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An Energy Union for the 21st Century

Based on the report *The Energy Union* by Dominique Auverlot, Gaëlle Hossie and Etienne Beeker (France Stratégie), with contributions from Marc Oliver Bettzüge (University of Cologne), Dieter Helm (Oxford University) and Fabien Roques (Paris Dauphine University).

If the European project is about anything, it is about putting the common good before the individual interests of nation states and pooling resources to secure that good.

Given the urgency posed by rising global temperatures and climate change, it is clear the common good for all EU citizens increasingly hinges on how the 28 member states supply and use energy.

ENERGY DEPENDENCY

In case there is any doubt, the **EU as a whole imports more energy than any other country in the world**. According to Eurostat, it imported 53.2% of its gross energy consumption in 2013, mainly in the form of crude oil and natural gas, totalling about EUR 400 billion. It imported some 34% of its crude oil and 39% of its natural gas from Russia alone in 2013.

Reducing this energy dependency is what drove former Polish prime minister and current European Council president Donald Tusk to propose an energy union in April 2014. The climate crisis and the cheap price of energy in the US compared to the rising cost of electricity across Europe brought things to a head. EU member states, the EU Commission, the energy industry and civil society have decided the time has come to revamp and reshape European energy policy.

And so in February of this year the European Commission launched its Energy Union, a strategy to achieve the twin goals of energy security and a low carbon economy while preserving consumer purchasing power and market competitiveness.

The government policy institute France Stratégie is no stranger to the energy challenges facing Europe. In 2014, it published an in-depth analysis on the EU and energy issues, *Europe's Power System in Crisis*. It has built on this work in *The Energy Union*, a detailed report it published mid-September looking at the hurdles this ambitious energy policy faces and setting forth several possible solutions to overcoming them.

The European Council (i.e. the heads of state of the EU member nations) decided to build the Energy Union on five central pillars: 1) **energy security, solidarity and trust**; 2) a **fully integrated European energy market**; 3) **reducing the level of CO₂ emissions in the economy**; 4) **energy efficiency as a means of moderating demand**; and 5) **research, innovation and competitiveness**.

Underpinning the Energy Union is the 2020 climate and energy package the EU adopted in 2008, which calls for a 20% cut from 1990 levels in greenhouse gas emissions, 20% of EU energy from renewables and a 20% improvement in energy efficiency.

A UNION ON SHIFTING SANDS

“The goals of the climate energy package adopted in 2008 were based on continued economic growth and an assumed increase in the price of fossil fuels,” said Dominique Auverlot, a co-author of the report and the head of the sustainable development department at France Stratégie. “Together, these two trends were expected to buoy the development of affordable renewable energy sources (RESs) and allow member states to stop subsidizing them.”

Needless to say, this has not been the case. **The economic crisis has been compounded by an increase in the production of RESs, which are subsidized by member states and not traded in the electricity market** and therefore not regulated by supply and demand. This coupled with increased supply from new power plants, which were commissioned before the economic crisis, has led to overcapacity and a collapse in prices on the wholesale electricity market (i.e. generators selling electricity to retailers). As a result, many older gas power plants have been shut down, with Germany even going so far as to mothball certain newer ones.

The report stresses the importance of gas-fired “peaker plants” to the grid’s equilibrium, which has to cope with a large influx of intermittent and unpredictable RESs. “It’s mainly the gas power plants that are able to back up energy supply in the absence of RESs when there’s no wind or sun,” said Etienne Beeker, energy policy analyst at France Stratégie and co-author of the report.

It should be noted that electricity is by nature difficult to store and must be available on demand. Unlike other products, it can’t be stockpiled, and demand and supply vary continuously. For RESs, if there is no sun or wind, for example, no energy is produced. Other sources must make up for the loss. Overall, production must be coordinated to meet the expected demand of the system across the transmission grid.

Taking a long view doesn’t make the situation look any better. **Important investments are and will be necessary to renew aging infrastructure by 2030.**

The authors also note that European refineries are uncompetitive, jeopardizing the EU supply of refined products.

