This Summer 2017 edition of the Grenoble Ecole de Management (GEM) Energy Market Barometer explores the opinion of French energy experts on the effects of Brexit on Europe’s internal energy market. French experts were also asked about the investment climate in energy technologies.

Key findings:

- Brexit will have virtually no effect on security of supply or on prices of natural gas or electricity in France.
- Brexit will lead to slight divestment by French energy companies in the UK.
- Brexit will not affect the EU greenhouse gas emissions target for 2030.
- The UK leaving the internal energy market means more harm to the UK than to the rest of the EU.
- New energy technologies enjoy a favorable investment climate in France.
- In the next five years, new energy technologies will benefit while natural gas and nuclear will suffer.
- The French energy transition may be gaining momentum.
How will Brexit affect the French energy market and EU climate policy?

About a year ago, on 23 June 2016, a narrow majority of UK voters chose to leave the EU. While energy issues featured minimally in the debates, the “Brexit” decision may also have ramifications for energy markets in the UK and other EU Member States.

For over two decades, the UK has been a strong supporter of the European Union’s internal energy market (IEM, also known as the single energy market), which aims at liberalizing and harmonizing the energy markets of individual EU member states. Since 1996, the IEM was advanced through three legislative packages on market access, transparency and regulation, consumer protection, interconnection, and adequate levels of supply. Investments in both gas and electricity physical networks enable the free flow of gas and electricity across member states. Today, the IEM is expected to meet three key challenges: increase energy security, enable fair competition in the energy sector, and facilitate a cost efficient transition towards a low-carbon energy system. Currently, four interconnectors link the UK and continental electricity grids, while natural gas is exchanged via the Continental Interconnector (situated in Belgium). Since interconnection is still limited, the electricity wholesale prices in the UK are still substantially higher than for example in France or Germany. UK gas prices are currently at the same level as in Germany, but lower than in France.

The evolving “Brexit” negotiations between Brussels and London will tell whether the UK remains in the IEM, or whether other forms of UK-EU energy market integration will surface. But what would the UK leaving the IEM mean for EU security of supply, energy prices, or investment activities in the UK by energy companies from continental Europe? Would such a move be more harmful to the UK or to the EU?

In addition, Brexit may also have repercussions on EU climate policy. In the past, the UK (together with France and Germany) has been a strong supporter of ambitious EU climate targets. At the climate conference in Paris in 2015, the EU pledged to lower greenhouse gas emissions by at least 40% in 2030 compared to 1990 levels. Since the UK domestic target is more ambitious than average, the Brexit may have implications for the climate target of the EU or other Member States. Will the EU soften its climate target, or will other Member States step up?

Against this background, we asked our panel of French energy market experts about their opinions on the impact of Brexit on EU energy markets and climate policy.

Brexit will have virtually no effect on security of supply or on prices of natural gas or electricity in France

For most of the time the UK has been a member of the EU, it has been a net exporter of oil and gas (i.e. from 1981 to 2003). After 2003, when UK oil and gas production declined, it became a net importer of fossil fuels again. While the oil market is a global market, gas markets are regional markets. In 2015, the UK imported around 60% of its natural gas imports from Norway, another 30% from Qatar via liquefied natural gas (LNG) terminals, and smaller shares through the Interconnector. In comparison, France virtually imports all its natural gas resources through various cross-border pipelines or, to a much smaller extent via LNG terminals. Almost 50% of total French gas imports in 2015 came from Norway, 13% from Russia, 12% from the Netherlands and 10% from Algeria. Thus, the UK leaving the IEM should have little effect on security of supply of natural gas, or the price of natural gas in France.

The UK is a net importer of electricity, with net imports contributing about 6% of electricity supply in 2015. Most imports came via France and the Netherlands, with France accounting for about 70 percent of all UK electricity imports. France, as the largest net electricity exporter in the EU, exported about one quarter of its net energy exports to the UK in 2015. Yet, these exports to the UK account for about 3% of total French electricity supply, only. Hence, the UK leaving the IEM should not affect security of electricity supply in France. Likewise, potential small limitations in net exports of electricity to the UK are not expected to affect the electricity price in France.

