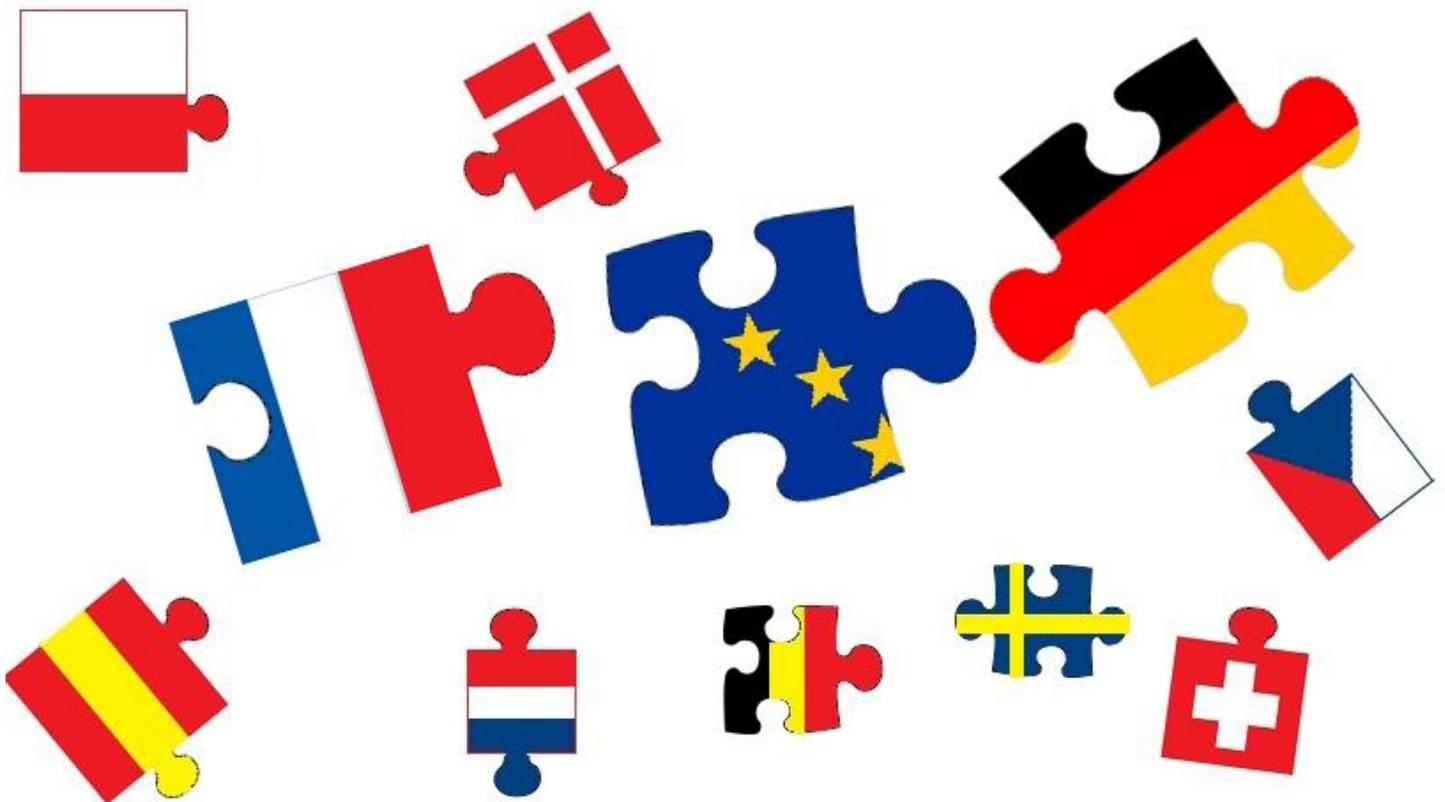


# The German and French Energy Transitions: Have the Two Changed European Energy Policy?

*by Marion Bitoune*



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## The German and French Energy Transitions – Have the Two Changed European Energy Policy?

