Note de l'Ifri

The European Energy Policy: Building New Perspectives

Cécile Maisonneuve

April 2014

ifri

Centre Énergie

The Institut français des relations internationales (Ifri) is a research center and a forum for debate on major international political and economic issues.

Headed by Thierry de Montbrial since its founding in 1979, Ifri is a non-governmental and a non-profit organization.

As an independent think tank, Ifri sets its own research agenda, publishing its findings regularly for a global audience.

Using an interdisciplinary approach, Ifri brings together political and economic decision-makers, researchers and internationally renowned experts to animate its debate and research activities.

With offices in Paris and Brussels, Ifri stands out as one of the rare French think tanks to have positioned itself at the very heart of European debate.

The opinions expressed in this text
are the responsibility of the author alone.

ISBN: 978-2-36567-272-6

Ifri

27, RUE DE LA PROCESSION
75740 PARIS CEDEX 15 – FRANCE
Tel: +33 (0)1 40 61 60 00
Fax: +33 (0)1 40 61 60 60
Email : accueil@ifri.org

Ifri-Bruxelles

RUE MARIE-THERESE, 21
1000 – BRUSSELS – BELGIUM
Tel: +32 (0)2 238 51 10
Fax: +32 (0)2 238 51 15
Email: bruxelles@ifri.org

Site Internet : *Ifri.org*

Table of Contents

Acknowledgements

I thank the team of the Centre for Energy at the Institut français des relations internationales for its constant support and attentive re-reading of this text, especially Marie-Claire Aoun, the Director of the Center, and Jacques Lesourne, Chair of its Scientific Board.

Introduction

"After 17 years of supranationality, we are still seeking how to define a common energy policy and what it might be. [...] Could we have done more in one generation? Or were goals only established to achieve a political balance which it was explicitly agreed to ignore, once the machinery began to operate? Historians will have a hard task to distinguish between excessive ambitions and national hypocrisies".

While the completion of the internal market in gas and electricity has been announced for 2014, the above observation could indeed be an assessment of the 17 years which have lapsed since the first liberalisation package was adopted in 1996-1998. In fact, this scarcely optimistic judgment was made of the ... European Coal and Steel Community in 1970.[1]

Today a similar assessment could be made: **Europe's policy is surely progressing**, and common measures, instruments and rules have been adopted. But at the same time it is possible to observe, paradoxically, **a multitude of symptoms reflecting the profound malfunctioning of the system**. A European gas market is indeed being constructed, but it remains highly exposed to geopolitical risks, as borne out by the 2014 Ukrainian crisis. Similar problems exist in electricity. There are more and more interconnections between countries. But the backdrop is of dysfunctional price signals and physical deterioration of the networks. Meanwhile the market for CO_2 emissions is not fulfilling its role. Another paradox concerns investments, which need to be substantial for networks and for the management of demand. But, it is precisely at this moment that some major power companies and investors have adopted strategies to avoid Europe, stung by policies which no longer provide any mid- or long-term price signals. More profoundly still, an autarkic model is emerging with a return, if not an apology, of individual production by individual consumers and industries that are completely ignoring solidarity.

[1] "Dans l'histoire de la CECA du rose et du gris ", *Le Monde*, 9 mai 1970.

Does it mean that the construction of a European common energy policy is stuttering? Should our collective and chronic incapacity to build a common European policy be accepted fatalistically?

Renunciation would be more than an error: it would be a serious mistake. **The construction of a common energy policy is not an option, but rather a duty. At stake is nothing less than the European Union taking control of its own energy future and ultimately its economic and strategic destiny:** the issues involved are geopolitical and geo-economic.

Geopolitical because Europe is and will remain dependent on external supplies of hydrocarbons, even if the EU develops a pro-active and sustained policy for domestic production, whether it is based on coal, hydroelectricity, wind power, solar power, nuclear and geothermal power, shale gas – or energy efficiency. If the aim of reducing dependency and the ensuing energy bill need to be pursued, care must be taken in choosing the path and manner of reducing such dependency. Along with all the other major regions of the world, the European Union cannot take the risk of considering that the era of hydrocarbons is over, for physical, geographical, geological, economic and industrial reasons. And the EU must not under-estimate the problems relating to accessing resources. In fact, countries claiming that they are building a new energy paradigm are also the ones pursuing policies of energy security and establishing for themselves a direct access to producing nations bordering the EU. **Is it for the President of the United States to remind Europeans that before accepting energy dependency fatalistically they should also be exploiting their own resources better?** This is indeed what Barak Obama asked at the European Union-United States summit in Brussels, on 26 March 2014.

Geo-economic too. According to the latest *World Energy Outlook* by the International Energy Agency (IEA), Europe (along with Japan) is likely to be among the losers in the global economic competition for exporting energy-intensive manufactured products.[2] In contrast, emerging countries and the United States as well will gain market shares. Of course, thanks to innovation as well as technology and marketing policies, we can develop other export activities. But here too, it is difficult to find the right balance between a policy geared to new industries based on post-fossil fuel energy systems and traditional industries inherited from the coal and oil revolutions. Indeed, we may have too quickly proclaimed our entering the post-industrial era, while not enough work has gone into the continuities between “old” and “new” industries.

[2] IEA, *World Energy Outlook 2013*, November 2013.

The origins of Europe's severe energy policy problems lie in a failed economic approach, which itself can be partly explained by political and ideological causes. This study seeks to address these political issues. **Energy is not an exclusively economic issue**, far from it. Since taxation and diplomacy are key aspects, **energy is necessarily a political issue that policy-makers must handle**. From this point of view, **2014 has to be seen as a political opportunity**: it needs to be a year for re-founding a common policy fundamentally, based on **two principles**. First is the principle of **realism**, which implies re-situating energy policy in its international environment and putting the issue of costs back into the heart of political decision-making. The second principle is **solidarity**, in other words the clear restatement that there is a European general interest... which is not the sum of 28 national interests, but also that energy should be viewed as a system, and not as a collection of local policies and interests. **Europe's common energy policy must retain its long term goal of ensuring the energy transition, but it must review the path to achieving this**. This transition cannot be a technical, economic and geopolitical bet, which is presently the case. It has to be a controlled undertaking, implying governance and instruments. More generally, the transition requires a very different state of mind (see Section III below), compared to today's technocratic and non-cooperative approach (Section II), which has led to the prevailing state of energy chaos in Europe (Section I).

The Chronicle of a Chaos Foretold

"Lead by example" was the ambitious slogan of the European Union in 2008 when it adopted its new climate and energy package which was supposed to lead to less CO_2 emissions, while increasing the security of supply in the Union, at reasonable costs in order to maintain competitiveness. It was a time of euphoria: at last, energy had come within the scope of common policies, ending a highly paradoxical situation. Though "two of the three [EU] treaties are devoted to this raw material: the ECSC Treaty (...) and the Euratom Treaty",[3] and while "the Communities had borne the brunt of several energy crises",[4] the Community Treaty was almost silent on the issue until Lisbon.

The Lisbon Treaty has put an end to this anomaly and represents a real turning point. But until now, it has failed to prove its effectiveness. **Five years after the legal birth of a true common energy policy, any assessment of what is commonly called "European Energy Community" is chaotic**.

