

## Chapter 5

# Building a Common Internal Energy Market

Installing a common internal energy market is of paramount importance to the EU and its member states, and has been for decades. However, as of today the respective national energy mixes and market prices still vary widely across the Union (see Chapter 2, Section ‘The three end uses of energy’). According to the European Commission, a common market would facilitate lower consumer prices, spark investments in vital infrastructure projects – which in turn would allow for easy energy transportation between the member states (and thus mitigate exogenous supply shocks by allowing multiple points of entry by diverse suppliers) – and foster the development of affordable substitutes and renewable forms of energy. In essence, the Commission presents the common energy market as a major piece of the puzzle to cure the ills of Europe’s energy malaise; one that consists of high external dependence, the lack of interconnectivity between a regionalized infrastructure, high degrees of state involvement in energy companies, substantial differences between energy prices in the member states, and widely divergent interpretations of how to secure supply. Thus, the internal energy market carries significant implications for both of the other energy policy dimensions (external and multidimensional), and constitutes, through fair competition, a core pillar of comprehensive energy security. What is the real potential of such an internal market? How much can it contribute to achieving the objectives of competitiveness, sustainability, and stable supply?

When looking at Europe’s diverse national energy markets, one cannot miss their heterogeneity, from the British liberalized version to the rigidly and vertically integrated energy companies that dominate the markets in France and Germany (i.e. the so-called ‘national champions’). This chapter examines the Commission’s efforts to enhance competition, ensure price transparency, and secure fair

prices across the Union, by attempting to break up national monopolies, and enabling and controlling grid access for third parties, through a network of national regulators and European institutions such as the Agency for the Cooperation of Energy Regulators (ACER). We place special focus on the EU’s third legislative package and its relevance for creating a single European energy market.

### The creation of the internal energy market

The liberalization of the electricity and gas markets has constituted a core element of the EU’s agenda since the late 1980s. The Council argued in favour of the establishment of an internal energy market for the first time in September 1986 in a Council Resolution (86/C 241/01) of 16 September 1986 ‘concerning new Community energy policy objectives for 1995 and convergence of the policies of the Member States’, in which the Council formulated guidelines for the energy policies of the member states. These, however, reflected a minimum consensus, as the member states could only agree on a convergence of national policies, not on communitarization (i.e. replacing national laws with Community law). The White Paper on the internal market and the Single European Act of 1987 did not explicitly refer to energy policy. Nevertheless, they apparently influenced the EU’s internal energy market project by deepening market integration. In 1988, the European Commission suggested concrete measures for the liberalization of the electricity and gas markets. These were reflected in a directive aiming at improving the transparency of gas and electricity prices charged to industrial end users (Council of the European Communities 1990a), which was regarded as a prerequisite for fair competition. In addition, the Council adopted two directives on the transit of electricity (1990c) and natural gas (1991) through grids, the latter already being subject to highly controversial discussions. Other proposals for directives, in which the Commission called for greater openness, were rejected by almost all member states, except for the United Kingdom, where the liberalization of the national energy market was already part of Margaret Thatcher’s deregulation programme (Andersen 2000, Schmidt 1998).

In February 1997 and August 1998, two directives concerned with common rules for the internal electricity and natural gas markets (EP/Council 1996, 1998) came into force initiating the gradual liberalization in both sectors. As both directives were based on the same

legislative acts (Council of the European Communities 1990c (for electricity); 1991 (for gas) and in general followed the same intention, their wording was partly identical. Choosing the path of least resistance, the Commission focused first on electricity, achieved the necessary consensus (leading to Directive 96/92/EC) and thus paved the way for further negotiations in the gas sector (Andersen 2000). Both the gas and electricity directives aimed at increasing 'efficiency in the production, transmission and distribution' while at the same time 'reinforcing security of supply and the competitiveness of the European economy and respecting environmental protection' (EP/Council 1996: 1). The legislation, which was based on two previous acts (EP/Council 1996, 1998), focused on grid interoperability (1996: Art. 7; 1998: Art. 5), unbundling and transparency of accounting (1996: Art. 13–15; 1998: Art. 12–13), third-party access (1996: Art. 16–18; 1998: Art. 14–16), and the establishment of an independent conciliation board (1996: Art. 20; 1998: Art. 23).

