

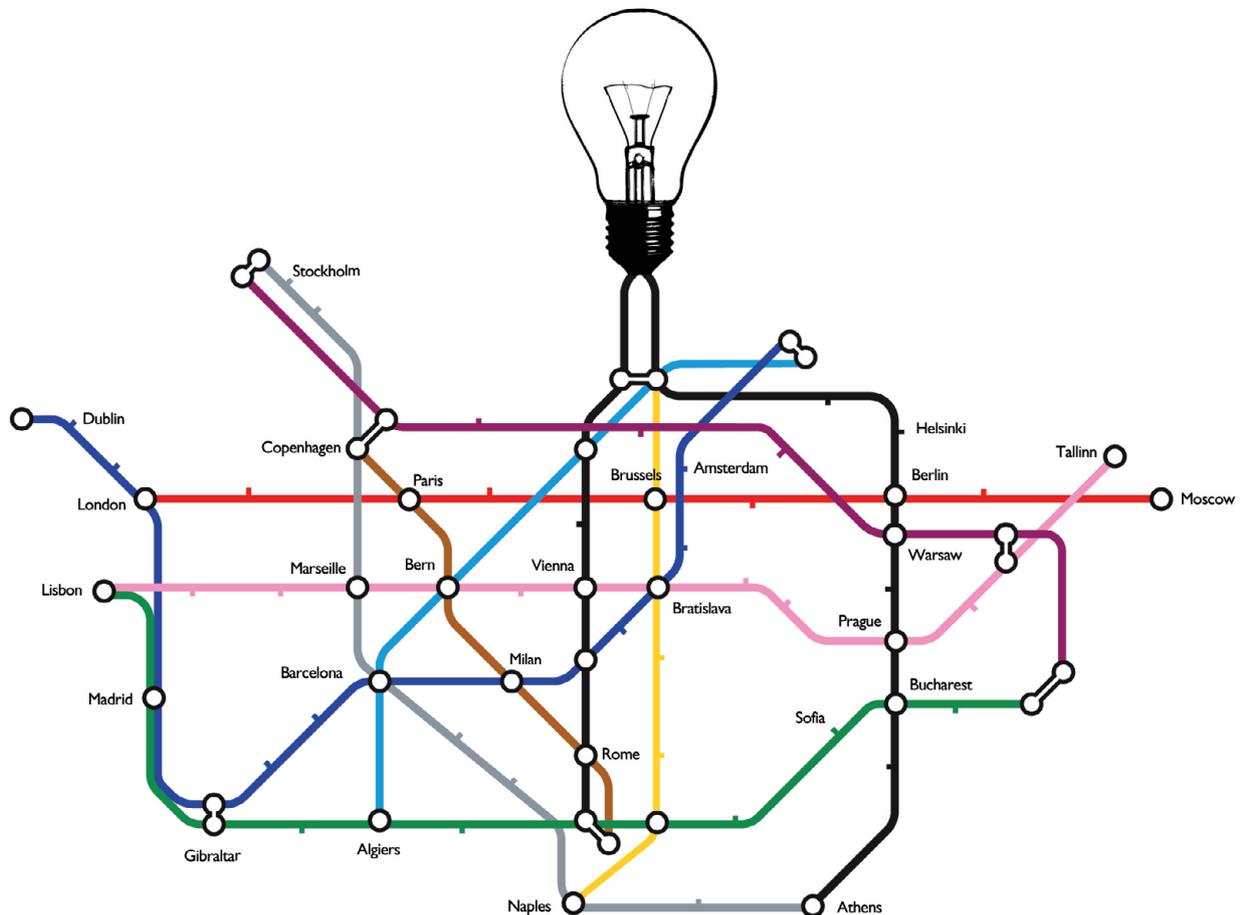


Wilfried  
**Martens Centre**  
for European Studies

# Refuelling Europe

A Roadmap for completing the  
Single Energy Market

**David Buchan**





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# Credits

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The Wilfried Martens Centre for European Studies is the political foundation and think tank of the European People's Party (EPP), dedicated to the promotion of Christian Democrat, conservative and like-minded political values.

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**About us**



## Martens Centre Profile

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The Wilfried Martens Centre for European Studies, established in 2007, is the political foundation and think tank of the European People's Party (EPP). The Martens Centre embodies a pan-European mindset, promoting Christian Democrat, conservative and like-minded political values. It serves as a framework for national political foundations linked to member parties of the EPP. It currently has 29 member foundations in 22 EU and non-EU countries. The Martens Centre takes part in the preparation of EPP programmes and policy documents. It organises seminars and training on EU policies and on the process of European integration.

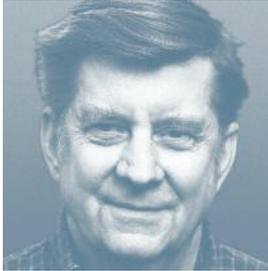
The Martens Centre also contributes to formulating EU and national public policies. It produces research studies and books, electronic newsletters, policy briefs, and the twice-yearly European View journal. Its research activities are divided into six clusters: party structures and EU institutions, economic and social policies, EU foreign policy, environment and energy, values and religion, and new societal challenges. Through its papers, conferences, authors' dinners and website, the Martens Centre offers a platform for discussion among experts, politicians, policymakers and the European public.

**Author**



## About David Buchan

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**David Buchan** has been Senior Research Fellow at the Oxford Institute for Energy Studies since 2007, after a career in journalism at *The Economist* and *The Financial Times*. He has written five books—three of them on the European Union, the fourth on energy and the fifth combining both subjects.

# Executive summary



Completion of the single energy market has lagged behind integration in other areas. This is not because energy market integration has failed to make any progress—a common misperception—but because in energy the EU faces three challenges that have grown greater over the years. These challenges are for Europe to contain its energy costs so that it can remain internationally competitive, to maintain security of energy supply at a time of political instability among Middle East suppliers and of hostility with Russia, and to sustain its strong commitment to energy decarbonisation in the hope of leading the way to an effective international climate agreement. The three goals of ensuring energy is competitive, secure and environmentally sustainable often conflict, but need to be kept in equal balance, sometimes through difficult trade-offs, lest neglect of any one of the three triggers a serious problem.

Integration of the internal energy market serves all three goals. Tying the national markets of the EU's 28 member states together promotes cross-border competition and, through competition, convergence on the most efficient price level. It also minimises supply risk by maximising Europe's energy diversity through linking member states' different energy mixes and their different energy suppliers. Further, it enhances Europe's potential for reduction of carbon emissions through creation of a critical mass of low-carbon technology and investment and added political influence in global climate negotiations.

Some of the benefit of energy market integration has already been reaped, and there is more to harvest. However, the integration model of liberalisation, relying purely on market forces, has hit its limits; because the market alone does not deliver the specific outcomes that the EU seeks in emission reduction, state intervention in the market has grown. Much of this intervention has been at national level, and this has led to a certain renationalisation of the energy market through the medium of national subsidies for renewable energy and of national schemes for conventional power to back up renewable electricity. For as long as these national subsidies and schemes remain unharmonised, Europe's internal energy market will remain incomplete.

The Ukraine crisis calls for the EU to implement all elements of its energy policy—a long-term reduction in dependence on fossil fuels and therefore in carbon emissions, a medium-term effort to increase renewables and energy efficiency, and more immediate measures to reduce EU states' vulnerability to any cut-off of energy imports from Russia.



The new leaders of the European Council and the European Commission seek to give the EU the new dimension of an 'energy union'. To give substance to this rhetorical label, the EU will need to keep completion of the internal energy market as its main instrument. This will involve exploiting market forces where possible, and allowing only careful state intervention to achieve specific goals for renewable energy, capacity backup, energy efficiency and infrastructure. A larger transfer of financial resources to Central and East European member states will be needed to enable them to improve their energy security and, for poorer coal-dependent states, to reduce the carbon intensity of their energy systems. Energy infrastructure should be a key focus in all investment packages proposed by the EU in the 2014–19 period.

In the context of the eurozone's sovereign debt crisis, a transfer union has been rejected by the European Council on the ground that indebted countries should be left on their own to repay the debts they have piled up. However, while countries can choose to borrow, they cannot choose the resource endowment and geography that largely determine their energy problems. A transfer union is therefore appropriate in energy. Without some such transfer, what would solidarity mean, and without solidarity what would an energy union mean? The goals of energy security, affordability and sustainability have never been higher on the EU's agenda. All three goals would be served if Europe truly unified its energy market. National leaders have it in their hands to complete this slow and difficult integration process, if they can just summon up the necessary political will to do so.



# Introduction



The internal energy market is often described as one of the European Union's failures, because it is still unfinished business some 30 years after the Cockfield single market white paper of 1985 and the Single European Act of 1987.<sup>1</sup> Back in 2011 EU leaders called for a fresh effort to complete the internal energy market by 2014.<sup>2</sup> The goal has not been met.

