requirements. As well as delineating the storage complex, storage permits will contain a number of important provisions including the requirements for operating the storage facility, the total quantity of carbon dioxide to be stored, the requirements with regard to the composition of the carbon dioxide stream and an approved monitoring plan⁶⁴.

Permits will be issued by the competent authority in each Member State. However, the Commission proposes to review and comment on each individual storage permit application before it is awarded and Member States will be obliged to take the Commission's comments into consideration⁶⁵.

The CCS Directive includes provisions relating to liability for damage resulting from the leakage of carbon dioxide from a storage site, both in terms of damage to the local environment and the climate. With regard to the local environment, the CCS Directive applies the Environmental Liability Directive (2004/35/EC) to the storage of carbon dioxide to ensure the prevention and remedy of any damage by an operator of a storage facility. Liability for climate damage resulting from leakage will be covered by the inclusion of CCS in the revised EU ETS Directive so that EU ETS allowances will need to be surrendered for leaked emissions.

The CCS Directive requires the storage operator to take corrective measures to remedy any leakage, and the storage operator remains responsible for the storage site for as long as it represents a risk (even after closure), until the site is handed over to the competent authority of the relevant Member State⁶⁶. The relevant Member State is required to assume responsibility for storage sites in its territory from the point of handover⁶⁷. Once a handover has occurred, subject to an important caveat, there should be no further liability for the operator.

The CCS Directive contains a provision stating that where there is fault on the part of the operator, including deficiencies in data, concealment of relevant information, negligence, wilful deceit or a failure to exercise due diligence, the competent authority may recover the costs incurred from the operator, even after the transfer of responsibility has taken place. This is a broad derogation from the principle of liability handover. How this is translated into national legislation will be of great interest to operators of storage facilities⁶⁸.

As part of the permitting regime, Member States may require operators to lodge financial security for their prospective liabilities before the injection of carbon dioxide into a storage facility commences. The scope of these liabilities and the form that the security will take is a matter for individual Member States to decide and will no doubt come under scrutiny when the CCS Directive is implemented at national level. In addition, Member States will be entitled to require a contribution from the operator to cover future liabilities as a condition of the handover of responsibility. Member States are permitted to set the level of this contribution subject to a minimum of not less than the cost of monitoring the site for 30 years post-closure⁶⁹.

Whilst stopping short of compulsory CCS for new power plants, there are requirements on the operators of all new combustion plants in the EU with a capacity in excess of 300MW which are built without CCS capabilities to have assessed whether suitable storage sites are available, whether transport facilities are technically and economically feasible and whether it is technically and economically feasible to retrofit the plant for carbon dioxide capture. The relevant competent

authority in the Member State should also ensure that the operator has secured suitable space on the site for the installation of equipment necessary to capture and compress carbon dioxide⁷⁰.

By amending directives relating to the waste and ground water to permit the injection of carbon dioxide into storage sites, the Climate Change Package removes a significant part of the current prohibitions on CCS under EU legislation.

In addition to the financing support mechanisms in the CCS Directive, financial support for carbon capture and storage is also forthcoming under the European recovery plan. On 20 March 2009, EU leaders agreed proposals for 5 billion of investment in energy and broadband infrastructure projects as part of the EU recovery plan. The 5 billion comes entirely from unspent money in the EU budget and a total of 1,050 million has been proposed for investment in five CCS demonstration projects. Under the plan Germany, the UK, Poland, the Netherlands and Spain will all receive 180 million each, Italy will receive 100 million and France will receive 50 million. 13 projects are shortlisted as funding candidates, among them Hatfield, Kingsnorth, Longannet and Tilbury in the UK, Eemshaven and Rotterdam in the Netherlands and Hürth and Jänschwalde in Germany.

Member States have to transpose the CCS Directive into national law by 25 June 2011.

The Biofuel Directive

The measures introduced by the Biofuel Directive are expected to give a significant boost to the European biofuels market.

The Biofuel Directive amends two previous European directives relating to the quality of petrol and diesel (Directive 98/70/EC of the European Parliament and Council relating to the quality of petrol and diesel fuels as amended by Directive 2003/17/EC). Broadly, the changes aim to introduce a mechanism for the reporting of and reduction in the life cycle of greenhouse gas emissions from fuel; enable the more widespread use of ethanol in petrol; and tighten environmental quality standards for specified fuel parameters.

