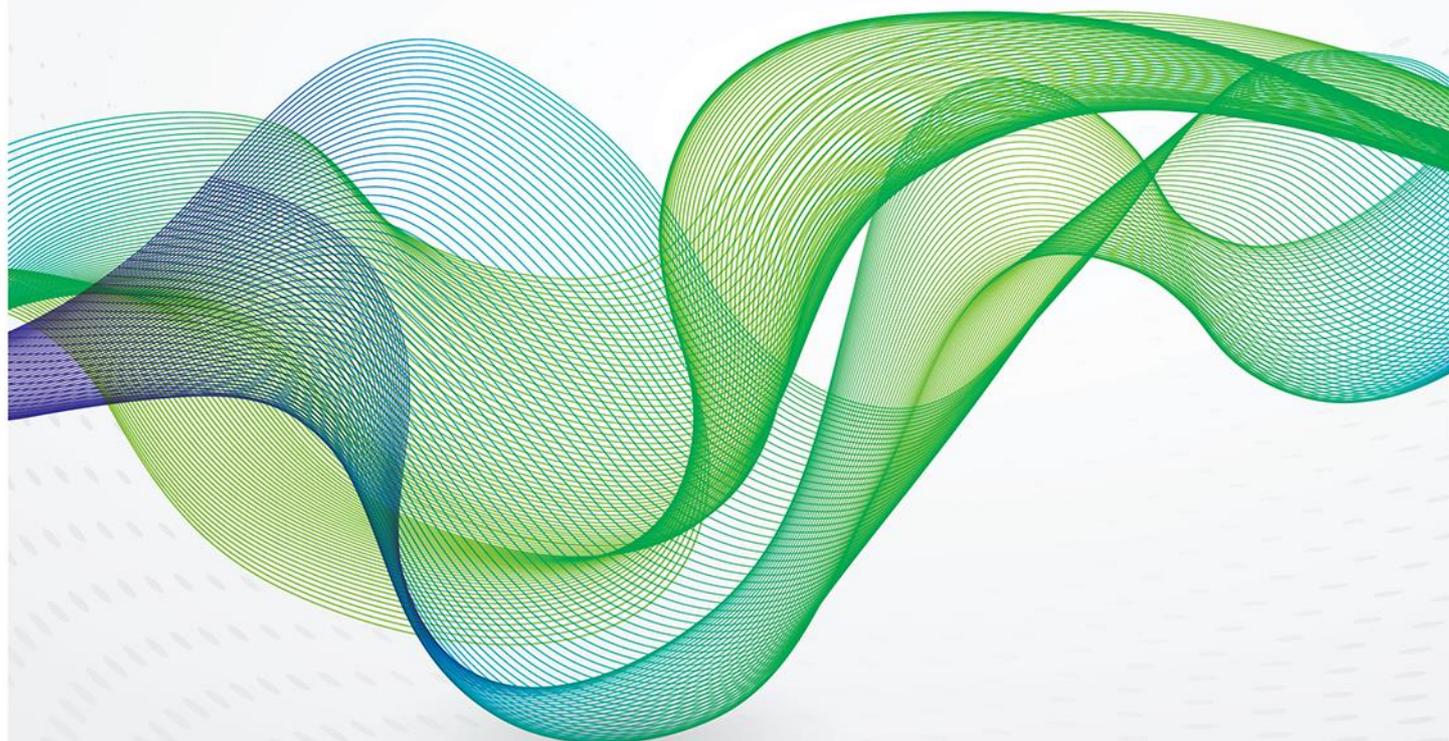




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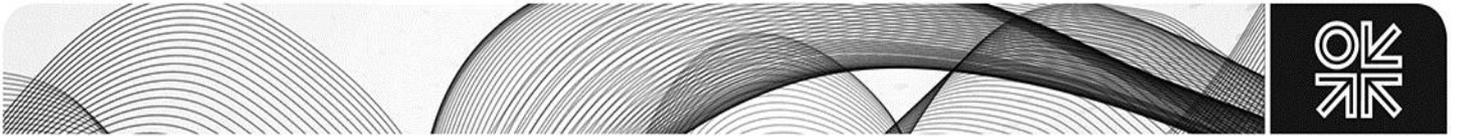
July 2014

Europe's energy security - caught between short-term needs and long-term goals



OXFORD ENERGY COMMENT

DAVID BUCHAN



Introduction

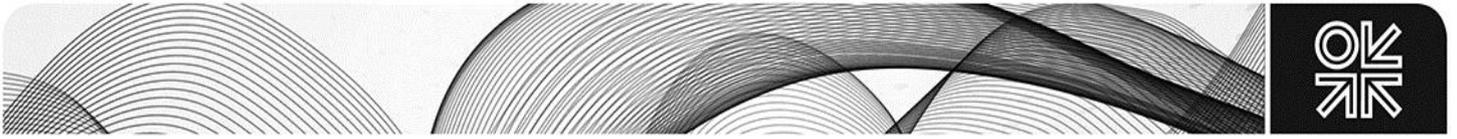
The Ukraine crisis has brought the European Union to a turning point in its relations with Russia, its largest and most comprehensive energy supplier. In terms of energy security, the geopolitical fall-out between the EU and Russia is far more serious than the brief interruptions of Russian gas to Europe in 2006 and 2009. Then, Europe was effectively a bystander, suffering collateral damage in terms of a brief loss of Russian gas, in bilateral disputes between Russia and Ukraine over the details of their gas trade. Now Europe is a principal in the argument with Russia. Even if Russia now helps settle the separatist revolt in eastern Ukraine that it has fomented, and the rest of Ukraine stays intact, there will be lasting contention over Russia's annexation of the Ukrainian region of Crimea, which the West regards as occupied territory.

