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From Separate Policies to Dialogue? Natural Gas, Oil and Electricity on the Future Agenda of EU-Russia Energy Relations

Pami AALTO

Jean Monnet Professor, Director, Jean
Monnet Centre of Excellence on European
Politics and European-Russian Relations,
University of Tampere



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FROM SEPARATE POLICIES TO DIALOGUE? NATURAL GAS, OIL AND ELECTRICITY ON THE FUTURE AGENDA OF EU-RUSSIA ENERGY RELATIONS

ABSTRACT

This paper assesses the current policy debate on the future of EU-Russia energy relations vis-à-vis natural gas, oil and electricity. The EU and Russia have discussed their energy policies and mutual energy trade in the context of the EU-Russia energy dialogue for more than a decade. Today the dialogue covers several sectors of energy policy and includes long lists of possible projects and policy measures while also a roadmap until 2050 is set to be finalised by the summer of 2012. However, the debate lacks a structure that would fully acknowledge the complexity of energy policy – its various dimensions and the interconnections between them. In this paper such a structure is proposed by making an analytical distinction between the resource geographic, financial, institutional and ecological dimensions of energy policy. On this basis it is assessed where the biggest constraints are and in what ways the energy dialogue can best further EU-Russia energy coordination and cooperation.

INTRODUCTION

The policy debate on EU-Russia energy relations and the future course of those relations continues to be somewhat divided. The bulk of this debate concerns gas deliveries from Russia to Europe. It is sparked by the numerous – and very likely recurring – gas conflicts between Russia and Ukraine since 2006, conflicts in Russian-Belarusian energy relations and the worries in some of the Central and East European EU member states in particular of Russia's reliability as a supplier. Part of the reason for these worries lies in the controversial gas pipeline projects such as the Nord Stream and South Stream, which are designed to bypass some of the countries that have previously, or until now, functioned as transit states for Russian energy carriers.

The more alarmist positions taken in the debate have claimed that Russia has a 'coercive energy policy',¹ which poses 'a threat to Europe' and 'potential danger

1 Larsson, R.L. (2006), *Russia's Energy Policy: Security Dimensions and Russia's Reliability as an Energy Superpower*, Stockholm: Swedish Defence Research Agency (FOI).

to European or transatlantic cohesion.² This perception was particularly linked with Vladimir Putin's energy policy during his two terms as Russia's president in 2000–2008: 'at the heart of this [Putin's] philosophy was the vision of Russia as an "energy superpower", whose 'focus was not on diversifying the economy away from its reliance on oil but on how to turn these assets into political weapons'. As regards EU-Russia energy relations, this strategy, '[I]nstead of courting economic partnerships with the EU, Russia ended up embroiled in trade disputes or bans with a dozen member states – and sought to dictate its energy agenda'.³

Some of the previously alarmist commentators now see Russia's policies having abandoned the 'energy superpower' framework at least in part. The new Russian policy allegedly accentuates economic diversification and foreign investment to sustain production and bring new fossil fuel reserves into use.⁴ In some risk calculation studies of the 2010s, Russia is classed as a safe supplier country – especially in comparison with alternatives such as Nigeria. Some Eastern European EU member states are found to face a more uncertain overall situation in gas supplies than other EU members.⁵ Other studies situate the UK and Ireland into the same risk category, noting that gas imports from Russia are 'subject to a variety of potential disruptions'.⁶ On a more general level, the EU is frequently cautioned on the risks of engaging in too instrumental an energy partnership with Russia devoid of the EU's democratic values and other principles.⁷ On the Russian side these controversies create uncertainties, which the EU-Russia energy dialogue should try to resolve. This is a big task indeed for an intergovernmental type forum where the EU side possesses only partial competences and hence cannot fully speak on behalf of its member states.

To maintain perspective in this persistently divided debate, and to be able to assess the future agenda of the EU-Russia energy dialogue, we need to understand the structure of that agenda and on that basis examine each of the energy sectors within it. In this paper I will limit my discussion to the traditional, and still most central, carriers of energy, natural gas and oil, as well as the increasingly important issue of electricity, which for its part raises some questions regarding nuclear power and renewable carriers of energy. Energy efficiency is beyond the scope of this paper. It is a wide horizontal question concerning all carriers of energy as well

2 Smith, K.C. (2010), 'Managing the Challenge of Russian Energy Policies: Recommendations for U.S. and EU Leadership', Center for Strategic and International Studies, pp. 9–11.

3 Judah, B., Kobzova, J. and Popescu, N. (2011), *Dealing with a Post-BRIC Russia*, London: European Council on Foreign Relations, p. 16.

4 *Ibid.*, p. 18.