The Biofuel Directive obliges fossil fuel suppliers to reduce greenhouse gas emissions from their fuels throughout their lifecycle by 6%, a reduction from the Commission's initial proposal for a binding 10% reduction. However, the Commission will review the target in 2012 in the light of technological advances (such as the use of electricity in transport) reserving the option to increase the reduction target by a further 2%⁷¹. Subject to that review, a further 2% reduction is expected to be achieved through the use of Certified Emissions Reductions obtained from projects related to flaring reductions which are not linked to EU oil consumption.

Perhaps the most significant change brought about by the Biofuel Directive is the increase in the permissible content of biological components of petrol to up to 10% by the phasing in of 10% Ethanol (E10) petrol. Petrol

meeting current requirements (containing up to 5% by volume of ethanol) will continue to be marketed until 2013, with the possibility of an extension. This transitional period has been introduced to mitigate the potential damage that would be caused to vehicles which are not calibrated or covered by a warranty allowing the use of petrol with an ethanol content of over 5% by volume⁷².

The Biofuel Directive also provides for changes to the current diesel specifications, allowing a content of fatty acid methyl ester (FAME) of up to 7% by volume, with no limit on other advanced biodiesel blends in the conventional diesel specification. Although allowances are made for Member States that want to make biodiesel blends with a FAME content of 10% by volume available, as a result of the new specification, diesel constituting up to 7% by volume of FAME (B7) is likely to be the grade of diesel predominately available on the European market⁷³.

European legislators intend the Biofuel Directive to incorporate sustainability criteria for biofuels used to meet greenhouse gas reduction requirements. Despite criteria being set out in the Renewable Energy Directive, these criteria had not been agreed by the time that the package was adopted. The European Commission has been tasked with developing a methodology to assess the environmental impact of biofuels across their lifecycle by December 2010⁷⁴.

Member States have until 31 December 2010 to transpose the Biofuel Directive into national law. Once implemented, it is likely to have a significant impact on fuel suppliers throughout the distribution chain as well as fuel producers, who more so than other affected parties, will have to adapt to meet the new quality criteria.

The Emission Standard Regulation

Despite improvements in fuel efficiency, CO₂ emissions from road transport across the EU increased by 26% between 1990 and 2004, and now account for almost a third of the EU's total emissions. When it became apparent that voluntary car industry reduction targets would not be met, the European Commission proposed new legislation to impose enhanced emissions performance requirements. The Emission Standard Regulation sets the first legally-binding standards for CO₂ emissions from passenger cars, requiring reductions from current levels to an EU average for new cars of 130g of CO₂ per kilometre travelled through the adoption of improvements in motor technology. A further 10g per kilometre reduction in emissions will be sought through additional measures, including the increased use of sustainable biofuels and more efficient vehicle features such as better air-conditioning systems or tyres.

The Emission Standard Regulation is much less demanding than the European Commission's original proposal, which had sought to impose significant financial penalties for missing targets that would have applied in full from 2012. The car industry argued strongly that lead-in times for new car development would have made complying with the proposed targets within this timeframe impossible.

The obligations will now be phased in between 2012 and 2015. From 2012, on average 65% of a manufacturer's newly registered cars will need to comply, with the manufacturer's target. This will grow to 75% in 2013, 80% in 2014 and 100% from 2015 onwards⁷⁵. Additional credit will be given for very low emission vehicles, and in certain circumstances for biofuel-capable cars, until 2016. The target for each manufacturer will be set by reference to a limit value curve, with manufacturers of heavier cars being allowed higher emissions than those of smaller cars, but also being required to make steeper cuts from current fleet average emission levels⁷⁶.

Manufacturers (including companies within the same manufacturing group) may agree to pool together to meet the emissions targets. In that case, a nominated pool manager is responsible for paying any penalties, and evidence must be provided that it is sufficiently financially robust to do so. In order to discourage cartel behaviour amongst pool members that are not part of the same group of companies, pools must allow open, transparent and non-discriminatory participation on commercially reasonable terms, and the usual anti-competition rules apply. Pool members are not allowed to share information (eg, on pricing or research developments) other than that which directly relates to compliance with their targets. This does not preclude collaboration agreements which are unconnected with the pooling agreement and do not otherwise violate applicable laws or regulations⁷⁷.