2014 was meant to mark the completion of the internal market for gas and electricity, but the situation in these markets is mixed. If the gas market is indeed being set up legally, it is economically and industrially speaking a disaster. For electricity, inconsistencies between policies and the market model have pushed this "market", which is not really one, to its limits, endangering the safety margins of the system. This is a totally paradoxical situation for a domestic energy generation method which is not subject to the vagaries of geopolitics. From this point of view, it is a clear failure of the policies pursued for ten years.

[3] Claude Blumann in Claude Blumann (dir.), *Vers une politique européenne de l'énergie,* Bruxelles, Bruylant, 2012, p. 3.
[4] *Ibid*., p. 2

The gas market: too long in the making

The Ukrainian crisis and the threats it could pose to our gas supply raise the following question: **has the internal gas market that has been gradually emerging since the first directive in 1998 led to increased European security of supply? Asking this question is particularly relevant as the internal market is being completed. It is another way of examining the adequacy of the proposed market model for gas and the reality of the geopolitical and economic context.**

This is a crucial question in the short, medium and long run:

- first because Europe has built much of its climate and energy strategy on gas, at the expense of coal in particular, as well as nuclear power. Given its flexibility, gas is the most suitable energy source to deal with the intermittency of renewables producing electricity: it should be recalled how before the crisis, a "gas-renewables" combination was put forward as the flagship solution of the energy-climate policy which was being formulated. Moreover, although a fossil fuel, gas was intended to push out coal, as it emits half as much CO_2 when burned. But little was said about how this combination would lead to the decarbonisation that was at the same time featured in the roadmap to 2050: combined cycle gas-fired power plants, though more modern, still do not emit less CO_2; nothing was said about associated carbon capture and sequestration (CCS) techniques, operating under satisfactory economic conditions...

- Next, in view of the long-term exhaustion of reserves in the North Sea, Europe could become more than 80% dependent on imports for its gas consumption. In this context, Russia, which holds the world's largest reserves, was/is expected to see its place consolidated as a supplier to members of the Union. Some estimates see it providing 70% of the EU's imports. In other words, **if the heart of our climate and energy strategy is based on an energy source on which we are set to become increasingly dependent in our external supply, it is absolutely essential that we do not get the model market wrong**. Currently, the external supply of the Union is oligopolistic, with two countries – Norway and Russia – accounting for almost 60% of supplies.

To what extent is the "external" component and its oligopolistic nature taken into account? From this point of view, the 2009 crisis provided lots of lessons.[5] The market integration model as originally designed was supposed to put different supply sources into competition. In fact, it appears that the introduction of market instruments is not sufficient in itself to increase diversification, due to physical realities: namely the existence of transport infrastructure for the physical delivery of gas. The market model works when physical infrastructures exist which allow supply to be diversified: e.g., pipelines and regasification terminals for liquefied natural gas. Nor is the market model, which is based on short term decisions, really capable of providing interconnection facilities and the construction of new infrastructure. Indeed, this is the very purpose of European infrastructure projects. However, it remains to be seen whether gas will benefit from such investments in the face of the huge needs which exist in electricity, which have been compounded by the uncontrolled development of renewables. Similarly, the creation of virtual hubs in order to establish trading platforms where market players (European or not) can trade, do not seem sufficient to promote competition at present. Facilitating the entry of new players into the market is particularly complicated, in an area where entry costs are very high, and even more so in the face of extremely powerful companies from countries sitting on huge reserves. Indeed, the latter have also adapted to the new market conditions, creating trading subsidiaries. This allows them to move down the value chain, ranging from exploration to production in downstream markets.

As these market instruments have been implemented, three events have occurred in the gas markets which have had a major impact on European markets: i) the development of an international market in liquefied natural gas (LNG); ii) the Fukushima disaster; and iii) the boom in US shale gas. The first favours downward pressure on gas prices and a renegotiation of long-term contracts with shorter maturity without the continued indexation of gas on oil prices. Fukushima, in contrast, created tensions in the LNG gas market, leading to massive price gaps between Asia and Europe, and limiting the amount of gas available for Europe. The boom in US shale gas means that, for now, the development of LNG by major gas players is shifting to Asia. It has also released massive quantities of coal onto the markets, with prices halving in five years. All these tectonic movements have occurred against a backdrop of a historic slowdown in Europe's demand for gas, due to the economic crisis: this is a trend that the International Energy Agency expects to continue until the end of the decade.

[5] Laura Parmigiani provides an extensive analysis of the European market model, and an initial assessment in a memorandum entitled, *The European Gas Market: A Reality Check*, Note de l'Ifri, March 2013.

To complete this broad panorama of the European gas market, it is worth mentioning the development of the North Stream project. At a time when the EU has been putting in place a gas market based in particular on ensuring access to third parties to transport infrastructure, Europe's main importer of gas – Germany – has promoted a private pipeline project, guaranteed by Deutsche Bank and the German KfW, which directly links Germany to Russia.

To date, the policies pursued by the European Union have not allowed it to escape its energy destiny: the EU is caught between incomplete liberalisation that is not fitting with geopolitical realities, national strategies of going it alone, and major upheavals in international markets. As a result, the EU faces relatively high prices and permanent questions over supply security:

- While Europe pays less for its gas than Asia, it is also true that new references are appearing, for example in the UK, where the spot price is influenced by both the price of gas and the context of the LNG market: this is increasingly challenging the historical link between oil and gas. Nevertheless, price differentials with the United States remain substantial (two to three times). The export of US shale gas after 2016 will not change this situation: the costs of liquefaction, transportation and re-gasification should more or less lead to the same price or more, on average, than for gas delivered by pipeline. However, the question remains open in the long term, given that Russia's ability to pursue its current strategy of gaining market share is not infinite.

- From the strict point of view of security of supply, Russian gas has actually seen its market share of European gas purchased outside EU borders fall from 42% in 2002 to 32%, according to Eurostat. Yet, it should be recalled that Russia also provides 27% of the EU's coal imports and 34% of crude oil, making it the biggest provider of energy outside of the European Union. It should be noted, however, that the issue of supply security concerning Russian coal and oil is never raised, because of increased supply diversity in these global markets. The average market share of Russian gas hides very different situations, ranging from France which obtains 15% of its gas imports from Russia, to more than twice this proportion for Germany, and four times as much for Austria, Poland and the Baltic countries, which rely almost exclusively on Russia. Similarly, the proportion of gas transiting through Ukraine has been reduced, falling to 40% today. To explain this evolution, it is difficult to

> disentangle the role of exogenous factors and the impact of policies implemented. There is no doubt that several factors have had a non-negligible impact on greater diversification, including: the growth of the LNG market, US shale gas, and Germany's energy strategy. In some ways, the liberalisation policy has strengthened the oligopoly of outside suppliers to the Union, and therefore primarily Gazprom. This is not a positive or negative value judgement: in fact Gazprom has *de facto* become a European company, which is very present on the trading market and in storage.[6] Indeed, Gazprom is now treated as a European company by the EU's DG Competition... The only valid question is whether this was really a desired result.

Market reforms alone have not incorporated long-term considerations enough, even though these are needed to finance transport and storage infrastructure for major change to occur. Indeed, there is today a spreading awareness of the adverse effects of such short-termism. Yet it remains to be seen if this will result in the establishment of policies and regulations, as well as adequate investment. The current crisis in Ukraine could stimulate a more pro-active approach in the matter.