Our French energy market experts strongly support these conjectures (Figure 1). About three quarters of the respondents thought that the UK leaving the internal energy market would have no effect on security of supply of natural gas or electricity in France compared to a scenario where the UK had stayed in the IEM. Similarly, about two thirds of the experts believed that the UK leaving the IEM would have no effect on the price of natural gas or electricity in France.

If the UK leaves the internal electricity market, French energy companies will divest, but only slightly

The liberalization of the energy market has led to a wave of mergers of power companies with EDF, RWE, E.On, Iberdrola, Vattenfall, and Enel emerging as the largest players in the EU. In this wave most UK electricity companies were acquired by these large pan-European utilities. These utilities have also become large retailers of natural gas in the UK. In the near future, substantial investments are needed in the UK electricity sector to renew an aging grid and generation infrastructure. The UK therefore relies on substantial investments by foreign companies. For instance, more than 50% of investments in offshore wind farm projects comes from abroad. As is well known, EDF leads a consortium that is scheduled to build the 3.2 GW Hinckley Point C nuclear power plant.

We therefore asked our experts what the UK leaving the IEM would mean for French en-
nergy companies’ activities in the UK. More than three quarters of our panel expects a partial divestment by French companies. The negotiation of the Brexit conditions has already sent negative signals to foreign investors. The regulatory and market uncertainties accompanying Brexit, as well as the loss of the EU as a funding source may undermine investor confidence and substantially increase the cost of capital. Both nuclear and wind projects, which are particularly capital intensive technologies of power generation, may be particularly at risk.

Brexit will not affect the EU greenhouse gas emissions target for 2030

The EU 2030 foresees a 40% reduction in greenhouse gas emissions for the year 2030 compared to 1990 levels. In the past, the UK has been an advocate of ambitious EU climate targets and has effectively lowered its greenhouse gas emissions. These fell in the UK by 34% between 1990 and 2014 compared to 24% for the EU average. For the future, the UK Climate Change Act sets an ambitious target of 80% emission reduction by 2050 compared to 1990’s levels, and the target for 2030 corresponds to a reduction of 57%. Since the UK domestic targets are more stringent than average, the EU may need to weaken its 40% reduction target, or other Member States will need to step up. A vast majority of almost 80% of our energy experts anticipate that the EU target for 2030 will remain unchanged. Thus, it is believed that other Member States will step up. Indeed, revising Europe’s target would be sending a negative signal to the international community and would undermine the EUs proclaimed position as a leader in the fight against global warming. However, adjusting Member States’ emission targets likely means tedious negotiations between member states over the sharing of efforts. It may be for these reasons that one fifth of our experts believe that the EU target will be revised downwards.

The UK leaving the internal energy market means more harm to the UK than to the rest of the EU

Until there is greater certainty over the Brex- it’s terms, the six planned interconnection projects linking the UK and the continental grid face the risk of being delayed. In the short term, this could impact security of supply in the UK, limit arbitrage, and thus keep electricity prices in the UK high. In the medium term, the UK leaving the IEM is expected to increase coordination costs for building and operating those interconnectors. As discussed above, from the EU’s perspective, trade of energy products with the UK is of minor importance only. Little surprising, 71% of our experts believe that the UK leaving the IEM would mean more harm to the UK than to the rest of the EU. A study by vivideconomics (2016) supports this view. Excluding the UK from the IEM is estimated to result in an annual loss of up to £500 million. However more recent studies point out that in light of the UK’s relatively small effect in energy trading with the EU, even a hard Brexit would have only a small effect on energy prices in the UK. But with an increase in the share of fluctuating renewable electricity in UK power generation, the economic value of interconnection and frictionless power trading is likely to grow over time because they limit the costs of balancing the grid.

Experts are divided regarding the likelihood of the UK leaving the EU internal energy market

While 42% of our experts believe that it is likely or very likely that the UK will leave the IEM, 47% of the experts think such a move is unlikely or very unlikely. This almost evenly divided response reflects the uncertainty of the current negotiations between the EU and the UK over the Brexit conditions. At this point, one can only speculate about the outcome, but the history of the EU electricity market provides two guiding examples of how participation by non-EU members in the IEM may work. First, Norway is fully integrated in the IEM because it is a member of the energy exchange NordPool (together with other Member States) and of the European Free Trade Area. Norway is allowed to fully participate in all committees monitoring the network codes negotiation process, and Norwegian traders may freely trade electricity across the EU. Second, Switzerland is also fully physically integrated into the EU electricity market. However, since in a referendum in 2014 a majority of Swiss voters failed to grant freedom of movement, the EU blocked full participation of Switzerland in the IEM and froze the integration process. Akin to the Swiss example, the EU may disapprove full integration benefits, if the UK refuses free movement of labour, which was a central demand of Brexit advocates.

