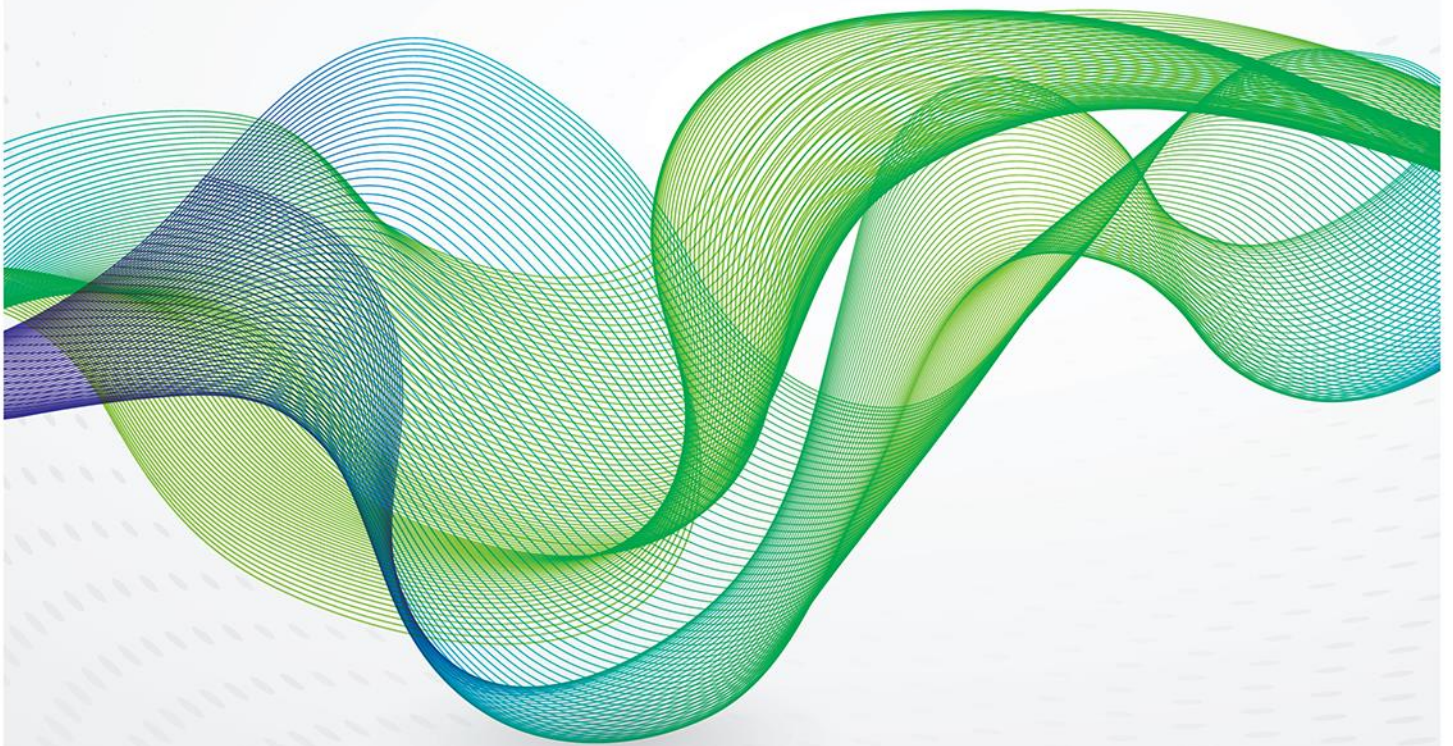


December 2016

EU energy policy – 4th time lucky?



1. Introduction

The European Commission has come up with a table-denting 1,000 page package of legislative proposals and exhortatory communications that it has dubbed 'Clean Energy for all Europeans'. In doing so, the Commission is fulfilling its undertaking to make 2016 the 'year of delivery' for the European Union's Energy Union project; all aspects of this project are now on the table for EU member governments and the European Parliament to decide on.

There are two main themes to the package unveiled on November 30:

- **Decarbonisation:** Adapting market and regulatory structures to make them fit for the decarbonised energy system of the future (with more decentralised sources, more intermittent power, more active consumers and so on).
- **Europeanisation:** A move away from national approaches to energy towards regional and EU-wide frameworks (eg regional operations centres; cross-border capacity and renewables payments; strengthening of regulatory coordination).