5 Henry, F-L. (2010), 'Europe's Gas Supply Security: Rating Source Country Risk', *CEPS Policy Brief*, no. 220/November 2010.

6 Mackintosh, A. (2010), 'Security of Europe's Gas Supply: EU Vulnerability', *CEPS Policy Brief*, no. 222/ November 2010, pp. 2, 5.

7 E.g. Marin, A. (2011), 'Putin's Eurasian Dreams: Russia's Ambition to Reintegrate Former Soviet Lands Poses a Dual Challenge to the EU', *FIIA Comment*, 12/2011.

as the diverse institutions of society with their cultural patterns.⁸ In other words, when speaking of the future, we need to start from natural gas and other fossil fuels, and assess them in relation to the emerging 'green' energy agenda.⁹ Issues such as carbon capture and storage, as well as climate change have by now also found themselves into the EU-Russia dialogue.

In the next section I will briefly introduce a suitable approach to examine the structure of present EU-Russia energy dialogue and its future trajectories in relation to the energy policies of the two actors, EU and Russia, and then assess the prospects of natural gas, oil and electricity. I will conclude with recommendations on which areas EU-Russia energy cooperation is best promoted. The material utilised in this paper mostly consists of documents and studies on the EU-Russia energy dialogue.

FROM SEPARATE POLICIES TO A REAL DIALOGUE?

The EU and Russia have conducted their energy dialogue since 2000. Today it is coordinated by the Deputy Minister of the Ministry of Energy of Russia and the Director of the Directorate-General of Energy of the European Commission. Practical work between the annual meetings of the Permanent Partnership Council of Energy is conducted in thematic groups. They include Energy Strategies, Forecasts and Scenarios groups; Market Development Groups and the Energy Efficiency Group. Each group is co-chaired by high-ranking officials from the Ministry of Energy of Russia and officials with similar status from EU member states. The groups are assisted by secretariats in a normal practice of international diplomacy so as to enhance the policy planning capacity of the Partnership.

Of particular interest in this paper is the roadmap of EU-Russia energy cooperation until 2050. The work for the roadmap was agreed in February 2011 between the European Commissioner for Energy, Günter Oettinger, and the Minister of Energy of the Russian Federation, Sergei Shmatko.¹⁰ The roadmap is set to appear in the summer of 2012. However, as just a roadmap is at issue, it is likely that new policy shifts will be seen and that the roadmap will not be able to fix the dialogue in stone. It is likely especially in this sphere of policy that by its very nature is filled with complexity and uncertainty, when compared to, for example, pensions policy or budgetary policy.¹¹

8 For an assessment of energy efficiency in EU-Russia energy relations, see Kononenko, V. (2011), 'Forever a Pilot? Assessing the Policy Dialogue and Project-Based Cooperation in Energy Efficiency between the EU and Russia', *FIIA Working Paper*, no. 73/September 2011.

9 Aalto, P. (2011), 'The Emerging New Energy Agenda and Russia: Implications for Russia's Role as a Major Supplier to the EU', *Acta Slavica Iaponica*, no. 30, pp. 1–20.

10 See e.g. 'Roadmap of the EU-Russia Energy Cooperation until 2050', progress report July 2011, Expert papers.

11 Aalto, P. (2007), 'The EU-Russia Energy Dialogue and the Future of European Integration', in Aalto, P. (ed.) (2007), *The EU-Russian Energy Dialogue: Europe's Future Energy Security*, Aldershot: Ashgate, pp. 28–29.

Uncertainties will always plague our analyses of energy policy because of the unpredictable nature of discoveries of new deposits of energy carriers and technologies to use them. Fortunately, complexity can better be tackled by means of deploying analytical frameworks taking into account the multidimensionality of energy political structures. To do that I will discern four dimensions of the structure that defines energy policy and within which any energy policies always need to be conducted, whether in the EU or Russia: *resource geographic, financial, institutional and ecological* dimensions.¹² The assumption is that *the better a given energy policy takes into account relevant features along each of the four dimensions, the more successful the policy will be and the better it can solve our energy problems* (see Figure 1). Hence the future agenda of EU-Russia energy relations that is being formed today, due to the long lead times in energy policy, is best assessed against the constraints and possibilities that these dimensions set for the conduct of energy policy.