At the same time, however, the consumer side of the gas market is in a disastrous state. The recent decision by GDF-Suez to depreciate massively the gas assets in its accounts for 2013, in the wake of closure of many combined cycle plants, is a clear alarm signal. The economic situation is not the only issue here, as this energy giant also wants to position itself on the European market as a provider of energy services, and no longer as an investor in electricity generation from conventional power plants. But this approach seems to be a direct, result of the distorted vision induced by the current functioning of markets. **Significantly, while reform aimed at increasing the transparency and the flow of information is being adopted, most of the major players did not see the collapse of gas markets in Europe coming. This is paradoxical and is an especially worrying message for the future. If, in Europe's energy transition, gas is to remain the primary energy source in**

[6] On 26 March 2014, the German Ministry of Economics confirmed that it had no reservations concerning the agreement between Wntershall and Gazprom, signed in December 2013. This agreement involves the transfer of gas storage sites in Germany to Gazprom, in exchange for gas production facilities in Siberia which will go to Wintershall, a subsidiary of the German chemical company BASF. The operation will provide Gazprom with control over 20% of German storage capacity, which may be used in case of gas shortages. Source : Thibault Madelin, Les Echos, 27 mars 2014, available at: http://www.lesechos.fr/entreprises-secteurs/energie-environnement/actu/0203399845316-berlin-pret-a-accroitre-sa-dependance-en-gaz-vis-a-vis-de-moscou-660102.php?xtor=RSS-2007.

electricity, heating and even transport, it must be asked where the investors are who will build this future.

Optimists may view this brutal rationalisation of production capacity both as a needed shake-out of overcapacity in the market and as a logical consequence of the development of renewables, which calls for a profound change in the business model, as well as in markets and companies. In fact, changes to the model relate not so much to investment by the market in production capacity. Instead, they lie more in services and the management of demand, their capacity for smoothing intermittent energy flows, storage and transport, all of which are left in the hands of public policies and so outside the market. Pessimists have a tendency to challenge this great leap into the unknown, as massive storage technologies have not yet been developed, and public authorities are being solicited at precisely the moment when their capacity to invest is diminishing.

In any case, **given that the game is so closed in terms of deciding permanently between market forces and energy security, it must seriously be asked whether the use of shale gas should not be seen as a real "game opener" at the European level**. Europe – along with others – will obviously not be able to reproduce the US experience (the famous "game-changer"). But the geopolitical situation should reinforce the search for new, domestic energy sources in Europe, including shale gas and oil. **In association with an accelerated implementation of the gas market, such a policy of developing domestic resources under favourable economic conditions will reinforce the energy security of the Union**.[7]

The Electricity so-called "Market"

Everything has more or less been said about the farcical situation of the European electricity market, whose major outlines are given below.[8] The spectacular development of renewable energy, which has benefitted from public subsidies and priority access to electricity networks, has led to significant overcapacity. This in turn has caused electricity prices to fall in the wholesale markets: a fall which no economic experts in the public sector nor in the major private energy companies had anticipated. Again short-sightedness has prevailed,

[7] For an informative account of Europe's gas industry see Marie-Claire Aoun, *Europe-Russie : l'interdépendance énergétique est-elle une fatalité ?*, Edito Énergie, avril 2014, available at: http://www.ifri.org/?page=detail-contribution&id=8077?

[8] Of the many studies on this subject, an excellent report has been published by France's Commissariat général à la stratégie et à la prospective, *La crise du système électrique européen – Diagnostic et solutions*, collection « Rapports et documents », janvier 2014.

and it is interesting to see why... At the same time, given the intermittency of electricity from renewable sources – wind and solar power – thermal power stations supplied by gas, which have to take over when wind and/or sun are insufficient, operate less, and in a fluctuating manner. This reduces their profitability and increases their attrition rate. Some state-of-the-art gas-fired combined cycle power stations have been mothballed and according to actors in the industry as much as 50 GW has been withdrawn from the network in recent years. Coupled with a collapse of the ETS market, this situation has encouraged the use of coal. It is now the most competitive and most abundant energy source on the market, especially as the unconventional gas revolution in the United States has released massive quantities of American coal for export. According to the regulator and the operators of German networks, it was estimated in November 2013 that ten new coal plants (the equivalent of 7,985 megawatts) are to be connected to the network in the next two years, increasing electricity generation capacity from coal by a third. **This bleak picture should however be qualified in one respect: enormous progress has been made in recent years in the field of interconnections, despite the difficulties of coordination**. Market integration has been achieved with network managers who collaborate effectively. In terms of interconnections, Europe is indeed progressing in small steps, and concrete achievements are being realised.

In terms of future investments in new, non-subsidised forms of electricity generation, the fall in electricity prices in wholesale markets constitutes a negative price signal: who would want to invest massively in thermal power stations that will operate far below breakeven levels? **The present malfunctions are leading to a wholly paradoxical situation: while the rise of intermittent energy sources has never required such large production capacity capable of smoothing out supply, investment in output has never been less attractive**. As a result, every government has been forced to react with urgency to guarantee the continuity of electricity generation. Member States are thus advancing in dispersed order to ensure capacity mechanisms... which raises the danger that in a few years Europe will be suffering from excess capacity. **The situation is all the more worrying as the fall in wholesale prices is not benefiting consumers**: the cost of developing renewables is high, and investments are needed in existing power stations, even without counting the modernisation of the networks. Prices are thus clearly on an upward trend. **This paradoxical situation is surely the greatest failure of the policy implemented since 2007, and thus calls for a reform of policy. The squeeze on households is politically and economically unsustainable**.

It is five years since Europe's climate and energy package was adopted, with its famous "20/20/20" goals. **The rapid deterioration of the electricity market has two causes: i) the incoherence of Europe's strategy, and ii) its unsuitability to**

international trends, which Jean Pisani-Ferry has called the "forecasts that turned out to be wrong", in the diagnosis presented by France's Commissariat général à la stratégie et à la prospective.

Returning to the international context, three exogenous shocks have indeed shown up the weaknesses of the climate and energy package: i) an economic crisis whose brutality and scale are not much compatible with the promotion of expensive energy sources; ii) the revolution of unconventional hydrocarbons in the United States, which has undermined "peak oil" arguments and has created a positive competitiveness shock to US industry; and lastly iii) the failure of the various international negotiation rounds aimed at reaching a global climate agreement. This means that the European Union is alone in bearing the burden of costly emissions reductions that are little effective internationally as other major emitters are absent from any agreement.

This rapid and profound change in the global energy paradigm highlights the contradictions and inconsistencies that have been latent in the climate and energy policies pursued so far by Europe. These contradictions are largely linked to the way the EU's present energy policies have been piled up one upon another, each corresponding to three phases in time and to three priorities, and reflecting the primacy of ideology and politics prevailing at various times.

The first wave of measures was part of **the overall goal of developing the internal market and the opening up to competition of a sector that had previously been dominated by large national monopolies.** This wave was strongly determined by the DG Competition, and the policy was launched with the introduction of the first Directive on opening up the electricity market (1996). **This was the main paradigm of Europe's energy policy for a long time**. An integrated market was to provide numerous benefits, including a more efficient allocation of production capacities and the improvement of European competitiveness due to lower energy costs.