If the UK leaves the EU single energy market, how will it affect the EU greenhouse gas emissions targets for 2030?

- The EU target will be lowered: 19%
- The EU target will remain the same and other countries will raise their targets to compensate: 79%
- The EU target will be raised above 40%: 2%

If the UK leaves the EU single energy market, to which extent do you think this will drive French energy companies to change their activities in the UK?

- Partial divestment: 78%
- Total withdrawal: 0%
- Small increase: 22%
- Strong increase: 0%

If the UK is also to leave the Euratom’s regulatory framework as announced, further delays for the construction of Hinckley Point C and other nuclear power stations may loom. In this case, complicated new bilateral agreements would have to be formed.

Do you think the exit of the UK from the EU single energy market will have a more negative impact on the UK or on the EU?

- Both will benefit: 3%
- Both will be impacted equally negatively: 26%
- UK will benefit: 70%
- EU will benefit: 1%
Investment climate: energy transition gaining momentum?

The barometer also gauged experts’ assessments of the investment climate in France for key energy technologies, both at present and five years hence.

President Macron’s platform provides guidelines as to what energy policy to expect from the current quinquennat. Although energy remained a blind spot during the campaign, the appointment of Nicolas Hulot as minister of ecology and solidarity transition and the designation of renewable energies as a “global” theme are strong signals. It may suggest that the new government may be more committed to accelerate the energy transition compared to previous governments. Among Macron’s ambitions are a carbon tax that rises to €100 per ton of CO₂ in 2030, a phase-out of fossil fuels, a reduction of the share of nuclear energy in the electricity mix to 50% by 2025, doubling the installed capacity of solar and wind energy by 2022, accelerating the roll-out of charging points for electric vehicles, and retrofitting the country’s building stock at a pace of half a million renovations per year, starting with the most energy inefficient buildings – energy strainers’. Apart from the carbon tax, which instruments will be favored to achieve these goals is uncertain. Observers have pointed out, though, that most of Macron’s energy plans are continuations of existing policies, most notably the 2015 Energy Transition Law. Still, experts’ assessments of the investment climate for different energy technologies more sharply delineate an energy transition compared to when we asked the same question in the fall of 2015 shortly after the Energy Transition Law was passed.

New energy technologies enjoy a favorable investment climate in France

The assessments of the current investment climates (Figure 5a) show three groups of technologies: conventional (natural gas, nuclear, hydro), new renewables (wind, solar-PV, biomass), and non-energy generating clean-tech (efficiency, e-mobility, smart grids). As before, experts are still generally quite positive about the current investment climate for new renewables and, especially, non-generating clean-tech. More than 50% think that the investment climate is somewhat or very favorable to new renewables, rising to around 70% for energy efficiency, smart grids, and e-mobility. The investment climate for conventional generation technologies was judged the worst by the experts, with 38% rating it as somewhat favourable or very unfavourable.

In the next five years, new energy technologies will benefit while natural gas and nuclear will suffer

This divide between renewables and non-generating clean-tech on the one side, and conventional technologies on the other, is expected to widen in the coming five years (Figure 5b). Experts expect the investment climate in France to become more favorable to renewables, efficiency, smart grids, and e-mobility. Hydro may enjoy a modest renaissance. Nuclear and natural gas, however, are expected to become only less attractive to investors. These assessments show a small shift compared to one and a half years ago. The distinction between new renewables and non-generating clean-tech has emerged. Experts have hardly changed their assessment regarding wind, solar, and biomass, but have become even more optimistic about energy efficiency, e-mobility and smart grids. Furthermore, experts have become more polarized about the investment climate for nuclear and more pessimistic about the prospects for nuclear and, especially, natural gas. Overall, experts may be suggesting that the energy transition is gaining momentum.