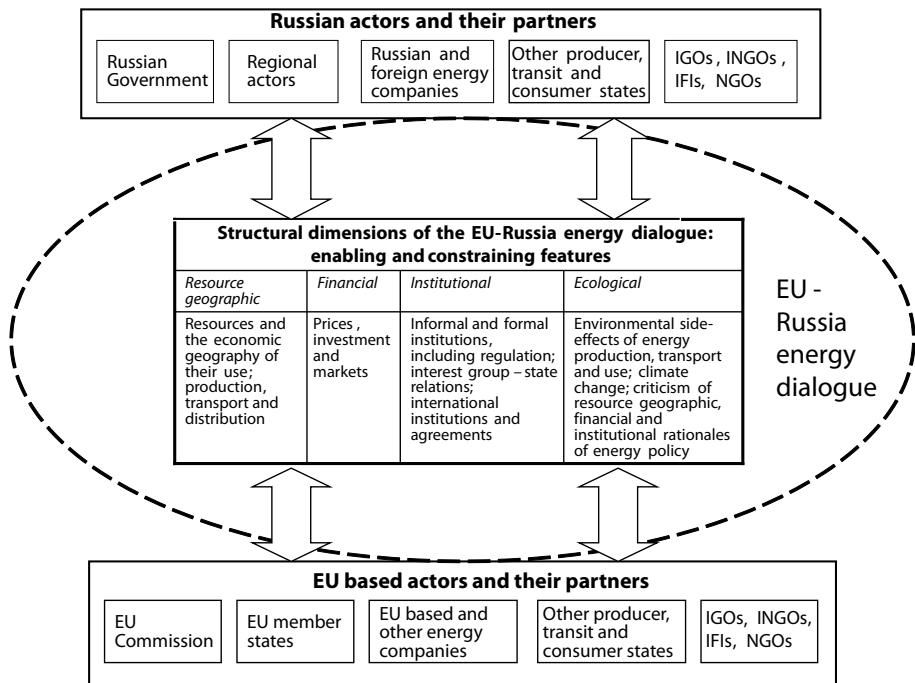


Figure 1: The structural dimensions of EU-Russia energy relations

Note: Adapted from Aalto, P., Dusseault, D., Kivinen, M. and Kennedy, M.D. (2012), op. cit., p. 39.

12 Aalto, P., Dusseault, D., Kivinen, M. and Kennedy, M.D. (2012), 'How Are Russian Energy Policies Formulated? Linking Actors and Structures of Energy Policy', in Aalto, P. (ed.) (2012), *Russia's Energy Policies: National, Interregional and Global Levels*, Cheltenham: Edward Elgar, pp. 20–44.

In terms of the four dimensions it is easy to observe how a large part of the energy dialogue concentrates on the resource geographic dimension where resources and the economic geography and technology of their production and transport represent key concerns. This is well seen in the document launching the roadmap for the energy dialogue until 2050. The roadmap is to include different scenarios and their consequences for various energy carriers including gas, oil, electricity, nuclear and renewable resources; and probe the long-term prospects of gas production and transportation, and energy efficiency technologies.¹³ Similar geological and energy technological scenarios, quite rightly so, constitute the foundation of the Union's own energy roadmap until 2050.¹⁴ This is all well since rational energy policy must always rely on the best currently available information on the resource base and the technological conditions for its use.

The financial dimension – prices, investments and markets – is also prominent on the launching documents of the roadmap. At the heart of the financial dimension is the long-term development of the demand and supply situation, a phrase that appears frequently in the documents. The energy dialogue must indeed be understood as an effort to provide a political framework to consolidate and manage the two decades old EU-Russia energy trade which originates in East-West pipeline projects of the Cold War era and which gradually has assumed higher volumes. Viewed through the financial dimension, the dialogue has progressed relatively well in its slightly over a decade long existence. Since the very polarised debate in the mid-2000s with the Russian-Ukrainian gas crises and their repercussions on the European market, the agenda of the dialogue is now replete with mentions of the 'overall demand and supply situation', the 'security of supply and security of demand'.¹⁵ This is important as in this context the Union is mainly a consumer of Russian resources and is consequently concerned with the security of demand, while Russia is mainly a supplier concerned with the security of markets. Real dialogue can only take place once both parties recognise the foundational principles of each other's foreign energy policies concerning international energy relations.¹⁶

Divergences along the institutional dimension – institutions, regulation and agreements – are quite frankly acknowledged and respected in the available documentation on the future of the dialogue. This was not the case in the 1990s

13 'Common Understanding on the Preparation of the Roadmap of the EU-Russia Energy Cooperation until 2050', 24 February 2011, Brussels.

14 European Commission (2011a), 'Energy Roadmap 2050', Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2011) 885/2.

15 E.g. 'Common Understanding...', op. cit.; European Commission (2011b), EU-Russia Energy Dialogue: the First Ten Years: 2000–2010, Brussels: European Commission, pp. 31, 34.