During the last decade, new constraints have emerged, bringing the fight against climate change to the foreground of European policy priorities. In December 2008, the European Union adopted its "climate and energy package" as part of its climate policy. This package legitimised three goals for 2020: i) improving energy efficiency by 20%; ii) reducing green house gases (GHGs) by 20% compared to their level in 1990; and iii) raising the share of renewable energies in final consumption to 20%. A direct consequence of this last objective was that the share of renewable energy sources (RES) in electricity production was set to rise to 20.3% by 2010, and to 35% by 2020. These political choices were introduced just before the crisis, under the influence of the all-powerful DG Climate, and were in

contradiction to the liberal perspective which has shaped market liberalisation policies since 1996. In fact, they implied a significant return of government in the energy sector, especially via the impact of support mechanisms. Economic circumstances subsequently expanded the role of government further, especially as fiscal stimulus policies in 2008-2009 were often dominated by the subject of "green growth": the idea here was to use government support for renewable energies to stimulate investment and employment in new industrial sectors.

Today, with the economic crisis still in the background, competitiveness has returned in full force. This priority had been somewhat put on the backburner during the "environmentalists' decade". It is being promoted by the DG Enterprise and Industry, which has traditionally been a weaker DG in the Brussels system, and competitiveness is being demanded ever more strongly by industry. However, the industrial sector is divided. On the one hand, energy companies and suppliers of technology want clear signals in terms of carbon prices and support mechanisms for renewable energies, in order to prepare their financial and investment plans. On the other hand, energy consumers, and especially energy intensive industries are challenging Europe's very posture as a global leader in fighting climate change.

Ultimately **however, a policy which was to lead to more competitiveness for the economy, supply security and less CO_2 is likely to lead to opposite results** as far as the first two objectives are concerned and is not very convincing in terms of ensuring the permanence of the latter. **Furthermore, the electricity market remains largely a figment of the imagination: the competitive share of prices for all final consumers is still less than a quarter of all retail prices – 15 years after the liberalisation of the electricity market**. In this context, "*it may be asked whether the situation in which everyone nurtures the illusion that the market is working is not in fact worse than central planning: at least the latter would be less hypocritical*".[9]

Energy costs are rising for households and most companies, while the assets of energy companies are depreciating: is this an accident or a permanent and desired result, linked to intrinsic characteristics of the historical development of renewable energies? If the latter is true, it raises two further questions: i) should the functioning of the market and the business model of electricity producers be adapted?, and ii) when will consumers be able to benefit from lower prices? For the most

[9] C. Mandil, A. Bressand, C. van der Linde, Giacomo Luciani, J. McNaughton, M. Mulder, Rapport pour Synopia, « *Une nouvelle politique européenne de l'énergie ? Constats et propositions* », March 2014, available at www. synopia.fr.

enthusiastic supporters of the policy, the cause is clear enough: higher costs stem from “investments” that will bear fruit later, in terms of lower installation costs, increased energy independence, the creation of new energy industries, and ultimately a fall in the production costs of electricity. Whether it is in terms of creative destruction *à la* Schumpeter, or “brighter tomorrows” with a Marxist tinge, everyone can see that the climate-energy strategy is not viable without government intervention in electricity. This is especially due to the excessively rapid development of renewable technologies, which are not yet economically mature in most cases.

An assessment: the weakened credibility of Europe’s energy policy

Europe’s energy situation is worrying in itself, given the weight of energy in industrial production costs.[10] It is even more worrying compared to Europe’s main trade partner, the United States. The revolution in non-conventional hydrocarbons is in full swing for gas in the United States, yet only just beginning for oil. It is leading the US to increase its energy security, competitiveness and even reduce its greenhouse gas emissions in electricity production, as coal is being substituted by gas. The US economy is also benefitting from a gas price which is a third of Europe’s, allowing it to profit both from an energy source and a raw material which is abundant and cheap. The energy revolution in the US is in the process of being paralleled by a (new) industrial revolution: the country leading the revolution in new technology is again developing old technologies. Refining is flourishing and investments are also proliferating in the petro-chemical sector. A competitiveness gap has opened up significantly within the space of a few years: while European and US costs in petro-chemicals were pretty similar in 2005, Europe today has joined high-cost China, whereas the US has seen its costs fall, to levels close to the Middle East.[11]

The US energy revolution is good news for multinational companies in the oil and oil services sectors, from a technical point of view (feedback experience in the US benefits the whole sector, including in conventional areas) and from a business point of view. The revolution is also good news for heavy industry, especially chemicals, which may reorient investment to the other side of the Atlantic. But it is catastrophic for European industries that are

[10] Energy may account for 50%, or even 70%, of total costs in electricity-intensive industries.

[11] See Sylvie Cornot-Gandolphe, *The Impact of the Development of Shale Gas in the United States on Europe's Petrochemical Industries*, Note de l'Ifri, November 2013, available at http://www.ifri.org/?page=contribution-detail&id=7917&id_provenance=103&provenance_context_id=16.

suffering from US competition and rising energy costs at the same time.

The impact of the negative shock is such that **the issue of energy costs and their impact on competitiveness is now centre-stage in Brussels, where it is directly challenging environmental concerns, and so far no-one has been able to formulate a way for reconciling the two. The semantic shift from the "energy security-competitiveness-fight against climate change" *triangle* to a *trilemma*, which by definition means these objectives are irreconcilable, is also indicative of the great ideological confusion that currently dominates the European situation**. Indeed, the confusion is such that even rational analyses are little heard or not at all. There it goes when the Commission demonstrated in its communication of 22 January 2014, with supporting figures, that real energy costs for industry in the European Union are "among lowest in the world"...[12]

The reason is simple enough: following the great euphoria of the 2007-2008, when for the first time the European Union put forward an "ambitious and integrated" strategy (Jean-Pisani Ferry),[13] the return of the technical and economic realities in the energy world has been brutal and full of disillusions. More profoundly still, with the fall in energy costs in the United States, a whole dimension of the public discourse underpinning the fight against climate change has collapsed. The founding syllogism no longer works – "energy costs will rise everywhere: but this type of growth will allow consumption to be cut on the one hand, and renewable energies to be financed on the other hand, even if they are more expensive than fossil fuels: therefore, we will also be able to cut our greenhouse gas emissions". **Europe's energy crisis is technical, economic but also political, and even intellectual. It is a crisis of confidence, in a strategy, in instruments… and in the promoters and coordinators of this policy.**

[12] http://ec.europa.eu/energy/doc/2030/20140122_communication_energy_prices.pdf .For a written account see Enerpresse, 30 janvier 2014.
[13] In Commissariat général à la stratégie et à la prospective, ibid., p. 3

The Roots of the European Energy Crisis: Ambition without Vision nor Means

"Energy is the happy surprise of the Lisbon Treaty (...) it is indeed an area in which we have expected too much because it is urgent".[14] **Reporting on the crisis, if not the failure, of Europe's energy policy crisis, just five years after it came into its own in Europe's institutional edifice is a clear paradox**. Back in 2008, few doubted that "[t]hanks to the Lisbon Treaty,[15] a relatively serene future was likely to take shape in this common policy, which nonetheless respected the specificities of Member States and of the various types of energy sources".[16]

The complex web that today makes up Europe's energy policy does not facilitate the search for the origins of this crisis. Two pitfalls should be avoided in particular: the lazy and simplistic questioning of "Brussels", and the fatalism of merely incriminating exogenous shocks – the economic crisis, the revolution in shale gas, etc.