Small scale manufacturers (registering fewer than 10,000 cars per year) and niche manufacturers (registering fewer than 300,000 cars per year) may benefit from lower targets. Small scale manufacturers may put forward a reduction target consistent with their reduction potential in light of economic, technological and market considerations, but such reduced targets are only available for a maximum of five years, whereas niche manufacturers, instead of having a target set by reference to the limit curve, are able to apply for a lower target of a reduction of 25% from 2007 emission performance levels. These lower targets must still be achieved by 2012 and the same financial penalties apply as for larger manufacturers⁷⁸.

Manufacturers may seek to gain credit of up to 7g of CO₂ per kilometre travelled for eco-innovations shown to improve CO₂ emissions performance, provided the improvements go beyond what is otherwise required by the regulation. However, over time, eco-innovations (and in particular reductions in car weight) will be subsumed into required standards and no extra credit will be given⁷⁹.

The penalty system has also been amended from the original proposal, so that manufacturers who miss the target by a small margin are penalised less severely. The fines will now be 5 per gram per new car registered for the first gram per kilometre over target, 15 for the second gram per kilometre over target, 25 for the third gram per kilometre and 95 for each gram above three grams until 2019. After 2019 the full penalty of 95 for each gram per kilometre above the target will apply⁸⁰.

From 2011 onwards manufacturers will be notified by the Commission of any shortfall in meeting their targets for the previous year. Inaccuracies can be challenged and the notice will be confirmed by 31 October of the relevant year. Details of each manufacturer's performance will be published⁸¹.

A longer-term target of 95 grams of CO₂ per kilometre travelled by 2020 is also specified in the regulation. Mechanisms for meeting this goal and penalties for missing it will be set following a review of the regulation which will be completed by 2013. That review will encompass a review of all targets applying from 2012 and the smallscale manufacturer and niche market derogations. It will also include an overall assessment of the impact of the regulation on the car industry and dependent industries such as parts providers⁸².

The Emission Standard Regulation has already entered into force and is directly applicable in all EU Member States, although its measures will be introduced gradually between 2010 and 2016.

The way ahead for Europe's climate change regime

Taken as a whole, the Climate Change Package is the EU's first attempt to create a comprehensive European legal regime covering the carbon and renewable energy sectors, helping to inform investment decisions in these sectors, by securing a future for carbon trading and laying the foundations for future investment in renewable technologies, biofuels and the development of carbon capture and storage.

At policy level, the Climate Change Package aims to achieve a reduction of at least 20% in the levels of greenhouse gas emissions by 2020 – rising to 30% if an international agreement is reached committing other developed countries to comparable emission reductions and economically more advanced developing countries to contributing adequately according to their responsibilities and respective capabilities; and a 20% share of EU energy consumption to be generated from renewable sources by 2020.

As the Climate Change Package will not be fully transposed into national law until 2012, it will be some time before its real impact can be assessed. In addition, the European Parliament and the Council have made it clear throughout the legislative process that the Climate Change Package is not the final word in the EU's climate change initiative, emphasising that the EU now has to set its sight beyond 2020 to make even greater cuts in greenhouse gas emissions to meet the target of halving global emissions by 2050. This is likely to include stricter future emissions limits affecting more sectors, but will also involve stimulating technological developments to ensure that industry players, particularly those in energy intensive industries, implement new technologies.

