Too high and too low: The problems with energy prices in the EU

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On 11 October, the top executives of ten European energy companies, which jointly own about half of the European Union's electricity generating capacity, warned that "energy security is no longer guaranteed" and once again called for changes to EU energy policy. Due to persistent adverse conditions in the energy market (linked to, for example, the exceptionally low wholesale energy prices) more and more conventional power plants are being closed down. According to sector representatives, this could lead to energy shortages being seen as early as this winter. Meanwhile, in an interview with *The Daily Telegraph* published in September of this year, the European industry commissioner Antonio Tajani warned – in a rather alarmist tone – of the disastrous consequences the rising energy prices could have on European industry. Amongst the reasons for the high prices of energy, Tajani mentioned the overambitious pace and methods used to increase the share of renewables in the sector. In a similar vein, EU President Herman Van Rompuy has highlighted the need to reduce energy costs as a top priority for EU energy policy¹.

The price of energy has become one of the central issues in the current EU energy debate. The high consumer price of energy – which has been rising steadily over the past several years – poses a serious challenge to both household and industrial users. Meanwhile, the declining wholesale prices are affecting the cost-effectiveness of energy production and the profits of energy companies. The current difficulties, however, are first and foremost a symptom of much wider problems related to the functioning of both the EU energy market as well as to the EU's climate and energy policies.

The global context of the EU's energy problems

For the past several years, the EU's energy sector has been facing major challenges. As with other sectors of the EU economy, the energy sector has felt the impact of the economic crisis (including another year-on-year drop in EU

GDP figures, and the declining role of energy-intensive sectors²). This has contributed to, for example, a continuing slump in energy demand. According to Eurostat, the consumption of both primary and final energy decreased by about 7% between 2006 and 2011³. Similarly, electricity consumption in the EU has been falling back in recent years, albeit to a lesser degree:

¹ For further details of the CEOs' proposals and of the press conference in Brussels, see: http://www.gdfsuez.com/en/shareholders/calendar/press-conference-eu-energy-policy-ceo/. Prior to the press conference, the CEOs spoke to the European Parliament (on 10 September 2013) and to the EU Energy Council (in May 2013).

This being a result of both the economic crisis and greater energy efficiency. See: http://ec.europa.eu/energy/observatory/electricity/doc/20130814_q2_quarterly_report_on_european_electricity_markets.pdf

³ http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

demand dropped by about 3% between 2010 and 2012⁴, and by about 1.2% in the first half of 2013⁵.

The ongoing economic stagnation is present in the context of the changing global energy market; these have affected the availability, price, and acceptability of individual energy sources in the EU. A shale gas "revolution" in the Uni-

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ted States, the greater availability of LNG, and the discovery of new gas deposits in the Mediterranean and in East Africa, have all contributed to transforming (mainly) the global gas markets. The increased supply of gas has brought gas prices down, changed the role of traditional suppliers, and affected gas trading rules. In addition, shifts in the US energy market and the substitution of coal by cheap gas have led to rising coal exports from the US. At the same time, many countries have been successful in carrying out a so-called "energy transformation" (most visibly in Sweden, Brazil, Italy and Germany; although their approaches and pace have varied), which has gradually led to an increase in the use of renewables. The global energy landscape has also been affected by the nuclear disaster at the Fukushima NPP, which precipitated a drop in confidence in nuclear energy (mainly in the EU, and especially in Germany). Most of the changes taking place in the energy markets appear to be fundamental and long-term. However, since these processes are still ongoing, their final consequenThose changes are reflected in, for instance, the EU's energy balance, its electricity generation structure, and in the implementation of Europe's energy objectives. At the same time, the changing global context has exposed the existing inefficiencies of Europe's internal market. So far, the EU's market has only marginally benefited from the developments in the global gas markets - which has highlighted its rigidity and the problems related to its incomplete liberalisation and integration. The limited availability of Europe's own gas, coupled with concerns about the environmental effects of new technologies, and a commitment to long-term contracts with prices closely linked to oil prices have also been among the factors keeping the EU's gas prices high and reducing demand. Meanwhile, as a result of the currently unfavourable price relationship, the EU has seen a rise in the consumption of relatively cheap coal (including coal imported from the US) and in the use of subsidised renewable energy sources promoted by the Europe 2020 strategy.