Although both directives constituted an important step towards the creation of an internal energy market, the Commission was not able to realize many of its original intentions. While the directives stipulated concrete goals to be achieved during the years to come, it also left room for interpretation at the member-state level, a concession to the member states that had the side effect of slowing down the establishment of an internal market (Pollak et al. 2010: 117). To accelerate the process, the Commission decided in 1998 to establish the Florence Electricity Regulatory Forum (Florence Forum 2015) and the Gas Regulatory Forum of Madrid (Madrid Forum 2013), to enhance consensus-building between the various actors in energy policymaking. They usually meet up to twice a year to discuss issues related to the creation of the internal market, bringing the Commission together with regulatory authorities, member-state governments, TSOs, electricity or gas traders, consumers, network users, and power exchanges. During its meeting in Lisbon in March 2000, the European Council decided to push through a second legislative package in order to speed up the liberalization process, resulting in two new directives that included common rules for the internal markets in electricity and natural gas (EP/Council 2003b, c). Both acts repealed their respective predecessors and marked a major step forward in the EU's efforts to integrate its diverse energy markets.

One of the key issues of the new directives was the unbundling of accounts by electricity and natural gas firms (EP/Council 2003b:

Art. 19; 2003c: Art. 17). Accordingly, the companies had to 'keep separate accounts for each of their transmission and distribution activities as they would be required to do if the activities in question were carried out by separate undertakings, with a view to avoiding discrimination, cross subsidisation and distortion of competition'. Initially, the Commission sought ownership unbundling instead of the mere unbundling of accounts. However, due to strong opposition, particularly from Germany and France, the 2003 directives neglected this issue. Both directives did address the rules for the access of third parties to transmission and distribution systems, though (EP/Council 2003b: Art. 20; 2003c: Art. 18). Thus, the member states were obliged to ensure that third parties could access transmission and distribution systems based on tariffs that would be applied to all eligible customers. Furthermore, the Community's competition rules had to be satisfied, ensuring that no party is discriminated against. Finally, the directives required the member states to establish independent regulatory authorities responsible for securing 'effective competition and the efficient functioning of the market' (EP/Council 2003b: Art. 23; 2003c: Art. 25). Despite these guidelines, however, the directives remained rather vague concerning the structure of the institutions to be installed. Consequently, the regulatory authorities in the member states differed with regard to their organization and regulatory practice. Moreover, personal relationships between energy companies, politicians, and member-state authorities continued to hinder the strict implementation of the Commission's targets.

The two directives were complemented by Regulation 1228/2003, which specified the 'conditions for access to the network for cross-border exchanges in electricity' (EP/Council 2003). In order to enhance such exchanges, the regulation included five principles, summarized by the Energy Community (2014) as follows:

1. Transmission system operators must be compensated for costs incurred as a result of hosting cross-border flows of electricity on their networks. This is a prerequisite for an open, competitive market.
2. Non-discriminatory and transparent tariffs for access to networks must be set to reflect payments and receipts resulting from compensation between transmission system operators. This is a precondition for effective competition in the internal market.

3. In cases of network congestion, the allocation of cross-border capacities shall be addressed with non-discriminatory, market-based solutions to give efficient signals to market participants and transmission system operators.
4. Different safety, operational and planning standards used by national transmission system operators should be harmonized in order to avoid distortion of competition.
5. Publication of relevant data for the market participants to eliminate asymmetries in information.

Despite member-states' obligation to implement Directives 2003/54/EC and 2003/55/EC by 1 July 2004, progress was slow and incomplete. In November 2005, the Commission criticized several member states, including Spain, Luxembourg, Greece, Estonia, Portugal, and Ireland, for only minimally implementing the directives and that their electricity and gas markets were still primarily organized by the state.

As a consequence, price differences between the member states persisted and cross-border trade of electricity and gas remained limited. Just a few, big national players continued to dominate the market, and they had no interest in informing their customers about how to switch to competing energy suppliers. Although major enterprises increasingly tended to choose their energy provider according to the best cost-benefit ratio, small companies and private households mostly stayed with the same company without comparing energy prices. Therefore, there was virtually no incentive for new businesses to enter the market. Despite two legislative packages, the member states achieved only uneven progress and almost no meaningful competition (European Commission 2007c).

### **The third legislative package**

When competition cannot be guaranteed in one or several sectors, the Commission has the right to inquire about its causes. In terms of realizing the internal gas and electricity market, Council Regulation 1/2003/EC lays down specifically:

In the course of that inquiry, the Commission may request the undertakings or associations of undertakings concerned to supply the information necessary for giving effect to Articles 81 and 82 of the Treaty and may carry out any inspections necessary

for that purpose. The Commission may in particular request the undertakings or associations of undertakings concerned to communicate to it all agreements, decisions and concerted practices. (Council of the European Union 2003b, Art. 17)