Both these themes are of course central to the Energy Union project. However, although Maros Sefcovic, the Commissioner for Energy Union, has called the package "the biggest transformation of Europe's energy system since the building of its centralised energy system" nearly a century ago, in fact it goes only a relatively short way towards the ultimate objectives – for instance, the introduction of cross border support schemes is cautious and incremental; regulatory coordination is still on the basis of cooperation between national regulators rather than via a European regulator; and the market reforms amount to little more than a sticking plaster on a fundamentally broken design.¹ This is not the energy package to end all energy packages – just another step in a work in progress.

Nonetheless, the package is certainly the widest in scope, at least so far. The proposals go well beyond the previous three energy legislative packages of the 1990s and the 2000s. In addition to amending, and extending to 2030, legislation on energy efficiency and renewable energy, they also tackle design of the electricity market, and propose new governance rules for the Energy Union. The package deals mainly with electricity – it is chiefly through progressive electrification of its economy that Europe plans to decarbonise – but it also has implications for gas and coal in the power market, for liquid bio-fuels in transport, and for renewables in heating markets.

The timing is also fortuitous in the fight against climate change. The Commission was working on these proposals long before anyone imagined Donald Trump reaching the White House. However, the Commission package serves as a reminder to him, whatever his previous views about the 'hoax' of climate change, that the decarbonisation ambitions of America's European partners remain undiminished, and in one aspect increased; the Commission proposes that EU countries should now raise their aim for an energy efficiency improvement by 2030 from 27 per cent to 30 per cent. Another accident of timing could be that these proposals get final approval and reach the EU statute book just before the UK leaves the EU in 2019.²

2. Decarbonisation

Looking first at the theme of decarbonisation. The main goals, as far as markets is concerned, are to restore price signals to the electricity market, enhance the role of renewables, encourage more flexible and informed consumer markets, and improve energy efficiency.

¹ These issues are analysed in more detail in the book *Europe's Long Energy Journey: towards an Energy Union* by the authors of this Comment, published by OUP earlier this year.

² Raising some interesting issues, beyond the scope of this paper, as to whether the package would be implemented in the UK in the interim.

Restoring Price Signals to Electricity markets

A main thrust of past Commission energy policy has been to try to give prices free rein, but this has been frustrated by two main distortions affecting both supply and demand. First, the fact that many governments (17 of the EU-28) still regulate or put caps on prices, either wholesale or retail or both. Second, the steady influx of subsidised renewable electricity whose zero marginal cost disrupts the traditional cost-based 'merit order' that used to determine the sequence in which grid operators dispatch different sources of generation to the market, and frequently pushes conventional generators right out of the market. The Commission's hope is to return to a market "allowing electricity to move freely to where it is most needed when it is most needed via undistorted price signals"³. By undistorted, it means permitting scarcity pricing that reflects nothing but the balance of available supply and demand. A pure 'energy only' market, in which generators' only revenue comes from what they can sell in the market, is not possible as long as renewable generators get subsidies. But the Commission has been working over the past couple of years, mainly using its anti-trust authority over national state aids/subsidies, to try to ensure that renewable generators draw more of their income from the market and less from subsidy, as well as to impose the same market disciplines on renewable generators as apply to conventional generators. For instance, one change in the latest package is to remove (at least once renewables have developed beyond a certain stage) the 'priority dispatch' privilege that renewable generators have enjoyed in previous EU legislation.

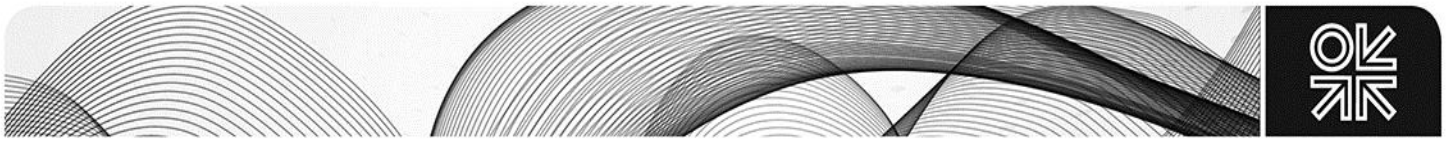
The proposals also encourage further approaches to market coupling in the short term via balancing markets and on-the-day markets; progress in these areas has hitherto been limited, inter alia, by the practical difficulties of making adjustments between two separate systems on the very short time scales involved, as discussed below.

