



CARNEGIE
ENDOWMENT FOR
INTERNATIONAL PEACE

EU ENERGY EXCHANGE

Balancing Security, Economy, and Climate Goals

Summary of Proceedings | August 27, 2014

Prepared By:

David Livingston and Deborah Gordon
Carnegie Energy and Climate Program



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Background

In February 2014, Carnegie’s Energy and Climate Program hosted a symposium of key European stakeholders from academia, civil society, industry, and government at Carnegie Europe in Brussels. The discussion covered a broad range of energy topics through the prism of security, economy, and climate—just before the Russian annexation of Crimea and crisis in eastern Ukraine, the stagnation of the eurozone’s GDP, and the National Oceanic Atmospheric Administration’s announcement that May was [the hottest month ever recorded](#) on Earth. These developments illustrate all too critically the importance of security, economic, and climate considerations in energy policy topics that filled the agenda for the symposium including:

- Geoeconomic Implications: Changing Energy Trade Patterns
- Framing EU Tensions: Transforming Energy-Climate Security
- Investment Opportunities and Challenges: Changing EU Energy Economics and Markets

The exchange clearly demonstrated that Europe is far from achieving consensus on its long-term energy goals and more immediate challenges facing effective energy policymaking, let alone adopting appropriate tools fit for addressing such challenges. There is growing awareness that the EU will need to confront new energy, economic, and environmental realities. Yet, Europe’s existing energy and climate policy framework is largely based on an old paradigm. Most of the assumptions that underpin the existing framework have failed to materialize: a continued thawing of relations with Russia, fossil fuel scarcity, global climate policy convergence, and a sustained political mandate for financing a future low-carbon energy system.

The discussion took place under the Chatham House Rule and this conference report therefore reflects the views of the authors on the basis of comments from those convened.

Key Themes

During the course of the exchange, discussion revolved around balancing critical EU energy tensions from competing security-economy-climate perspectives. Three overarching themes emerged:

- Balancing Europe’s competing energy priorities;
- Dealing with internal challenges to integration and coordination; and
- Identifying new and promising energy policy tools.

In light of subsequent geopolitical events and the evolving character of energy policy debates in the EU, the authors have taken the liberty of distilling the conversation that took place during the exchange. Reflections on progress during the intervening months have been incorporated.

Balancing Competing Energy Priorities

The European Union as a whole and its individual member states subscribe to various—and in some cases competing—energy policy priorities. In particular, three macro-priorities jostle for dominance in national capitals and in Brussels. These include: energy security (insulation from geopolitical risks); competitiveness and economic development (low energy prices); and climate change mitigation (transition to a low-carbon energy system).

The contrasts are perhaps thrown into sharpest relief at the member state level. France relies upon its unique nuclear power program to supply nearly four-fifths of its electricity, while Germany has chosen to phase out nuclear energy entirely. Poland and the UK have prioritized the exploitation of domestic shale oil and gas reserves, while France and Germany are implementing moratoria or bans on such activity. Many Baltic and eastern European governments anxiously seek alternatives to their nearly 100 percent reliance on Russian gas, while for others in western and southern Europe this is a far less pressing concern. And, while Sweden, Latvia, Finland, and Austria have some of the [highest shares of renewable energy](#) in the world, the UK, Netherlands, Luxembourg, and Malta are notable laggards.

Yet as mentioned, the European Union as a whole can also hardly be said to represent a consensus approach to energy policy. Fissures in the Council and Parliament over energy policy increasingly occur along complex fault lines driven by both ideology and geography. The Commission, as the engine of bureaucratic progress, must regularly seek to bridge these fault lines in order to deliver workable policy compromises. Yet Commission leadership is itself not a homogenous entity. Commissioners responsible for trade, energy, and environment portfolios often see the objectives of energy policy through different lenses, for example, as seen in the deliberations over the attempted [inclusion of global aviation](#) in the EU Emissions Trading System, as well as the EU's [2030 framework for energy and climate policies](#).