For the past dozen years, the core of EU policy towards Russia has been a regular energy dialogue with Moscow. This dialogue was designed to create a broad legal framework to manage and protect the flows of gas, oil, coal and uranium from Russia to Europe, and reciprocal investments of EU energy companies in Russia, with the hope of enshrining this in a wide-ranging EU-Russia partnership and cooperation agreement. This hope did not materialise, and is now unlikely to do so in the foreseeable future. Even in March as Crimea was being annexed, and before the separatist revolt took hold in eastern Ukraine, 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 the infrastructure to support this diversification'¹. By diversification, they meant diversification away from Russia.

The decision to turn away is mutual, with Russia having signed a new long-term gas deal with China in May. Because of its annexation of Crimea, Russia has been excluded from what was the informal Group of Eight (G8) major industrialised countries, and will not be readmitted any time soon, even if it wanted to re-join. This is unlikely. President Putin is focused on creating his Eurasian Union, into which he failed to entice Ukraine but which he has succeeded in persuading Belarus and Kazakhstan to enter, and is hoping to add other former Soviet states. To underline his preference for Russia to create its own regional organisation and rules instead of trying to fit Russia into the rules of someone else's club, Russia has brought a challenge in the World Trade Organisation (WTO) to the EU's third energy package of market liberalization.

This does not mean – unless western sanctions on Russia are increased – that Russia will not be a major supplier of energy resources to Europe for many years to come. Russia has an enormous stake in maintaining its energy export market in Europe. Gazprom in particular has invested very heavily in pipelines to, and storage in, Europe, though its European gas exports produce less tax revenue for the Russian government than Russian oil exports to Europe that could be more easily re-directed elsewhere. In the face of multiple legal obstacles raised by the European Commission, Gazprom is still pressing ahead with the South Stream pipeline project; having built the Russian end of the pipeline, it is preparing to lay the pipe across the Black Sea to Bulgaria. The current low level of prices at the EU's main gas hubs shows that the market is not anticipating any sudden cut-off of Russian gas. Nor does it mean that European energy companies will stop investing in Russia. Indeed the western oil and gas majors' appetite for upstream opportunities in Russia is as strong as ever, as they made clear at the World Petroleum Congress held in mid-June in Moscow while the fighting was going on in Ukraine. But any idea, as there was in the early 2000s, of turning Europe and Russia into 'a single energy space' with common rules is now totally dead. EU-Russia energy relations will be purely transactional, conducted deal by

¹ European Council conclusions, March 2014.



deal by companies or issue by issue by government officials, without any political or policy framework to guide them.

Though such a geopolitical parting of the ways between Russia and Europe may take years to play out, there is, however, an immediate issue of energy security for the EU; that posed by Ukraine. Russia is still shipping gas across Ukraine to its European customers, but it has cut off gas to Ukraine itself unless Kiev pays for it in advance. Like it or not, the EU cannot now escape its responsibility for Ukraine's energy security. Ukraine has, since 2011, been a member of the Energy Community, an institution which Brussels created to export EU-style energy market liberalisation to a number of non-EU countries along the EU's Balkan and Black Sea borders. Furthermore, on 27 June 2014 Ukraine signed an association agreement with the EU. It was the failure of President Yanukovich to sign this agreement last autumn that led to the protests in Kiev that toppled him, and sparked the current crisis. Now that Ukraine has put itself firmly in the European Union camp – and affirmed its intention to seek full EU membership – Brussels cannot duck responsibility for helping Ukraine through its immediate energy crisis.

The failure to incorporate Russia into a single rules-bound energy space raises the question of what the EU response should now be. Does Brussels have a Plan B?

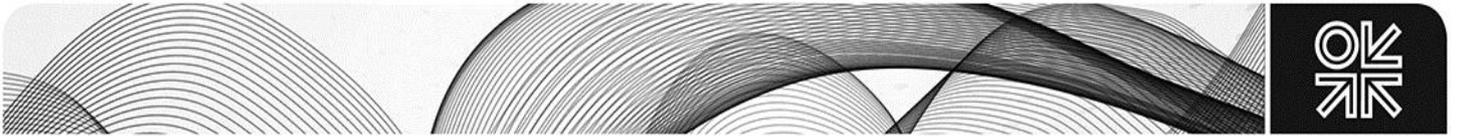
The Polish government has suggested, in the wake of the Ukraine crisis, a sort of Plan B - an energy union whose core characteristic would be greater solidarity between member states and EU institutions vis-à-vis external energy suppliers. The aim of the plan, which has Russia almost exclusively in mind, would be to bolster the bargaining power of individual EU member states and their gas companies in relation to Russian and Gazprom, in two ways.