To be sure, errors of anticipation are evident. But, they are not only **political** (the overestimation by the European Union of obtaining an agreement on climate change at Copenhagen), or **macroeconomic** (the magnitude of the crisis that has, for example, neutralised the ETS market at a time when its proper functioning has become more necessary than ever). **They also result from the economic actors themselves**: who among them had anticipated the

[14] Claude Blumann, « Rapport introductif général », in Claude Blumann (dir.), *op. cit.*, p. 1.
[15] It may be recalled the the Lisbon Treaty included the measures relating to energy, set out in the Constitutional Treaty, with one exception that is discussed below.
[16] *Ibid*., pp. 2-3.

fall in wholesale prices in the electricity market? When eight German nuclear plants were disconnected in the wake of Fukushima, didn't common belief state that electricity prices would take-off? On the other hand, the most worrying fact is not so much the existence of such errors. Who after all could have foreseen the extent of the economic crisis we are facing? Instead, it is the **lack of resilience of the system** to the point that even the search for solutions is difficult.

This naturally leads **to questioning the way this policy has been operating in practical terms, and so ultimately its governance: the inertia of the energy systems is not sufficient in fact to explain why the climate and energy package was not re-discussed despite the failure of Copenhagen. Why was the policy of subsidising renewables pursued in the face of the economic crisis and the substantial falls in growth, hence contributing to the cost of living crisis faced by consumers? Or, why for example didn't the EU at least examine the likely consequences for gas demand arising from Japan's strategy of diversifying its energy supplies in the wake of Fukushima?**

The ambiguities of the Lisbon Treaty: its letter and spirit

The optimism generated by the Lisbon Treaty concerning energy reflected, very simply speaking, the previous obstacle course that existed prior to this official recognition, which had long run into strong opposition from Member States. By finally making energy policy a common policy, Member States suggested that a new era had begun, characterised by greater cooperation and solidarity. Yet the ambiguous measures of the Treaty quickly qualified this view. The Treaty does indeed define energy as an area of shared competence (Article 4), which in particular signifies the principle of subsidiarity, so that action remains largely in the hands of Member States. Moreover, "to guard against excessively strong pressures by the Union,"[17] a major reserved area of competence was introduced. Accordingly, Community measures "shall not affect a Member State's right to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply". That said, the Union clearly has the mission to "ensure the security of supply"... The whole policy is crowned by an important measure which indicates the objectives of Europe's energy policy should pursue "in a spirit of solidarity between the Member States". This is an important measure because it is in fact the only modification introduced by the Lisbon Treaty compared to the

[17] *Ibid*., p. 13.

Constitutional Treaty, and follows the international crises in 2008-2010 between Russia and its neighbours, including Ukraine, etc.

The ambiguities in the Lisbon Treaty weigh heavily on **policy, which on the whole is still seeking an equilibrium**. On the one hand, the tools and procedures relating to the implementation of the single market are moving forward. On the other hand, the economic crisis and changes in the global energy landscape have tended to favour **a conservative reading of the Treaties**, leaning towards the Member States. **The reactions of the Member States to propositions put forward by the Commission on 3-4 March 2012, and which relate to governance within the framework of discussions on the 2030 objectives, are symptomatic of the weariness by Member States concerning their prerogatives**. Thus, the Commission has put forward **an overall objective concerning the share of renewable sources in energy consumption (27%), rather than fixing levels by Member States. This objective has been incorrectly interpreted as minimal goal. However, it is in fact a subtle attempt by the Commission to take over not only the "how much", but also the "how to"**. Accordingly, the Commission is seeking to oblige governments to present "national plans", as outlined in the package of the 22 January 2014. These plans are to be drawn up "well before 2020", and must set out all measures to be taken to reach targets for reducing greenhouse gas emissions, deploying renewable energies and achieving energy efficiency. National plans are to be formulated with neighbouring countries, and will be finally evaluated by the Commission. If it judges a plan to be insufficient or incompatible with European rules, then an "*a deeper iterative process would take place with the Member States concerned with the aim of reinforcing its conten*t".

Member States were not fooled and were unanimous in opposing this approach.[18] Both countries opposed to any kind of target for renewables (the United Kingdom, along with Central and East European Countries) and those that were very favourable to targets (such as Germany) reacted strongly: the former because they saw this as a first step in the Commission intervening in their energy mix; while the latter were concerned about the desire of the European executive to harmonise support systems at the European level. As for France, it stood behind its reading of the Treaty invalidating such an assessment.

[18] See: http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/fr/trans/141404.pdf

Two comments can be made about these reactions:

- **The move by the Commission comes too late... or too early.** In other words, such a bold approach had little chance of succeeding at a time when criticism of Europe's energy policy is gathering pace (even if it is hard to distinguish what exactly falls under the responsibility of Member States or of the European institutions) and only a few months from the end of the present Commission's mandate**. The political moment was surely badly timed. In fact, as this approach is hardly in tune with the times, it cannot but foster scepticism of European institutions which are perceived, often wrongly, of being disconnected from reality, pursuing their own agenda without consideration for the concrete application of their decisions.**

- It is to be hoped that **the strong reaction by Member States is not a symptom of a deeper malaise, or a turning point challenging the very capacity of the European executive to initiate bold policies. Were this to be the case, it would mean that the point of equilibrium in formulating a common energy policy has shifted permanently towards Member States.** Is this desirable, given their policies and persistent divergences in recent years?

Power to Member States or everyone for themselves

Whether it is for reasons of convenience or calculation, criticisms of Europe's energy policy often save themselves the trouble of examining the way in which Member States actually apply such policy, and how well they succeed in areas where they are competent. This study does not seek to provide an exhaustive survey of these matters.

In France, for example, this work has indeed been carried out by the national Court of Auditors s, at least as far as the development of renewables is concerned.[19] The Court is correct in emphasising the gap between the "massive costs" of policies supporting renewable energies (implemented since 2005 and reinforced by the adoption of

[19] Cour des comptes, *La politique de développement des énergies renouvelables*, July 2013, available at: http://www.ccomptes.fr/Actualites/A-la-une/La-politique-de-developpement-des-energies-renouvelables.

the climate-energy package in 2008) and the results obtained.[20] Also, one can but agree with the Court when it points out that the photovoltaic bubble which emerged between 2009-2010, following hazardous feed-in tariffs definition, was "*costly to consumers*" and "*detrimental to France's trade balance*".[21]

An analysis could also be made of Spain's policy. Not financed, this policy has put a burden of €27 billion on Spanish power companies, forcing the Spanish government to take over this debt and convert it into bonds – not mentioning the massive rise in energy bills consumers have had to face, at a time of major economic crisis.[22]

Poorly designed, and poorly implemented, these policies have had damaging consequences domestically.