The slow progress of creating an integrated, liberalised energy market through cross-border competition started later, in the early 1990s, because energy was one of those sectors with deeply entrenched national monopolies. But this was also true, for instance, of telecommunications, where the advent of mobile telephony made national monopolies impossible to maintain and speeded liberalisation.

The biggest brake on energy market integration is the huge importance which governments have placed on maintaining control of their national energy sectors. There is no better way of highlighting this than to quote Article 194 of the Lisbon Treaty, the first clause in any EU treaty specifically on energy. After setting out the need to take measures to ensure functioning of the energy market, energy security, network interconnection, renewable energy and energy efficiency, the article states: 'such measures shall not affect a member state's right to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply'. No such sweeping national caveat to EU competences exists in any other sector.

## Challenges

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In energy, unlike in other sectors, the EU also faces three challenges that have grown greater over the years in ways over which the EU has little control or for reasons that are global. The first is Europe's energy costs and its international competitiveness. Energy is a basic input to Europe's economy. This holds for every other economy. However, the gap in energy costs between Europe and its main commercial competitor, the

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<sup>1</sup> European Commission, Completing the Internal Market, White Paper, COM (85) 310 final (14 June 1985), 1–57.

<sup>2</sup> European Council, 'Conclusions', EUCO 2/1/11, Rev. 1 (4 February 2011), 16.



US, has widened with the shale gas revolution in the US and leaves Europe feeling increasingly anxious about maintaining its share of world markets.

The second challenge is to maintain the security of energy supply in a Europe that has to rely on ever-increasing imports of oil, gas and coal to offset the steady decline in domestic production; these fossil fuels, despite the EU's commitment to decarbonising its energy system, will remain the backbone of EU energy supply for many years to come. Europe has a wide range of foreign energy suppliers. However, political instability now wracks the Middle East, and Russia's behaviour in Ukraine has raised new concern about relying on Russia as its largest single source of oil, gas, coal and uranium fuel imports.

The third, and biggest, challenge is climate change, and the EU's strong commitment to setting an example in decarbonisation and emission reduction in the hope that other countries will join it in signing an effective international agreement to mitigate climate change. Climate change, virtually unheard of at the time of the launch of the single market programme, has made realisation of a liberalised European energy market harder. The desire for specific outcomes in terms of reducing greenhouse gas emissions, around two-thirds of which are caused by burning fossil fuels, has led to the perceived need for more, not less, state intervention in energy markets through targets, regulations and subsidies. The fact that this intervention has been as much at the national, as distinct from the EU, level has led to a certain renationalisation of energy policy. Climate policy has also driven the attempted revolution in social behaviour in trying to get Europeans to use less energy or use energy more efficiently, though energy saving has important benefits in reducing energy costs and enhancing energy security.

## Goals

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The EU has set itself three goals in energy policy—cost competitiveness, energy security and energy emission reduction. Balancing these three goals to produce an energy supply that is competitive, secure and sustainable is not easy. This is why they are collectively referred to as the 'trilemma'. Designing policies (with the exception of energy efficiency) that meet all three goals equally may be impossible. Inevitably there are



trade-offs, which means fulfilling less of one goal to attain more of another. These trade-offs differ according to member state. Not only are member states unable to meet all three goals equally, but most do not want to, because they do not give precisely equal weight to the three goals. Rather, they are continuously trying to find new ways of pursuing national preferences, either within the EU policy template or by changing it.

In addition to these internal tensions in EU energy policymaking, external factors influence Europe's energy priorities. In the run-up to the 2009 Copenhagen climate summit—though it was to prove a false dawn of an international climate agreement—there was a near consensus that climate policy was the top EU energy priority, though this was felt far more strongly in Western Europe than in Eastern Europe. This shaped the EU's Third Energy Package of energy and climate legislation (henceforth, Third Package).<sup>3</sup> Subsequently, the increasing cost of renewables subsidies produced a rising tide of discontent among Europe's energy-intensive industries, especially within major exporting countries like Germany. This culminated in late 2013 and early 2014 in a serious examination by the European Commission of energy costs and their drivers, and through measures by the Commission, using its powers of control over state aid, in getting member states to take a more cost-conscious approach to their renewables subsidies and to make them more market-friendly. No sooner was this energy cost issue addressed than the eruption of the Ukraine crisis and Russia's annexation of Crimea put energy security at the top of the EU's energy as well as political agenda, especially for Central and East European member states still dependent on a mono-supply of energy from Russia.

However, it is important to keep a balance between the three goals. To ignore any one of them is to invite problems. Allow Europe's energy policy costs to rise too far above those of foreign competitors and the European share of world markets could start to slide significantly; neglect the risk of Russian energy leverage over Europe, and the cost of emergency replacements for Russian gas in a sudden crisis could be very high; fail to reduce emissions—and also to persuade other countries to do likewise—and climate change could reach a tipping point.

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<sup>3</sup> The third legislative package was adopted in July 2009 and entered into force in September 2009. Member states had 18 months to transpose it into national law, for example, European Parliament and Council Directive 2009/72/EC concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, OJ L211, (13 July 2009), 55–93, and European Parliament and Council Directive 2009/73/EC concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC, OJ L2011, (13 July 2009), 94–136.



# Implications for achieving the internal energy market

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So where does the goal to complete the internal energy market in the medium term fit into all this? The goal of an integrated energy market may be harder to achieve than was ever originally thought, but the rationale is as strong as ever. Integration provides scale, and scale is the EU's main gift to its member states in energy as in all other sectors. Scale, through the unification of 28 national markets, can promote wider competition and, through competition, convergence on the most efficient price level. In energy, scale also produces two other benefits—greater security through the diversity of member states' different energy mixes and their different energy suppliers, and more impact in reducing carbon emissions by creating a critical mass of low-carbon technology and investment and wielding more political influence in global climate negotiations.

The Booz & Co. report (2013) for the Commission estimates that full market integration could produce savings of €12.5–40 billion a year by 2030 in electricity and of up to €30 billion a year in gas.<sup>4</sup> These are large numbers and come with caveats and assumptions. Part of the savings in the gas sector would come from lower prices, on the assumption that in a truly integrated gas market Russia would find it hard to maintain its sales price to Europe pegged to a higher level of oil prices. Another benefit of an integrated gas market would be improved energy security, reducing the impact on national economies of a cut-off of gas from a major supplier. But such market integration would also require extra infrastructure investment.

In electricity, the future benefit may be overstated, because, the Booz report notes, the EU, or part of it, is already reaping the benefit of more competitive prices through cross-border trading as the result of the coupling of markets in north-west Europe and the Nordic and Baltic states. The coupling of power markets of the smaller economies of Central and East Europe will have a smaller overall price effect. The

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<sup>4</sup> Booz & Co. et al., Benefits of an Integrated European Energy Market, rev. final report prepared for the European Commission (Brussels, 2013), 3–5.



largest benefit of electricity market integration (€16–30 billion a year by 2030) would flow from a truly integrated renewables sector in which wind and solar power plants could be deployed in the best sites across the entire EU. This would require a major change from today's deployment and subsidisation of renewables on purely national lines and could involve the extra expense of longer transmission cables. Overall, however, the benefits outweigh the costs, making the completion of the internal energy market an important economic objective.

# Liberalisation and its limits



In energy, as with all other sectors, the EU has based its approach on liberalisation—getting governments out of the market, ending monopolies and encouraging cross-border competition. In retrospect, given the delay in completing the internal energy market, it was unfortunate that Europe’s politicians left energy liberalisation as a postscript to the single market blueprint launched in 1985. But there was a reason. Electricity and gas industries depend on fixed transmission networks that can be considered natural monopolies (to avoid the waste and duplication in having competing power lines and gas pipes), and for a long time were treated as state monopolies. (This is in contrast to oil and coal, whose characteristics of storability, high energy density and flexible transportability have allowed an international market in these commodities to flourish with relatively little government regulation). It was only in the early 1990s that the European Commission began to try to liberalise these network industries—not only electricity and gas, but also telecommunications and parts of transport (rail)—because they all contained this element of natural monopoly, and of government involvement in their regulation and often also in their ownership.

The Commission found it relatively easy to remove legal monopolies, usually held by state companies, on the import and export of energy. Dealing with the natural monopoly aspect of electricity and gas transmission has been far harder. The recipe has been to create third-party access to these grids and pipelines so that the owners and operators of these networks give fair and equal access to all energy suppliers. Early attempts to do this, in legislation passed in 1996–8 and 2003, failed to adequately resolve the conflict of interest inherent in energy groups owning transmission networks as well as generation and supply businesses, and to remove the temptation for these groups to keep rival energy suppliers off their networks.<sup>5</sup> Deciding that a broader structural remedy was needed, the Commission, as previously noted, proposed a Third Package of energy legislation, which was passed in 2009. This required that electricity and gas transmission businesses be fully unbundled and put under independent ownership or independent management.