The Commission has exercised this right, such as in 2005, and conducted a comprehensive investigation into the energy sector. In its report, the DG Competition concluded that the energy sector was plagued with areas where competition was not functioning well and needed to be addressed rapidly 'in order for liberalisation to bear fruit' (European Commission 2007j: 4). Specifically, it characterized many member states' markets as having high levels of concentration, cartel-like agreements, and inadequate unbundling of network and supply. It also identified insufficient or unavailable cross-border capacity, and thus insufficient market integration, and a lack of or delayed investment, as well as increases in gas and electricity wholesale prices that could not be explained in terms of higher costs. European Commissioner for Competition Policy Neelie Kroes summarized these points in January 2007, emphasizing that '[...] more than a decade after having launched the drive for liberalization, we are still far from having a single, competitive and well-functioning European energy market' (Kroes 2007). She went on to announce further measures aimed at remedying the situation, among which were not only the rigorous application of competition law and the strict surveillance of the correct implementation of the second legislative package but also the recasting of existing regulations (European Commission 2007d). Consequently, on 19 September 2007, the Commission adopted a comprehensive third package of legislative proposals (European Commission 2007e-i). Similar to the previous ones, these also aimed at realizing competitiveness, sustainability, and supply security (the three pillars of comprehensive energy security) in the electricity and gas market.

In January 2009, the Council adopted a position on the Commission's proposal. It took only two months for the Parliament and the Council to agree on a common position. The EP formally adopted it in April, followed by the Council in June. It was then published in the Official Journal on 14 August 2009 (EP/Council 2009a-b, f-h) and came into force in September. The most important (and most controversial) aspects of that legislation can be captured by the words 'unbundling' and 'third-party access', and its immediate

effect observed in the establishment of the Agency for the Cooperation of Energy Regulators (ACER).

The right of the EU to impel national companies to unbundle some aspect of their business is rooted in EU competition law and, on numerous occasions, the Commission successfully compelled companies to sell shares and, thus, unbundle their activities (Schumann 2003). The unbundling of vertically integrated companies was already discussed by the member states during the negotiations on the second energy package. Although some progress was reached during those negotiations, the Commission saw potential for optimization. The compromise negotiated between the Council and the EP in 2009 offered three options for the companies in the member states. The first was ownership unbundling as already proposed by the European Commission in 2007. The second suggested setting up an independent system operator (ISO), and the third included the introduction of an independent transmission operator (ITO). The ISO option implies that companies retain the ownership of their transmission networks, but that the independent system operator controls the day-to-day management. The third option, the ITO model, was based on a proposal made by Germany, France, and six other member states – governments that would have been able to block any decision in the Council. Their position was duly reflected in the final directive. As EurActiv (2009) reported, ‘They obtained the right for former state monopolies – such as EDF and GDF in France and E.ON and RWE in Germany – to retain ownership of their gas and electricity grids, provided that they are subjected to outside supervision’. The selection of the ITO option exemplifies the significance of state actors in the EU energy policy process (see Chapter 4). Yet they were not the only actors to raise obstacles.

Both of the EU sector associations representing the electricity (EURELECTRIC) and gas (Eurogas) industries shared, in principle, the Commission’s preference for ownership unbundling. However, EURELECTRIC raised its concerns about the introduction of further legal rules. They argued that the current legal framework was sufficient for creating a healthy internal energy market and that the Commission should, instead, ensure that Directive 2003/54/EC was implemented correctly in the member states. Specifically, they noted, ‘The Directive has found the correct balance, allowing companies to retain ownership of their networks while putting in place strict rules to ensure the independence of network operators

in relation to the networks they operate, maintain or develop’ (EURELECTRIC 2007: 19). Eurogas shared the perspective that further unbundling would overburden the industry and therefore supported the argument raised by EURELECTRIC that the implementation of existing legislation should be the top priority (Eurogas 2006: 2).

The concerns raised by the sector associations reveal the trans-dimensional nature of what at first glance looks to be a primarily internal dimension problem, but in practice also involves the external dimension. At the time, the discussions on third-party access centred on the role of powerful non-EU energy companies in the EU market. Expert opinions on the issue ranged from completely prohibiting entrepreneurial activities of non-EU businesses in this area to a positive evaluation of the capital such companies invest in the EU market. According to the Third Energy Package, the national regulatory authorities are responsible for certification, which can be denied when a company does not fulfil the EU requirements concerning unbundling or threatens the member state’s or the Union’s energy supply security. Before a decision is made, however, the NRAs have to notify the Commission and seek its opinion on the specific case. One implication of these new rules is the dispute between the EU and Russia’s Gazprom over unbundling in regard to the South Stream gas pipeline. As recently as April 2014, Gazprom was still tangling with the EU over its laws that ban suppliers from owning transit facilities (e.g. pipelines), claiming that such rules violate international rules (World Trade Organization 2014). In December 2014, the Russian President Putin and Gazprom CEO Miller announced a stop to the pipeline, citing EU regulations that placed unacceptable terms on the pipeline project.