Energy prices in Europe

Energy prices have been a manifestation of, and to some extent also the result of, the problems experienced by both the EU energy market and policy. In recent years, there has been a growing gap between the persistently high end prices of energy and the decreasing wholesale prices (an article published in September by Bloomberg suggests that in Germany, for example, the gap has reached its highest level in 15 years⁶). According to Eurostat, household electricity (d also gas) prices have been steadily growing for the past few years. Since 2009, households have experienced a 20% price hike on



ces cannot be predicted with any certainty at the present time.

http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=ten00097&plugin=1

⁵ Compared to the same period in 2012; see European Energy Markets Observatory 2013 Cappemini.

⁶ http://www.bloomberg.com/news/2013-09-18/germanpower-premium-most-since-98-tests-voters-energymarkets.html

average, while last year alone the prices rose by about 6.6%⁷. Industrial consumers have seen a slightly smaller increase, averaging about 9% since 2009⁸. End electricity prices in the EU are disproportionately high not only in comparison with traditional energy producers (such as Russia or the countries of the Middle East) but also in comparison with the United States where, according to the IEA, in late 2012 electricity prices were on average half those in Europe.

The growing gap between wholesale and final energy prices indicates that the cost of energy generation accounts for an ever smaller proportion of the final cost of energy and the role of costs linked to the implementation of current energy policy objectives is increasing.

Paradoxically, wholesale energy prices in Europe have been steadily falling. In June 2013, the monthly average baseload prices in Germany, France, Austria and Switzerland fell below €30/MWh, reaching the lowest level since March 2007⁹. Low wholesale prices are mainly the result of a slump in electricity demand (mainly among industrial consumers) and also of the effects of the ongoing economic stagnation, and the decreasing cost of energy generation (due to cheap coal and renewables and the decreasing cost of GHG emissions under the EU ETS).

An increase of 20% between the second half of 2009 and the second half of 2012, and of 6.6% between the second half of 2011 and the second half of 2012. Source: Eurostat, 27 May 2013. http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/8-27052013-AP/EN/8-27052013-AP-EN.PDF; http://epp.eurostat.ec.europa.eu/statistics_explained/index.php?title=File:Half-year-ly_electricity_and_gas_prices,_second_half_of_year,_2009-2011_%28EUR_per_kWh%29.png&file-timestamp=20130116115243

The growing gap between wholesale and final energy prices indicates that the cost of energy production accounts for an ever smaller proportion of the final energy cost. This is particularly clear in the case of Germany, where the share of wholesale price in the final price paid by industrial customers has fallen over the past decade from over 60% to less than 25%10. It therefore indicates that the rise in electricity end prices across the EU has been caused mainly by indirect costs, such as taxes, tariffs, subsidies and network costs. Many of these costs are linked to the implementation of the current energy policy objectives (at both the national and EU level). According to Eurelectric, since the start of the liberalisation of the European energy market in 1998, the tax burden on energy has increased by 169% while; energy companies have raised their prices by an average of 5% over the same period. This has resulted in a 46%¹¹ increase in the final cost of energy and has kept the prices high even when production costs decreased (for example, as a result of a growing reliance on low-cost coal or subsidised RES).

Consequences for energy consumers

The high final energy prices are a problem both for consumers and for the governments in the individual EU countries, especially against the backdrop of the post-crisis economic stagnation. They have contributed to the overall poor condition of the EU's traditional / heavy industry, and have hamstrung the economic recovery of the EU following the crisis. Energy costs are a component of the total cost of production, although their share varies – de-



⁸ Source: Eurostat (ibid.)

http://ec.europa.eu/energy/observatory/electricity/ doc/20130814_q2_quarterly_report_on_european_ electricity_markets.pdf

¹⁰ See: Zachmann, G. (2013) "Electricity without borders – a plan to make internal market work", Bruegel Blueprint, Brussels. http://www.bruegel.org/download/parent/791-electricity-without-borders-a-plan-to-make-the-internal-market-work/file/1677-electricity-without-borders-a-plan-to-make-the-internal-market-work/

See: Susanne Nies, "Power Prices, an increasing concern in the EU – and need for a better explained cost breakdown", Eurelectric Daily News, 18 June 2013.