In late May 2014, in response to the unfolding crisis in Ukraine, the European Commission put forth a revitalized [European Energy Security Strategy](#) concept that would seem to subsume competitive energy markets and climate policy as pathways to—and byproducts of—the overarching pursuit of energy security. This is the latest indication that the EU seeks to reconcile these priorities into a coherent framework, but the strategy lacks binding commitments or new financing mechanisms. Detailed guidance is also lacking for those instances where pursuit of one priority (such as economic competitiveness) may inhibit progress on others (such as climate goals). While security is the *mot du jour* in the speeches of both politicians and functionaries, tensions between the aforementioned three policy priorities are unlikely to be resolved by simply assimilating two as pillars of another. Reviewing the symposium's insights on the EU's competitiveness and climate goals is instructive, as it reflects a state of discussion that existed just prior to the Crimean crisis—one that is likely to return when the hard work of constructing a common European energy policy begins in earnest.

Adding industrial competitiveness into the mix, many participants echoed a broad European unease over the recent growth in energy price spreads between Europe and North America and their implications for the manufacturing sector. The North American shale revolution, which has recently seen an enormous increase in production across the hydrocarbon spectrum—from oil to natural gas

to natural gas liquids—serves as the catalyst of this concern. Although the economics of unconventional oil and gas are not the same, there appears to be an assumption in Europe that U.S. energy will be both abundant and cheap for an extended period of time. This has yet to be substantiated until more data on shale production and decline curves has been amassed. And just how “cheap” oil and gas are is a relative notion. Still, it will likely be more costly to unlock the full bounty of new hydrocarbons in North America and elsewhere.

Even if energy prices advantage North America into the future, Europe will need to identify which sectors are most at risk of offshoring in pursuit of lower energy costs, and which will remain competitive given the continued advantages that operating in European markets offer. A more granular understanding of the role of energy costs for various industrial sectors and subsectors would add value to the conversation, rather than the crude heuristic that lower energy costs will automatically lead to greater competitiveness for the broadly-labeled European “[manufacturing base](#).”

With this knowledge, tough decisions will need to be made on the degree of state intervention, if any, desired to help protect certain industries at risk of being offshored. The EU does not have the fiscal wherewithal to subsidize all “at-risk” industries in all instances, and so must think strategically about how it will distinguish itself from Asia and North America given its particular energy endowment.

Quite apart from, but directly a result of, its security and industrial objectives, EU policy appears to be confused about where climate change fits in. When the voices of climate protection and economic growth attempt to speak over one another, it is lately the voice of economic growth that has spoken the loudest. This could be a reflection of the fact that the EU has been embroiled in a severe economic downturn. It could also signal that the economic imperative for addressing climate change has not yet been sufficiently articulated. Or it may simply reflect the political economy of energy policymaking in much of the world. A growing economy provides immediate breathing space to incumbent administrations, while action to address climate change provides net benefits that will predominantly accrue to future generations.

Regardless, the politics of energy and climate change are palpable. Decisions are not being driven entirely by sufficient information and perfectly functioning markets; subsidies and other direct intervention are ubiquitous. Local environmental concerns, ideological affiliations, and opposition by residents to new energy development have in many instances led to the rejection of nuclear energy or large-scale renewable projects despite their potential contributions to climate goals. Uncertainty regarding the broader economic benefits and environmental costs of shale resources is also a matter of ongoing debate, which are underscored by [recent studies](#) with very [different conclusions](#). More research is needed, particularly on the impacts of unconventional oil production and the future of petroleum refining in Europe, as these have been relatively neglected in comparison to shale gas.

Internal Challenges to Integration and Coordination

A desire for energy policy coherence exists within Europe, stemming from a latent policy priority dissonance and lack of agreement on overriding energy goals. For example, the tripartite targets embedded in the EU’s [2020 Energy & Climate Package](#) (20 percent reduction in EU greenhouse

emissions from 1990 levels; 20 percent share of renewable energy in energy consumption, and 20 percent improvement in energy efficiency) were criticized as interfering with one another. The main instrument for achieving the first target, the EU Emissions Trading System, is predicated upon allowing the market to identify the most efficient emission reduction opportunities in Europe. However, the latter two targets effectively mandate that emission reductions be made through specific technologies and modalities, regardless of price. While market failures may nonetheless legitimate these targets (particularly in the case of energy efficiency investments), it was not on the day's agenda to identify and address specific energy market failures within and across EU Member States. One message was universal: individual EU policy tools in the forthcoming [2030 Energy & Climate Package, to be agreed by the European Council in its October 2014 meeting](#), must work together as a symphony, not a cacophony.