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With Germany and France – the two powerhouses of Europe – pursuing parallel energy transitions, one could have expected a shift in the general direction of EU energy policy as a whole. Germany and its *Energiewende* is currently viewed as a global pioneer for transforming its energy system and pursuing the twin objectives of decarbonizing its energy supply and phasing out nuclear power. In addition to Germany, France is now also establishing itself as an energy leader by debating to set itself more ambitious energy goals than those of the European Union. It may be too early to assess a change in the general direction of the EU energy policy as a result of what France and Germany are doing, as there are more prominent political priorities and challenges on the European Union's agenda, such as the Ukrainian and economic crises in many parts of Europe. Looking toward the big climate conference (COP) taking place later this year in Paris, a number of countries are slowly getting their climate and energy houses in order, but an energy transition in Europe and beyond is still perceived as a burden on economies rather than as an integral part of a sustainable solution to boosting growth and combating energy security concerns.

### The German Energy Transition

Over the past years, the German energy transition – or *Energiewende* – has attracted a lot of attention from European and international energy policy makers alike. It is about an important shift in Germany's energy system, away from nuclear and fossil fuels to one which is largely based on renewable energy and on greater energy efficiency. The German government set itself ambitious long-term climate targets for the middle of the century: 80-95% carbon reductions by 2050, compared to 1990 levels. By then, Germany plans to have at least 80% of its total electricity consumption coming from renewable sources while reducing the amount of energy consumed by 50%, compared to 2008. Perhaps the most drastic part of the *Energiewende* is Germany's plan for a complete nuclear phase-out by the year 2022. These decisions were made in early 2011 in response to the Fukushima nuclear accident. Today, renewables already form the country's largest source of electricity, having overtaken nuclear and other conventional fossil fuels.

To use the wording of *The Economist*,<sup>1</sup> Germany's *Energiewende* dates back further than the much quoted year of 2011 and "was dreamed up in the 1980s, became policy in 2000 and sped up after the Fukushima disaster in March 2011". Ger-

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<sup>1</sup> <http://www.economist.com/node/21559667>

many's planned nuclear phase-out was not solely an emotional reaction to Fukushima but rather finds its roots in the anti-nuclear movement of the 1970s and 80s, which brought together conservatives, conservationists and environmentalists and the church. Their main concern was nuclear safety and waste disposal that was widely recognized as a major problem throughout German society. Between 1975 and 1987,<sup>2</sup> a few small accidents in nuclear power plants were reported across Germany, which led to local contamination and radiation. The oil crises of 1973 and 1979 and the Chernobyl nuclear accident in 1986 changed the individual's thinking on how energy should be generated. While France decided to go for nuclear, Germany decided to search for alternatives. However, a real change only arrived in the face of the Renewable Energy Sources Act in 2000, with which Germany began to trigger a tremendous boost for renewable energy, particularly wind, solar and biomass. Only after Fukushima did the Energiewende result in plans for a final nuclear phase-out by the year 2022.<sup>3</sup>

In order to evaluate whether and how energy policies in Europe have changed due to France's and Germany's leadership, it is important to take a closer look at the European political realities at the time of the German and French energy transitions in 2010/2011 and 2014 respectively. Since the 1980s, Germany has played a leading role in environmental protection policies in Europe. With its decision in 2010/2011, Germany became one of the first industrial countries to combine the phasing out of nuclear power with a steady increase in renewable energy. However, it was not easy for Germany to initiate this process due to two major obstacles at the European level: First, the Russian gas monopoly Gazprom halted almost all its natural gas exports to Europe in 2009 after a pricing dispute with neighboring Ukraine. The cutoff led to immediate shortages<sup>4</sup> in Europe spreading from France to Turkey. This event put energy security on the top of the list of energy priorities for Europe. Second, following the global financial crisis of 2007-2008, the EU had to face one of its biggest challenges: the sovereign debt crisis. Implementing an energy transition – at first glance perceived as costly – was not a top priority for European energy policy makers. Even though the Energiewende managed to attract widespread international attention, many European neighbors also regarded it very skeptically. As such, Germany has generally been standing alone with regards to its energy policy in Europe. For most of the European media, Germany's energy transition was portrayed as an expensive and rather outlandish experiment, which only a well-off country, such as Germany, could afford.