The first focuses on the Inter-Governmental Agreements (IGAs) which typically provide the framework for European countries' long-term gas contracts with Russia. Poland is suggesting EU states henceforth adopt a common template for their IGAs with Russia that would exclude from these bilateral agreements 'a list of abusive clauses', some of which, like destination clauses, are illegal under EU single market law, and others like oil price indexation and take-or-pay provisions which are often just as unpopular among Gazprom's European customers. To police conformity with the template, Poland proposes the 'compulsory participation' of the European Commission as an observer in such IGA negotiations. A second, and even more controversial, proposal is for some kind of EU bulk buying of Russian gas so as to prevent Gazprom charging higher prices to eastern EU member states with little or no alternative source of supply. This, Poland suggests, could be achieved through either an official agency dedicated to collective purchasing or a voluntary consortium of gas importers interested in aggregating their demand to get a better supply deal.

Not surprisingly, the European Commission has enthusiastically picked up some of these ideas that meet its long-time desire for a bigger role in external energy policy – in particular, closer Commission involvement in IGA negotiations and standardising IGA provisions. However, while the Commission says it is examining the potential and practicalities of voluntary demand aggregation – if this were compatible with EU competition law – it clearly does not see the EU entering the gas buying business. Moreover, any idea of official collective purchasing of gas has been greeted with extreme caution by most west European member states, and outright opposition from the gas industry (Eurogas) and gas traders (the European Federation of Energy Traders), on the grounds that it would wreck prospects for a competitive energy market on which Europe's long-term energy security lies.

The broader picture

All of the above underlines the seriousness of the energy security issue, short term for its new partner, Ukraine, and longer term perhaps for the EU itself, and the difficulty in tackling it. However, this paper focuses on an even



bigger challenge for the EU; dealing with the energy security issue without abandoning the principles of its broader energy and climate policy.

Decarbonisation is the long term aim of EU policy, and whatever short-term decisions are taken to bolster energy security, the European Commission is, for its part, clear the EU should stick to this goal. In its May 2014 energy security strategy document, the Commission states: 'The EU is the only major economic actor producing more than 50 per cent (23 per cent renewable and 28 per cent nuclear) of its electricity without greenhouse gas emissions. This trend must continue. In the long term, the Union's energy security is inseparable from and significantly fostered by its need to move to a competitive, low-carbon economy which reduces the use of imported fossil fuels'².

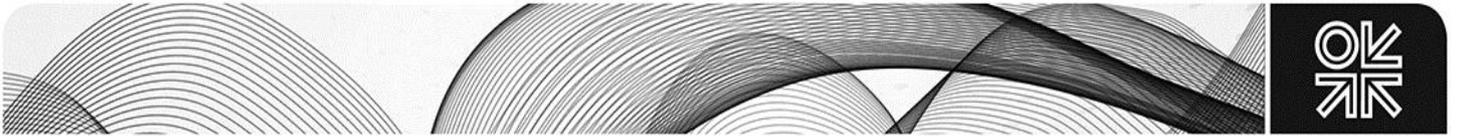
So the Commission maintains that its energy security proposals, made following this year's Ukraine crisis, are still consistent with the two other elements of the triangle of EU energy and climate policy goals: energy affordability and competitiveness, and emission reduction. This is probably true, given the relatively modest nature of the Commission proposals. In the short term, these are to carry out stress tests and risk assessments, especially on east European member states to check their ability to cope with the possible loss of significant Russian gas this coming winter of 2014-15, and to help Ukraine cope without Russian gas. Its medium to long-term proposals do not amount to much more than prioritising EU funds to multiply gas and power interconnections within the EU and relationships with external suppliers like Norway and Caspian region countries, and closer coordination of national energy policies with the Commission playing a bigger role in any negotiations with outside suppliers.

However, keeping the three legs of EU energy and climate policy in balance has been particularly difficult. Back in 2008-9, when the policy goals for 2020 were set, the clear emphasis was on emission reduction. But with the ever-increasing total cost of renewable subsidies and worries about high energy costs, the issue of Europe's global competitiveness came to dominate the debate, even as late as this year. And now the focus is suddenly on energy security. It seems as though the EU is lurching from priority to priority. Yet the cost of ignoring any one element of the energy policy triangle could be very big: allow Europe's energy policy costs to rise too far above those of foreign competitors, and the European share of world markets could start an irreversible slide; ignore a 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, vitally, also to persuade other countries to do likewise – and climate change could reach a catastrophic tipping point.

As it happens, the Ukraine crisis coincides with one of the EU's periodic re-thinks of its energy and climate policy, prompted by the EU's desire to generate new policy goals for 2030 to provide European leadership in next year's international climate negotiations in Paris. Any international climate agreement that can be agreed in Paris is not expected to come into force until after 2020, which happens to be the year in which current EU energy and climate policy goals and legislation run out. Hence, before the Ukraine crisis and quite unrelated to it, the EU had already started the process of trying to get agreement between its 28 member states on what energy/climate goals Europe could take into the Paris negotiations. The Ukraine crisis has made this task harder.

Broadly speaking, for west Europeans and the European Commission, the lesson of Ukraine is that the EU should press on, even accelerate, its decarbonisation strategy. It is mainly based on developing indigenous renewable energy and on improving energy efficiency, a strategy which has the key side benefit of reducing the degree to which Europe depends on the fossil fuels – oil, gas and coal – that it currently gets from Russia. So,

² European Energy Strategy Strategy, COM (2014) 330



west EU member states generally support Commission proposals for the bloc to move to more ambitious targets for emission reduction, renewable energy development and energy efficiency by 2030.