Finally, the third issue dominating negotiations was Regulation (EC) No 713/2009 on establishing the Agency for the Cooperation of Energy Regulators (ACER) that was adopted to coordinate and complement the work of the national regulatory authorities. ACER was officially launched in March 2011. Its primary focus has been the development of EU-wide market rules. The agency was established on the basis of the already existing structures and functions of the European Regulators’ Group for Electricity and Gas (ERGEG). The Commission repeatedly expressed its concerns about the ERGEG’s progress, which had ‘not resulted in the real push towards the development of common standards and approaches that is necessary to make cross-border trade and the

development of first regional markets, and ultimately, a European energy market a reality' (European Commission 2007i: 9–10). The Commission especially criticized the consensual approach dominating the work within ERGEG, which required 'the agreement of 27 regulators and more than 30 transmission system operators to reach agreement'. This 'led to a number of non-binding codes and efforts to reach agreement on common approaches through "gradual convergence" but has not lead to real decisions on the difficult issues that now need to be taken' (ibid: 10). Thus, ACER was endowed with comprehensive competences.

Similarly, the national regulatory authorities were strengthened in order to emphasize the relevance of independent institutions in a sector traditionally dominated by state decisions. Together, these moves served to 'guarantee the independence of the regulatory authority' and 'ensure that it exercises its powers impartially and transparently' (EP/Council 2009b). The NRAs now cooperate with each other (and other authorities at the member-state level), providing insight into the relevant data. As the Commission now also plays an important role in steering the information exchange and can adopt guidelines determining the degree of cooperation, the third legislative package not only brought Europe closer to realizing its internal energy market but also strengthened the Commission's oversight of matters previously relegated solely to the member states and the external dimension.

Further elements of the third legislative package worth mentioning include the expansion of cooperation between transmission system operators and the establishment of both the European Network of Transmission System Operators for Gas (ENTSO-G) and the European Network of Transmission System Operators for Electricity (ENTSO-E). The latter had already been established in 2008 with the primary tasks to ensure that the electricity transmission network operates in a secure and reliable way, to promote investments, and to facilitate the interconnection of the European grid. The formalization of ENTSO in the third legislative package constitutes an upgrading of existing informal structures and, thus, a type of 'regulated self-regulation' (Berg 2001; Schulz and Held 2004).

Finally, in an indisputable act of consumer emancipation, the legislation strengthened both consumer protection and rights. European gas and electricity consumers are now guaranteed the right to receive a detailed overview of their consumption and

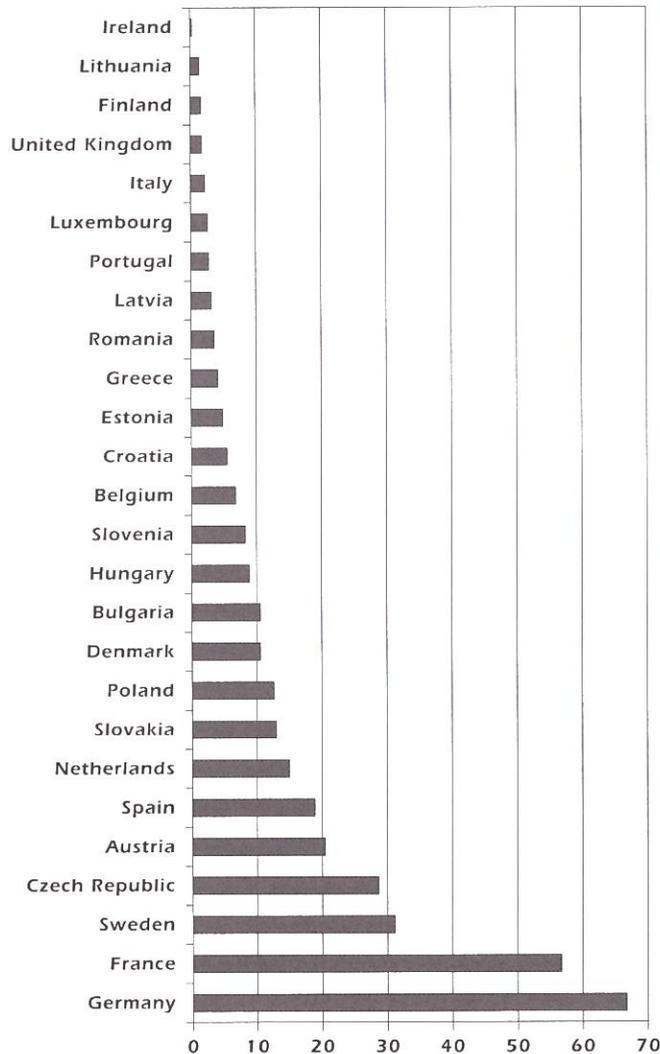
possess the right to switch suppliers with only three weeks' notice. While such changes may seem trivial in relation to the grander tasks of unbundling the accounts of energy providers and distinguishing between distribution and transmission networks (targeted already in the first legislative package), they achieved a harmonization of consumer rights across the Union that provide a key component both for further integration of Europe's unified internal energy market, and even a prospective Energy Union, as well as the dissemination of EU energy law beyond its borders through the Energy Community (see Chapter 7).