footnotes

1. Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty (OJ L 1 of 4.1.2003, p.1), as amended by Council Regulation (EC) No 411/2004 (OJ L 68 of 6.3.2004, p.1).
2. DG Competition Report on Energy Sector Inquiry, Brussels, 10 January 2007, SEC (2006)1724 (the "Final Report").
3. One might add that this does not only reduce the incentive for wholesale market trades for new entrants, but also for existing, integrated energy undertakings who will not see the need to engage in such trade outside its own group undertakings.
4. The position of the Commission on long-term contracts in the energy sector is somewhat ambiguous: The Gas Supply Directive (see below) provides an annex with a non-exhaustive list of "instruments to enhance the security of gas supply" and explicitly lists long-term contracts as such an instrument and Article 32(1) of Directive 2003/55/EC exempts long-term contracts for gas transmission concluded pursuant to Article 3(1) of Directive 91/296/EEC. Yet, the Final Report suggests that long-term contracts are problematic from a competition point of view as they necessarily commit pipeline capacity over a significant period of time. For the purposes of the TEP, the Commission has decided that further legislative measures concerning long-term contracts in gas do not appear to be proportionate.
5. Final Report, p.7.
6. The unbundling provisions are contained in Articles 9-11 and 13-14 New Electricity Directive and Articles 9-11 and 14 New Gas Directive.
7. Articles 9 in the New Electricity Directive and New Gas Directive, respectively.
8. T. Jamasb, M Politt, Energy Policy 36 (2008) 4584-4589, page 4585.
9. Commission Staff Working Document, Impact Assessment Summary Accompanying the legislative package on the internal market for electricity and gas, SEC(2007) 1180/2.
10. All figures in this paragraph are quoted as per Annex III of the Impact Assessment.
11. Impact Assessment, page 33.
12. Ibid.
13. Directives 2003/54/EC and 2003/55/EC, respectively.
14. Article 35 New Electricity Directive, Article 39 New Gas Directive.
15. Article 37 New Electricity Directive, Article 41 New Gas Directive.
16. Article 6 (a) New Electricity Directive, Article 40(a) New Gas Directive.
17. On the structure of ACER, see Article 3 of the ACER Regulation.
18. Article 21 ACER Regulation.
19. Articles 5 and 6 ACER Regulation.
20. Article 7 ACER Regulation.
21. Article 9(1) ACER Regulation.
22. Article 6(6)ff ACER Regulation.
23. See, for instance, Jamasb, Tooraj and Pollitt, Michael, *ibid.*
24. Impact Assessment page 54.
25. Articles 5 of the New Electricity and New Gas Regulations, respectively.
26. Articles 8 of the New Electricity and New Gas Regulations, respectively.
27. Article 15 New Gas Directive.
28. Articles 33 and 41 (m) New Gas Directive.
29. Article 36 New Gas Directive and Article 17 New Electricity Regulation.
30. Article 6 New Gas Directive.
31. Article 3(4) New Gas Directive, Article 3(7) New Electricity Directive.
32. Art 1 (12) of the New EU ETS Directive.
33. Art 1(12 (8)) of the New EU ETS Directive.
34. Art 1(9) of the New EU ETS Directive.
35. Art 1 (10) of the New EU ETS Directive.
36. Art 1 (11) of the New EU ETS Directive.

footnotes (continued)

37. Art 1 (28) of the New EU ETS Directive.
38. Article 1 (11) of the New EU ETS Directive.
39. Article 1 (13) of the New EU ETS Directive.
40. Ibid.
41. Ibid.
42. See Annex II of the GHG Reduction Decision.
43. Article 8 of the GHG Reduction Decision.
44. Article 3 (4) of the GHG Reduction Decision.
45. Article 5 of the GHG Reduction Decision.
46. Article 6 of the GHG Reduction Decision.
47. Article 7 of the GHG Reduction Decision.
48. See Annex I of the Renewable Energy Directive.
49. Article 4 of the Renewable Energy Directive.
50. Article 22 of the Renewable Energy Directive.
51. Article 6 of the Renewable Energy Directive.
52. Article 8 of the Renewable Energy Directive.
53. Article 6 of the Renewable Energy Directive.
54. Article 15 of the Renewable Energy Directive.
55. Article 17 of the Renewable Energy Directive. For provisions as to the enforcement of the sustainability criteria, see Article 18 of the Renewable Energy Directive.
56. Article 16 of the Renewable Energy Directive.
57. Ibid.
58. Articles 5-10 of the CCS Directive.
59. Articles 12-20 of the CCS Directive.
60. Article 33 of the CCS Directive, amending Directive 2001/80/EC.
61. Article 1(12) of the New EU ETS Directive.
62. Article 5 of the CCS Directive.
63. Article 6 of the CCS Directive.
64. Article 8 of the CCS Directive.
65. Article 8(2) of the CCS Directive.
66. Article 16 of the CCS Directive.
67. Article 17 of the CCS Directive.
68. Article 18(7) of the CCS Directive.
69. Article 19 of the CCS Directive.
70. Article 33 of the CCS Directive.
71. Article 1(5) of the Biofuel Directive.
72. Article 1(3) of the Biofuel Directive.
73. Article 1(4) of the Biofuel Directive.
74. Article 1(6) of the Biofuel Directive.
75. Article 4 of the Emission Standard Regulation.
76. Article 5 of the Emission Standard Regulation.
77. Article 17 of the Emission Standard Regulation.
78. Article 11 of the Emission Standard Regulation.
79. Article 12 of the Emission Standard Regulation.
80. Article 9 of the Emission Standard Regulation.
81. Article 10 of the Emission Standard Regulation.
82. Article 13(5) of the Emission Standard Regulation.

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