The Third Package was a major achievement. It provides more of a common template for a liberalised market in the EU’s 28 member states than exists in the US, where electricity regulation is largely left to individual states, which are free, if they wish, to maintain monopoly utilities and exclude out-of-state competitors.

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<sup>5</sup> For example, European Parliament and Council Directive 96/92/EC concerning common rules for the internal market in electricity, OJ L027 (19 December 1996), 20–7, and European Parliament and Council Directive 2003/54/EC concerning common rules for the internal market in electricity and repealing Directive 96/92/EC, OJ L176 (26 June 2003), 37–55.



It also set up a semi-federal governance system for energy with the creation of more powerful EU networks of national regulators (the Agency for the Cooperation of Energy Regulators, or ACER) and of transmission operators (the European Network of Transmission System Operators for electricity and gas, ENTSO-E and ENTSO-G).

But, in failing to spur the building of new infrastructure, it has disappointed expectations. When it conceived the Third Package, the Commission thought it would provide not only sufficient safeguard against discrimination on the networks but also sufficient incentive for extension of these networks across national borders. The idea was that standalone transmission companies, having no business other than running power grids and gas pipelines and having no domestic supply market to protect, would naturally want to extend their networks across borders, acting as common energy carriers for all and so integrating the energy market. But it became clear that infrastructure investment, especially across national borders, was still running far below what was needed.

In small part, this was because a strict interpretation of the Third Package prohibition on common ownership of supply and transmission was found to be scaring off financial investors who would face no conflict of interest if they put their money into infrastructure. Belatedly, in 2013, the Commission issued guidance that financial investors such as pension funds were free to invest in both supply and transmission businesses, whose behaviour they clearly had neither the incentive nor the ability to influence.<sup>6</sup> More important were the financial crisis of 2008 and the subsequent slowdown in the eurozone economies, which dampened investors' appetite for infrastructure assets. This happened just as the deployment of renewable energy projects, often in remote locations requiring new infrastructure to link them to centres of consumption, began to surge ahead, spurred on by national targets and subsidies, as highlighted later in this paper.

However, there is another reason why infrastructure investment fails to materialise—the delays in the planning and permitting process, which can take up to 8–10 years for new transmission lines. Permitting delays add to cost. They also add to uncertainty, which in turn increases risk and may cause financiers to increase

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<sup>6</sup> European Commission, The Commission's Practice in Assessing the Presence of a Conflict of Interest Including in Case of Financial Investors, Staff Working Document, SWD (2013), 177 final (8 May 2013), 1–11.



their required rate of return beyond what a project can produce. Public acceptance is harder to win for electricity cables, which are much more expensive to bury than gas pipelines which are routinely buried.

For nearly 20 years, the EU has tried to play its part in forging some of the missing links in Europe's energy networks. For most of this time it did so with far too little money and far too wide and vague a focus. Under its Trans-European Networks in Energy programme, or TEN-E, set up in 1996, it could only help fund a few feasibility studies for a TEN-E list of projects that was the sum of every state's wish list, numbering by 2011 as many as 568 projects. The Infrastructure Regulation of 2013 has changed this.<sup>7</sup> There is now a shorter list of some 250 Projects of Common Interest (PCIs).<sup>8</sup> Once a project gets PCI status, it can benefit from a national permitting process that should not last longer than three and a half years. PCIs are also eligible for funding from the Connecting Europe Facility, which has allotted €5.9 billion for the period 2014–20. This regulation will take time to show its effectiveness, but it is a reflection of the widespread awareness by member states of the need to streamline their permitting processes that they were ready to involve the EU in so sensitive a domestic political issue as planning and permitting.

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<sup>7</sup> European Parliament and Council Regulation (EC) no. 347/2013 on guidelines for a trans-European energy infrastructure, OJ L115 (17 April 2013), 39–75.

<sup>8</sup> European Parliament and Council Regulation (EC) no. 1316/2013 establishing the Connecting Europe Facility, amending Regulation (EU) no. 913/2010 and repealing Regulations (EC) no. 680/2007 and (EC) no. 67/2010, OJ L348 (20 December 2013), 129–71.

# Intervention and its risks



The main reason for growing state intervention in Europe's energy market is EU climate policy—the perceived need to reduce carbon emissions by a specific amount and to achieve this partly by having a specific share of renewable energy. (The EU's current targets are for a 20% reduction on the 1990 level of emissions by 2020, and for a 20% renewables share of energy consumption by 2020).<sup>9</sup> And markets cannot, left to themselves, be guaranteed to produce such specific outcomes.

At the EU level, the main intervention has been the creation of the Emissions Trading Scheme (ETS), which sets a ceiling, declining at the rate of 1.74% a year, on the total amount of carbon that Europe's 10,000 main industrial installations are allowed to emit. This is market intervention on a major scale, although meeting the 20% emission reduction target also requires emission reductions from sectors outside the coverage of the ETS, such as services, agriculture and transport. However, the way the ETS operates within the overall ceiling of allowances, through carbon allowances that companies can trade, is relatively compatible with the Commission's blueprint for a liberalised EU-wide energy market, which explains the Commission's strong attachment to the ETS. The trading of ETS allowances across borders is supposed to encourage emission reductions to be made wherever in the EU it is most cost-effective to do so.

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*The main reason for growing state intervention in Europe's energy market is EU climate policy—the perceived need to reduce carbon emissions by a specific amount*

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The ETS has not worked as it was supposed to, principally because Europe's economic slowdown has produced a chronic oversupply of unused allowances, and because there is no automatic mechanism at present to withdraw excess supply to achieve a better match with demand. As a result, the ETS price is too low to change the behaviour of producers to generate lower-carbon electricity or of consumers to use less energy. A one-off 'backloading' fix has been agreed to withdraw some 900 million allowances in the next couple of years, but the effect of this will only be temporary, because these allowances will be loaded back into the ETS in 2019–20. In 2014 the Commission proposed a more permanent solution—a market stability reserve into which excess allowances would be placed in periods of oversupply and returned to the ETS when liquidity and demand for allowances tightened.<sup>10</sup>

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<sup>9</sup> European Council, 'Conclusions', EUCO 7224/1/07, Rev. 1 (8/9 March 2007), 10–14.

<sup>10</sup> European Parliament and Council, 'Proposal concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading scheme', COM (2014) 20/2 (n.d.), 1–2.



But the ETS intrudes far less into the traditional energy market than it does into renewable electricity, as the result of the way renewable electricity has been supplied and rewarded, largely irrespective of the state of demand in the market. Moreover, there is nothing like a single market in renewables, which are governed by 28 different national schemes. Subsidies under these national schemes are paid to domestic producers only. Thus, an increasing part of the electricity market is being renationalised. This runs counter to the aim of the internal energy market and, surely, EU treaty prohibitions.

Such renationalisation of part of the energy market is not what the Commission intended. It originally proposed, in 2008, a pan-European trading system of renewable energy to build up economies of scale, to move investment to where it would produce the best return in production and to help countries meet renewables production targets that might be above their production potential. It took advantage of the fact that there was already a system of ‘guarantees of origin’, issued by various issuing bodies to certify that units of electricity had been renewably produced. Because physical flows of electrons (like carbon emissions in the atmosphere) cannot be precisely tracked across the multiple borders within the EU, the Commission proposed that a pan-European renewables market would operate on the basis of virtual trading of these ‘guarantees of origin’, unhooked from the limitations of physical delivery. This proposed system of virtual trading of renewables certificates parallels what was accepted in the ETS. So, for example, a Greek producer of solar power would be able to present its guarantee of renewable origin in Germany to get the German subsidy there, even though the Greek solar power might never reach the German grid—just as companies can buy or sell ETS carbon allowances issued anywhere within the EU, and where the carbon is emitted within the EU is irrelevant.

## Renewables

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At the same time, however, the Commission proposed binding targets for renewable energy on a national, not EU, basis, building on existing national subsidy schemes for renewables. It had little choice. Whereas only two national emissions schemes—in Denmark and the UK—existed when the ETS was created, every member state already had its own renewables subsidy scheme. EU governments effectively told the Commission that if they were to have binding national targets, they must have the means to meet them, by con-



tinuing to control their subsidy schemes. The Commission tried to assuage member states' concerns about an EU-wide scheme by proposing governments have some control over inflows and outflows of green power, if they were worried about fulfilling targets and about subsidy costs. This was rejected. What was accepted in the 2009 renewables directive, in terms of encouraging cross-border renewables trade, were options for governments to agree on schemes to jointly promote and subsidise renewables or for one government to sell to another a statistical slice of renewable energy that would count statistically towards meeting the purchasing government's renewables target.<sup>11</sup> But, to the Commission's chagrin, only one joint subsidy scheme has been agreed (between Sweden and Norway; the latter, as a member of the European Economic Area, is a full member of the internal energy market), while the only deal for a cross-border sale of renewable energy (for Irish wind power to be sold to the UK) appears to have collapsed.<sup>12</sup>

However, the issue of how to organise a pan-European renewable energy market will not go away. All economic analysis of the benefits of EU energy market integration (such as the Booz report cited earlier) highlights the considerable savings to be made from deploying renewables in the most cost-effective locations. Moreover, the Commission has effectively raised the issue again by advancing as part of its proposed 2030 energy and climate package that, post-2020, national targets should be abandoned in favour of an EU-wide target for a 27% renewables share of total energy consumption by 2030.<sup>13</sup> Most member states have welcomed this, claiming national renewables targets unduly restrict their ability to make emission reductions in the most cost-effective way, and rejoicing in the unenforceability of any EU-wide target on any individual member state.