Scarcity pricing is central to the Commission's thinking because it could potentially be a triple win – encouraging investment, enabling demand response and lessening the need for capacity mechanisms (disliked in Brussels as another distortion). The logic is that letting prices rise, unrestrained by governments or their regulators, to high levels at times of low supply and high demand would provide the right price signals for conventional generation – and possibly thereby avoid any need for back-up capacity mechanisms, as well as providing the right trigger for demand response. But the Commission has not really addressed the underlying issues. The first, traditionally described as the 'missing money' problem is the risk that prices will not in practice rise to the level needed to remunerate investment because governments will intervene to hold them down. The difficulty here is that 'scarcity pricing' can be, both in principle and in practice, indistinguishable from abuse of a dominant position (ie taking advantage of market power to push prices above costs – that is what both expressions mean). It is all very well for there to be declarations of intent not to intervene but they cannot constrain governments and competition authorities if in future they are faced with what looks like monopoly pricing – the electricity sector across Europe (and the world) has been subject to regular competition investigations and governments cannot credibly commit to a self-denying ordinance in this area.

Moreover, Brussels also has to contend with the popularity of price controls with populists. One government with no intention of denying itself the opportunity of interfering with energy pricing is that of Prime Minister Viktor Orban of Hungary, who has ordered a succession of electricity and gas price cuts to please his voters; within minutes of the Commission unveiling its latest package, his spokesman promised defiance of any Brussels attempt to get Hungary to phase out its price controls. Opposition from some of the other 16 EU states with energy price controls may be less speedy but just as sure.

Meanwhile, at the consumer end, for demand response to be triggered, some of the volatility or variation in wholesale power prices would have to be reflected in retail prices. But utilities (and customers and regulators) like to keep prices fairly stable. The Commission itself, despite its overall objective of letting markets work, appears wary of a direct link between the 'scarcity prices' and customer prices – wanting variable wholesale prices but steady retail prices. In its electricity market

³ Proposed regulation on the electricity market, COM (2016) 861 final, page 3.



regulation, it states “scarcity prices without price caps on the wholesale market should not put into question the possibility for reliable and stable prices for final customers, in particular households and SMEs”⁴.

Finally, there is the fundamental underlying issue – that while renewables (with price support) compete in markets where other generators do not get such support, the market is distorted – there are what are known as ‘pecuniary externalities’.⁵ So the basic goal – of allowing undistorted price signals to guide consumer and producer decisions – is unachievable unless markets are reformed in a much more fundamental way.⁶ Whether the Commission’s search for a return to an energy-only market is just nostalgia for something that cannot be recovered, or a means of allowing the liberalised market model to muddle through – until the day when large scale storage for renewable power saves the day – is the biggest question mark hanging over the Commission’s proposals.

Renewables

One of the elements of the package is a proposal for a revised renewables directive. This changes the basis of the EU renewables target and support in the ways outlined in earlier Commission papers and revised state aids guidelines. National renewables targets will be dropped after 2020. The new target of a 27 per cent share of renewable energy by 2030 is a Europe-wide target, to be achieved largely through the governance arrangements described below; renewables schemes in electricity are to be more responsive to market prices and competitive tenders; and there is to be a larger cross-border element. But perhaps the strongest new push, at least in terms of the rhetoric, is in relation to heating and transport – sectors where the penetration of renewables has hitherto been disappointing, compared with what has been achieved with electricity. The declared aim is that close to half of the contribution to the EU’s renewables target should come from heating and cooling by 2030 – which the Commission says shows ‘the need for action’. But in practice, there is little substance to the measures proposed for achieving this goal.

There have been two main problems in relation to transport and heating: the first, with regard to heating in particular, is that, given the diversity of the sector, it is difficult to apply an obligation on suppliers in the same way as for electricity; the second is that the main renewables in both transport and heating are of biological origin and using them may create environmental and sustainability problems. It would be difficult to argue that the new directive has got very far in addressing these problems. On the first problem – the Commission’s original proposal was for an obligation, analogous to renewables obligations in electricity, for heat suppliers to include a certain percentage of renewables, rising at 1 per cent per annum, in their energy mix. Following objections from the Commission’s ‘Regulatory Scrutiny Board’, this provision has been dropped in favour of more flexibility for Member States, who are to ‘endeavour’ to meet the target – given the history, it is difficult to see how this will address the underlying problem of slow progress.