However, most of the EU's east European members view this forced march towards decarbonisation as unaffordable and destabilising to Europe's energy system, particularly its electricity grid. It is also seen as discrediting the coal on which Poland, and to a lesser extent other east European states, see as the bedrock of their energy security. These countries cannot easily unpick the 2020 energy and climate goals that are set in EU legislation, but they can block proposals for more ambitious decarbonisation goals for 2030 unless their understandable short-term concerns about energy security are met.

This divide is highlighted in contrasting proposals for improving EU energy security presented by the UK and Polish governments in the wake of the Ukraine crisis. Both plans call for the EU to increase its internal resilience to supply shocks by building more interconnectors between member states, and for Europe to diversify its external sources of energy. But they differ sharply over how and whether to pursue decarbonisation.

In its proposal for the EU to turn itself into an 'energy union', Poland argues that 'coal should be rehabilitated in the EU as contributing to energy independence', a move that would certainly constitute a major change in EU policy. The UK, for its part, states that 'the development of coal reserves should only be encouraged in the context of carbon capture and storage', a means of isolating carbon dioxide from coal that Poland is no longer contemplating. The UK maintains that any new energy security measures should fit within the EU's current decarbonisation strategy, saying that the EU should 'avoid the temptation to reverse existing policies or undertake new ones that would be contrary to its overall energy and climate policies'.

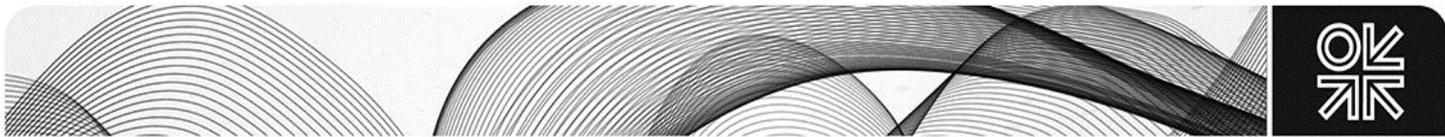
Dependence versus vulnerability

Energy import dependence is a fact of life for the EU. In 2012, nearly 90 per cent of its oil, 66 per cent of its gas, 62 per cent of its hard coal, and 95 per cent of the uranium needed for nuclear fuel were imported³. This dependence will continue to grow, though the rate of growth has slowed in recent years due to Europe's economic slowdown, the increase in home-produced renewable energy, and improved energy efficiency.

However, in terms of energy security or insecurity, these aggregate figures are fairly meaningless for a group of 28 countries with widely varying energy mixes, sources, infrastructure and geography. Moreover, heavy reliance on imports does not matter provided the imports come from a diversified 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). This is the case with oil. Russia is a major supplier of oil to the EU, providing around a third of EU oil 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 the EU oil refining industry that has led to a reliance on diesel imports from Russian refiners. But the EU also has flexible access to crude oil and refined products by ship, road or rail from a wide variety of other suppliers.

The same goes for coal. The EU imports around a quarter of its total hard coal imports from Russia, but also has access to a wide variety of other sources for coal, which is transported around the world mainly by ships but also by rail. The highest share of Russian hard coal in the imports of any EU member state was 44 per cent (the case of the UK in 2013). Of all fuels, the EU relies most heavily on imports of uranium, of which there are many suppliers around the world, but far fewer fabricators of uranium into nuclear fuel, of which Russia is one. Though

³ In-depth study of European Energy Security, SWD (2014) 330 final.



the EU has restricted imports of Russian natural uranium to a European market share of around 20 per cent - in a protectionist move to safeguard the more expensive operations of Europe's own nuclear fuel fabricators - it draws over a third of its enriched uranium from Russia. More importantly, Finland, Bulgaria, the Czech Republic, Slovakia and Hungary depend on just one Russian company for nuclear fuel for their Russian-designed reactors.

Addressing gas vulnerability

It is in the dependence of some of its member states on Russian pipeline gas that constitutes the EU's most acute vulnerability. Finland, Slovakia, Bulgaria, and the three Baltic states, rely on Russia for nearly 100 per cent of their gas, while Austria and the Czech Republic are heavily dependent on the same source. The Ukraine crisis presents a particular challenge for south east Europe. Bulgaria, Hungary, Romania, Greece, and Balkan members of the EU-sponsored Energy Community (Serbia, Bosnia-Herzegovina and Macedonia) depend on the transit route across Ukraine for almost all of the Russian gas that they receive.

Most of these countries are taking, or could take, measures to limit the damage from a worst-case scenario of Russian gas being cut off, according to the European Commission's May 2014 assessment⁴. Finland has some capacity to use other fuels for power generation, as has Estonia which can also get gas from Latvia which has gas storage larger than its annual demand. Lithuania is due to have in place by the end of this year a floating terminal to store and re-gasify liquefied natural gas (LNG) from other sources.

Poland gets two-thirds of its gas from Russia, but is a relatively small consumer of gas. It is also building an LNG terminal to import gas from elsewhere and can now draw on Russian-origin gas from Germany. Slovakia gets all of its gas from Russia through the Ukraine and also serves as a further westward transit route for Russian gas to other parts of Europe. But Slovakia can also obtain a reverse (eastward) flow of gas from Austria and the Czech Republic.