But an EU-wide target implies EU-wide subsidy arrangements. For the time being, the Commission has not spelled out this implication, and a recent ruling by the European Court of Justice (on the Ålands Vindkraft case, July 2014) has bolstered a member state's right to exclude from its subsidy scheme renewable energy imported from another member state, in the absence of a formal agreement between the two governments

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<sup>11</sup> European Parliament and Council Directive 2009/28/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, OJ L140 (5 June 2009), 39–85.

<sup>12</sup> Memorandum of Understanding between the Minister for Communications, Energy and Natural Resources of Ireland and the Department of Energy and Climate Change of the United Kingdom on Co-operation in the Energy Sector (Dublin, 24 January 2013). This agreement was subsequently cancelled in April 2014.

<sup>13</sup> European Commission, Communication on a Policy Framework for Climate and Energy in the Period From 2020 to 2030, COM (2014) 315 final (22 January 2014), 6.



concerned to do so.<sup>14</sup> However, if member states accept the EU-wide target for 2030, they may have to reconsider the Commission proposal they so disliked in 2008.

## Making subsidies for renewable energy more market-friendly

The need for a European renewables subsidy regime might disappear if renewables were to become, say by 2020, cost competitive with fossil-fuelled forms of electricity generation. It is possible that onshore wind power and solar power might become competitive if oil, gas and coal prices were to rise quite sharply by the end of this decade, but less mature technologies like tidal and wave power, and offshore wind power requiring more costly installation and maintenance, would still need to be subsidised. Moreover, it is possible that however competitive their technology becomes, intermittent renewables like wind and solar power may always need some subsidy because of the way they tend (in the absence of sufficient electricity storage) to surge uncontrollably onto the grid when the sun is shining or the wind blowing and thereby to lower power prices.

Much can be done to improve the cost control of renewables support schemes. There is a fundamental tension in all these schemes. From an investor's viewpoint, the level of support needs to be stable and, if changed, then changed in a predictable way. But, from the viewpoint of government policymakers, subsidy schemes need to be flexible to adapt to changing circumstances, especially if technology costs are falling, as has happened with solar photovoltaics. This tension has produced some chaotic results in recent years. The stability of fixed feed-in tariffs has produced a dramatic increase in the generation capacity of renewables—a 50% increase between 2008 and 2012, even though, under the impact of the economic slowdown and increased electricity prices, demand for electricity actually fell by 3% over that period.<sup>15</sup> At the same

<sup>14</sup> European Court of Justice, Judgment in Ålands vindkraft AB v Energimyndigheten, C-573/12 1 July 2014.

<sup>15</sup> International Energy Agency (IEA), World Energy Investment Outlook 2014 (Paris, 2014), 111.



time, some governments, panicked by the rising cost of subsidies and by concern that they were overpaying investors, particularly in solar, have introduced retroactive cuts to their levels of support in a way that has seriously shaken investor confidence. Spain is a case in point.

Up to now, member states have been free to choose the design of their subsidy schemes for renewables. But the Commission has decided to change this, using its autonomous powers to control state aid. (Even though the vast bulk of renewables subsidies are funded from levies on energy consumers' bills, rather than out of taxation of state budgets, these levies count as state aid because they are required and organised by governments. Therefore, as state aid, these subsidies need Commission approval). The Commission has issued new guidelines, which took effect in July 2014, for state aid in the energy and environmental sectors.<sup>16</sup> These are aimed at making subsidies more cost effective and at better integrating renewables into the energy market, in several ways.

First, the nature of subsidies will change. Out will go feed-in tariffs guaranteeing income for a renewables producer, irrespective of market prices and conditions. In will come premium payments to top up whatever the producer can earn in the market. Second, renewables producers will have to pay closer attention to market conditions, and in particular from 2015 will be held responsible, as all other producers are, for any imbalance they cause in the market. This will mean paying a balancing penalty when volumes of electricity delivered differ from what was earlier promised. Third, project developers will have to bid at competitive auction for available subsidy money. This process, which is to start in 2015–16 and become the norm from 2017 on, will involve governments tendering for new renewables capacity and giving the largest amounts of subsidy money to developers who bid, in an auction, to provide the capacity at the lowest rate of subsidy.

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*The Commission believes it will be helping national governments and their citizenry to save money, and equally important, preserving some market forces and mechanisms in a sector that has become increasingly dominated by state intervention.*

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In these ways, the Commission believes it will be helping national governments and their citizenry to save money, and equally important, preserving some market forces and mechanisms in a sector that has become increasingly dominated by state intervention. Will the new guidelines slow the growth in new renewables projects?

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<sup>16</sup> European Commission, Communication on guidelines on state aid for environmental protection and energy 2014–2020, OJ C200 (28 June 2014), 1–55.



Reintroducing some element of market forces, and therefore market risk, into the nature and allocation of renewables subsidies will undoubtedly dull the appetite of some investors to put their money into this sector. On the other hand, better control of the costs of subsidies should make them more sustainable politically and therefore reduce the policy risk to investors of governments making unpredictable and retroactive cuts in subsidy levels.

## State intervention in conventional energy markets

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The assumption behind these efforts to improve integration of renewables into the market is that there is a properly functioning electricity market—supplied primarily by gas, coal and nuclear generators—to integrate them into. A properly functioning market would yield electricity prices that would enable these conventional generators to recover their capital investment on existing plants and incentivise them to build new ones. Yet almost all of Europe’s electricity utilities are losing money.

In a study of Europe’s stricken utility sector, the International Energy Agency (IEA) shows that the combined net income of Europe’s 20 largest publicly listed utilities dropped by 85% between 2009 and 2013.<sup>17</sup> The IEA calculates that in 2013 the average wholesale electricity price would have had to be some 23% higher than it actually was for utilities to be able to cover their capital, fuel and operating costs.

Why is this so? Part of the problem is that too much new power generation capacity was planned before the crisis of 2008–9 in the expectation that demand for electricity would grow steadily, as it had done (by 11%) between 2000 and 2008. Instead, since 2008 demand has decreased slightly. In earlier times, there would have been a natural corrective to this mismatch between capacity and demand: overcapacity would gradually have shrunk as investors stopped building new plants and retired some existing ones early, and low prices would eventually have encouraged a pickup in economic activity and in electricity demand. But today energy efficiency

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<sup>17</sup> IEA, World Energy Investment Outlook, 113.



measures are beginning to constrain demand, and, of far greater impact, new renewables projects continue to add to generation capacity, irrespective of low electricity prices and flat electricity demand.

Moreover, the intermittent nature of wind and solar power has the effect of making all other forms of generation intermittent too. EU legislation requires that transmission system operators give priority to renewable energy. This makes sense for intermittent wind and solar power, which has to be used or, in the absence of large-scale electricity storage, wasted. Even without this legal priority, transmission system operators would put intermittent renewables first in their so-called merit order (the traditional lineup in which electricity grid operators call upon generators to meet demand) because, being fuel-free, wind and solar power have the lowest marginal cost. The result is that renewables have been pushing other forms of generation—gas, coal and nuclear—off the grid. Conventional power plants are being forced to generate for fewer hours. At the same time, their operating costs have risen. Their growing function as backup for renewables production involves more frequent start-ups and shutdowns, adding to wear, tear and maintenance costs. Not surprisingly, many utilities have decided to mothball conventional plants instead of running them at a loss, and it has not helped climate policy that the majority of these mothballed plants are gas-fired rather than coal-fired, because coal is currently cheaper than gas in Europe. Ironically, ever more conventional capacity is needed to accompany the rise of renewables—not necessarily to generate, but certainly to be available to generate when renewable output falls short. Yet, utilities are not altruistic organisations. They will want to be paid for keeping their plants available to generate, and that is why most EU governments have created or are planning various forms of capacity payments to reward this availability, known as capacity mechanisms. These are a kind of subsidy, although they can also be seen as payment for the service that utilities perform by keeping their plants available to generate.