pending on the sector of the economy¹², the country, and the type of business. Typically, it is the small and medium-sized companies that bear the brunt of rising energy costs. Big companies are often able to negotiate favourable contracts and to benefit from state protection (as seen, for example, in Germany). Furthermore, high energy prices reduce the competitiveness of Europe's energy-intensive industries (such as the aluminium, steel and chemical industries¹³) - for instance, in comparison with China and the United States. They also contribute to reductions in production, lower sales, and limit employment opportunities. Since the start of the economic crisis, industrial production across the EU has contracted by about 10%, leading to 3 million redundancies. Large companies are choosing to invest outside the EU - not only in Eastern Europe and Asia, but increasingly also in the United States. Among the companies planning to increase their investment in the US due to lower energy prices are: Germany's BASF and BMW, and Austria's Voestalpine¹⁴. Similarly, at the beginning of this year, ArcelorMittal announced plans to close down some of its factories in Belgium, Luxembourg and France, citing high energy prices as one of the reasons for its decision¹⁵. Nonetheless, it should be noted that energy prices tend to be an easy target for criticism in the ongoing debate in the media, and some of the alleged plans to discontinue or limit production could

be interpreted as little more than attempts to boost the companies' bargaining power in possible future renegotiations of the terms and conditions of their operations in the EU.

The issue of rising energy prices and their impact on consumers has led to specific changes in the energy policies of individual states. Meanwhile, low wholesale prices have reduced the profitability of many energy companies.

The high energy prices have also had a negative impact on household budgets, making it a sensitive issue for public opinion. In early 2013, energy price hikes sparked large-scale protests and led to a change of government in Bulgaria. Concerns over high energy prices have also been raised by consumers in the UK, where tariffs have increased by 120%16 since 2004 and further price increases have been announced for mid-November 201317. Similarly, complaints have been made by German consumers, who are currently paying some of the highest energy bills in Europe (further price increases are expected next year to meet the cost of RES and of the expansion of the transmission network)18. The growing cost of electricity, heating and gas bills has also contributed to a rise in fuel poverty levels across the EU. Estimates put the number of people affected by fuel poverty at between 50 and 125 million. Most of them reside in Bulgaria, Portugal, Lithuania and

¹² It was estimated that energy costs account for over 40% of total production costs in the chemical industry, about 20% in the steel industry, and 15–30% in the paper industry; see: http://ec.europa.eu/enterprise/ policies/sustainable-business/climate-change/energy-intensive-industries/carbon-leakage/files/cl_literature_review_en.pdf

¹³ In this case, the high cost of gas is equally important.

¹⁴ h t t p : / / w w w . f t . c o m / c m s / s / be69a732-ab5a-11e2-8c63-00144feabdc0,Authorised=false.html?_i_location=http%3A%2F%2F-w w w . f t . c o m % 2 F c m s % 2 F s % 2 F 0 % 2 F be69a732-ab5a-11e2-8c63-00144feabdc0.html%3Fsiteedition%3Duk&siteedition=uk&_i_referer=#axzz2n1x0MQzB

¹⁵ http://www.steelorbis.com/steel-news/latest-news/ lakshmi-mittal-raises-concerns-on-high-energy-pricesin-eu-760572.htm

¹⁶ Compare with the average electricity prices for the non-domestic sector: https://www.gov.uk/government/ statistical-data-sets/gas-and-electricity-prices-in-thenon-domestic-sector

¹⁷ On 10 October of this year, SSE announced an average 8.2% increase in UK domestic electricity and gas bills. It is expected that other energy suppliers will also raise their prices; see http://www.bbc.co.uk/news/business-24475868

¹⁸ http://www.spiegel.de/international/germany/ high-costs-and-errors-of-german-transition-to-renewable-energy-a-920288.html

Romania¹⁹, although fuel poverty has also been affecting growing numbers of people in Greece and Spain (especially since the outbreak of the economic crisis²⁰), as well as in Germany and the UK. Consequently, the issue of rising energy prices and their impact on society and industry has provoked not only heated discussions (including during election debates in Germany in autumn 2013, and ahead of the next election in the UK²¹), but it has also led to specific changes in the energy policies of individual countries (see below).