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2 <http://k1project.org/germany-how-the-nuclear-dilemma-was-born/>

3 It is important to mention that Germany is quitting nuclear power for the second time (<http://www.theguardian.com/commentisfree/2011/jun/01/angela-merkel-germany-nuclear-power>). In 2000, the German government under Chancellor Gerhard Schroeder and Environment Minister Juergen Trittin, the Greens and Social Democrats, and Germany's utilities officially announced plans to phase out the use of nuclear energy by the mid-2020s (<http://www.reuters.com/article/2011/05/31/us-germany-nuclear-events-timeline-idUSTRE74U2D620110531>). However, under a new government in October 2006, Chancellor Angela Merkel declared that it was a mistake for Germany to turn off its nuclear power plants and in October 2008, the law to extend the lifespan of the 17 nuclear power stations by another 12 years to about 2033 was passed. Subsequently, in 2011, following the Fukushima accident, Merkel changed her mind and announced that Germany would be the first industrialized country in the world to renounce nuclear power for good (<http://www.theguardian.com/commentisfree/2011/jun/01/angela-merkel-germany-nuclear-power>).

4 [http://www.nytimes.com/2009/01/07/world/europe/07gazprom.html?pagewanted=all&\\_r=1&](http://www.nytimes.com/2009/01/07/world/europe/07gazprom.html?pagewanted=all&_r=1&)

Seen from France, Germany has always had all the virtues: today, the unemployment rate is low, exports are record-breaking, and public spending is under control. Hence, the French political class and media are accustomed to repeatedly comparing France to Germany, and to looking for a model across the Rhine. However, when it comes to energy, France is reluctant to view Germany as a model. Not surprisingly, Germany's Energiewende suffered from harsh negative comments in 2010/11, most notably on the nuclear issue. For many French opponents to the energy transition, phasing out nuclear makes no economic sense. Nuclear energy is predominantly seen as cheap, and abandoning it would necessarily lead to more expensive energy prices with negative impacts for industry and competitiveness. Thus, seen from France, Germany's Energiewende appeared more as a folly than the right thing to do.

### The French Energy Transition

While Germany chose a nuclear phase-out, France has decided to keep nuclear as the linchpin of its energy system. Currently, France derives 73.3% of its electricity from nuclear energy. In October 2014, the National Assembly voted that France would see its own Energy Transition Towards Green Growth, a law set to reduce its nuclear share to 50% by 2025 while increasing its share of renewables to 32% by 2030 (renewables made up 11.5% in 2013<sup>5</sup>). This move confirms President Hollande's electoral platform<sup>6</sup> during his presidential campaign to embark on a French energy transition. The law also set targets to reduce CO2 emissions by 40% between 1990 and 2030 and to reduce the consumption of fossil fuels by 30% by the year 2030.<sup>7</sup> Finally, it aims at cutting France's energy demand in half by 2050.<sup>8</sup> Many energy experts consider France to be a waster of energy. With the same standards of living, the French consumer uses nearly 25% more electricity than does a German household. Certainly, the French energy transition is more recent than the German one, but it did not appear out of nowhere. The French government launched a national debate on energy policy in 2012, in an attempt to revise the country's current energy system. Several issues were addressed to overhaul France's centralized energy system, including the future governance structure of such a system, the role of renewable and cost aspects. The national debate process was led by groups of trade unions, entrepreneurs, NGOs, consumer associations, mayors, parliamentarians and government ministers. French society was discussing the nuclear issue for the first time ever as nuclear power had been imposed on many as a direct result of the oil crisis in 1974 without any public or parliamentary debate at the time. At the end of this national debate about France's energy transition, stakeholders agreed on three elements for the future of France's energy system: greenhouse gas reductions, renewable energies and greater energy efficiency. Several factors have pushed France to debate its own energy transition, including

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5 <http://www.ladocumentationfrancaise.fr/dossiers/d000552-la-transition-energetique-en-questions/quelle-transition-energetique-pour-la-france>

6 <http://www.parti-socialiste.fr/articles/engagement-41>

7 <http://www.euractiv.com/sections/energy/nuclear-remains-linchpin-french-energy-transition-303832>