The EU is clearly striving for a more structured and integrated energy market. In 2013, the EU published a list of [248 energy infrastructure projects of “common interest”](#) to advance regional energy security, economic, and environmental objectives. Recently announced guidelines for [infrastructure-oriented state aid](#) hold promise, but most details must first be fleshed out in what is likely to be a highly politicized process. The paucity of detailed discussion among stakeholders, however, suggests that state support for energy infrastructure has a long road ahead. This is particularly true when the question of financing comes to the fore. Without infrastructure, the prospects of a unified EU energy market are dubious. Infrastructure is a prerequisite for meaningful progress toward a consolidated EU energy market, particularly in gas and renewable electricity.

The responsibility of bringing to fruition a single EU energy market will increasingly shift from elected officials to career technocrats as the project progresses. While in many ways this may seem fortuitous, it may also serve to highlight the inertia in national systems and preferences. Few would object to the notion of transparent procurement rules or harmonization of inefficient and divergent standards, but the process of implementing these changes at the bureaucratic level may prove more difficult than political agreement.

Competing priorities and national idiosyncrasies surrounding energy inadvertently promote a “two-track Europe.” Absent coordinated leadership, current trends suggest the likelihood of a series of “energy islands” composed of member states with compatible energy markets and preferences set amidst a minimalistic policy “ocean” of basic guidelines and targets set by the European Commission.

Searching for New Energy Policy Tools

In diagnosing the current challenges and uncertainties afflicting European energy policy, one key strength rose to the fore in the discussion: Europe's capacity for innovation. As a shining example, Europe has made tremendous strides in energy efficiency. Today, primary [energy consumption is back down to 1995 levels amid 35 percent GDP growth](#) over this timeframe. Europe views energy efficiency as a sound response to prevailing energy security issues in Europe and as an effective tool for climate mitigation. After extensive internal debate, European leaders appear to have [coalesced around a 2030 energy efficiency target](#) that would see the EU's energy consumption that year capped at 1.3 billion tons of oil equivalent.

Energy efficiency has taken on a new urgency amid heightened anxiety over dependence on Russian hydrocarbon exports, but beneath the headlines economic arguments continue to play out. Some members of industry have [argued that absolute caps stifle innovation rather than sparking it](#) and would prefer to see greater Commission-driven risk financing for new energy efficiency technologies. An important consideration, then, is to what degree these energy-efficiency goals contribute to innovation, and whether such innovation is more breakthrough or incremental in character. The answer to this question may impact the perceived costs and benefits of energy efficiency significantly.

There were also questions raised in the day's discussion over the wisdom of the EU's spending to cover large subsidies in an attempt to foster entirely new and comprehensive energy supply chains, renewables or otherwise, when the continent's endowments of intellectual property, human capital, and creativity arguably point to carving out dominance in particularly technologically-intensive, high value-added aspects of the energy supply chain. Convincing arguments can be made for the EU to engage in comprehensive self-reflection on the strengths and weaknesses of its energy R&D capabilities, and to craft a unified and muscular EU energy innovation policy accordingly.

Financial gain is a major long-term goal of energy innovation. The European Union spends approximately €1 billion per day on fossil fuel imports, with fossil fuel use up 13 percent since 1990, compared to a [52 percent rise](#) in global fossil fuel consumption. Greater clarity will be needed on the future of energy dependence, even if it is dependence upon allies that is in question. Stakeholders want to know the particular economics of exporting crude oil and gas (in the form of LNG) from the United States to Europe, as well as consequences for the financial health of European refineries and petrochemical plants. While some argue that this could be a long-term game changer in terms of Europe's economic and energy security, others counter that there is no guarantee of the current window of export opportunity remaining open. Should energy prices drop in the EU, rise in the United States, or present more attractive export opportunities in other geographies such as East Asia, it would call into question the prospects of the United States serving as a panacea for EU energy security in the long run.