### **The single energy market: Current state and challenges ahead**

Despite a few notable steps towards an internal energy market, including the third legislative package, the EU still has a long way to go. Domestic market characteristics and prices still vary considerably between the member states, and substantial gaps in the Union's energy infrastructure limit the ability of the member states to rapidly respond to shortages or interruptions. Moreover, while most member states export some quantity of electricity annually (Figure 5.1), they also import large volumes of electricity (Figure 5.2) and natural gas (Figure 5.3).

In the electricity sector, for example, rather than operating a single Union-wide grid linking suppliers to consumers, the EU operates 28 national grids. These are divided into five regional groups (Continental Europe, Ireland, United Kingdom, Nordic, and Baltic) and two voluntary Regional Groups (Northern Europe and Isolated Systems), which are coordinated by The European Network of Transmission System Operators for Electricity (ENTSO-E). Despite the grid's complexity, the mechanism of energy demand and supply remain in place: power stations feed the amount of electricity demanded by consumers into the grid. Because national electricity demand swings daily, generators export or import surpluses at prices that have ranged from between €29 and €60 per megawatt-hour between 2010 and 2013, depending on the regional market (European Commission 2013p). In 2013, for example, slightly more than 1.2 thousand TWh were traded on the Leipzig-based European Energy Exchange's (EEX) Power Derivatives Market alone (EEX 2014), a figure that must be understood as only part of the overall trade in electricity, since much of it is traded over

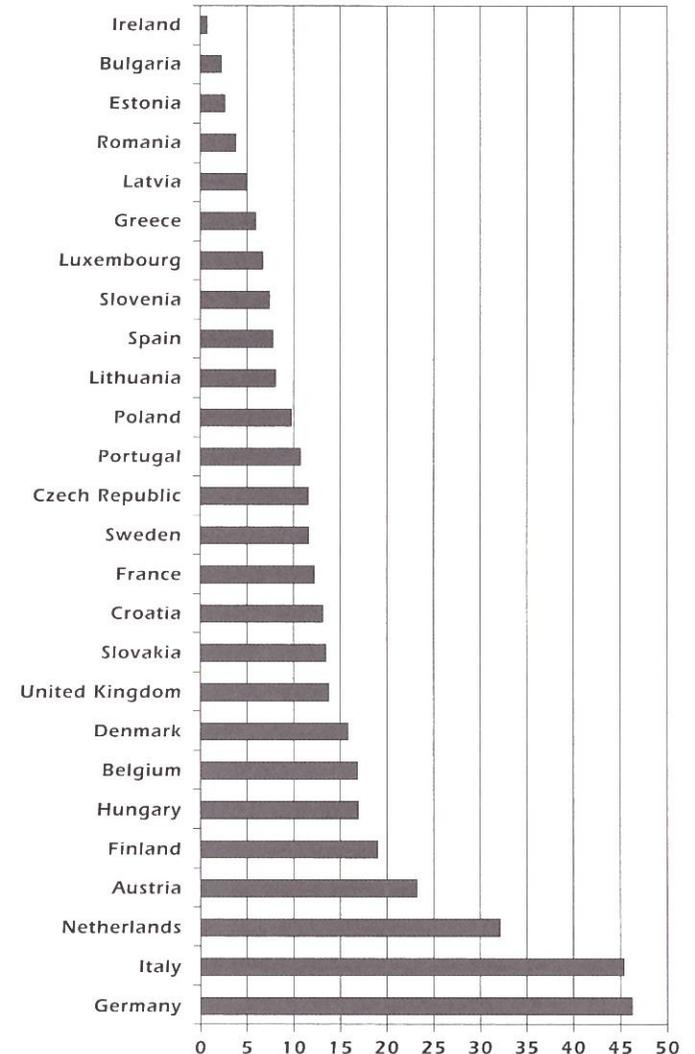
Figure 5.1 *Electricity exports (TWh, 2012)*



Source: Based on Eurostat data (Eurostat 2015b)

the counter and based on reciprocal trades. The amount of electricity traded varies between the member states, but seen in the context of the global electricity trade, the amounts are massive.