The second issue is the sustainability of bioenergy, and here too there seems to be little progress – as regards heating, the main proposal is to ‘further develop sustainability requirements’ for forest biomass; some (fairly arbitrary) coefficients are given to determine the size of the emissions reductions from biomass. With transport, the hope is that advanced biofuels will develop sufficiently to remove the difficulties so that food based biofuels can fade away. However, since the target here is to get only to 3.6 per cent advanced biofuels by 2030 it is difficult to see how much serious longer term potential there might be. Overall, there is no clear view as to how far it will be feasible to increase the share of renewables in the housing and transport sectors without running into sustainability problems – and as a consequence there is no overall strategy for decarbonising these sectors.

⁴ Proposed regulation on the electricity market, COM (2016) 861 final, page 26 paragraph 10.

⁵ This is still the case, even when, as is proposed, renewables producers are exposed to a degree of market pricing, as long as they are also supported via other routes; furthermore, the current market structure, based on short run marginal costs is inherently unable to provide full remuneration of the costs of sources which have zero smc, like many new renewables so there is no clear exit strategy allowing the support for renewables to be removed.

⁶ See *Electricity Markets are Broken: can they be fixed?* OIES January 2016

Encouraging more flexible and informed consumer markets

One key element of the package is to enable consumers to participate in the new decentralised markets created by the decarbonisation process. The proposals in this area are designed to remove any barriers to consumer participation and to give them better information about the options, for instance:

- All consumers across the EU will be entitled to generate electricity for either their own consumption, store it, share it, consume it or to sell it back to the market.
- There are proposals to accelerate the deployment of smart meters and ensure access to dynamic (real time) electricity price contracts. Consumers will be able to request a smart meter from their energy supplier and benefit from market-based energy prices. Given the Commission's nervousness about exposing consumers to price volatility, the initiative is largely left with the consumers themselves but the Commission argues that there will be potential benefits – new technologies will allow them to consume more when energy is cheap and reduce consumption when prices are high and that this means that consumers will have better control of their spending on energy services.
- Consumers will get access to reliable and clear information on the best deals in the market, using certified online price comparison tools which will assist them in making informed choices.
- The Commission wants consumers to be able to switch suppliers more easily, and proposes to restrict the use of switching fees.
- Consumers or communities of consumers will be entitled to produce, store or sell their electricity.
- Demand response will also be facilitated by the removal of restrictions on the ability of suppliers to restrict access to markets or aggregators.

As will be seen, while these are potentially useful freeings up of the market, they are the sort of measure that are already in place in many countries, and unlikely of themselves to lead to radical changes in behaviour (any more than they have done so in the countries where these freedoms are already available).

The proposed internal electricity market directive also provides for an enhanced role for distribution system operators in managing and coordinating all the new decentralised sources – it points out that 90 per cent of variable renewable sources are connected to distribution grids. Again, this seems a sensible but hardly revolutionary step.

Energy Efficiency

It is in this area that the Commission's latest proposals produced the only headline change to EU energy strategy – the increase in Europe's energy efficiency improvement from 27 to 30 per cent. In many climate change strategies, energy efficiency has often been used, and abused, as a residual fudge factor. If it proves hard to get emissions down and renewable energy up, then assume a considerable efficiency improvement which by lowering energy consumption automatically lowers emissions and raises the renewable share of the (now lower) total of energy consumption.

The EU's first energy efficiency target of a 20 per cent improvement (over 2005) by 2020 was indeed a bit bogus. It was not binding, and for the good reason that there was nothing to bind it to. The 20 per cent was not intended to be an absolute saving, but rather 20 per cent below what Europe's energy

consumption would otherwise have been estimated on a business-as-usual trajectory from 2007 to 2020. To its credit, the EU got serious when it passed the 2012 energy efficiency directive, which contains an absolute amount of energy, in millions of tonnes of oil equivalent, to which EU consumption is supposed to drop to by 2020. A further reduction to a lower absolute of energy, expressed in mtoe terms, in 2030 is contained in the revision of the directive⁷.

An obvious question raised by the increase in the efficiency target is what will be the knock-on effect on the carbon price in the ETS system. The ETS already provides too weak an incentive for new low-carbon generation and demand response, and therefore can hardly do with further weakening.