16 In the domestic sphere the Russian Government is of course concerned with the security of supplies vis-à-vis its own domestic needs, but this principle does not define its external energy policy like it does that of the EU's.

and part of the 2000s when the Union continued to offer its own Energy Charter Treaty as the basis for mutual relations. That treaty clearly favoured the interests of consumers especially in fossil fuel policies at the expense of Russia's historically developed and natural competitive advantages.¹⁷ Instead of expecting Russia to converge with the Union's evolving energy regulation, there are mentions of 'information sharing' of new policy measures on both sides; however, in energy efficiency and renewables more prospects are seen for cooperating on the regulation of these emerging sectors.¹⁸ On the whole, the energy dialogue has evolved into a process of two sovereign powers – where on the EU side sovereignty is shared between supranational institutions and the member states, as is the personnel representing it in the dialogue – and where joint interests are elaborated without much effort to question each other's preferences.

The ecological dimension fully reveals the quite different policies of the two sides on which their energy dialogue must build. The EU's own scenarios until 2050 centre on decarbonisation with the aim of an 80 per cent reduction in greenhouse gas emissions and an energy mix with 55–97 per cent of renewables, depending on the precise scenario. Russia's own targets are in this respect much more modest: emissions 10–15 per cent below the 1990 levels, which effectively means a 30–35 per cent increase over 2007 levels; and 4.5 per cent of renewables in the energy mix by 2020 (excluding large-scale hydropower).¹⁹ While the EU views natural gas, including Russia's, as a less polluting fossil fuel than coal or oil acting as a transition resource on the way to a more sustainable energy economy, Russia in its own energy strategy of 2009 is seeking to gasify some of its undeveloped regions in Siberia and the Far East.²⁰

In a word, we have two sets of energy policies: the Union's decarbonising long-term policy, and Russia's fossil fuels based policy wherein the 'new' energy agenda occupies some role. Nevertheless in the implementation of these policies both parties need each other as will be shown below. Therefore the EU-Russia dialogue must have a role as part of the policy formation and implementation process on both sides. We will next look at these issues in more detail along the gas, oil and electricity sectors.

17 Aalto, P. and Westphal, K. (2007), 'Introduction', in Aalto, P. (ed.) (2007), *The EU-Russian Energy Dialogue: Europe's Future Energy Security*, Aldershot: Ashgate, pp. 11–13.

18 'Roadmap...' op. cit., pp. 11, 17, 25–26, 35–36.

19 Bradshaw, M. (2012), 'Russian Energy Dilemmas: Energy Security, Globalisation and Climate Change', in Aalto, P. (ed.) (2012), *Russia's Energy Policies: National, Interregional and Global Levels*, Cheltenham: Edward Elgar, pp. 226; 'Roadmap...', p. 36.

20 Government of the Russian Federation (2009), 'Energeticheskaja strategija Rossii na period do 2030 goda', adopted by Government Order No. 1715 of 13 November 2009, [www.energystrategy.ru/projects/docs/ES-2030_\(Eng\).pdf](http://www.energystrategy.ru/projects/docs/ES-2030_(Eng).pdf) (accessed 17.04.2011).

NATURAL GAS

The resource-geographic foundation of EU-Russia gas relations is very strong. With current volumes of production, the known reserves of Russian natural gas will suffice well beyond 2050. Resources are therefore not the problem even though part of them – the new deposits in Eastern Siberia and Russia's Far East – are unlikely to ever reach European markets. However, according to one simulation, limits of pipeline transport capacity mean that Russia's gas exports to Europe are likely to stay the same as today or rise only modestly, while Russia's liquefied natural gas (LNG) is likely to end up outside Europe. In 2011 Russia sold some 152 billion cubic metres of natural gas to Europe.²¹ In the mentioned simulation which does not, however, control for the effects of prices on volumes, Russia's European deliveries until 2050 are with 90 per cent probability expected to range between 140 and 170 billion cubic metres.²²

The uncertain effects of gas pricing represent one feature of the financial dimension alongside market structure. In the context of a weaker demand ensuing from the global financial and economic crisis in 2008, Europe's debt crisis of 2010, and the market entry of temporarily cheaper LNG gas, the prices and volumes of Russian gas sold to Europe in 2009 and 2010 were down from the peak year of 2008. According to Jonathan Stern and Howard Rogers, the pricing formula of natural gas is currently in transition, which is likely to last several years and away from the formerly firm oil price linkage towards hub-based pricing wherein the price formation processes within the hub, through which the gas comes from, are decisive. As the new system is favoured by Gazprom's European customers, while Gazprom is reluctant in adjusting to this emerging system, difficult gas pricing negotiations may well be ahead in the next few years.²³ If the pricing issue can be resolved, either through negotiation or arbitration, it is reasonable to expect that Russian gas remains most of the time competitive in the European market. The existing and planned pipeline infrastructure between the EU and Russia on its own requires enough volumes to be traded in order to pay back its construction and maintenance costs for both the seller and the consumer.