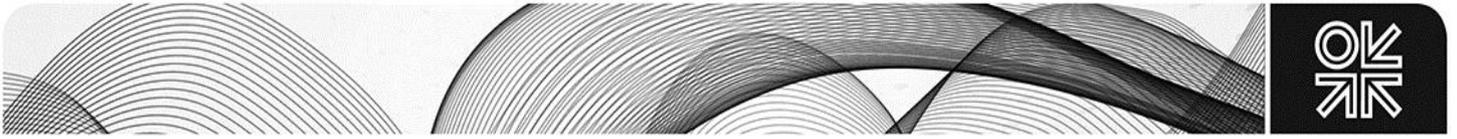
Hungary is a more problematic case in that it is a heavy user of gas and 98 per cent of its imports come from Russia, only a part of which could be replaced through a reverse flow from Austria. However, Hungary now has a two-way gas connection with Croatia's LNG terminal, and is working to make its pipeline link to Slovakia bi-directional too. Greece too has an LNG terminal through which it can import gas from elsewhere in the world, while Romania, the only east European EU state with sizeable gas production of its own, only depends for 10 per cent of its consumption on Russian gas.

However, in most cases, these alternatives would only partly replace Russian gas coming through Ukraine (83 billion cubic metres in 2013). Following the cut-off of Russian gas transiting Ukraine in early 2009, the EU took some legislative actions to increase the EU's internal resilience to a sudden reduction in gas imports.

The regulation it passed in 2010 on security of gas supply⁵ required member states to ensure that their gas companies could deliver gas to customers, and to ensure that they could withstand a cut-off of gas from their largest single supplier (the so-called N-1 standard). But the 2010 regulation does not set any uniform standard on storage or supply, leaving national governments to decide what proof they accept from gas companies to demonstrate their ability to satisfy demand. It requires member states to ensure by end-2014 that in the case of loss of supply from their largest supplier, they had measures in place to meet demand. But, when the Commission checked in May 2013, only 16 of the EU-28 had met the N-1 standard. Meeting this standard has now become a priority in the wake of the Ukraine crisis.

⁴ As above.

⁵ Regulation 994/2010.



The 2010 regulation encouraged, on the supply side, governments to develop storage, diversify their range of import suppliers and routes, and to make the flow of gas in their existing pipelines reversible, and on the demand side, the spread of interruptible contracts with customers and fuel-switching arrangements. However, many of these measures are either difficult to implement or might be ineffective.

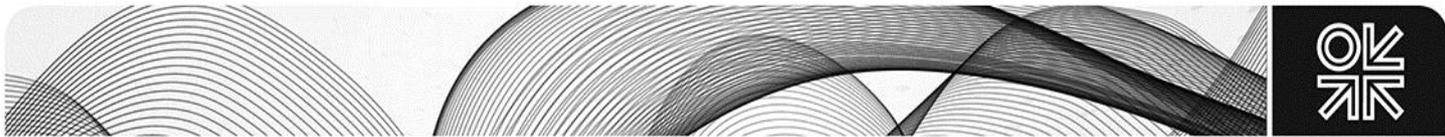
If Russian gas stopped flowing through Ukraine, one option would be for Gazprom to re-route some of it through its existing pipelines – the Yamal pipeline through Belarus to Poland or the Nord Stream pipeline linking Russia to Germany through the Baltic. But this obviously does nothing to reduce dependence on Russia, and would be objected to by many in the EU as undermining the bargaining position of Ukraine vis-à-vis Russia. This is the underlying objection of the Commission and a number of EU governments to Gazprom's planned South Stream pipeline to carry gas across the Black Sea to Bulgaria and eventually up to Austria. The countries which would directly benefit from this – notably, Bulgaria, Hungary, Austria (and Serbia) – favour South Stream and have signed agreements with Gazprom. But, in the wake of the Ukraine crisis, the Commission has effectively blocked the project. It has told Bulgaria that its contracts to build South Stream on Bulgarian soil probably break EU non-discrimination rules in public procurement by favouring Russian and Bulgarian contractors. As a result, the Bulgarian government announced in June 2014 that it was suspending work on South Stream.

The Commission has also warned EU governments involved in South Stream that the project does not conform with the 2009 'Third Package' of EU energy rules, which require that supply and transmission be separated and that any energy infrastructure be open in principle to third party suppliers. Gazprom would effectively control both supply and transmission in South Stream. The Russian company could get from the Commission a temporary exemption to third party access rules (if it could argue that full use of the pipeline for a period of years was essential to the commercial viability of the project), but Gazprom has not asked for such an exemption. Thus South Stream looks to likely to stay in suspension for some time – all the more so after EU energy commissioner Gunter Oettinger said in June 2014 that he saw no point in further discussions with the Russian government or Gazprom to bring South Stream into conformity with the EU's Third Package, because Moscow had made a complaint to the WTO about the legality of this EU legislation⁶.

Europe has other sources of imported gas it can draw on, though these are not without problems. Norway is already a substantial supplier and does not want to raise its output much more, while political turmoil, especially in Libya, has turned North Africa into an unreliable supplier. Further east, the EU has not yet succeeded in persuading Turkmenistan that it is worthwhile trying to build a pipeline across the Caspian to bring its gas to Europe, via Turkey. So far, only Azerbaijan – on the western side of the Caspian - has responded to the EU's Southern Corridor initiative to bring Caspian gas to the European market. Buying extra supplies of LNG is always a possibility for Europe, but this would entail outbidding the very high price that Asian importers, particularly Japan, are willing to pay for LNG.