## Capacity mechanisms

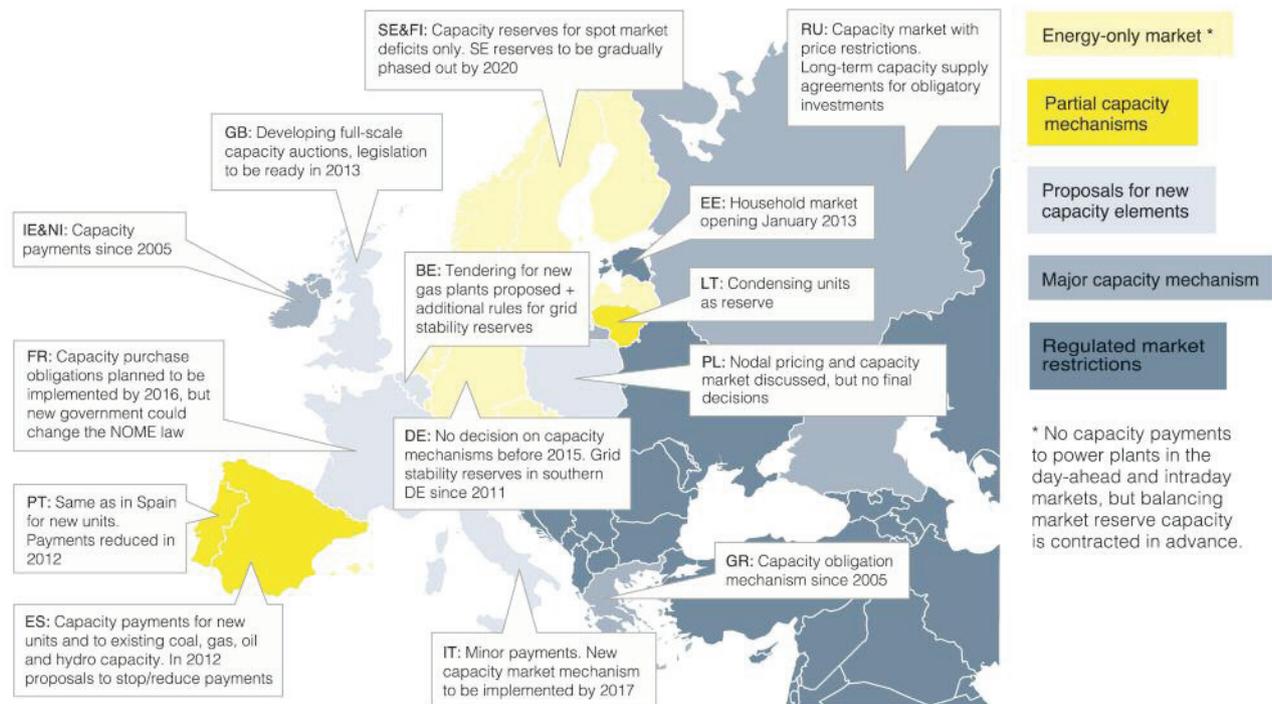
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The proliferation of capacity mechanisms is controversial. Market purists do not like them, because they appear to spell the end of the traditional ‘energy-only’ market, on which a generator could rely for its entire revenue. Coming on top of renewables subsidies, capacity payments mean that yet another portion of electricity generation is operated and remunerated separately from the normal market. There is a market-friendly



alternative—let prices rise, at times of electricity scarcity, to very high levels which would adequately reward generators for the long periods when their plants may remain idle. The problem is that the utility industry and national energy regulators do not believe, probably rightly, that Europe’s politicians would risk the wrath of voters if there were severe price spikes.

Figure 1. National capacity mechanisms and plans



Source: Data from presentation by Hans Ten Berge, Secretary General of Eurelectric, ‘Towards 2030: EU energy market today and tomorrow’ (Helsinki, 2013).

The Commission also dislikes capacity mechanisms because they all tend to put national self-sufficiency first and rely chiefly on domestic generators for backup power in an emergency. Commission officials are haunted by the prospect that the combination of national renewables schemes and capacity markets might effectively shut off



countries' energy sectors from each other and negate much of the painstaking work, highlighted below, of building cross-border interconnectors, agreeing pan-European network codes and coupling national power markets.

The Commission has asserted the legal power to control capacity mechanisms as a form of state-organised aid to companies. In practice, the move to capacity mechanisms is unstoppable, not least because Brussels could not possibly afford to be seen to be thwarting governments' efforts to keep the lights on in their countries. Thus, the Commission, before creating a capacity mechanism—which, if created, would preferably be on a regional rather than national basis—is asking member states to examine carefully alternative backup measures, such as increasing interconnection with neighbouring states or taking steps to reduce demand in emergency circumstances. Regional capacity schemes are possible between member states that are sufficiently interconnected. However, organising a single capacity scheme for all 28 EU states would probably be impossible. It could only function on the basis of tradable capacity guarantee certificates, but unlike the EU renewables certificate proposed by the Commission, these certificates would have to guarantee physical delivery, and that would be impossible to guarantee across 28 countries.

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Eventually, developments on both the supply and demand sides may make it possible to dispense with capacity mechanisms altogether. The presence of renewables on the grid could be made much more predictable and controllable if excess output from wind and solar power could be stored on a large scale and its dispatch matched to periods of higher demand. Equally, demand could be made more controllable through a demand-side response. This does not necessarily involve reducing demand, but rather shifting it in time in response to variations in supply. In this way, variable supply can be matched with flexible demand, through such instruments as interruptible supply contracts with industry and such devices as smart meters that allow householders to see when supply is tight, and therefore prices high, and to adjust their usage accordingly.

Up to now, 'integrationist' work on building cross-border interconnectors and agreeing on cross-border trading arrangements through coupling power markets, enlarging gas trading zones and harmonising network codes (the operating rules for electricity and gas grids) has often lagged the 'dis-integrationist' trends of national renewable and capacity schemes. This dynamic needs reversing.

# Costs and competitiveness



Energy market integration is often seen as an end in itself. However, it is really a means to achieve, by uniting 28 national markets, a degree of cross-border competition that will produce competitive prices (as well as a degree of inter-dependence that will improve Europe's energy security). Competitive prices are not necessarily lower prices, although EU energy market integration and liberalisation have often been sold to consumers on the promise of lower prices. Competitive prices are prices that will cover production costs, provide a return on capital investment and incentivise new production capacity, if and where needed, without generating undue profits to producers.

Cross-border price convergence is the standard measure used across all sectors of the European economy to determine the degree and effectiveness of cross-border competition and trade flows. Wholesale electricity prices had begun to come together, especially in the central West European region where market coupling is most advanced. However, in the past couple of years this convergence has stalled, in large part because of the disruptive surges of renewable power, especially those coming on to the German market. Likewise, wholesale gas prices have shown some degree of convergence, particularly around the main gas trading hubs in north-west Europe, though there is still a pricing disconnect with parts of Central and Eastern Europe that suffer from a lack of diversity of supply, a paucity of connecting pipelines and a scarcity of liquefied natural gas imports, and (because of all this) an absence of trading hubs.

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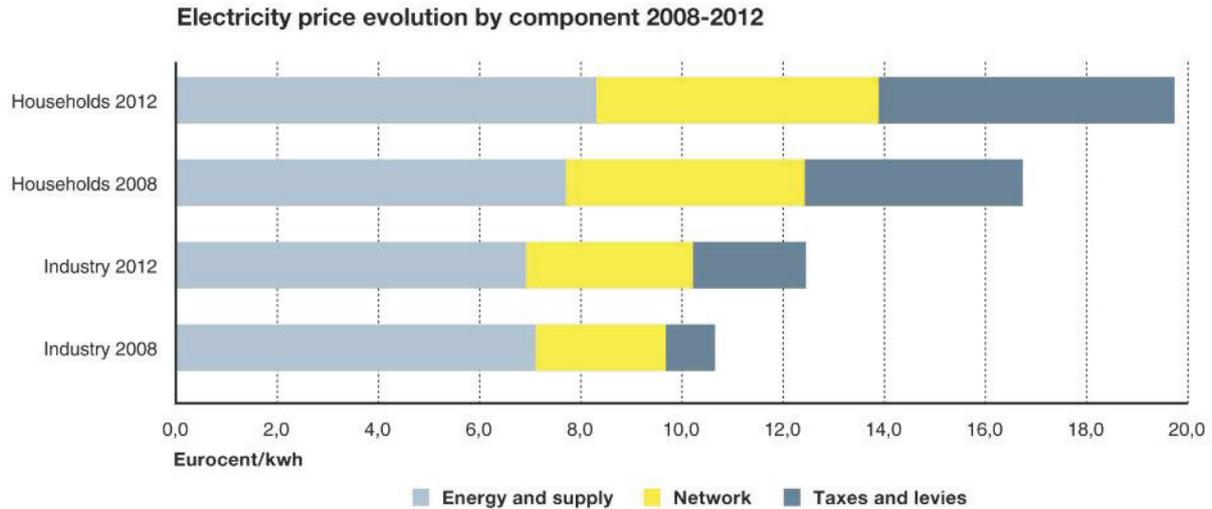
*Energy market integration is often seen as an end in itself. However, it is really a means to achieve, by uniting 28 national markets, a degree of cross-border competition that will produce competitive prices.*

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However, at the retail end-user level, prices are still widely dispersed. This is because in around half the member states they are still regulated by governments at different levels, particularly for households, or because retail prices, especially in electricity, carry differing levels of tax or surcharge to fund renewable energy subsidies and other policies. These taxes and levies are now the fastest growing component in retail electricity prices, as highlighted by the Commission in its January 2014 study of energy prices and costs.