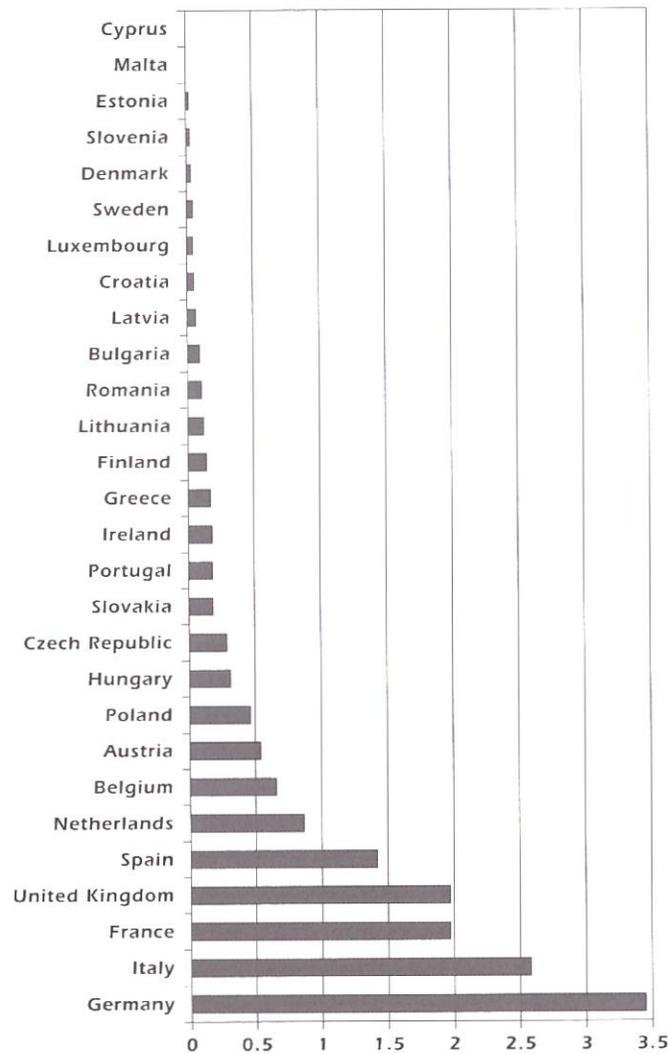
Figure 5.2 *Electricity imports (TWh, 2012)*



Source: Based on Eurostat data (Eurostat 2015c)

Germany exported 66.6 TWh in 2012, which was slightly more than double the amount exported by Sweden (31.28 TWh) and almost ten times as much as Belgium (6.911 TWh), and more than

Figure 5.3 Gas imports (millions of terajoules)



Source: Based on Eurostat data (Eurostat 2015d)

Canada (57.97 TWh), Russia (19.14 TWh), or the United States (12 TWh).

Looking at the electricity exports of Germany, one can also see the uneven penetration of renewables. As Germany generates a

substantial amount of renewables that are by their nature uneven in their delivery (see Chapter 2, Section 'Storage, predictability, and negative externalities'), German generators have to produce more electricity than they need nationally to stabilize the grid, creating surpluses that either have to be consumed or sold. This in turn depresses prices that hit the bottom line of generators. In the long run, the cycle of declining wholesale electricity prices runs the danger of either pricing renewables out of the market or forcing generators to cut back on production, neither of which will help the EU achieve its stated goal of comprehensive energy security.

Meanwhile in the gas market, indigenous EU production (159 bcm) accounted for the largest single source of gas for EU customers in 2012, making up almost a third of total supplies (Eurogas 2013: 6). Most of the production was consumed directly by the producing member states. However, the Netherlands exported substantial amounts to its fellow EU members; and others, such as Austria and Slovakia, re-exported large volumes of Russian gas. According to the International Energy Agency (2013a: 13), the Netherlands was the eighth largest net exporter of gas worldwide in 2012, while the EU's largest single supplier, Russia, led the world with 185 bcm in net exports, with Qatar (120 bcm) and Norway (109 bcm) not far behind. It is notable that three of the top five global exporters of natural gas, which totalled 342 bcm in 2012, accounted for 54% of the EU's net natural gas supplies of circa 470 bcm that same year (Eurogas 2013: 6).

Energy markets within the EU not only vary concerning their export and import structures; they also vary with regard to energy prices. For example, in 2013, average annual electricity prices (including taxes) for most households ranged from circa 0.09 €/kWh in Bulgaria to almost 0.30 €/kWh in Denmark (see Figure 2.1) while gas prices for households, which averaged circa 0.07 €/kWh, ranged from just under 0.3 €/kWh in Romania and slightly above 0.12 €/kWh in Sweden (see Figure 2.2).