Herein lies the difference with Germany's policy. Besides having a massive domestic impact, it has also affected all of Germany's partners. From this point of view, Germany's *Energiewende* or energy transition is to be seen in our view as revealing the ambiguities of the Treaty, and ultimately the not less ambiguous attitude of Member States. If Germany's decision in 2011 respects the Treaty perfectly, its impact though is large enough to affect the country's neighbours, and according to the spirit of the Treaties it should have been discussed with Germany's partners. Germany's project is not merely one energy transition amongst others in Europe, given the central position of Germany in the energy field. This centrality is partly a reality to be dealt with, due to the country's geographical position. But it is above all what we could call "a chosen centrality", as Germany has decided to put energy at the heart of its economic transformation and to make it a tool for industrial and commercial leadership. This centrality obviously raises questions about the European dimension of the *Energiewende*, which is all the more the case given that Germany has become a reference in energy issues, positioning itself in the vanguard of a "*revolution*" based on its energy system, in the words of Chancellor Merkel herself. Given the increasing uncertainties surrounding the future of the European energy policy and its capacity to service European competitiveness, it must be asked whether the *Energiewende* can provide some

[20] According to the Court of Accounts, €14.3 billion was spent between 2005 and 2011, which allowed the share of green energy to rise from 10.3% in 2005 to 13.1% in 2011. Given that to reach the 2020 target (23 %) is six to seven times what was achieved by 2011, the Court has questioned the costs of such a policy if the rules of the game are unchanged.

[21] The Court has estimated cost ranges for electricity production using solar power. These run from €114 to €547 per MWh.

[22] According to a study conducted in 2013 by consultancy Kurt & Salmon and HEC into the energy transition in Germany, the United Kingdom and Spain, the debt of the energy sector rose by 567% between 2005 and 2013, while the financing of renewables rose by 497% during the same period. The study is available at: http://www.kurtsalmon.com/uploads/08_Transition%20energetique_05.pdf

solutions or whether it further increases uncertainty. Is it indeed an avant-guard project or will it accelerate imbalances and inconsistencies in Europe's energy policy? After all, why shouldn't what is good for Germany be good for the Union as a whole? Isn't the EU seeking to eliminate nearly all carbon emissions by 2050, following the German project of reducing emissions of greenhouse gases by 80% to 95% in the same period?

"*Germany no longer sees the European Union as a goal, but as a means for imposing its own interests*", Joshka Fischer declared on the eve of the European elections in 2009. And in practice, Germany decided to launch its energy revolution without consulting its neighbours. However, given its geographic situation, Germany is not an energy island, but is linked to its neighbours by electricity interconnections, as well as gas and oil pipelines, etc. In fact, Germany is ever more integrated given progress in the internal market of electricity and gas. Yet, **the *Energiewende* implicitly assumes the necessity of a European market, even though it has been defined as a strictly national programme**. The existence of interconnections is one of the conditions that has made Germany's new policy possible. Managers of the French, Polish, Swiss and Czech networks know something about this since electricity produced by German solar panels or wind farms is often dumped massively on their networks. At present, German power is often exported and transits through neighbouring countries due to the lack of sufficient interconnections between electricity production and consumption areas in Germany, and given the unpredictable nature of renewable electricity production. This leads to technical and economic difficulties for Germany's neighbours. The network therefore faces risks: it may be recalled, for example, that a blackout in 2006, which began in Germany, spread in a cascade to Austria, Belgium, France and Italy, to end up even affecting the Moroccan network, though the quantities of energy involved were actually quite small.

The European dimension of the *Energiewende* is now explicitly recognised and highlighted in Germany. Not surprisingly, Germany is developing an offensive plan at the European level, both concerning renewable energy and interconnections, seeking to mutualise as much as possible solutions to facilitate its energy transition. Even if the European executive and Berlin have clashed over the question of how to support renewables,[23] the fact of the matter is that the key issues of Germany's energy policy now dominate in Brussels.

[23] Berlin has moreover obtained partial satisfaction as the exemption of some industries has been accepted by Brussels, though with a ceiling. See Aurélie Faure-Schuyer, *Aides d'État : Réorientation des soutiens aux renouvelables*, Edito Énergie, Ifri, avril 2014, available at : http://www.ifri.org/?page=detail-contribution&id=8079&id_provenance=87&provenance_context_id=7732.

The two-way street between European debates and German policy is especially evident concerning interconnections. To be sure, this debate is not new. Since 1996 when the founding texts for building a European energy market were established, these infrastructural connections have been essential to the trade in electricity between Member States. Today they are a key element in the European energy strategy. Originally, these interconnections were designed to accelerate the constitution of a market, as they were geared to linking the most competitive electricity production clusters with the least productive. However, the strategy Germany is promoting today is different: with the primary emphasis on developing renewable energies, the key factor in policy today is no longer to enable market forces to deploy based on electricity production costs. Instead, the aim of public policy is now to facilitate the transport of energy produced by renewables alone (and not from all energy sources that generate little CO_2, which includes nuclear energy), at the European scale. However, the so-called internal "market" electricity corridors that were initially envisaged by the EU policy are different to the green transport corridors transmitting electricity generated from wind power in the North Sea, or shifting excessive power from solar energy in southern Germany. But the latter are today favoured in planned projects: the expansion of the network is ambitious, as has been announced in the infrastructure package, and does not take into account all means of production, of which renewables are only one part. Germany is also strongly pushing for the creation of green corridors that will allow electricity to be transported throughout Europe, and for EU funding that will mutualise some of the costs of its own energy transition.

The fact that Member States defend their national interests in Brussels in terms of energy is in the order of things. Indeed, Germany is making no bones about this. It is very present in Brussels, in the institutions or various pressure groups working on environmental, energy and industrial policy. **Yet there are three reasons for which Germany's policy raises problems**.

The first problem arises from the fact that Germany's energy strategy is only possible because its neighbours – and especially the largest ones – are not following it. In other words, Member States cannot all export electricity at the same time, and it is even more difficult to import simultaneously. The electricity market is indeed one market where demand and supply must equalise.

The second difficulty lies in the reality of Germany's energy policy and the way it is being marketed. It is only recently that the German authorities have recognised that the development of coal and lignite are not an unwanted consequence of the *Energiewende*, but in fact a deliberate choice. Thus, the "*paradox of the energy transition*" is not actually one, as Hildegaard Müller (chair of the German energy federation) acknowledged in January 2014: "*it*

is the logical consequence of political decisions", and in particular the termination of nuclear power decided on by Angel Merkel in 2011. Coal is therefore still by far Germany's main energy source for producing electricity (45.5%); while the production from lignite, which is highly polluting, has even reached record levels since 1990. Lignite accounts for 25.8% of all electricity production, making it the lead source in Germany. This situation was clearly presented by the Parliamentary Secretary for Energy, Uwe Beckmeyer, on 6 February 2014, at a conference of trade associations on renewable energies in Paris. To accompany its transition, Germany has had the choice of using coal or nuclear power, and it chose the former: "we cannot exit nuclear power and electricity generation from coal at the same time".[24]

The third difficulty stems from the sustainability of this policy, which is based on the inequitable sharing of costs, as big exporting industries are largely exonerated from supporting renewable energies, whereas households and small businesses bear nearly the whole cost burden. The exoneration of large industry has been examined by Brussels as a possible means for distorting competition, though Germany made its case very effectively and quickly obtained satisfaction. But, this strategy is specific to Germany, and is almost certainly impossible to export to most of its neighbours.