The institutional dimension is the home turf of the political actors who ultimately are in charge of the energy dialogue. One of their chief tasks is to ameliorate the problems ensuing from very different legal regulations of natural gas in the EU and Russia. In the EU we find a mixture of supranational supervision, remaining national competences on carriers of energy, prices and energy mix, together with intergovernmental coordination and industrial lobbying by large gas companies. Russia has a half state-owned and strongly state-linked export monopoly in Gazprom – which ironically is part-owned by European and other

21 Reuters (2011), 'UPDATE 2-Gazprom sees gas sales boost in Europe in 2012', 9 November 2011.

22 Forsström, J. (2009), 'Euroopan kaasunhankinnan malli', *VTT Working Papers*, 123/2009.

23 Stern, J. and Rogers, H. (2011), 'The Transition to Hub-Based Pricing in Continental Europe', Oxford Institute for Energy Studies, *Natural Gas Working Papers*, no. 49/March 2011, pp. 34–36.

global investors. EU-Russia gas trade was started as a strongly state-led Cold War détente project where states and companies cooperated in an interdependent relationship. In recent years the increasing political salience of Russian gas in several EU member states and the emergence in various corners of Europe of the rhetoric of diversification away from 'excessive' Russian dependence has meant that European political institutions have in Russian eyes increased uncertainty and hence endangered Gazprom's security of markets. Thus a European search for increased security of supplies through diversification of supplies towards Central Asia and Africa, and elsewhere, has created an 'energy security dilemma'.²⁴ In other words, on the EU side the Commission and member states have not managed to sufficiently identify, converge and communicate their interests vis-à-vis the energy dialogue. The Russian side interprets the diversification policy as a sign of mistrust which creates additional expenditure on both sides.²⁵

Along the ecological dimension both the EU and the International Energy Agency (IEA) view natural gas as a transition resource on the way to less carbon intensive and more energy efficient economies using more renewable sources of energy. This should mean continued high demand for Russian gas in Europe until around 2035.²⁶ According to the Deputy CEO of Gazprom Alexander Medvedev, a 1 per cent increase of gas in the energy mix reduces greenhouse gas emissions by 3 percent.²⁷ Whether the positive trend for Russian gas will continue until 2050, however, would probably depend on the development and widespread use of carbon capture and storage technology (if natural gas is to maintain its position and also act as a back-up resource for wind and solar energy). A shift to LNG powered maritime transport and possibly natural gas based road transport might also be needed for that end.²⁸

Overall, the resource geographic basis for the continuation of EU-Russia gas trade in present high volumes is strong. It is supported at least until around 2035 by the features of the ecological dimension. Along the financial dimension some real concerns relate to the pricing of Russian gas. The institutional dimension is, however, where more could be done to support the material foundation of EU-Russia gas relations. Issues of trust and institutional bonds between the two sides need to be taken better into account, especially when bearing in mind the inherent uncertainties that are part and parcel of energy policy. The work on an early warning mechanism in EU-Russia energy relations and the EU-Russia Gas

24 Monaghan, A. (2007), 'Russia and the Security of Europe's Energy Supplies: Security in Diversity?', *Conflict Studies Research Centre Special Series*, no. 07/01.

25 Shmatko, S. (2010), 'Keynote Speech', in European Commission (2011), 'EU-Russia Energy Dialogue: the First Ten Years: 2000–2010', pp. 31–32.

26 International Energy Agency (2011), 'World Energy Outlook 2011 Factsheet'.

27 European Commission (2011b), *op. cit.*, p. 35.

28 'Roadmap...', *op. cit.*, p. 16.

Centre are designed to support the marketability of Russian gas as part of the Union's energy needs.²⁹

OIL

The resource geography of Russian oil is not as strong as that of gas. The Russian side expects continued deliveries to Europe in high volumes until 2030.³⁰ Arild Moe and Valery Kryukov's more conservative estimate expects Russia's reserve-to-production ratio to be more or less sustainable during the 2010s and for half a decade thereafter. Yet in their opinion the overall trend is not positive. The new fields intended to replace the Soviet-developed fields are more demanding to develop geologically and are often remotely located with little or no infrastructure.³¹ The expertise offered by Russian companies' European and other international partners has been crucial to improve the extraction rates of old fields and bring new ones online.