In contrast to what the Commission expected from the establishment of the internal market, electricity prices paid by companies and households have actually increased over the last 20 years. As recently as January 2014, the Commission was still arguing that '[a] fully integrated and competitive energy market could result in cost savings of between €40-70 billion up to 2030' (European Commission 2014: 9). Accounting for the disparity between its expectations and reality, the Commission blamed, among others, high national taxes, fuel

costs, limited competition, and state intervention for the price rise. Rising energy costs were among the items discussed by the 160 stakeholders participating at the Berlin Energy Forum in February 2014 (European Commission 2014n). Given that the purpose of the forum was to gain input from stakeholders in order to debate the energy sector objectives up to 2050, it was not surprising that its participants found that the best response was to coherently apply internal market rules, provide stable investment conditions, and to diversify energy sources. While such recommendations fit EU stakeholder strategy, it is unlikely we will see a levelling of energy prices across the member states any time soon. Indeed, energy prices are increasing uniformly across all member states (European Commission 2014f). While this may not fit neatly with the Commission's plans, it at least indicates that the European energy markets are moving in unison.

As outlined at the beginning of this chapter, the Commission expected that the internal energy market would not only result in lower consumer prices, but also attract higher investments in infrastructure projects. The maintenance and expansion of grid and generation infrastructure is essential for the proper functioning of national economies and the provision of appropriate living conditions for the member states' citizens. The international energy crises of the last decades, especially the gas dispute between Russia and Ukraine, renewed public awareness of the urgent need to invest in cross-border infrastructure to secure energy supplies, particularly in times of supply disruptions. Modernizing cross-border infrastructure thus quickly became a major issue on the political agenda.

In April 2013, the EU identified several high-priority trans-European infrastructure projects in the areas of gas and electricity, which it expected would ease transportation, mitigate exogenous supply shocks, and increase competition between energy producers and suppliers (EP/Council 2013a). Among these were the North Seas Offshore Electricity Grid (NSOG), the Southern Gas Corridor (SGC), the Baltic Energy Market Interconnection Plan in gas ('BEMIP Gas'), two additional North-South interconnections (respectively, in Western Europe (NSI West Electricity and NSI West Gas) and Central-Eastern and South-Eastern Europe (NSI East Electricity and NSI East Gas)), and the Baltic Energy Market Interconnection Plan in electricity ('BEMIP Electricity'). Supporters of expanding the EU's energy infrastructure note that adding cross-border interconnections will enhance reliability and thus security of supply, increase competition, facilitate increased exchange, and maximize the use of profitable

locations to generate electricity and import gas. One backer, Spanish Secretary of State for Energy Alberto Nadal Belda, argued that such 'interconnections are crucial for the Internal Energy Market and a true added value for the interests of the EU's industry sector' (European Commission 2014d: 12–13).

Political support notwithstanding, building these interconnections will be expensive, and despite its steadfast support for market liberalization, the Commission apparently doubts that the market will be able to deliver the full amount of the required investments due to 'difficult access to finance and lack of adequate risk mitigating instruments' (European Commission 2011i: 11). Based on a 2011 estimate that the upgrades required to meet its projected needs and goals could cost upwards of €1 trillion by 2020, a fifth of which alone would be required to modernize existing transmission networks, the Commission confirmed in 2012 that 'although investment is being made in all sectors, it is not reaching the rate needed to meet the policy ambitions' (European Commission 2012d: 4). In October 2013, the Commission adopted a list of 248 projects of common interest (PCI), which had been selected by twelve regional groups according to the guidelines for trans-European energy infrastructure (TEN-E). In order to be included in this list, a project has to contribute to market integration, competition, energy supply security, or the reduction of industrial emissions in at least two member states. Although the Commission does offer financial support to projects that have been labelled as 'projects of common interests' (PCI) through its €5.85 billion Connecting Europe Facility (CEF), obstacles to private investment continue to hamper progress. An analysis of existing and planned EU gas and electricity infrastructure capacity indicates that renewed impulse at the European level will be required to secure increased investments in energy infrastructure in the future (Table 5.1). It seems clear that more will have to be done to overcome investment barriers in the member states. In what now amounts to a prudent act of foresight, the Commission had already begun to address that point in 2010 by proposing to establish a framework for the exchange of data and information on energy infrastructure projects based on Council Regulation 617/2010 (EP/Council 2010b), and passed a new regulation replacing the former in February 2014 (EP/Council 2014).