Nor are demand-side measures, such as fuel-switching, likely to be very effective in the short term to deal with any sudden gas shortage. As it happens, many European utilities have already been switching from gas to coal for power generation. The price of imported coal, partly due to cheap shale gas pushing coal out of the US market and into Europe, has dropped well below that of gas. This is especially true of Russian gas, which Gazprom still tries wherever possible to continue to link to oil prices. Hence the potential for a further gas-to-coal shift is, at present, limited in the power sector. Fuel switching is harder to achieve in the residential heating sector, which is Europe's main gas consumer.

⁶ Russian prime minister Dmitry Medvedev was quoted by Reuters (10/12/2013) to the effect that EU laws are to be considered as national laws of EU member states, and are therefore subordinate to Russia's Inter-Governmental Agreements with South Stream partner countries which are part of international law.



In the long run, the EU may be able to offset at least some of the decline in its conventional gas production (in the UK and the Netherlands) with shale gas, on which previously negative views may now be changing in some member states in the light of events in Ukraine. The German government is now reviving the legislative proposals for shale gas exploration that it dropped a couple of years ago. In Denmark, Total has been allowed to test for shale gas - which it is banned from doing with hydraulic fracking in its home country of France. Shale gas operations continue, if slowly, in Poland, the UK and Romania.

But the main means of addressing Europe's gas vulnerability will have to be in building up the internal resilience of the gas market by completing its integration. Building more cross-border infrastructure and agreeing pan-European trading arrangements would remove congestion and bottlenecks in the gas market, and allow gas to flow smoothly to where it is most needed and where it can command the highest prices. As the Commission itself points out, it is precisely those markets in eastern and south east Europe that are the most vulnerable to supply interruptions which are also often the least attractive for suppliers⁷. Retail prices, and wholesale prices in some nations, are regulated, and the markets are not very liquid. South east Europe clearly needs a liquid gas trading hub of the type that has been developed very successfully across north west Europe. One bold suggestion has been that Ukraine could form that hub, mainly to exploit its very large gas storage capacity⁸. But investors and traders in a Ukrainian hub would first want to be sure that Ukraine was not about to lose its Russian transit gas to South Stream.

The Ukraine crisis' impact on other EU energy policies

Renewables

There has been little questioning of the Commission's proposed target of a 40 per cent reduction of emissions by 2030, and much of the heat in the debate about the cost impact of low-carbon energy on European competitiveness has been removed. This was thanks to the Commission's proposal of a relatively modest increase in the renewable share of total energy consumption from 20 per cent in 2020 to 27 per cent in 2030. This is only slightly above what the Commission estimates would be the automatic effect on renewables – an increase in the renewable share of energy to 24 per cent - of a 40 per cent emission reduction target. In addition, this 27 per cent target would only apply to the EU as a whole. It would not be supplemented by individual national targets, as the 2020 target of 20 per cent is, and is therefore probably not enforceable on any one member state. Early on in the Ukraine crisis Poland made comments to the effect that Germany's decision to renounce nuclear power and to forge ahead with renewable development (dependent on Russian gas as well as German coal for back-up) was responsible for Berlin's failure to take a stronger stand against Moscow. But Germany and most other west European member states have argued that the riskier imports of fossil fuels become, the more home-grown renewables gain in importance.

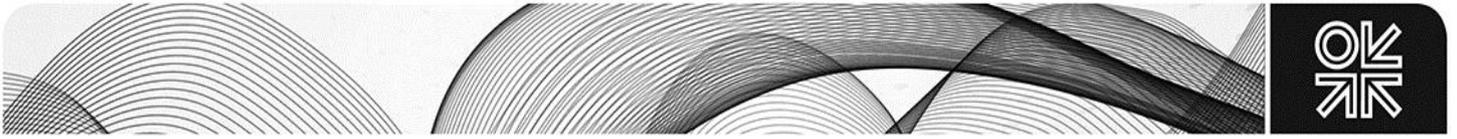
Nuclear

Electricity from nuclear reactors provides reliable base-load supplies of carbon emission free power, and is therefore considered an important element of energy security. The Ukrainian crisis has so far only produced a change of mind in one EU state, Lithuania.

Back in 2007, Lithuania, Latvia and Estonia (as well as Poland which later withdrew from the project) agreed to build a new nuclear plant in Lithuania at Visaginas, next to the Soviet-era plant of Ignalina plant that was shut down at the behest of EU nuclear safety authorities. Hitachi of Japan was selected as the strategic investor in the project which won Lithuanian parliamentary approval in 2012, only for the project to be left in limbo later that

⁷ SWD (2014) 330 final

⁸ Bruegel 2014



year when 63 per cent of Lithuanian voters rejected it in a non-binding referendum. However, in April this year, citing Russia's annexation of Ukraine's region of Crimea, Lithuanian politicians signed a cross-party commitment to greater energy security with a call for the implementation of several major energy projects, including the Visaginas nuclear plant. Lithuania, like the two other Baltic states, is still linked to the Russian electricity grid. While Estonia is more or less self-sufficient in electricity, in 2012 Latvia imported 18 per cent of its electricity consumption from Russia, and Lithuania 29 per cent from Russia and 25 per cent from Belarus, which is also linked to the Russian grid.