Figure 2. Electricity price components



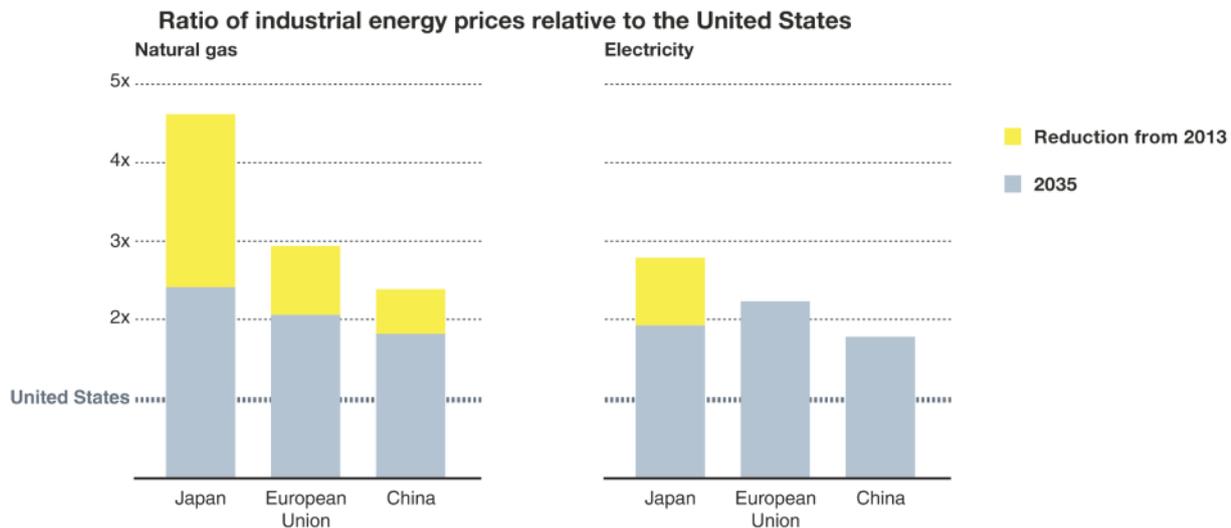
**Source:** Data from European Commission, *Communication on Energy Prices and Costs in Europe*, COM (2014) 21/2 final (29 January 2014), 6.

Figure 2 above shows the changes in the weighted average retail electricity prices in the EU for household and industrial consumers between 2008 and 2012. The colours represent the three components of retail power prices—blue for the wholesale cost of energy (chiefly fuel costs), red for network charges (which have increased to extend grid connections for renewables) and green for tax and levies (especially to fund clean energy and climate policies). As we have seen over this period, wholesale power prices for industry fell slightly, but this has not helped, because in many cases this increases the gap between the wholesale price and the renewables support price, and therefore the subsidy to cover the gap. The cost increases have been bigger for households, which pay a disproportionate share of renewable levies as a cross-subsidy to industry, and which do not enjoy the wholesale price discount for a greater volume of consumption that industry usually does. Small wonder, then, that energy prices have become a hot political issue in many EU countries, with discontent often targeted at the EU policy costs of decarbonisation and climate change mitigation. However, unlike its households, Europe's energy-intensive industries have to worry about international competitiveness, particularly with regard to the US, where the advent of



cheap shale gas has lowered the cost of electricity and the price of gas as an input for sectors such as chemicals and petrochemicals. The IEA has estimated that the gas and electricity price gap with the US will remain substantial for the EU (and also for Japan and China) for the next two decades, as shown in Figure 3 below.

**Figure 3. Energy prices relative to those in the United States**



*Source:* Data from the International Energy Agency, *World Energy Outlook 2013* (Paris, 2013), 87.

The worry is that Europe's energy-intensive industries will lose market share to the US and react by shifting jobs and investment to the US. EU policy can do little about the fact that some other regions of the world are better endowed with energy resources, except, of course, to give the green light to environmentally responsible shale gas exploitation in Europe (which the Commission has done). Nor is it a reason for panic. Europe has always been a relatively high energy cost area, which is why it has led the world in reducing the energy intensity (units of energy per unit of economic output) of its economy.



Certainly, artificial or administrative attempts to hold back energy prices will avail EU countries little over the long term. Nearly half the governments of the EU28 regulate retail energy prices. The reason the Commission contests regulation of these prices is not just that it is contrary to the Third Package of internal energy market legislation. Regulated retail prices are often set below the long-run marginal cost of production, and as such, act as a disincentive for new investment and new entrants into the market. Therefore, regulating retail prices as France and several other member states do, or proposing to freeze them as the Labour opposition in the UK has done, could be counterproductive by reducing investment, creating capacity shortages and thereby fuelling energy price inflation in the future.

## Easing the burden of clean energy costs for vulnerable people and companies

At present, the cost of clean energy policies—the cost of ETS allowances and of renewable energy subsidies—falls almost entirely on energy consumers rather than taxpayers (the two categories are not identical). This suits governments, which prefer energy companies to take the heat from consumers complaining about rising energy bills. But is it fair? It would be easier to help poorer households and energy-intensive companies through the tax system. The tax code makes allowances for poor people and money-losing companies. It is true that keeping clean energy costs on energy bills maintains the incentive to change behaviour and to save energy. But some policy costs could be justifiably switched to taxation, where the rich would pay proportionately more and the poor proportionately less. It makes no sense to make the poor pay for policies, such as grants to insulate the homes of poorer households, designed to help them.

Yet little can be done at the EU level to promote even a modest shift of clean energy costs onto taxation. Most member states are allergic to EU tax initiatives, which require unanimous approval that is nearly impossible to attain. Many member states supplement consumer levies for renewable energy by also offering renewable energy developers various exemptions or rebates on their income, corporate, excise,



property and value-added taxes. No such concessions are possible at the EU level, because no such taxes exist at the EU level.

If the burden of clean energy costs cannot be shifted altogether away from energy users, can it be eased for energy-intensive companies in a harmonised way that does not distort the internal energy market? The Commission's efforts to harmonise the nature and structure of renewable energy subsidies would be undermined if exemptions from the cost of these subsidies were granted in a haphazard manner.

There is a sound environmental rationale for giving some exemptions from clean energy costs to energy-intensive sectors that are vulnerable to 'carbon leakage'. This term refers to the risk of energy-intensive industries seeking to escape Europe's high energy costs by shifting production to countries without carbon constraints and where manufacturing might actually be more carbon intensive. The result would be a net gain in emissions and a net loss to the climate. The political point of providing such targeted cost relief would be to reduce the temptation for increasingly vociferous consumer and industrial groups to lobby for the ambition of Europe's overall climate effort to be scaled back.

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*Yet little can be done at the EU level to promote even a modest shift of clean energy costs onto taxation.*

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An EU-wide harmonised system already exists to cover the direct cost of carbon, or the price of carbon allowances, through the ETS. Companies, on a list of those at risk of carbon leakage, can get free ETS allowances covering production up to a benchmark set by the 10% most efficient firms in their sector. However, no such harmonised system exists for cost relief from indirect carbon costs. Companies still have to bear an indirect cost of carbon via their electricity supply (produced by generators who themselves have had to buy ETS allowances, a cost they pass on to end users), even if their own manufacturing processes emit no carbon and need no ETS permits. The Commission allows member states to give state aid to compensate vulnerable energy-intensive companies for these indirect carbon costs, but only a few governments to do this. It is not legally possible to force member states to pay this compensation, even if they could all afford to do so. As a result, there is a very patchy system of national compensation.



Cost relief from renewables levies is more problematic, because these levies are now a more significant cost factor for many companies than ETS allowances, but only a few governments grant exemptions. Germany in particular stands out for the breadth and volume of exemptions it has been giving—as much as €5 billion a year to more than 2,000 German companies. In response to other countries' complaints that this scale of exemptions was distorting the European market in favour of German companies, the Commission launched a state aid investigation in late 2013.<sup>18</sup> This was settled in spring 2014 by Berlin agreeing to reduce the scale of cost relief to German companies and to make some 500 fewer of them eligible for exemptions. This settlement paves the way to a more harmonised pattern of cost relief for energy-intensive industries. This is necessary. Otherwise, differing national levels of compensation will compound the national differences in energy prices and in renewable energy surcharges—and this will pile distortion upon distortion in the European market.