8 France is still debating on the exact way forward on its energy transition. For more details, see: <http://energytransition.de/2015/03/french-energy-transition-law-delayed/>

multiple crises in terms of economic, social and environmental degradation on the national level; a weaker diplomatic role of France in international politics, and the exploding costs of nuclear energy. Europe's second largest economy is still going through a severe economic crisis with its industrial sector having suffered a 50% decline in growth rates within the past decade. The economic crisis has also fueled a social crisis: the unemployment rate rose to 10.4% in the third quarter of 2014 and corresponds to the highest level since 1998.<sup>9</sup> In addition to the economic and social crises, air pollution in Paris has hit health-threatening levels over the past few years, measuring up to 80% higher than in London and Berlin in 2014.<sup>10</sup> In international politics, France has also been struggling to remain relevant as was pointed out by Carnegie Europe.<sup>11</sup> As a result, France's role in Europe is also weakened, and it is not surprising to read in the New York Times that "When President Obama, President Vladimir V. Putin of Russia or Prime Minister Li Keqiang of China want to deal with Europe, they care for Merkel, not for Hollande."<sup>12</sup> Finally comes the argument into the equation of the costs of nuclear energy. The economics of nuclear power have changed and recent estimates suggest that it will cost France about 10 billion Euros to upgrade to new safety standards after Fukushima. Maintenance costs are expected to explode as many of the French nuclear plants age. The French energy transition is thus also a way for France to reduce its crippling energy bill of 70 billion Euros. In short, one can conclude that France initiated its national energy transition debate because it needed a new national growth motor, cheaper electricity, and greater international recognition. Even though the text of the energy transition law was adopted by the National Assembly (lower house) last October, in February, the upper chamber (Sénat), mostly conservative, examined the text of the energy policy and made significant changes to it.<sup>13</sup> Here, the nuclear issue has been the main point of discussion. Even though senators agree on reducing the share of nuclear power to 50%, the 2025 target completion date has now completely disappeared from the text of the law. The senate has thus weakened the French energy transition by not setting a detailed schedule for the reduction of nuclear power.<sup>14</sup>

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The political realities in Europe were somewhat different during the initiation phase of the German and French energy transitions. Unlike the German Energiewende, the French energy transition was drafted during the European 2030 energy and climate negotiations. In October 2014, governments agreed that the EU would reduce its emissions of greenhouse gases by at least 40% by 2030, com-

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9 <https://mninews.marketnews.com/content/analysis-france-jobless-rate-jumps-104-third-quarter>

10 <http://www.cbc.ca/news/technology/paris-pollution-hits-life-threatening-level-1.2573059>

11 <http://carnegieeurope.eu/publications/?fa=47705>

12 [http://www.nytimes.com/2014/09/22/world/europe/imbalance-between-germany-and-france-strains-relationship.html?\\_r=1](http://www.nytimes.com/2014/09/22/world/europe/imbalance-between-germany-and-france-strains-relationship.html?_r=1)

13 [http://www.lemonde.fr/planete/article/2015/02/19/transition-energetique-comment-le-senat-a-change-la-loi\\_4580129\\_3244.html](http://www.lemonde.fr/planete/article/2015/02/19/transition-energetique-comment-le-senat-a-change-la-loi_4580129_3244.html)

14 Note on recent political developments in France: the senators expressed their intention to increase France's nuclear capacity from 63.2 GW to 64.85 GW ([http://www.lemonde.fr/planete/article/2015/02/19/transition-energetique-comment-le-senat-a-change-la-loi\\_4580129\\_3244.html](http://www.lemonde.fr/planete/article/2015/02/19/transition-energetique-comment-le-senat-a-change-la-loi_4580129_3244.html)), allowing the nuclear reactor in Flamanville scheduled to go online in 2017, to go online without closing any of the 58 existing nuclear reactors. The National Assembly will have the ultimate say on the legislation ([http://en.europeonline-magazine.eu/french-senate-debates-energy-transition-law-that-would-slash-nuclear\\_376712.html](http://en.europeonline-magazine.eu/french-senate-debates-energy-transition-law-that-would-slash-nuclear_376712.html)).

pared to 1990 levels. The EU set itself a target of at least a 27 percent share of renewable energy by 2030. Furthermore, the French energy transition was being discussed at the time when some countries such as Poland, the Czech Republic and the UK pushed for nuclear power and as the German Energiewende was facing its first hurdles. One witnesses a truly European division on this subject as Germany, Belgium, Switzerland and Austria are all turning their back on nuclear power, the Czech Republic, Slovakia and Hungary are pushing ahead with plans to increase their production of nuclear.