The aim here is not to make Germany a scapegoat for the present chaos on the electricity market. Germany has made choices which may be considered as questionable, but at least it has made choices. Germany has striven to develop an integrated strategy, which includes the issue of competitiveness. It is not alone responsible for the paradox that investments in stable means of producing electricity are being discouraged at a time when they are most needed. However, the rapid development of renewable energy, with much backing from subsidies, which Germany promotes, has played a major role in accelerating the degradation of the situation, given the lack of viable, large scale storage and without the adequate development of interconnections. As Michel Cruciani has already noted in the assessment he made of the *Energiewende* in 2013, "*... if there is one area in which Germany has become a counter-example, it would be the European dimension. Very schematically, it is possible to qualify German policy as following a non-cooperative strategy. Having decided to shut down suddenly its eight nuclear reactors, without the slightest consultation, the Chancellery seems to expect neighbouring countries to favour the success of its project, by making their electricity transmission networks available, and by absorbing Germany's surplus output from wind or solar power. Germany is able to profit from the international financial situation that allows it to get*

[24] The translation of Uwe Beckmeyer's speech into French was graciously provide by the Franco-German Office for Renewable Energies.

the necessary funding for its projects. It is therefore in a position in which its project has all the chances of succeeding, because other countries cannot take the same path as it."[25]

In this context, there is nothing new concerning **the highly divided positions of the Member States today**. But in contrast to 2008 when the Union was able to agree on an ambitious policy, **the failure of this policy is hardening positions further**.

A first fault line runs between countries in Western Europe and those in Central and Eastern Europe. The unifying and often technocratic approach of the European institutions collides with the impact of geopolitics in a part of Europe that is very dependent on Russia for its energy supplies. Supply security and its corollary – the desire to develop domestic energy, be it carbon emitting (usually coal) or not (nuclear) – are drowning out the very long-term environmental concerns supported by the Commission and Western Member States. This explains the strong reticence of countries belonging to the Višegrad Group, as well as of Romania and Bulgaria concerning the very principle of constraining CO_2 emission targets for 2030. In contrast, the West European countries are united on this point.

The second fault line however runs between countries in Western Europe concerning the link between cutting CO_2 and developing renewable energy. This issue was not raised in the 2007 climate-energy package: it was assumed that more renewables would *de facto* lead to lower CO_2 emissions. Today, the German experience clearly demonstrates that renewable sources can be increased but given its energy mix, CO_2 emissions are also rising. So this is now an open issue, and there are two positions in Europe:

- **What one could call the "German model", based on a very ambitious objective in terms of promoting renewables,** and which is clearly linked to an industrial and an energy policy. It is also reflected in measures to protect large export industries from the costs generated by the transition while also encouraging new industrial sectors to emerge.

- **A "British model" which strives to reduce CO_2 emissions without excluding low carbon technologies – nuclear or renewable energy – needed to achieve goals.**

The debates on the 2030 strategy show up this tension. The role of nuclear energy is implicit in this debate. It is not just a question

[25] Michel Cruciani, Year 2 of Germany's Energy Transition, , IFRI E-Notes, November 2013, p. 55, available at: http://www.ifri.org/?page=contribution-detail&id=7896&id_provenance=97.

which opposes France and Germany directly, but is a broader European issue. Here the fault line is different: in the West (France, the United Kingdom and the Netherlands), in the North (Sweden and Finland) and in the East (all Central and East European countries) are pro-nuclear. Other Member States are strongly opposed to this source of energy (Ireland and Austria) or have excluded it (Italy), whereas a last group is hesitant and ambiguous (Belgium, Switzerland and Spain). Germany is hard to categorise here as it has decided to exit nuclear power but still as nine reactors in operation. As some Member States reject the use of nuclear power, it is necessary to separate the goal of CO_2 reduction and the goal for renewables. The latter should have been an important but not exclusive tool for meeting the first objective.

Striking a balance: the Commission's impossible task?

Political if not geopolitical differences between Member States concerning energy highlight the role of the European executive in defining Europe's true general interest in energy. Does it have the means?

"*There is unfortunately much to say and meditate upon concerning this Europe. The Community does not have a true energy policy, finding itself caught between the desire to intervene and a lack of tools to do so. But this lack of tools itself stems from profound divergences in national policies, which are illustrated by governments' attitudes over nuclear energy. The only lever the Community can use freely concerns the right to competition, and this explains why it makes abusive use of this lever. While competition has its merits, which for long were misunderstood, it cannot do everything. And electricity has the annoying tendencies of concentrating most of the exceptions of the market economy. The authorities in Brussels sometimes underestimate this*".[26]

This illuminating analysis by Marcel Boiteux recalls that while **energy has been set up as a common policy, it in fact falls under joint EU supervision, namely of the environment policy and the internal market one**, as set out very explicitly in Article 194 of the Treaty. This would not be a problem if the three EU policies – opening markets, protecting the environment and energy policy – were to converge. But such is not the case, and this lies at the root of the crisis in Europe's energy system.

Looking at the environment first, Europe seems incapable of overcoming its first dilemma between fighting climate change and

[26] Marcel Boiteux, in his preface to Jean-Pierre Hansen, Jacques Percebois, *Energie, Economie et politiques*, de boeck, 2011, pp. XVII-XVIII.

supporting competitiveness. **Should Europe still aspire to playing a leadership role in the struggle against climate change? The fact however is that the failure of the climate-energy strategy sends a message which is troubled, to say the least, to the international community, indicating that developed and rich nations cannot pay for their energy transition.** To be sure, the EU is a major economic actor, but is not seen as such because it is weakened by the crisis. The EU's diplomatic power also continues to be weak. Its capacity to influence global climate negotiations must therefore come from its actions. However, its market mechanism for emission permits, which for a long time was viewed with interest as avant-gardist is now moribund and in the process of becoming an anti-model for all countries seeking to tackle the problem of greenhouse gas emissions by using market mechanisms. It is therefore vital to reconstruct a system that will provide a price for CO_2 which is compatible with the recovery of the European economy: without such change, Europe's policy of "leading by example", which is already seriously tarnished, will be little more than a slogan. But is this leadership objective still relevant? A more realistic position would be to re-position Europe as a "good student" in the fight against climate change.

Turning to the link between Europe's energy policy and the functioning of the internal market, the dilemma here is twofold. First, as we have already seen for the gas market, **strengthening competition has no strategic intent: the market has never been designed to address the question of security of supply, which may certainly be a collateral effect, though never a priority objective**. For a decade, the succession of crises between Russia and the former Soviet Republics has threatened the direct supply of gas to the Union. This raises the question of whether it is not time to view the link between energy policy and openness to competition as a dilemma in itself too. This would seem to be the reasoning behind Germany's North Stream. Its logic is to reinforce security in gas supplies, but in doing so Germany is partially ignoring the rules of the internal market. "*The Commission seems more concerned about opening markets that provide the Union with efficient means to meet global or European supply crises. This merely reflects the general philosophy of the common market and the internal market which is an area in which the EU has real competencies, whereas it has no legal basis to develop a pro-active policy*".[27]

This legal basis does exist today, even if the energy policy is still young compared to that of the internal market and competition policy. So if the issue is no longer legal, is it political and institutional? If so, are the current difficulties the result of a failing vision at the very

[27] Claude Blumann, *op. cit.* , p. 17.

heart of the European executive? The diverging lines within the European Commission between the DGs Competition, Climate, Enterprises and Industry – with DG Energy in the middle – have already been stressed. **These divergences are flourishing against a background featured by a lacking integrated and cross-cutting vision. This leads on to another dilemma which is undermining European policy today: the dilemma between competition policy and the strategy of reducing carbon emissions.** When the energy market liberalisation policies were put in place in the 1990s, climate change was not yet a major concern on the political agenda. The market model which was set up was designed for fossil-type energy sources, with initial investments being relatively limited, though operational costs were high. As a result, a short-term market model was favoured, susceptible to reflecting fluctuations in primary energy prices. In contrast the decarbonisation strategy promoted since the climate-energy package, and as set out in the road map to 2050 especially, is based on the development of non-fossil energies which have a totally different cost profile: they have very high initial investment costs, which are amortised over time. But marginal costs are zero or near zero. Such investments are not possible in a liberalised, short-term oriented market. This explains why the United Kingdom, which is concerned about developing low-carbon energy, is *de facto* re-regulating its electricity market, starting with the nuclear sector. This is despite the fact that the UK has been the ardent protagonist of energy market liberalisation.