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<sup>18</sup> European Commission, 'State Aid: Commission Opens In-depth Inquiry into Support for Energy Intensive Companies Benefitting From a Reduced Renewables Surcharge', Press Release, IP/13/283 (18 December 2013), 1.



# Energy security: reducing Europe's vulnerability



The Ukraine crisis has brought the issue of energy security back up to the top of the EU's political agenda. The crisis has led to a renewed focus on Europe's dependence on energy imports, on vulnerability to cut-offs of these imports and on closer energy market integration to increase the EU's internal resilience to external energy shocks. It has also led to a call from the EU's eastern member states, led by Poland, for formation of an 'energy union' as a way to demonstrate solidarity among member states and to create some collective bargaining power in energy trade. A few proposals, such as Poland's call for joint purchasing of gas, may prove impractical. But much of the impetus for a fresh approach to energy security will remain, because the EU now appears to have reached a turning point in its relations with Russia, Europe's largest single source of oil, gas, coal and uranium fuel imports.

The geopolitical fallout from the Ukraine crisis makes it far more serious in terms of energy security than the limited interruptions of Russian gas to Europe in 2006 and 2009. Then, Europe was effectively a bystander, suffering collateral damage in the form of a brief loss of Russian gas, in bilateral disputes between Russian and Ukraine over the details of their gas trade. Now Europe is a principal in the argument with Russia. Even if Russia helps settle the separatist revolt there, and if the rest of Ukraine stays intact, there will be lasting contention over Russia's annexation of the Ukrainian region of Crimea, which the West now regards as occupied territory. In violating the post-war consensus against changing state boundaries by force, President Putin's Russia has revealed itself to all EU countries as an unsavoury power whose potential energy leverage over Europe has become too large.

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*The Ukraine crisis has brought the issue of energy security back up to the top of the EU's political agenda.*

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The breach already shows itself in terms of energy policy, though not yet in actual energy flows. As Crimea was being annexed in March 2014, EU leaders called for 'a comprehensive plan to reduce energy dependence, which should reflect the fact that the EU needs to accelerate further diversification of its energy supply, increase its bargaining power and energy efficiency, continue to develop renewable and other indigenous energy sources and coordinate the development of infrastructure to support this diversification'.<sup>19</sup> They did not need to spell out that diversification meant diversification away from Russia. The turning away is mutual. Russia has at last opened a second front, in terms of an outlet for its gas, with a long-term gas agreement

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<sup>19</sup> European Council, 'Conclusions', EUCO 7/14, (4 February 2011), 1–6.



with China. President Putin is focussed on creating his Eurasian Union with Kazakhstan and Belarus (into which he failed to entice Ukraine). He would now prefer to create his own regional organisation rather than try to fit into the rules of another club. He has underlined this with Russia's challenge in the World Trade Organisation to the EU's whole Third Energy Package of market liberalisation, which Gazprom is strongly opposed to.

This political breach does not mean—unless Western sanctions on Russia are greatly increased—that Russia will not remain a major supplier of energy resources to Europe for many years to come. The EU has considerable potential reverse leverage on Russia as Russia's biggest customer. Gazprom has invested very heavily in pipelines to Europe and storage in Europe. It is still planning to construct the South Stream pipeline across the Black Sea to complete its bypass of Ukraine and to bring Russian gas to south-east Europe. As of December 2014 it remains unclear if President Putin's cancellation of this project is permanent. Nor does the political breach mean that European energy companies will stop investing in Russia—unless Western sanctions or Russian retaliation make that impossible.

Nonetheless, the Ukraine crisis brings to an end the EU's 25-year long attempt to engage Russia in an energy dialogue. This began right at the birth of the Russian federation. The EU was quick to see the energy transit problems arising out of the collapse of the Soviet Union into Russia and other independent states that might no longer want to allow Russian energy to cross their territory on Russian terms. The EU therefore sponsored in 1991 the creation of the Energy Charter Treaty, essentially to create a legal framework for energy transit and investment among ex-Soviet countries, though it was dressed up as a wider international organisation and has some 50 country signatories. Russia signed the treaty, but never ratified it and has now withdrawn from the treaty, which therefore does not bind the one country it was most designed to apply to. In 1997 the EU and Russia signed a 10-year Partnership and Cooperation, and in 2008 started negotiations to try to convert this into a wider agreement, with substantial provisions on energy. This never materialised. Now, with the Ukraine crisis, this long effort to try to bring Russia into a 'single energy space' with common rules looks dead. Henceforth, EU–Russia energy relations are, at best, likely to be purely transactional, conducted deal by deal between companies, or issue by issue between officials, without any political or policy framework to guide them.



## Focus on vulnerability rather than dependence

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Dependence on energy imports is inescapable for the EU, which relies heavily on foreign energy suppliers—in 2012 for nearly 90% of its oil, 66% of its gas, 42% of its hard coal and 95% of the uranium needed for nuclear fuel.<sup>20</sup> This reliance has grown and will continue to grow, albeit perhaps at a slower pace thanks to the expansion of home-grown renewable energy and better energy efficiency. Therefore, the repeated references by the European Council and the Commission to ‘reducing dependence’ are misleading, though naturally such a reduction, if it were possible, would improve energy security. Aggregate import figures are also fairly meaningless, in terms of energy security or insecurity, for a group of 28 countries with widely varying energy mixes, sources and infrastructure, and geography. Heavy reliance on imports does not matter, provided the imports come from a diverse set of suppliers and are delivered via a flexible means of transport such as ships, as distinct from fixed pipelines that lock customers and suppliers together. There is, for instance, a wide spectrum of (in)security in gas between on the one hand, for instance, France, which uses relatively little gas (half that of the UK) and draws its proportionately modest imports from over a dozen countries, and on the other, some Central and East European countries that still are nearly 100% reliant on Russian piped gas. Consequently, what needs examining is the vulnerability of EU member states to any sudden cut-off of external supply, and how to minimise vulnerability. This varies from fuel to fuel.

Russia is a major supplier of oil to the EU, providing around a third of its imports. Some of this comes through the Druzhba pipeline that serves Poland, Germany, Slovakia, the Czech Republic and Hungary. There is also a chronic shortage of diesel in the output of EU oil refineries that has been partially compensated for by diesel imports from Russian refiners. Still, all EU states have flexible access to crude oil and refined products from a wide variety of other suppliers, because these products can be transported by ship, road or rail. Because oil trading operates as a world market, and does not depend on a fixed transport network in Europe to the extent that gas and electricity do, oil has featured little in the

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<sup>20</sup> European Commission, European Energy Security, Staff Working Document, SWD (2014), 330 final (2 July 2014), 21–3.



Commission's single energy market programme. Moreover, the EU has been content to leave the prime energy security role in oil to the IEA, which was specifically created, in reaction to the 1973–4 Arab oil embargo, to establish and supervise minimum levels of oil storage for its members. EU legislation on oil stocks essentially just duplicates IEA arrangements, though this is useful, since several EU states do not belong to the IEA.

Coal imports pose no problem of vulnerability. Overall, the EU draws around a quarter of its hard coal imports from Russia, and over 40% in the case of the UK. But it has access to a wide variety of other sources for coal, which is transported around the world by ship and rail. The biggest energy security threat in coal was a purely internal issue, the 1984–5 coal miners' strike in the UK. Likewise, there are many suppliers around the world of natural uranium, but far fewer fabricators of enriched uranium fuel, and Russia is one of them. In its only trade protectionist move in energy, the EU has long limited imports of Russian enriched uranium in order to safeguard the position of the more expensive operations of Europe's own nuclear-fuel fabricators. However, there is an issue of vulnerability in the fact that Finland, Bulgaria, the Czech Republic, Slovakia and Hungary depend on just one Russian company for nuclear fuel for their Russian-designed reactors.<sup>21</sup>

## Gas vulnerability and the internal market

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The EU's principal energy security initiatives have focused, rightly, on the gas sector. And here the EU's main contribution has been integration of its internal energy market—both in terms of allowing gas to flow freely across internal EU borders to wherever it is most needed, and of solidarity mechanisms for EU countries to help each other in emergencies. One aspect of this involves an adequate network of pipelines capable of carrying gas in both directions. This has not existed in Central and Eastern Europe, where in the Soviet era the main pipelines were built to take gas only one way, from east to west. So, the goal has been to make pipelines capable of pumping gas in both directions (reverse flow) and to

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<sup>21</sup> Ibid., 77–9.



create north–south interconnections linked to non-Russian supply. Much has been achieved. Poland in the north and Croatia in the south are equipping themselves with liquefied natural gas terminals to bring in gas by sea, as is Lithuania in the Baltics. Across central Europe, north–south interconnections are being planned with reverse flow. It has been slow work, and must now be accelerated in the midst of the Ukraine crisis.