The problems of the EU energy sector

One key challenge for the European energy sector is the low wholesale energy prices and the growing gap between wholesale and end prices. Low wholesale prices, coupled with persistent oversupply and limited demand, reduce the profitability of many energy companies. Consequently, this translates into changes in investment strategies and leads to cutbacks. One example of this tendency is the fundamentally altered investment strategy of the RWE Group – the company has decided to sell off its DEA oil and gas unit and has announced between 2,500 and 3,400 redundancies²².

Low wholesale prices, coupled with declining current and projected profits (e.g. E.ON's profit in the first half of this year was down 42% on the same period in 2012²³), as well as the reduced profitability of traditional (even modern) power

plants, have all prompted energy companies to limit investment in the internal market, and to close down or put aside as backups an increasing number of existing power plants (main-

The outflow of investment and the closures of European power plants may have a long-lasting effect on Europe's energy mix. This may also result in an increased risk of power shortages during peak demand periods.

ly gas-fired plants, due to the growing cost of gas in the EU; gas is now the most expensive of all available primary energy sources)²⁴. By early November 2013, the German Federal Network Agency (BNA) received notification of plans for the closure of 28 power plants across the country (including gas, coal and nuclear plants) with a combined capacity of 7GW; subsequently the BNA authorised the closure of 12 plants with a capacity of 5GW²⁵. Similar decisions have also been taken by other European energy companies: in October of this year, France's GdF Suez decided to close down another gas-fired power plant (a 1.9 GW plant in Teesside in the UK²⁶), and according to media reports, since 2009 the company has removed about 12 GW of capacity from the market. Following a slump in demand, one of the most modern and clean (opened in late 2011) gas-fired power plants in the world - Enecogen in Rotterdam - has sold one of its two generators to Israel²⁷. The outflow of investment and above all the closures



¹⁹ http://www.euractiv.com/energy/soaring-energy-costs-europeans-p-analysis-519884

²⁰ http://urban-energy.org/2013/07/05/energy-poverty-in-spain-the-politicisation-of-energy-vulnerability-at-an-early-stage/

http://www.telegraph.co.uk/news/politics/labour/10332674/Ed-Miliband-admits-pledge-to-freezeenergy-prices-could-lead-to-higher-bills-before-nextelection.html

http://www.reuters.com/article/2013/10/18/us-rwe-deaidUSBRE99H0CH20131018; http://uk.reuters.com/article/2013/11/06/rwe-strategy-idUKL5N0IR10O20131106

²³ http://www.ft.com/cms/s/0/7c55cd8c-03dc-11e3-8aab-00144feab7de.html#axzz2j0pERCrb

^{24 &}quot;Renewable growth & German market dynamics", April 2013, http://www.timera-energy.com/continental-power/renewable-growth-and-german-power-market-dynamics/

²⁵ http://www.reuters.com/article/2013/11/04/germany-power-regulator-idUSL5N0IP16C20131104

²⁶ http://www.powerengineeringint.com/articles/2013/10/ gdf-suez-announces-demolition-of-1875-mw-plant. html

²⁷ Platts Power in Europe, "Enecogen cannibalized", 2 September 2013.

of European power plants, are likely to have a long-lasting effect on Europe's energy mix, and could, for example, reduce the role of gas in it. In the short term – and possibly even this winter, according to some representatives of energy companies – these changes may result in insufficient generation capacity, leading to power shortages (mainly during periods of low production from RES).

As a result of the current problems, European energy companies have been observing a steady decline in their market value. This in turn will have a negative impact on, for example, their future investment capacity, including investment in infrastructure, which is vital for the smooth functioning of the internal energy market (network modernisation, storage facilities, etc.). Alongside the decreasing share of production costs in the final price of energy (see above), there has been a reduction in the extent to which energy companies can mould the sector (including the final energy prices and, indirectly, investment decisions). In consequence, the sector is now being increasingly shaped by political decisions²⁸.