For other EU countries that are not in Lithuania's special position, the key obstacle to building new nuclear plants is finance; or more precisely, the problem of spending large amounts of money long before nuclear plants starting generating electricity and earning money. As with renewables, it has become ever clearer that nuclear plants cannot be built without state aid or public support. The answer to the question of how much state aid is acceptable to the EU competition authorities will come when the Commission rules, probably this autumn, on UK state aid involved in the EdF's contract to build new reactors at Hinckley Point in south west England. The UK government may well hope that, in the wake of the Ukraine crisis, Brussels will take a more lenient view of state aid for new sources of carbon-free electricity that depend on relatively small amounts of imported uranium fuel. The Hinckley Point decision is a test case which is being closely watched in the Czech Republic, Slovakia and Bulgaria, which want to expand their nuclear generation, and in Poland which is planning to build its first reactor. These are countries that feel particularly unnerved by Russian behaviour in Ukraine, but are also relatively poor. Even if the Hinckley Point contract gets approval from Brussels, they must wonder whether they and their citizens could afford the support offered to EdF by the UK – a credit guarantee for the cost of constructing the new reactors and a guaranteed price for the electricity output for 35 years.

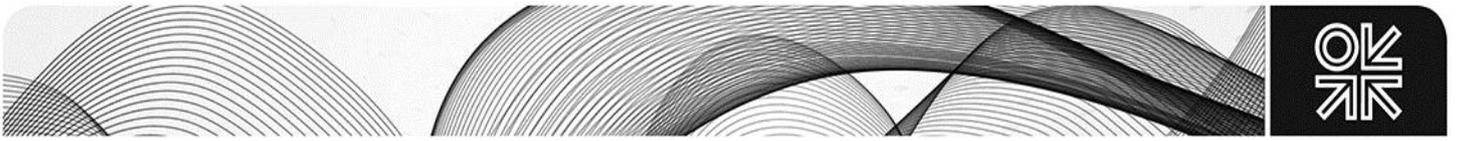
There is a financially tempting alternative provided by Russia's state-owned Rosatom nuclear engineering company, which can offer Russian government finance for new reactors. For various reasons Rosatom's efforts in recent years to win contracts in Bulgaria, Slovakia and the Czech Republic have not so far succeeded. But the Hungarian government, evidently unfazed by the Ukraine crisis, has gone ahead and signed a contract with Rosatom that comes with a reported €10bn loan from the Russian state. This has won approval in June 2014 from the Hungarian parliament, but not yet from the European Commission, which is investigating whether Hungary's failure to conduct an open tender before awarding the contract to Rosatom infringed EU rules requiring major public procurement projects to be open to competition.

The current worries about over-reliance on Russian energy has raised some concern about the extent to which eastern EU states are tied to supplies of fuel for their existing Russian-designed reactors. The Russian-designed VVER reactors in Bulgaria, the Czech Republic, Hungary, Slovakia and Finland draw their fuel from just one Russian company, TVEL, a subsidiary of Rosatom. There may be a commercial reason for this. Russian nuclear fuel is generally cheaper than that made by European fabricators, and this is why in the past the EU has imposed an informal quota on Russian fuel imports in a protectionist move to safeguard European fabricators. But it also appears that VVER plant operators find it hard to diversify their sources of fuel, because the Rosatom's TVEL does not disclose the fuel design specifications of its reactors or make it easy for fuel of another origin to be tested in them. As a result, the Commission is proposing that the Euratom Supply Agency should henceforth require the possibility of fuel diversification as a condition for any new reactor built in the EU⁹.

Energy efficiency

Symptomatic of the east-west split in the EU policy reaction to the Ukraine crisis is the diverging focus of Polish and UK proposals on energy security. Warsaw's paper makes no mention of energy efficiency, while the UK paper on the same subject lauds energy efficiency as 'one of the most cost-effective tools for reducing import

⁹ COM (2014) 330



dependence' and says it 'must be a key strand' of any EU energy security strategy. One can understand Poland's reticence on the issue. Despite their big energy-saving improvements in recent years, due to the effect of higher energy prices and of restructuring of their economies away from heavy industry, east Europe remains the most energy-intensive region of the EU, as well as the most vulnerable to any cut-off of Russian energy imports. Therefore the EU's eastern members know that they will be expected to make the most improvements. Indeed the UK paper suggested that as a matter of urgency 'the Commission should undertake analysis on the cost of reducing central and eastern European exposure to an interruption to the supply of Russian gas through the deployment of energy efficiency measures'. There is logic to this. As the Commission points out in its energy efficiency impact assessment of June 2014, every additional 1 per cent in energy savings cuts gas imports by 2.3 per cent, because the efficiency improvement potential is mainly in buildings, where 60 per cent of Europe's gas is used for heating.

In its proposals for 2030 energy and climate goals, tabled in January 2014 before the Ukraine crisis, the Commission said it was leaving a decision on what a new energy efficiency target should be until after it had conducted a review of current efficiency measures in summer 2014. The current efficiency goal is to achieve energy savings of 20 per cent by 2020, compared to energy consumption on a business-as-usual projection. It is not binding, but the main piece of legislation to achieve this saving, the Energy Efficiency Directive of 2012, has some binding features; utilities and/or governments have to show they are taking steps to reduce energy consumption (through insulation in households, for instance). The Ukraine crisis has undoubtedly whetted some policy-makers' appetite for targets that are higher or mandatory or both.