Rebalancing trade can help achieve energy goals. Fresh attempts are being made by the European Union to directly address energy goals through trade policy. A recently [leaked EU position paper](#) from the Transatlantic Trade and Investment Partnership (TTIP) free trade agreement negotiations reveal that the European Commission has been advocating for automatic access to U.S. oil and gas exports, which U.S. negotiators have thus far pushed back against. Fossil fuel trade flows are also implicated in the EU's recently agreed [free trade agreement with Canada](#), while the EU is separately [engaged with negotiations](#) in Geneva over a prospective multilateral agreement on the liberalization of trade in environmental goods such as renewable energy technologies.

The long-term implications of this flurry of activity are still uncertain, and it remains to be seen whether the EU has a holistic vision for a future trade and energy policy architecture or whether it is instead simply pursuing an "all-of-the-above" strategy of energy goods liberalization. Sketching out the contours of such architecture is a task that would benefit greatly from more institutionalized dialogue between the United States and the European Union, both within and outside of the TTIP negotiations. Considering Europe's strategic geographic position and highly open economy, the reconciliation of trade and energy policy should be a priority.

Achieving a Long-Term EU Energy Strategy

It is clear that the European Commission is trying its hardest to present the appearance of renewed solidarity and purpose across the continent. The contours of the 2030 Energy & Climate Package—a set of three binding de-carbonization, renewable energy, and energy security targets—have been sketched out in increasing detail. The Commission has also listed the attainment of these targets as a one of many “items for action” in its new “European Energy Security Strategy.” Conspicuously absent from these strategies and packages, though crucial to their realization, is the question of financing. Who foots the bill for more energy production, more energy diversity, more interconnections, more storage, and more renewables? In this age of austerity, the appetite for grand policy projects may quickly wane for want of funds.

Promoting a long-term rationale in all facets of energy policy, from security to economics to the environment, emerged as a key challenge for Europe. But how best to achieve this is a serious challenge. While Europe *can* control certain aspects of its energy future, many geopolitical factors are out of its control.

One thing is clear, the EU cannot survive by playing defense. Reacting to global events that bolster fierce competition for fossil fuels is not a winning strategy. Rather, the difficult and expensive prospect of spawning its own energy transition falls squarely on Europe’s shoulders. The truth is that everyone is going to pay more for energy—privately and socially—in the years ahead.

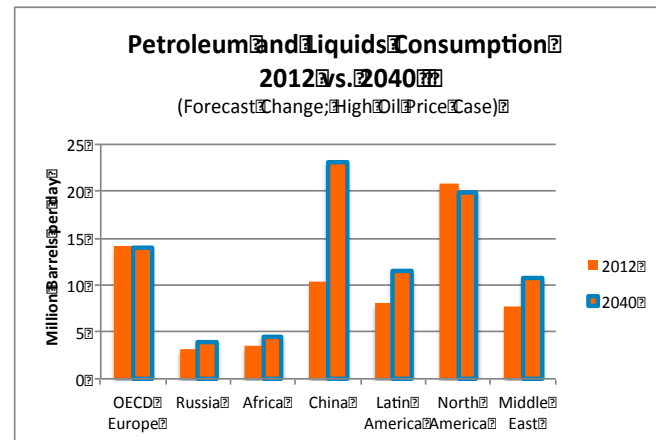
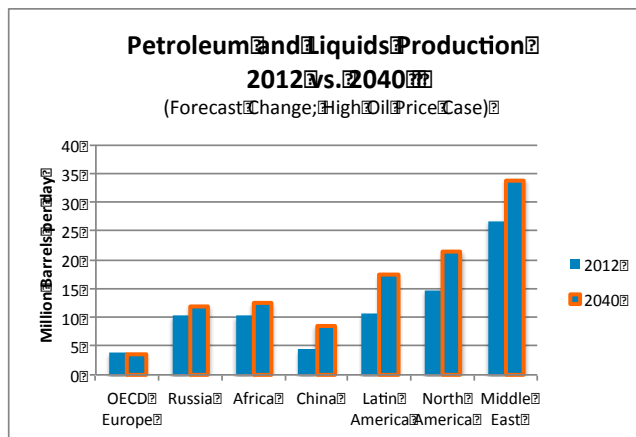
About the EU Energy Exchange