However, the proposed extension of the efficiency directive to 2030 retains the same innovative clause of the 2012 law requiring energy suppliers to reduce sales by 1.5 per cent a year or to show that they have provided customers with energy-saving advice or equipment enabling these customers to do with 1.5 per cent less energy than they would otherwise have consumed. This is all a bit tortuous, and the sales reduction obligation for suppliers is not required in countries, such as Germany, which the Commission judges as having adequate energy saving programmes underway. However, Commission officials argue that the sales reduction obligation is working, because many companies are finding they can make more money selling energy-saving equipment than the revenue they are losing in the sale of energy commodities. If true, the obligation may indeed be unnecessary. However, the obligation's existence and its extension to 2030 help drive progress in two other parts of the Commission's latest package.

Extension of the Energy Performance of Buildings Directive. Buildings account for 40 per cent of all energy used in the EU, and this directive, which was one of the EU's first efficiency measures, requires member states to have performance standards for all large new buildings or similarly sized buildings undergoing renovation. But in the extension of this to 2030 the Commission backed away from the one measure that would make a big difference – some degree of compulsory renovation of existing housing stock – on the understandable grounds that this would be seen to breach subsidiarity at a politically fragile time for the EU. At the current rate of renovation of housing stock, which among the EU-28 ranges from 0.4 to 1.2 per cent, Europe's housing stock would take a century to 'turn over'. The only innovation is that from 2020 larger buildings will have to provide electric car charging points in their garages.

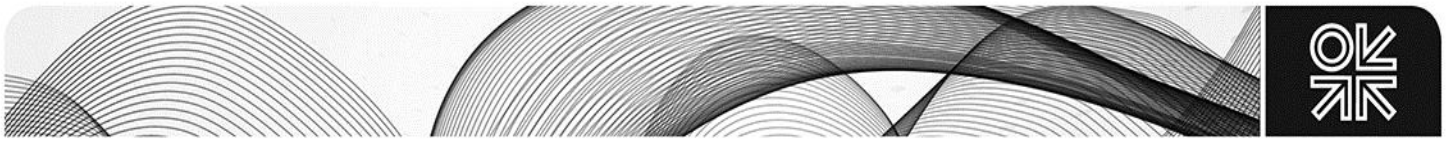
Extensions to the Eco-design directive and the Energy Labelling directive. The Commission is also proposing some changes and extensions to the **Eco-design directive** (which ensures energy efficiency appliances come to market) and the **Energy Labelling directive** (which gives consumers information supposed to encourage them to buy energy efficient appliances). Unlike the ban on incandescent light bulbs, these directives do not ban imports of products that do not conform with them, but they incorporate standards that third countries, such as the future Brexit Britain, need to heed in order to keep doing business with the EU.

3. Europeanisation

Cross-border market

The EU's current electricity target model is based on the desirability of cross-border trading – to increase price competition, to improve balancing and to provide back-up in the event of shortages – in all timeframes. This has worked quite well in the day-ahead market, the traditional timeframe for the

⁷ Though the numbers involve a certain amount of double-counting. Renewables are conventionally counted as 100 per cent efficient in primary energy terms (ie the generation of a certain amount of renewable based electricity counts as the same amount of primary energy use), in contrast to fossil-based sources which are never 100 per cent efficient because of the energy loss in their thermal conversion into electricity. Therefore the substitution of renewables for fossil based sources in electricity leads automatically to an apparent drop in primary energy use, even as electricity generation and consumption remain the same. The fall in final energy implied by the target is therefore much lower than the 30 per cent headline figure. Furthermore, various adjustments have been incorporated in the calculation, including starting from a 2007 baseline. As the small print of the directive clarifies, the actual aim is that primary energy should be reduced by 23 per cent, and final energy by 17 per cent, as compared with 2005, but perhaps this sounded less impressive in headline terms.



bulk of electricity trading, in which a large proportion of national markets are now coupled. But as the Commission notes in its impact assessment:

Current trading arrangements are however not optimised for a world in which market participants have to adjust portfolios on short notice. The manner in which the trading of electricity is arranged and the methods for allocating the network capacity to transmit electricity are organised, allow for efficient trading of electricity in timeframes of one or more days ahead of physical delivery. These arrangements befit well a world of conventional electricity production that can be predictably steered but not the new electricity landscape with a high share of renewables with limited forecasting abilities in a day-ahead timeframe. The current market framework already envisages that these short-term adjustments can be made in intraday markets to correct. However, whilst liquidity has increased over the past few years, there remains significant scope for further increases in these markets. As way of illustration, in 2014, in the intraday timeframe, only five markets in Europe had a ratio of traded energy to demand of greater than 1 per cent. Further progress remains in connecting ('coupling') national intraday markets in the same way as day-ahead markets. This can lead to a low level of cross-border competition in intraday markets. In 2014 only 4.1 per cent of available interconnection capacity at the intraday stage was used, compared to 40 per cent at day-ahead.⁸