The financial dimension includes several constraints. According to John Grace, the Russian reserves calculation system disregards the pricing effects conditioning the economic value of those reserves.³² Moreover, during the financial crisis of 2008–9, Russian companies failed to invest in new production and now need high prices to keep their new business in progress. What is worse, the EU market is also probably shrinking, with the share of oil to drop from 35 per cent in 2008 to 29 by 2035. A switch to other fuels in the transport sector is to accelerate from thereon.³³ In these conditions one of the main challenges for Russia is to ensure adequate investment to its oil sector, which may or may not come from Europe. So far some 75 per cent of Russia's foreign direct investment has come from Europe.³⁴

There are no insurmountable incompatibilities in the governance of the institutional dimension of oil in the EU and Russia. On both sides we find a mostly market based system, albeit one heavily dominated by fairly large companies, many of which are state-linked, and consequently a strong supervisory role of the state moderating business interests. Although the deliveries of Russian oil to the EU are not politicised in the same sense as those of natural gas, the Russian state's efforts to support the expansion of Russian companies in the European downstream oil market and refinery sector often backfire; for example, in the

29 'Memorandum on a Mechanism for Preventing and Overcoming Emergency Situations in the Energy Sector within the Framework of the EU-Russia Energy Dialogue (Early Warning Mechanism)', 24 February 2011; 'Joint Statement on Creating a Mechanism to Assess Future Trends in the Gas Market within the Framework of the EU-Russia Energy Dialogue', 24 February 2011.

30 See 'Roadmap...', op. cit., p. 19.

31 Moe, A. and Kryukov, V. (2010), 'Oil Exploration in Russia: Prospects for Reforming a Crucial Sector', *Eurasian Geography and Economics*, vol. 51, no. 3, p. 313.

32 Grace, J. (2005), *Russian Oil Supply: Prospects and Problems*, Oxford: Oxford University Press, pp. 178–183.

33 'Roadmap...', op. cit., p. 19–20.

34 *Ibid.*, p. 34.

2000s, the privately-owned company Lukoil's attempted deals failed in Greece, Lithuania, the Netherlands, Poland and Spain owing to political considerations of acceptability.³⁵

Along the ecological dimension oil is a commodity of shrinking importance when looking at 2030 or 2050, owing to climatic considerations as enshrined in the EU's decarbonisation plans and Russia's diminishing resources. In the EU-Russia case, risks in oil transport through the busy routes of the Baltic Sea and the Turkish straits raise ecological concerns – only a fraction of Russian oil to Europe is transported via environmentally more secure pipelines.

While export of natural gas and oil to Europe are currently equally important for Russia's income via taxation, and while both of these Russian resources make up around one third of EU imports, it is clear that in the oil sector the long-term outlook is not as potent as it is in the case of natural gas. Profits will continue to be made while still possible, but in distant sight lies a situation where Russian oil exporters are fighting for their market shares at the face of dwindling production. There is most room for policy measures in the financial dimension and ensuring adequate investment climate in Russia is pivotal. But to acknowledge the interests equally on both sides, European institutions have a big job to do in removing the political red tape that currently thwarts Russian companies' investment prospects in Europe.

ELECTRICITY

The resource geography in the field of electricity at present allows only for modest volumes of trade between the EU and Russia. This trade takes place on the Finnish-Russian border, while the Baltic states' electricity infrastructure is linked to the IPS/UPS grid of the former Soviet Union area. Moreover, as use of electricity is projected to grow threefold in Russia by 2030, along with Russia's foreseen economic growth, only some 2 per cent of the electricity to be generated is likely to remain available for export. On the EU side consumption of electricity is expected to increase by 50 per cent by 2050. At the same time the Union's goals and commitments vis-à-vis climate change and diversification of energy sources are expected to require 64–97 per cent of gross final electricity consumption to be covered by renewable sources (differences in figures depending on scenario).³⁶ Taken Russia's huge potential in nearly all forms of renewable energy,³⁷ especially when compared to those resources in continental EU, the potential of trading renewable energy produced in Russia to the EU area is being examined in the EU-Russia energy dialogue regardless of the

35 Poussenkova, N. (2012), "They Went East, They Went West...": the Global Expansion of Russian Oil Companies', in Aalto, P. (ed.) (2012), *Russia's Energy Policies: National, Interregional and Global Levels*, Cheltenham: Edward Elgar, pp. 194–195.

36 European Commission (2011a), op. cit., p. 7.

37 See e.g. Øverland, I. and Kjærnet, H. (2009), *Russian Renewable Energy: The Potential for International Cooperation*, Farnham: Ashgate.

current Russian projections on exportable electricity. On the resource geographic plane this would require increased transmission capacity and more interconnected grids linking the two sides.