The EU’s energy dependency has also been called into question in the wake of the Russo-Ukrainian crisis. Certain member states are highly dependent on Russia for their gas supplies, creating a disadvantaged bargaining position for gas contracts.

European energy security is perhaps even more dire from a consumer’s perspective: retail electricity prices shot up roughly 27% from 2008 to 2013 across the EU.

Finally, though the EU is close to achieving its goal of reducing its greenhouse gases to 20% less than their 1990 level, this is largely due to the shift of its economies towards the service sector, the increase in the price of fossil fuels and the economic crisis.

COORDINATION AS A WAY FORWARD

Notwithstanding these hurdles, experts do agree on a way forward. First, the EU should consider **reducing CO₂ emissions its primary target and developing RESs and energy efficiency a means to achieving this**. Concretely, more RESs and more energy efficiency lower the price of CO₂. This effectively guts the emissions trading scheme (ETS), the EU’s main means of reducing greenhouse gases.

A solution to this would be to establish a regulatory authority able to rapidly intervene in the market when necessary, setting price ceilings and floors, for example, to help fix a credible price signal.

Last of all, experts agree that energy power must be remunerated to incite investment in energy infrastructure. As it stands only energy supply is rewarded monetarily. This forces individual member states to guarantee their own supply and threatens energy integration.

The backdrop to all of this is the member states’ individual energy strategies, with which the Energy Union will have to contend. The UK, for example, favours an electricity market based on a long-term national plan, with contracts for investment lasting many years. Germany, on the other hand, with its strong focus on RESs, is ramping up its research into electricity storage and developing a system of strategic reserves. France, for its part, is seeking to develop its RESs and secure the future of its nuclear power supply.



Given the divergent policies, a unified European mix of electricity production is unlikely in the foreseeable future. Nevertheless, France Stratégie reaffirms that member states can and should coordinate their initiatives while working towards convergence.

FRANCE STRATÉGIE'S PROPOSALS

In view of the above, France Stratégie sets out four guiding principles on which to build a solid and lasting Energy Union. One, member states should keep **solidarity** in mind when developing energy policies; two, they should be **responsible when determining energy supply and production**; three, **economic rationality** should underpin their energy policies; and, lastly, they should **ensure their policies are resilient**, taking into account unforeseen global trends.

Building on this, the report lays out seven recommendations on how the EU can build an effective Energy Union:

- **Detail the Energy Union's goals** without concealing the internal contradictions - e.g. increased energy efficiency lowering emissions and consequently the carbon price - and keep lowering CO₂ emissions the main goal of the 2030 energy and climate package
- **Improve the security of the EU's gas supply** by strengthening the hand of Eastern European member states in their bargaining with Gazprom; require Russia to abide by EU rules and diversify gas supplies by building a southern gas corridor; and, above all, once the Russo-Ukrainian conflict has subsided reconstruct a long-term energy relationship between the EU and Russia built on trust
- **Adapt the electricity market's regulatory framework to account for the massive integration of capital-intensive RESs**; importantly, allow them to be traded on the market and their supply and demand to contribute to stabilizing the network just like other energy sources; encourage member states to coordinate their investments - e.g. through peer reviews - to optimize overall costs and guarantee the network's security
- **Refashion a credible carbon price signal** and, more generally, renew confidence in the EU's

climate policy; as mentioned above, establish a regulatory agency that can intervene rapidly in the market through mechanisms such as price ceilings and floors

- **Elaborate a refinery strategy** to guarantee the supply of refined products
- **Intensify and coordinate R&D efforts** in favour of non-mature technologies for renewable energy sources
- **Foster energy investments** as part of the European Commission's investment plan to contribute to raising the estimated EUR 200 billion needed by 2020 to maintain the EU power system and reduce CO₂ emissions in line with the energy and climate package goal

It goes without saying there are many obstacles to be overcome on the road to building a strong and effective Energy Union. And lest there be any doubt, the stakes are high indeed: nothing short of the well-being of 500 million EU citizens and, ultimately, the very planet itself.

But one thing is clear, securing the energy supply, maintaining competitiveness and taking on climate change are easier done collectively than individually. This is the very embodiment of the spirit that runs through the European project.

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