The limited progress made on the infrastructure front is indicative of the difficulties faced by the Commission in matching its goals of concurrently achieving a functioning internal energy market

Table 5.1 Existing and planned capacity in electricity and gas infrastructure (excluding LNG)

	Gas pipelines (km)	Cross-border gas pipelines (To) (mcm/day)	Cross-border gas pipelines (From)	Gas storage (bcm)	Electricity generation (MW)	Electricity transmission (km)	Cross-border electricity transmission (MVA+MW)
Existing (as of 1 January 2011)	125,027.6	2,467.8	2,315.2	95.6	839,463.3	261,097.2	237,836.4
Planned additions* (as of 31 March 2011)	5,734.7	390.9	356.7	25.5	87,229.5	28,113.9	72,945.7

Note: \*Planned additions correspond to the sum of underconstruction and planned projects, minus infrastructure that will be decommissioned

Sources: European Commission (Notifications under Council Regulation 617/2010 and Commission Regulation 833/2010) ENTSO-G, ENTSO-E, Platts

based on liberal principles with the realities of national interests and private sector investment strategies. Part of the problem remains state involvement in energy companies, traditionally considered an obstacle to the proper functioning of the internal energy market. However, even the Commission admits that a certain degree of state intervention may be necessary to achieve its goals. Although principally cautious about state intervention, the Commission now recognizes that in some sectors, such as renewables, state aid may be provided at the national, regional, or local level so long as it is well-designed and properly coordinated at the EU level (European Commission 2013j).

Faced with increasing efforts by some member states to offer far-reaching public support for investments in modern generation capacity, the Commission announced its intention to adopt new guidelines on environmental and energy aid for 2014–2020 (2013k). Following a two-month public consultation that began in mid-December 2013, the Commission issued a Communication in June 2014 that, alongside accentuating its commitment to support cross-border energy infrastructure projects, represented significant compromises. For example, arguing that its goal was to promote ‘a gradual move to market-based support for renewable energy’, it recommended introducing a competitive bidding process for public support and feed-in premiums to replace feed-in tariffs in order to gradually expose renewables to market signals. It also accepted the right of states to provide public funding in cases where there is a risk of insufficient electricity generation capacity and proposed to simplify procedures to support projects and companies in the fields of energy and the environment (European Commission 2014i). While not abandoning its long held principle of liberalizing Europe’s diverse energy markets, such steps seem to represent a certain degree of prudent backtracking, a reality check of sorts for the concomitance of the three pillars of comprehensive energy security.

### Concluding remarks

The EU’s internal energy market policies have only been partially successful. Although considerable institutional and procedural reforms were introduced, their scope and implementation at the national level remains insufficient. The failure to enforce ownership unbundling to guarantee grid independence instead of a mere legal unbundling is only one example. Member states are still lagging behind on the implementation of EU legislation. In a November

2012 Communication, the Commission criticized the member states as being 'slow in adjusting their national legislation' and often pursuing 'inward-looking or nationally inspired policies', both of which hampered the effectiveness of the adopted policy measures (European Commission 2012d). Nevertheless, the European Council decided to set 2014 as the deadline for the full completion of the internal gas and electricity markets (European Council 2011). In February 2014, the Commission announced an important milestone in that pursuit when electricity grid operators and power exchanges from 14 EU member states (Belgium, Denmark, Estonia, Finland, France, Germany, Austria, UK, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, and Sweden) joined Norway in inaugurating a pilot project for one-day-ahead market coupling (European Commission 2014e) and, as of May 2014, the Commission was working on a regulation to make the practice of market coupling binding for all member states. Such efforts notwithstanding, the EU in mid-2014 still lacked the fully integrated electricity and gas markets that it deems vital to a functioning internal energy market; and it remains to be seen whether those markets will deliver the expected results when they ultimately come to fruition.

## Chapter 6

# Climate Change, Energy Efficiency, and the Quest to Expand the Use of Renewable Energy Sources

In recent years, the Commission increasingly emphasized the importance of finding 'cost-efficient ways to make the European economy more climate-friendly and less energy-consuming' (European Commission 2015a). To that end, responsibility for all climate-related topics previously held by the DG for Environment was assigned in February 2010 to a DG for Climate Action. In 2014, Connie Hedegaard, then Commissioner for Climate Action, noted that the ambition of the EU member states in realizing these targets should serve as a motivation for other countries to similarly aim for environment-friendly economic growth (Hedegaard 2014). Hedegaard's comments are indicative of how climate actions stand at the crossroads of internal and external policymaking. It is internal insofar as it relates to the regulation of energy efficiency standards and the promotion of renewable energy forms in the EU. The external dimension applies to the EU's international obligations and its claim to fame as a united political force on the world stage. The EU's external climate policy agenda was clearly driven by the entry into force of the United Nations Framework Convention on Climate Change (UNFCCC) in March 1994 (Oberthür and Pallemarts 2010). The Convention 'sets an overall framework for inter-governmental efforts to tackle the challenge posed by climate change' (UNFCCC 1994) and has since been ratified by 195 countries (UNFCCC 2015). We identified climate change policies as multidimensional (see Chapter 1) precisely because the goals set within its context are unachievable without specific internal regulations, particularly increases in efficiency, reductions in the use of carbon-intensive fuels, and international reciprocity.