There is not a lot the Commission can do about this. It is encouraging greater coupling of short term markets but, as noted above, there are practical problems in terms of effective implementation on the very short time scales involved. Furthermore, market coupling is a commercial decision by traders, transmission system operators and the power exchanges, and if they do not want to trade more power intraday then there is little Brussels can do to compel them to do so, though it is making what efforts it can, for instance in relation to the strengthening of regulation and the creation of regional operating centres (see below). Short term trading to correct last minute imbalances will surely increase as the renewable share of Europe's electricity does, but for the moment power market players in member states with big renewable sectors seem satisfied with their national intraday and balancing markets.

Cross-border renewable subsidy schemes

The Commission has been scarcely more successful in persuading member states to open their subsidy schemes to each other's renewable generators in the interest of gaining scale efficiencies. It has twice tried, and twice failed, to persuade EU governments to adopt a harmonised EU-wide subsidy system; it has failed to persuade the European Court of Justice to rule in favour of cross-border subsidies in an important test case⁹. More recently, the Commission using its autonomous control power over national state aids, has got governments to agree to changes in the scale and structure of renewable subsidies. But subsidy sharing, even with neighbours, still seems a bridge too far. The existing legislation encourages member states to agree on joint renewable projects with each able to count part of the project's output towards its respective renewable energy target. However, so far only Norway (out of the EU but as a member of the European Economic Area inside the EU energy market) and Sweden have a joint subsidy scheme, though there is a plan to pilot a joint Danish-German subsidy auction for solar power.

Now it seems the Commission is trying to get a bit tougher. Its draft revision of the renewable energy directive contains the provision that "member states shall ensure that support for at least 10 per cent of the newly-supported capacity in each year between 2021 and 2025...is open to installations located in other member states"¹⁰, rising to 15 per cent in the 2026-2030 period. The amount of 'credit' a country gets from investing in a neighbour's renewable scheme would depend on how much money it invested in the joint project, but this becomes moot after 2020 when national targets for renewables disappear and only an overall EU target remains.

⁸ Impact Assessment, SWD (2016) 410 final, page 42.

⁹ See *National Support for Renewable Energy and the Single Market; the Ålands Vindkraft case* OIES August 2014

¹⁰ Draft directive on renewable energy, COM (2016) 767 final, Article 5, page 68.

Cross-border capacity schemes

While Brussels could only smile on re-nationalisation of energy policy in the shape of national renewable subsidies, if this was the only way to give wind and solar lift-off, it has consistently frowned upon re-nationalisation in the form of national capacity schemes, seeing them as unnecessary at best and seriously market-distorting at worst. The Commission's Directorate-General for Competition (DG Comp) found in its recent survey of capacity mechanisms in 11 member states that "market and regulatory failures prevent the price signals necessary to maintain appropriate levels of security of supply".

A few states have already had their capacity mechanisms approved by Brussels; one, ironically, is the UK, another is France, while Germany has adopted a "strategic reserve" that the Commission regards as the least distorting of capacity mechanisms (despite the fact that such reserves are intrinsically national in nature). However, countries seeking approval for a new capacity scheme will have to show henceforth that a) they have implemented market reforms that might make a capacity mechanism unnecessary, and that b) if a capacity mechanism is still considered necessary, then it should be based on "a European adequacy assessment" that incorporates some reliance on neighbouring countries' resources. It is a measure of the clout that the Commission has, or believes it has (through its competition powers), over capacity mechanisms that at the last minute it decided to impose an emission performance standard of 550 grams per kilowatt hour on any new generation plant initiated after 2020 and included in a capacity mechanism, and on any generation plant, new or old, included in a capacity mechanism after 2025. Modern gas plants can get under this threshold but coal plants cannot, unless they are fitted with carbon abatement. The Commission has thus assuaged fears that it was going to allow old fossil fuel plants to be subsidised, but at the risk of complicating negotiations with some coal-dependent countries and Poland in particular.