Along the financial dimension the prospect of increased trade in such 'green' electricity would require investments on top of the enormous needs already identified. On the Russian side, 325 billion Euros needs to be invested by 2030 for generation capacity and 252 billion in networks to meet the expected increase in domestic demand; on the EU side, by 2050 the respective investment needs could reach up to 2.6 trillion and 2 trillion Euros to satisfy the needs of a market expected to be 50 per cent bigger by then.³⁸ The CEOs of leading electricity companies Enel and E.On have recently complained of the too often changing regulations and taxation in the EU area, which hinders investment in this capital intensive business with long payback times.³⁹ In these conditions several European utility companies – among them Enel, E.On, RWE and Fortum – have already invested in Russia's liberalising market, which is unbundled as is the one on the EU side. The Russian system comprises separate wholesale generation companies, territorial generation companies, an independent system operator and the federal grid company in addition to the export/import operator INTER RAO UES. Yet investment in transmission capacity between the EU and Russia is not on the policy radar of relevant actors. In 2007 one such initiative that would have linked Russian and Swedish grids through Finland fell through as a result of both political and business interests.⁴⁰ The Baltic states attempt to link their electricity systems with the Nordic and Central European networks by building new connections between Estonia and Finland (2006; another cable is planned to be finalized by 2014), Sweden and Lithuania (2015) and Lithuania and Poland (2015). As the Baltic states also plan to maintain their link with the Soviet era grid, the new connections could in principle pave the way for wider EU-Russia electricity trade as well. .

The above-mentioned complaints about the uncertainties of the Union's institutional dimension on the part of some representatives of European energy businesses have to be put in context. For example, as the very same companies are investing in Russia, do they view that context as more stable in the terms of the institutional dimension? Admittedly, compared to the gas and oil sectors, it is remarkable how relatively similar the institutional models in fact are in the electricity sector between the EU and Russia, with liberalisation and unbundling, and a mixture of state and business interests. The relative lack of politicisation is notable too; existing problems such as network blackouts are part of the public

38 'Roadmap...', op. cit., p. 8–9.

39 European Energy Review (2011), 'Interview with Fulvio Conti: We Are Ahead of the Pack and Will Try to Stay Ahead', 10 October 2011 <http://www.europeanenergyreview.eu/site/pagina.php?id=3269> (accessed 15.02.2012).

40 See e.g. Aalto, P. and Tynkkynen, N. (2007), 'The Nordic Countries: Engaging Russia, Trading in Energy or Taming Environmental Threats?', in Aalto, P. (ed.) (2007), *The EU-Russian Energy Dialogue: Europe's Future Energy Security*, Aldershot: Ashgate, pp. 124–125.

debate, but are treated mostly as technical problems, not as national security or prestige issues as those of gas and oil all too often are. In the institutional dimension transparency and rule of law are instances where the two institutional environments are perhaps the most dissimilar.

An examination of the ecological dimension recasts most of what has been said so far about electricity. Here we must note that the ecological logic is by definition critical of the prevailing resource economic, financial and institutional logics. In this light the model of new large-scale transmission capacity linking the EU and Russia with huge investments can be questioned. More sustainable production of electricity in Russia would presuppose the use of local resources such as wood, small hydro, wind, solar power, biomass, geo-thermal, and so on, in place of huge plants, noting the limitations of building more large-scale dams. Thus such generation capacity is expected to be regional or local in remote settlements with indigenous resources, far away from central networks that could link to export lines.⁴¹ Such future sustainable electricity generation also requires decentralised, two-way networks with loads and generators of broadly comparable sizes distributed more or less evenly across the system, so that local generators could feed their electricity to the network, instead of merely receiving it along long-distance, high-voltage lines and then converting it to locally usable form. Better insulated and planned buildings that make use of ambient, local energy rather than far-away 'produced' energy are needed as well.⁴² In the current energy policy of Russia, questions such as how exactly electricity from renewable sources will be generated and where, is not yet a very central item on the agenda. EU member states, by contrast, have much more political pressure to rapidly modernise their energy systems in that regard. Overall, it seems unclear how the prospects of the large-scale and small-scale models are part of the agenda of the EU-Russia energy dialogue, to what extent they are realistic in that context, and what role, and when, electricity produced from renewable sources can in the end have.

In summary, the direction in the field of electricity is not as clear as in the cases of natural gas and oil. Resource geographic potential is high and many experts expect electricity to be a rising item in energy policy in general, but it is not clear to what extent that potential is relevant for EU-Russia cooperation on electricity. Rather than large-scale trade in this carrier, a more promising area may be technological cooperation and joint R&D work. The required finances for large-scale transmission networks are substantial, but they are so in all carriers of energy; yet they are less so in case of small renewable electricity projects. In the institutional dimension there are no clear constraints, but rather uncertainty. The wider implications

41 Aalto, P. and Tynkkynen, N. (2012), 'Environmental Sustainability of Russia's Energy Policies', in Aalto, P. (ed.) (2012), *Russia's Energy Policies: National, Interregional and Global Levels*, Cheltenham: Edward Elgar, pp. 99–102, 113.