The other initiatives have been to ensure that member states make adequate contingency plans for gas shortages or cut-offs. A first attempt to do this was made in a directive passed in 2004.<sup>22</sup> This required member states to prepare national emergency plans, encouraged gas storage and gas-sharing schemes between member states, and set up a Gas Coordination Group to propose EU-wide measures in the event of ‘a major supply disruption’. This was defined as an interruption in which the EU would risk to lose more than 20% of its gas supply for a significant period of at least 8 weeks. Under that definition, no fewer than nine member states, mainly smaller East European ones, could lose their entire gas supply without the EU as a whole lifting a finger. This was a wholly inadequate response to the energy security worries of the Central and East European countries joining the EU in the same year.

A second attempt was made with a regulation passed in 2010, after the cut-off of Russian gas the previous year.<sup>23</sup> This required member states, among other things, to ensure that they could withstand a cut-off of gas from their largest single supplier (the so-called N-1 standard). But this regulation still did not set any uniform standard on storage or supply. Member states have been given until the end of 2014 to show they can meet the N-1 standard, but when the Commission checked in May 2013, only 16 of the EU28 had met the standard. Even if there is no new legislation, meeting this standard has now become a priority as a result of the Ukraine crisis.

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<sup>22</sup> European Council Directive 2004/67/EC concerning measures to safeguard security of natural gas supply, OJ L127, (29 April 2004), 92–96.

<sup>23</sup> European Parliament and Council Regulation (EC) no. 994/2010 concerning measures to safeguard security of gas supply and repeal Council Directive 2004/67/EC, OJ L295 (12 November 2010), 102–23.



# A new approach in external energy policy?

The analysis, by Poland and others, is that Russia's divide-and-rule tactics towards the EU, striking deals with individual EU countries on different and sometimes discriminatory terms, are as much the mirror of the EU's weakness as the cause of its weakness. Thus, EU countries can stand up to Russia if they stand together. This has led to proposals that the Commission should be more closely involved in the negotiation of any intergovernmental agreement which EU governments reach with foreign energy suppliers, in order to check that they are not discriminatory and that they conform to EU energy market rules. In making this proposal, Poland is drawing on its own positive experience in 2010 when it drew the Commission into its bilateral negotiations with Gazprom for a new, long-term contract and obtained more satisfactory terms for Poland from the Russian company. The Commission, which has already initiated an information exchange of these bilateral intergovernmental agreements to make them more transparent and therefore possibly less prone to discrimination, is enthusiastic about getting more of the role in external energy policy that it has long coveted. However, the opportunity for closer Commission involvement in such negotiations or renegotiations may be limited by the fact that many EU countries have, within the past decade, prolonged their Gazprom contracts far into the future, often up to 2035.

Poland's parallel proposal for official collective purchasing of gas has met with much less enthusiasm in Brussels and in Western Europe. The Commission says it is examining the potential and practicalities of governments and companies voluntarily pooling or aggregating their gas demand—if compatible with EU competition law—to get a better deal. (It could hardly do less, because the Commission had, albeit vainly, tried to entice Turkmenistan into selling its gas to Europe, with a scheme to aggregate European demand for Turkmen gas). However, the Commission clearly does not see the EU itself entering the gas-buying business, not least because an official gas buyers' cartel could wreck the prospects for a competitive energy market in which Europe's long-term energy security lies.



# Conclusions



The Ukraine crisis is a shock event. It has brought home to all member states the general need for a more coordinated energy policy, even though they may differ on aspects of what needs to be done. Why not call this an energy union, as the President of the European Council, Donald Tusk, and the Commission President, Jean-Claude Juncker, have?<sup>24</sup> Why not use this crisis to address the fundamental difficulty of trying to arrange collective energy security in a Union while its members are, on a literal reading of the caveat about member states' rights in Article 194 of the Lisbon Treaty, entirely free to decide what energy they use, and where they get it from? This restrictive clause has not yet been fully tested in European Court of Justice jurisprudence. But it surely will be, as the Commission faces the increasingly daunting task of coordinating, let alone harmonising, the energy policies and measures of the EU28. The Ukraine crisis provides the ideal opportunity for member states as well as the Commission to start thinking about how to put real substance into Article 194's phrase about 'the spirit of solidarity between member states' in the energy field.

For the moment, the Commission is relying on its semi-autonomous powers of control over state aid to shape policy on national renewable energy subsidies and capacity mechanisms—and, in the longer run, it proposes a new form of energy governance. Optimistically, it believes it could model this energy governance

on the eurozone fiscal disciplines and practices, with some Commission surveillance and control of national energy plans. Achieving this will be difficult but important, especially when the proposed abandonment of national renewables targets after 2020 points to an EU-wide system as the only coherent way to subsidise renewables thereafter.

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<sup>24</sup> Donald Tusk, speech to Energy Security Conference, European Commission, Brussels, 21 May 2014; Jean Claude Juncker, '30 Days to Go Until the Elections', press conference, Brussels, 23 April 2014.



# A roadmap to completing the single energy market

## 1. Market integration.

Integration of the internal market should still be the EU's main instrument to reach its three goals of cost competitiveness, security and emission reduction. The general aim should be to keep the market vision (in the interest of cost control and efficiency) and to capture competitive and scale benefits of market integration, while at the same time allowing careful intervention in the market to achieve specific goals for renewable energy, capacity backup, energy efficiency, infrastructure and energy security.

## 2. Subsidy harmonisation.

The biggest challenge in achieving the desired balance is in the electricity sector. An ever-increasing share of generation—renewable and conventional—is being rewarded out of the market by renewables and capacity subsidies. Eventually, a combination of improvements in renewables technology and the development of flexible demand in response to variable renewables supply will greatly reduce the need for subsidy. But that day is years off. Thus, a harmonised EU-wide system of subsidies to producers of renewable electricity and possibly of biofuels for transport will almost certainly be needed for a period. This will inevitably entail some transfer of resources with, for example, German electricity consumers subsidising Greek solar power producers who, however, in turn will probably be using German-made solar PV panels.



### 3. Infrastructure investment.

Likewise, there will have to be transfer of more resources to Central and East European member states to enable them to improve their energy security through greater infrastructure investment in gas storage and interconnectors. A majority of member states, plus the Commission, oppose the building of Gazprom's South Stream pipeline across the Black Sea and into southern Europe on the grounds that it perpetuates reliance on Russia and undermines Ukraine's position as a transit country for Russian gas. A few member states—Hungary and Bulgaria as well as Austria—that would receive South Stream gas, strongly support the project for lack of alternative supply. If the majority are to dissuade the minority from going ahead with South Stream, then the majority will have to offer the minority alternatives in the form of gas storage and sharing arrangements, and interconnections to make such arrangements work. President Putin's cancellation of this project in December 2014 provides the EU with an opportunity to take the lead in developing energy infrastructure in this region. Partly because of the prospect of getting their own direct feed of Russian gas, the EU states of south-east Europe supporting South Stream have not been the most active in developing interconnections with their EU neighbours. This could change if they were to benefit from more infrastructure investments from the EU budget and loans from the European Investment Bank. These smart investments would form part of a coherent, long-term investment plan for the European energy sector.

### 4. Energy mix.

Such an investment plan could also help poorer coal-dependent member states to reduce emissions. A further transfer of resources may be needed to balance the other objectives of security and competitiveness. Poland, as part of its energy union plan, said it wanted to see coal, on which it depends for 90% of its electricity, fully 'rehabilitated' in the cause of energy security. This would be unacceptable to most other member states, a view that Warsaw could surely not ignore in any 'energy union'. However, Poland could be given more EU assistance to wean itself gradually off coal. This could take the form of grants/soft loans for investment in renewables, energy efficiency and alternative sources of gas, including shale gas. This in turn would



be part of a wider EU strategy to promote gas as a relatively clean transition fuel to a low-carbon energy system. Nuclear power produces fewer emissions than gas, but it is too politically divisive for any collective policy or for the EU, through its European Atomic Energy Community (EURATOM), to act as anything more than a facilitator for those member states choosing a nuclear route to decarbonisation.

In the context of the sovereign debt crisis a transfer union has been rejected by the European Council on the ground that indebted countries should be left on their own to repay the debts they have piled up. However, while countries can choose to borrow, they cannot choose the resource endowment and geography that largely determine their energy problems. A transfer union is therefore appropriate in energy. Without some such transfers, what would ‘solidarity’ mean? As noted, energy infrastructure should be a key focus in all investment packages proposed by the EU in the 2014–19 period.

The goals of energy security, affordability and sustainability have never been higher on the EU’s agenda. All three goals would be served if Europe truly unified its energy market. National leaders have it in their hands to complete this slow and difficult integration process, if they can just summon up the necessary political will to do so.



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