The provision for a performance standard seems to have been a sop to the environmental lobby – which tends to regard capacity payments as a cloak for providing subsidies to fossil sources. It was not in earlier versions of the measure and it does not really make much sense in isolation. Plants in capacity mechanisms, depending on the precise form of the mechanism, are generally there to be used as back up; that is, they will not operate for many hours and will not therefore create significant emissions. If the aim is to reduce emissions the prohibition should extend to new plants in general (as, for instance, the UK Emissions Performance Standard does). But this was obviously seen by the Commission as too difficult – indeed it may be that even the limited capacity market version of the proposal will prove impossible to agree, given that it has no real logic.

Cross-border regulation

The draft directive on the Internal Electricity Market proposes a strengthening the Agency for the Cooperation of Energy Regulators (ACER) – it would still remain as essentially a coordinator of the actions of national regulators but it would have additional powers and responsibilities in areas where different national approaches could undermine progress towards the internal market. Among other things, the Commission notes that interconnectors between national systems are currently used at a level which is not only well below their capacity but also below what would be expected in a freely operating market. Whether the proposed changes can help resolve the problems remains to be seen, of course. At the moment, the Commission seems to have no appetite for trying to create a Europe wide regulator on the lines of the Federal Energy Regulatory Commission in the US, which could take a genuinely Union wide viewpoint.

Cross-border cooperation

As part of the objective of getting away from solely national structures, the Commission is also proposing the setting up of Regional Operating Centres, where Transmission System Operators could coordinate their activities in relation to cross border issues. And the role of a beefed-up ACER would be mainly to provide some supra-national monitoring of these regional operating centres, and to check they do not get out of line with each other and general EU policy. As with the strengthening of ACER, it remains to be seen how far these centres will have genuine authority, ability and will to act,

for instance in relation to security issues. As with capacity mechanisms, instilling a regional dimension into member states' crisis planning, up to now conducted on a national basis, is also a motive for a new proposed regulation on "risk-preparedness" in the electricity sector. The regulation does not create any new body, but revises existing legislation in order to bolster the existing EU-wide Electricity Coordination Group through development of emergency plans based on regional as well as national measures. Another reason for the proposed regulation is to deal with the cyber risk arising from increasing digitalisation of the electricity system.

Governance

While the other 7 draft directives and regulations are all revisions to existing legislation, the novelty in the Commission's package is a proposed regulation on governance of the Energy Union. This introduces a requirement for all EU states to have an integrated energy and climate plan, partly to conform to the reporting required of EU states as well as of the EU collectively under the Paris climate agreement, but mainly to make up for the disappearance of national renewable energy targets after 2020 and as a back-stop to the new renewable and efficiency targets that apply only to the Union as a whole. Member states are to submit in 2018 the first draft of their national plans which are then to be developed in an 'iterative process' with the Commission and then finalised in 2019. Like most larger EU states, the UK already has a national plan, an Emissions Reduction Plan under the terms of its Climate Change Act, but one can be fairly certain that the only iterative process between Brussels and London will be the back and forth of the Brexit negotiations.

In drawing up its governance procedure, the Commission has had a prior steer, if not detailed approval, from EU heads of government at their autumn 2014 summit. Moreover, the UK, which two years ago was one of those governments calling for the lightest of touches in energy governance, will now inevitably become something of a passive bystander in Council of Minister negotiations. However, some extra financial grease may be needed for passage of this energy package, especially in Poland. The Commission clearly recognises this by promising extra help for "coal and carbon-intensive industrial regions". Extra money will be harder to find with the departure of a major net contributor to the EU budget like the UK. True, the Commission's European Fund for Strategic Investments seems to be drawing in considerable amounts of private finance to match contributions from the EU budget and the European Investment Bank. But it is a little too blithe for the Commission to characterise the forthcoming national energy and climate plans of member states as "investment roadmaps". Such roadmaps set out the demand for investment, not the supply of it.

4. Conclusions

The 'winter package' will take some time for those concerned to chew over – it will need to go through the usual processes of approval in the Council and Parliament, and it contains a number of potentially controversial elements for some member states and sectors. Overall, it represents a set of mainly useful but still tentative steps towards the Energy Union; however, it also indicates that Europe is not yet ready to deal with some of the more sensitive issues raised by the process – for instance, the decarbonisation of heat; the energy performance of existing buildings; the fundamental redesign of wholesale electricity markets; phasing out coal; and moving to a Europe wide approach on policy issues. Another package is likely to come along before too many years have elapsed – at least for those who remain within the EU.