### **Have the European Energy Dynamics Changed as a Result of the French and German Energy Transitions?**

At first glance, the German Energiewende and the French energy transition discussion may appear as having emerged in somewhat similar contexts: both countries had to face an unprecedented economic crisis and a threat to their energy security. In 2010/11, the European debt crisis was still felt among many European countries; in 2014, the crisis prevailed. As if this were not enough, the Ukrainian crisis, which began in 2014, has propelled energy security back to the top of the list of the European political priorities. However, the debate is not new, it has merely been enlivened since the first major supply disruptions from Russia occurred in 2006 and 2009. Today, we see a decline in oil prices, the EU 2030 package has been agreed and the decisive COP21 is taking place in Paris later this year, all events create the perfect conditions in which France can review its energy system. On the one hand, France's energy transition evolved in a somewhat favorable context: While Germany launched its energy transition by itself in 2010/2011, the French energy transition coincides with two major diplomatic events: the EU 2030 climate and energy package and the climate meeting COP21 in Paris later this year. By hosting the COP21 in December 2015, France has the perfect opportunity and platform to promote the Energiewende à la Française. On the other hand, while Germany was moving ahead unilaterally back in 2010/11, France can now learn from Germany's energy transition experiences and mistakes.

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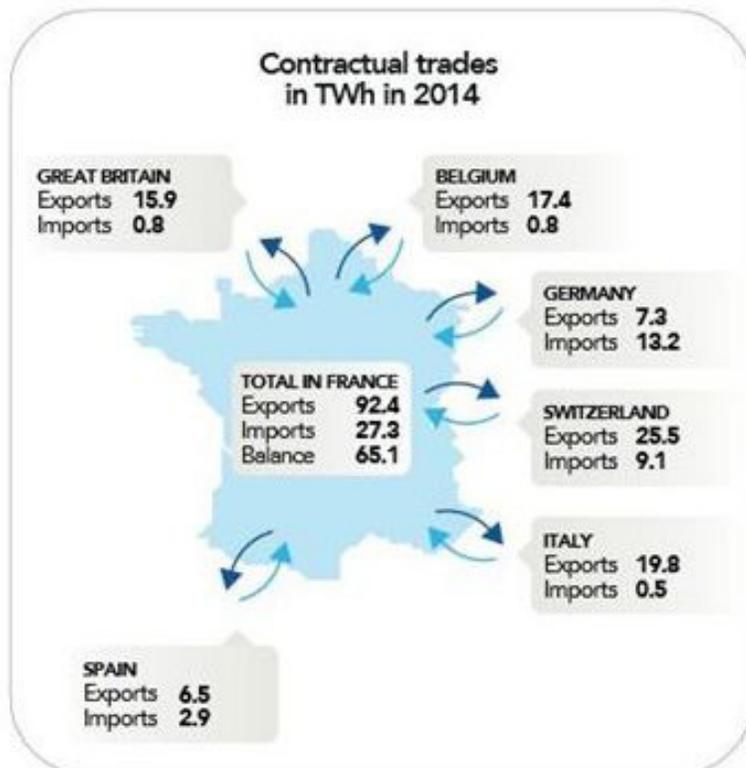
There is a reason for why neighboring countries reacted so strongly to Germany's Energiewende: Germany is surrounded by nine countries, which makes the energy transition a European if not an international issue. The shift toward renewables and energy efficiency has obvious impacts on neighboring grids and energy systems. The German Institute of Applied Ecology (Oeko-Institut)<sup>15</sup> examined the recurring complaints of Germany's neighbors and observed that Poland, the Czech Republic and Switzerland complained mainly because they had to confront uncontrolled surges in renewables, which are destabilizing their national grids. Germany is often using other countries' grids to transport renewable power from the northern parts of the country to southern parts. As a result, many Polish conventional power firms are not able to generate as much power as they would otherwise do because the Polish grid fills up with cheap German power.

Across the Rhine, it is too early to assess the direct impact of the French energy

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<sup>15</sup> <http://www.oeko.de/oekodoc/1635/2013-005-en.pdf>

transition on its neighbors since it has not yet been fully implemented. In 2014, France remained the leading electricity exporter in Europe. Net exports amounted to 65.1 TWh at the end of 2014, + 18 TWh against 2013 and a record high since 2003.<sup>16</sup> As the graphic shows, France is a net exporter of electricity to the U.K. and all its neighbors except Germany. France remained a net importer of electricity from Germany in 2014.