Challenges for EU policy

The issue of energy prices has therefore become one of the key factors intensifying the debate on EU energy policy as a whole and on its individual elements. The meeting of the European Council held in May of this year focused predominantly on energy prices (both electricity and gas). The high prices are occasionally invoked by the EU's top officials (such as the above mentioned calls by Van Rompuy and Tajani in September 2013 or by Barroso and Oettinger) as the key motivation for change in EU energy policy which would see greater emphasis being placed on cheap energy and on more realistic policies. These calls are typically made

in discussions about the internal market, those focusing on the relationship with suppliers or on the modes of implementing the EU's climate targets. This last problem is exemplified in the currently uncoordinated implementation by in-

The current difficulties have exacerbated differences between interest groups and between states. They have also highlighted the problems with the consistent and coordinated implementation of the present goals of the EU's energy and climate policy, and in the development of new priorities.

dividual member states of the common EU goal of increasing the share of renewables in energy generation (through national Action Plans based on EU directives). This is often carried out by - de facto - state intervention, which may disrupt the market (price signals). Additionally volatility in energy production in one member state may interfere with market and grid functioning in neighbouring countries. One such example are the consequences of a significant increase in the share of subsidised RES in electricity generation in Germany: on the one hand, this has led to reductions in the final price of electricity in the Netherlands (and a decline in the profitability of Dutch gas power plants)²⁹; on the other hand, grids in Poland and the Czech Republic have been temporarily overloaded and destabilised by power loop flows from German wind farms³⁰.

There is also evidence that the current challenges faced by the European energy sector have exacerbated the existing differences between

²⁸ G. Zachmann, ibid.



more 29 http://www.osw.waw.pl/en/publikacje/analy-ses/2013-01-30/european-commission-will-scruti-nise-german-system-renewable-energy

³⁰ http://www.osw.waw.pl/en/publikacje/analyses/2013-09-04/energiewende-changing-eastern-federal-states

interest groups and, occasionally, between nations. They have not only highlighted the difficulties in reconciling (at least in the short term) the priorities of the EU's energy and climate policies (cheap energy vs. green energy; market mechanisms vs. support mechanisms),

The limited efficiency of EU policy is increasingly being observed alongside unilateral and uncoordinated actions taken by individual EU member states.

but have also exposed the problems with the very definition of these priorities. Prices have become one of the key issues raised by the European industrial lobby, which has been calling for a reduction in the support for RES and for the marketisation of European climate policy. These problems have also driven the current discussions about the role of subsidies and state aid for individual energy sources³¹, as well as more general debates, for example about the role of the internal market in reducing energy prices³² and about the impact of rising energy prices on the competitiveness of European industry³³. High energy prices have also been the main reason behind the ongoing European Commission's analysis of drivers of growth and main components of energy prices and costs

in individual Member States (preliminary results to be published by the end of this year followed by a full report in mid-2014). The European Commission has also recently introduced state aid guidelines for energy, focusing on both RES subsidies as well as state support for capacity markets. The effectiveness of such guidelines, however, remains uncertain for reasons such as: their non-binding nature, the clearly defined national interests of individual member states, as well as the measures already implemented by individual countries in this area. Divergence in national interests is clearly reflected in, for example, the difficulties in developing new EU energy and climate objectives for 2030, not to mention the actual measures that could bring down consumer prices, improve the condition of the power companies, or pave the way for a reform of EU energy policy in order to address the changing global and European energy realities.

The inefficiency of EU policy is increasingly being seen alongside unilateral and uncoordinated actions taken by individual EU member states – these differ in their scope and objectives. The measures aim inter alia to avert the negative consequences of high energy prices, such as the worsening situation of key sectors of the economy (including the energy-intensive sectors and the energy sector) as well as the resultant rise in social costs. Furthermore, the issue of high energy prices is also on occasion used to win public support for political projects and in election campaigns. Subsidies for renewable energy sources have already been curbed in, for example, Spain and the Czech Republic³⁴. In autumn of this year, Hungary's Prime Minister Viktor Orbán announced another drop in the country's household energy prices – due to government intervention, energy prices



The issue of overgenerous, inconsistent, or even unnecessary subsidies for RES has been raised by the industrial lobby and representatives of the energy sector. See, for example, the latest proposals of the Magritte Group: http://www.europeanvoice.com/article/2013/october/ceos-demand-reform-of-eu-renewable-subsidies/78418.aspx;; while the "green" lobby has been highlighting the continually strong state support for fossil fuels and nuclear energy, see for example: http://www.euractiv.com/energy/oettinger-scared-fossil-fuel-sub-analysis-531291

³² http://www.theparliament.com/latest-news/article/ newsarticle/internal-energy-market-key-to-a-competitive-and-prosperous-eu/#.Um914RDY9DE

³³ http://www.ft.com/intl/cms/s/0/23cd358e-252d-11e3b349-00144feab7de.html#axzz2j0pERCrb