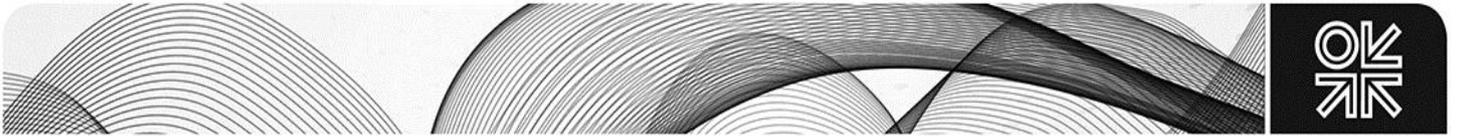
Conclusions

Gas

The prime aim of energy security measures, in the face of the Ukraine crisis (at least on its current scale), should be to make Europe less vulnerable to any sudden cut-off of Russian gas, not necessarily less dependent on Russian gas. EU leaders and the Commission have confused the issue with its repetitive stress on 'reducing dependence', when increasing reliance on imported fossil fuels is a fact of life for a Europe in which oil and gas production is declining. Of course, some reduction in the Russian share of the European gas market would contribute to minimising vulnerability, but let the market dictate this. If Gazprom wants to maintain market share in the EU, let it lower the price of its gas – by abandoning its gas pricing link to oil – in a way that would benefit its EU customers in central and eastern Europe. In the absence of a greater crisis than exists over Ukraine at present, there is no likelihood of any EU measure to restrict gas use; this would require changes to the EU treaty that gives national governments control over their energy mix. Even if EU-wide restrictions on gas use were legally feasible, they would not be desirable because of gas's relative helpful contribution to decarbonisation.

An emphasis on vulnerability rather than dependence would prioritise measures to improve the EU's resilience and to get gas and electricity to wherever they would be needed in an emergency. This calls for continuing efforts by transmission operators, regulators and industry to increase cross-border market integration through the creation of wider (and therefore fewer) harmonised gas trading hub and entry-exit zones, and the coupling of electricity markets, within the EU. But the Ukraine crisis also shows the need to accelerate, with more EU public funding, the laying of cross-border gas interconnector pipes within central and east Europe; the eventual aim being a gas corridor linking LNG terminals from Poland in the north to Croatia in the south. Creation of an EU strategic gas reserve, analogous to America's Strategic Petroleum Reserve, has been considered in the past, and deemed too expensive. But the EU could, through legislation, encourage changes in gas storage tariff regimes to give commercial gas storage a better reward for its strategic value in energy security.

Closer Commission involvement in the negotiation of new IGAs with Russia and parallel contracts with Gazprom could improve the bargaining power of individual member states, especially the smaller ones. Certainly Poland



found that bringing the Commission into its negotiations in 2010 with Gazprom helped it get better terms. Yet the Commission may get few opportunities to involve itself for some time. Within the past decade, several EU states extended their contracts with Gazprom far into the future: Poland until 2022, Austria until 2027, Slovakia until 2028, France until 2031, and Germany, the Czech Republic and Italy until 2035. However, there is an immediate test case – the future of Gazprom’s South Stream project across the Black Sea to Bulgaria, Serbia, Hungary and Austria - in which the Commission is already deeply involved, and must resolve. This project, which is expressly designed to bypass Ukraine, has split the EU-28. Direct recipients of South Stream gas strongly favour the project, which is opposed by most other EU states and the Commission as undermining Ukraine’s revenue from the transit of Russian gas.

Any resolution of the dispute over South Stream will, in the end, require money for Ukraine (if the project goes ahead) or alternative gas for south east Europe (if it doesn’t) or possibly some combination of both. The Commission’s ability to finesse a resolution to this dispute will help determine whether it can play a useful role in strengthening the EU’s external energy policy, and whether the EU’s Plan B approach to Russia amounts to anything.

Nuclear

The crisis in Ukraine has enhanced the view of nuclear power as a relatively secure source of European energy in terms of fuel supply, though the 1986 Chernobyl disaster in that country is also a reminder of nuclear reactor safety risks. Dominique Rostori, Commission director general for energy, told a Foratom conference in June that the role of nuclear power in the context of carbon and energy security ‘has been well underlined’ by the Ukraine crisis. A policy focus on vulnerability, as distinct from dependence, would not entail any reduction in European dependence on Russian nuclear fuel, which the EU already restricts. But it would require Rosatom to allow operators of the reactor the Russian company has built, or may yet build, within the EU the freedom to use non-Russian fuel if they wish.

Electricity

More attention should be paid to the electricity markets and their potentially increasing instability as the result of insufficient back-up generation when intermittent renewables go off the grid. The Commission needs to speed its approval of capacity mechanisms.

The EU’s neighbours

The EU should also pay more attention to energy market conditions in its neighbourhood, as the Ukraine crisis has brought home the potential usefulness of the Energy Community to which Ukraine belongs. It was set up in 2006 by the EU to extend the EU’s core energy market rules, initially to former Yugoslav states in the Balkans and thence to Ukraine and Georgia. So far it has not been a great success. Most of the Energy Community’s eight member states have not followed EU practice in opening up their energy markets to cross-border cooperation and competition, and so have failed to attract much private investment in their energy sectors. But in the wake of the Ukraine crisis, Energy Community governments have agreed on reforms, particularly to tighten enforcement and judicial procedures as reassurance to outside investors.

Above all, the EU should not let energy security concerns arising from the Ukraine crisis bend its entire energy and climate policy framework out of shape. Reducing Europe’s energy vulnerability is manageable within that framework, while its broader goal of decarbonisation is vital – and in the long run will bear fruit in energy security terms.