42 See Patterson, W. (2007), *Keeping the Lights on: Towards Sustainable Electricity*, London: Earthscan, pp. 124–127.

of the ecological dimension are not adequately thought-out in the EU-Russia energy dialogue even though sustainable energy technologies are part of the agenda.

CONCLUSIONS AND POLICY RECOMMENDATIONS

1. It is obvious that the European Union's lack of more complete competences in energy policy represents a structural problem for the EU-Russia energy dialogue. The Commission has a task of furthering the internal market in gas and electricity, issuing recommendations and targets for member states' energy policies and coordinating their external action. Yet, it does not possess competences on the choice of energy carriers, mix and country of origin, when applicable. These are all relevant for the Union's energy relations with Russia where the Commission cannot enforce a common line unlike it can in the internal energy market. The EU-Russia energy security dilemma is one example of this problem where the Commission cannot communicate a firm enough message to its Russian interlocutors. More centralised decision-making and shaping powers would be needed to establish what indeed the European policy of diversification means in relation to Russia. Now there are too many messages around and this is making Europe's main supplier confused. As a result we see overinvestment in additional pipelines, LNG terminals and further expensive measures on both sides. *To support the strategic nature of the energy dialogue with Russia the Commission's competences in domains relevant for external energy policy should be increased.*

2. The EU is not able to effectively control the institutional dimension in its own camp. As a result the dialogue risks drifting into an exchange of technical plans for energy technology and infrastructure on both sides without necessary degrees of predictability created to support investments. The institutional dimension is sub-optimally arranged on the Russian side as well. The Russian state's strong involvement – at times, albeit less today, in the form of an energy superpower policy of sorts – and then a more recent return to a more cooperative stance, creates uncertainty on the EU side. *The institutional actors on both sides should jointly explain to their business partners the long-term policy on state-business cooperation in the energy dialogue roadmap until 2050, and consider making this a legally binding document possibly in the context of a new EU-Russia partnership agreement.*

3. The EU-Russia energy dialogue needs to be geared to fully support business actors and the needs along the financial dimension as energy companies in the end implement nearly all energy projects, while international financial institutions fund them – not the states or politicians. Consequently of the four dimensions discussed in this paper the financial dimension should be seen as the most pivotal one. *Within the financial dimension the main actors are companies whose main interest is to make profit. This interest should unashamedly and openly drive EU-Russia energy*

relations while noting the related ecological needs and business prospects opening in environmentally sensitive energy technology. The institutional actors should provide more support for business actors.

4. The ecological dimension is now an implicit and at best a cross-cutting, very partially understood and accounted for consideration in the energy dialogue. This is of course because of divergences in how the ecological dimension has become part of the Union's and Russia's own energy policies. As a concrete example, there is no working group on these matters in the institutional structure of the dialogue. Relevant issues appear, among other instances, through the work of the Energy Efficiency Group. The implicit nature of ecological considerations also obscures the work on electricity. It seems that the Union's hopes of buying electricity produced by using renewable sources from Russia do not fully meet the assessments on the future production modes, localities and purposes of renewable energy in Russia. *Ecological or environmental constraints of energy policy should be made similarly integral and explicit to the EU-Russia energy dialogue as they are in their regional level policy, the Northern Dimension.*

5. Nuclear energy is too invisible in the energy dialogue. This is surprising taken its role in the EU's current energy mix – accounting for a third of electricity production and 15 per cent of the energy mix – and also noting the realisation of the Union's decarbonisation scenarios until 2050, and Russia's large-scale development plans and expertise in this sector. Russia intends to build some two to three new reactors a year until 2020. It is also starting to test closed fuel cycle technologies, examine fusion techniques and fast neutron technologies; and has shut its last weapons-grade plutonium production reactor and ratified the 123 agreement facilitating civilian cooperation in nuclear energy.⁴³ Rosatom is currently engaged in projects in China and Turkey, and seeking involvement in the Czech Republic, Slovakia and Hungary. *Recognising that the intention of the roadmap for the EU-Russia energy dialogue until 2050 is to provide different scenarios for specific sectors and to elaborate the overall supply and demand situation, it is clear that nuclear energy should be made a more visible part of technical planning even if some EU member states are phasing out their capacity.*

6. Acknowledging that business actors have often been ahead of regulators and policy-makers in EU-Russia energy relations, and have advanced their interests institutional problems notwithstanding, the EU and Russia should consider ways of including energy business even more integrally into the dialogue. *A rationally formulated response to the prevailing energy political structures in the European continent presupposes cooperation between different agents who each bring different competences to the table: energy companies, policy-makers and regulators, as well as environmental and other experts.*

43 Judah, B., Kobzova, J., and Popescu, N. (2011), op. cit., p. 42.

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