Source: RTE: [http://www.rte-france.com/sites/default/files/2015\\_01\\_27\\_pk\\_rte\\_2014\\_french\\_electricity\\_report.pdf](http://www.rte-france.com/sites/default/files/2015_01_27_pk_rte_2014_french_electricity_report.pdf)

In 2014, France decided to join Germany on the energy transition path. Admittedly, both countries have different climate and energy targets and different approaches but both countries have the same goal to avoid a global 2 °C temperature rise. And both must contend with energy security issues. The political dynamics have changed somewhat since Germany progressed on its own in 2010/11; today, France can count on its German neighbor as a supporter and one from which to learn. Therefore, one could have expected to see a change in European energy policy due to Germany and France both undergoing energy transitions. This has not happened however.

One could wait for France and Germany to be the only ones able to push EU energy policy further. Under political pressure from the United Kingdom, Poland and the Czech Republic, the European Commission adopted the goal of increasing the

<sup>16</sup> [http://www.rte-france.com/sites/default/files/2015\\_01\\_27\\_pk\\_rte\\_2014\\_french\\_electricity\\_report.pdf](http://www.rte-france.com/sites/default/files/2015_01_27_pk_rte_2014_french_electricity_report.pdf)

**Both countries have different climate and energy targets and different approaches but both countries have the same goal to avoid a global 2 °C temperature rise. And both must contend with energy security issues.**

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share of renewable energy to 27% across Europe. However, many experts claim that this lies considerably below what is possible as shown in the 2030 targets by France (32%) and Germany (45%) respectively. The United Kingdom and Czech Republic called therefore for a 'light touch'<sup>17</sup> approach towards European 2030 energy targets and asked the EU to support member states that wanted to invest in nuclear or carbon capture and storage (CCS) technologies instead of renewable energies. Instead of taking the lead of the energy transition, France and Germany were left high and dry.

The energy transition discussions of France and Germany are still perceived by their European neighbors as a burden and not yet as an opportunity for growth. The energy transition is characterized as extremely costly and – at the same time – portrayed by many as the only solution for Europe to recover from the economic crisis. Europe is facing economic, environmental and social crises and the energy transition could be the driver for sustainable economic growth across the union. Energy security is getting the upper hand on the narrative of the energy transition. As global energy demand is rapidly increasing and expected to grow by 37% by 2040<sup>18</sup>, the endless instability in energy producing regions, for instance the Middle East, and the recent events that occurred in Ukraine, have made energy security a key concern among the member states. Europe is currently importing 53% of the energy it consumes: crude oil (almost 90%), natural gas (66%), solid fuels (42%) as well as nuclear fuels (40%).<sup>19</sup> Therefore, the time has come when it is in Europe's interest to start exploring alternative sources and considering energy transitions as part of the solution. This realization – that an energy transition could help battle energy insecurities – has not yet fully reached serious European policy discussions.

In conclusion, France's and Germany's energy transitions have not changed EU energy policy for the simple reason that these were never constructed – or thought of – in a European way. When Germany decided to embark on its Energiewende and to phase out nuclear power by 2022, it did so by itself without taking many neighboring countries' relevant concerns into consideration. Instead of being initiated as a European project, the Energiewende in both Germany and France was always only national. By ignoring that energy transitions could provide an answer to the current energy challenges to the Union as a whole, e.g. energy security, costs, and the single market, Europe will lose more in the long run. The example of Germany is proving that economic growth is possible despite an energy transition; in fact, they are directly related. France and Germany should do more to push for a truly European energy transition that would benefit both national energy systems while, at the same time, strengthening European energy security, reduce energy prices and leading to economic growth across the Union.

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<sup>17</sup> <https://euobserver.com/environment/127120>

<sup>18</sup> [http://www.iea.org/publications/freepublications/publication/WE0\\_2014\\_ES\\_English\\_WEB.pdf](http://www.iea.org/publications/freepublications/publication/WE0_2014_ES_English_WEB.pdf)

<sup>19</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52014DC0330&from=EN>