³⁴ http://praguemonitor.com/2013/11/06/insider-state-drafts-measure-curb-solar-subsidie

in 2013 will fall by about 20%35. Meanwhile, the UK is currently implementing a new Energy Bill – a comprehensive energy reform package, which includes an Electricity Market Reform aimed at increasing investment in the sector, stimulating the economy and reducing energy bills³⁶. A reform of the RES support scheme is also likely in Germany, where household energy prices and energy generation costs were among the key issues raised in the recent election debates. At the same time, individual member states are pursuing highly individualised policies of support for energy generation from specific sources and implementation of specific power plant projects. In addition to Germany's Energiewende (marked by the phasing-out of the country's nuclear power generation and a strong increase in RES generation), other examples of such policies include the recent UK government agreement on the construction of the Hinkley Point nuclear power plant with EdF, with a price guarantee for 35 years³⁷. Poland, meanwhile, has announced a decision to expand a coal-fired power plant in Opole³⁸, and the Dutch government has unveiled plans to boost production from offshore wind farms under its new Energy Accord³⁹. The implementation of different policies by each country is likely to further increase the divergence in energy prices and

in support schemes for individual energy sources. Similarly, there is a lack of coordination between the member states in the development of capacity mechanisms—instruments aimed at limiting the risk of energy shortages and stabilising grids in the context of conventional power plants closures (see above). These mechanisms, via a system of compensation payments, are aimed at enabling energy companies to keep some unprofitable plants as back-up in case of increased energy demand during peak periods (for example, in winter). The support schemes which are being developed or planned differ from country to country across the EU (including in Germany, France and the UK⁴⁰) and tend to attract controversy (see, for instance, the concerns raised by Norway⁴¹).

The activities of the member states, which are uncoordinated and vary in scope and direction, may lead to a gradual disintegration of not only European energy policy but also of the EU energy market.

The examples listed above point to two tendencies: on the one hand, politics and state support are playing an increasing role on the European energy market and this raises questions about the future shape and the functioning of these markets. On the other hand, individual member states have become increasingly autonomous and differentiated in policy formulation, the adoption of specific mechanisms and, by extension, in shaping their energy mixes. This in turn amplifies the differences in the functioning of national energy markets – as seen last year in the growing divergence of electricity prices



³⁵ The reductions to household bills were possible mainly due to increases in energy prices for small and medium-sized entities and the nationalisation of a number of energy companies. http://www.budapesttimes. hu/2013/09/20/hun%C2%ADgary-declares-war/

³⁶ http://www.publications.parliament.uk/pa/bills/ lbill/2013-2014/0030/en/20140030en.htm; https:// www.gov.uk/government/policies/maintaining-uk-energy-security--2/supporting-pages/electricity-market-reform

³⁷ Subject to approval by the European Commission; http:// www.ft.com/intl/cms/s/0/00eff456-3979-11e3-a3a4-00144feab7de.html

³⁸ http://www.forbes.pl/pge-rozbuduje-elektrownie-opole-z-kompania-weglowa-list-intencyjny,artykuly,157368,1,1.html

³⁹ http://www.bloomberg.com/news/2013-09-06/netherlands-to-increase-offshore-wind-fourfold-in-next-decade.html

⁴⁰ http://www.icis.com/heren/articles/2013/06/11/9677291/ power/edem/electricity-capacity-mechanisms-no-silver-bullet---analyst.html

⁴¹ http://www.reuters.com/article/2013/11/22/norway-uk-cable-idUSL5N0J72B920131122

across the already heavily integrated energy market of North-Western Europe⁴². Contrary to the official declarations and objectives, the uncoordinated and varying in scope and direction activities of the Member States may lead to

a gradual disintegration of the energy market. They could also result in the re-nationalisation of EU energy policy, which would limit the EU's role in shaping both the current and the long-term situation in the European energy sector.

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⁴² For example, in the first quarter of this year, there were relatively large differences in electricity prices between Germany (where prices were lower due to a greater supply on renewables) and Belgium and France (where prices were high due to a shortage in the production of nuclear energy and lower imports from the Nordic countries), see http://ec.europa.eu/energy/observatory/ electricity/doc/20130611_q1_quarterly_report_on_european_electricity_markets.pdf