Carnegie’s Energy and Climate Program hosted a one-day EU Energy Exchange at Carnegie Europe in Brussels on February 18, 2014, to probe the geoeconomic and environmental impacts of global oil and gas supply shifts on the EU. The discussion brought together a diverse group of individuals from government to NGOs, and from industry to academia. It sought to explore the tensions that clearly exist in balancing economic, environmental, and supply security. The symposium sought to facilitate a healthy debate on Europe’s energy priorities. Changing conditions were illuminated and cross-sectoral dialogue was fostered. The overall objective was to underscore that the EU will have to choose wisely among a diverse set of energy options, including fossil fuels, non-fossil alternatives, and the infrastructure necessary to support either. A [discussion primer](#) was circulated in advance of the Exchange.

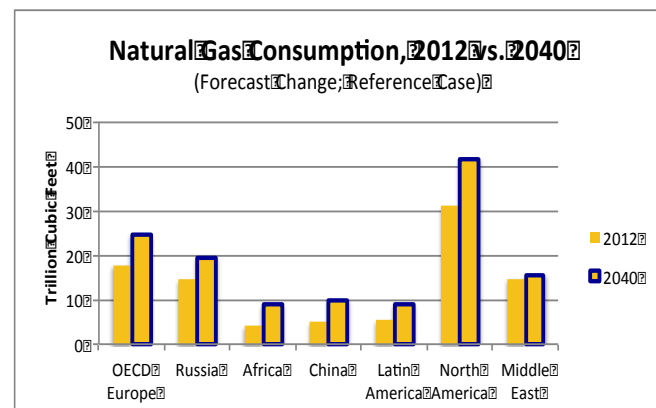
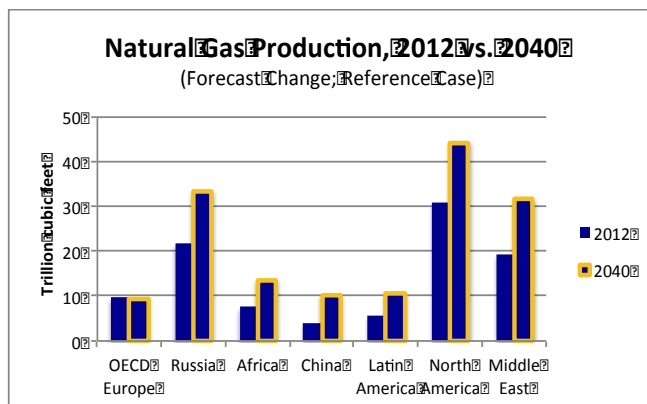


Word cloud above created by Carnegie from the EU Energy Exchange reveals the relative prominence of various topics and concepts raised. The discussion focused more intensely on areas beyond the control of EU policymakers and citizens—energy markets and prices—and de-emphasized inputs that they can manage—infrastructure, production, and collaboration. Topics that had recently been hot, such as climate change, or would heat up in the months ahead, such as shale resources, were surprising undercurrents. There was little hint of the changes that lay ahead with Russia. Global aspects of energy were understated. Individual countries' and companies' role shaping energy dynamics took a back seat to the pan-European perspective. This outlook was likely shaped by the event venue in Brussels, despite significant input from stakeholders in EU member states.

EU Energy Trends in a Global Context



OECD Europe is forecast to be the only major global region that experiences a downturn in oil production (above left) from 2012 through 2040. While OECD Europe's oil consumption (above right) is forecast to remain level, it is projected remain a major global demand center for petroleum and petroleum liquids through 2040.



In addition to oil deficiencies, OECD Europe is forecast to be the only major global region that experiences a downturn in natural gas production (above left) from 2012 through 2040. OECD Europe's natural gas consumption (above right) is forecast increase along with the rest of the world, maintaining its position as the second largest global gas demand center through 2040.

Sources: U.S. Energy Information Administration, "International Energy Outlook," 2013 and 2014, http://www.eia.gov/forecasts/aeo/tables_ref.cfm; http://www.eia.gov/forecasts/aeo/data_side_cases.cfm#summary; <http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=3&pid=26&aid=1>; <http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=3&pid=26&aid=2>; and [http://www.eia.gov/forecasts/ieo/pdf/0484\(2013\).pdf](http://www.eia.gov/forecasts/ieo/pdf/0484(2013).pdf)

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