To solve these contradictions, Member States have indeed developed direct intervention strategies, **via subsidy policies which take different forms**. In the case of renewables, these subsidies have been recognised as compatible with the Treaties, in the name of environmental protection.[28] **The UK has in fact developed an original strategy. It refuses to commit itself to support mechanisms using public policies and calling on the taxpayer for finance. The British government has nevertheless decided to develop all energies with low greenhouse gas emissions.** To this end, it has to reform its electricity market. The latter was wholly deregulated in the 1980s in the wake of the discovery of large gas fields in the North Sea. This market however does not allow investment in low-carbon energies to be sufficiently remunerated, given the high levels of capital investment involved and the length of project development. Concretely, the British government is therefore going to guarantee a fixed electricity price for so-called "clean" technologies (solar, wind and nuclear power), with each sector negotiating a different price with the government.[29] This

[28] The European Court of Justice, the PreussenElektra ruling, 13 March 2001.

[29] These contracts for difference (CFDs) operate as follows: if the wholesale electricity price on the market is less than a certain threshold, the difference is reimbursed to the producer. If the price is higher, then the company has to pay back the surplus price. For this mechanism not to be assimilated with being a subsidy, it

mechanism will also be applied to the project by EDF to build two nuclear reactors, as set out in the agreement signed 21 October 2013 between the British government and EDF.[30] In the wake of the agreement, the UK notified the European Commission of the mechanism, in accordance with European law. This notification led to the opening of an enquiry by DG Competition, whose aim is to determine if the mechanism conforms to the rules on State aid. More specifically, the enquiry aims to determine whether the project is really hampered by market failures, which is one of the criteria likely to justify public intervention. To this end, the Commission will examine the impact of the measure on energy markets in Britain and the European Union.

The aim here is not to comment on the fundamentals of these choices, especially as, if this question is important for the whole Union, the British political context must also be taken into account. A recent study by Scottish and Southern Energy is quite interesting on this.[31] It shows that the contract mechanism described above has a relatively limited impact on electricity bills: or at least it is lower than the Renewable Obligation Certificate, a green certificate which is used mainly to finance renewable energy from wind power.

Beyond the British case, the issues of this enquiry are particularly important. The decision which the Commission will take is crucial to the future nuclear projects in open energy markets, projects that are borne by industrial actors themselves, subject to pressure from financial markets. Apart from the technical issues, the subject has a clear political dimension and the key issue is to understand what political dimension the Commission will give to the project. Indeed, the financing of nuclear projects is increasingly the differentiating factor in international competition in the market for nuclear reactors, competition which has heightened given the maturity of traditional domestic markets (in the USA, Japan and France).

Should the Commission decide that the British system does not conform to European rules, that would mean it favours instead case-by-case, intergovernmental negotiations for nuclear contracts. This is the model currently being promoted by the Russians, who are financing a large share of their export projects in third countries by using gas rents. But the Treaties do not authorise the Commission to

---

does not involve public finances and does not suffer from the direct influences of democratic politics. It will not be the government itself which will pay the difference between the negotiated price and the market price, but rather an independent body which will finance itself directly from the electricity producers. The latter will pay for the contracts, by passing on costs to their clients.

[30] The agreement also provides for a public guarantee by the British government that will allow EDF to borrow at low interest rates.

[31] Available at: http://sse.com/media/204699/SSE-RESPONSE-TO-LABOUR-PARTY-GREEN-PAPER-MARCH-2014.pdf.

conduct such enquiries, unless it is from the point of view of the internal market, which of course does not have the same impact as enquiries in the field of competition. This raises a serious problem of reciprocity.

More importantly still, a negative decision on British CFDs would raise two questions:

- One concerns coherence of policies in the Union: the fact is that without nuclear energy, i.e. using only renewables, the decarbonisation of electricity production under economically sustainable conditions is not credible. It should be recalled that in 2013, according to Eurostat statistics published 17 February 2014, nuclear power accounted for 29% primary energy, making it the lead source, ahead of RES (22%), solid fuels (21%), gas (17%) and oil (10%). These figures have a particular resonance in the light of the Ukraine crisis, which will surely rekindle the debate on domestic energy production in the Union.

- The second question relates to the kind of market model the Commission is proposing for investment in low-carbon technologies. Does persisting in a market model which does not allow investment in energy sources necessary for the EU climate and energy package mean favouring *de facto* the renationalisation of energy policies? The example of deploying market capacities on a national basis is typical. For reasons of economic efficiency and optimisation, it would be better for investments to be made from the perspective of European complementarities.

2014: Re-establishing the European Energy Contract

There are four reasons which strongly favour a profound revision of Europe's present energy policy:

- its costs are not sustainable for the competitiveness of the European economy;
- the Ukraine crisis demonstrates that Europe's energy policy addresses the nagging issue of security of supply too little and too slowly, and even challenges the question when the policy leads to the closure of state-of-the-art combined-cycle gas-fired power stations;
- the policy does not favour the spirit of cooperation and solidarity;
- it weakens the international diplomatic position of the European Union in negotiations on climate change. The EU arrived in Copenhagen united, with a strategy that seemed credible at the time. In view of the present situation, the Union risks arriving disunited and not very credible at Le Bourget in 2015. The EU risks putting out a confusing message concerning the energy transition, which to an outside observer appears as: i) very expensive and even unaffordable, even for rich countries; ii) not very compatible with electricity security, even though this is a domestic resource; iii) not very conclusive in terms of reducing emissions, as shown by the German case.

It is therefore necessary to overhaul the European energy contract as quickly as possible. Member States have not proved themselves to be effective, while the Commission has lacked foresight and vision. The field has been left open to lobbies to the detriment of the general interest. To stave off feelings of helplessness and renunciation, all parties need to move beyond their usual reflexes

and biases, to strive for search for real solutions, even if these upset conventional wisdom, rents and acquired interests.

Restoring the credibility of a European energy policy is possible, provided four – political, methodological, conceptual and organisational – conditions are met.

Founding European energy policy on the two principles of solidarity and sustainability

The first act in re-founding the European energy contract must be political, backed up both by Heads of State and Government and the Commission. **It implies reasserting the principles of solidarity (1) and economic and environmental sustainability (2), as being at the heart of European energy policy**.

1. As the crisis in the Ukraine continues, **it is finally time that the principle of energy solidarity, which already exists in the Treaties, is translated into concrete measures.** It is the condition that Member States with differing energy situations continue to build a common energy project together. Indeed, the summit held on 20-21 March 2014 highlighted the significant return of the question of solidarity. Poland's call for an "energy union" stands out in particular, as does the Commission's demand for a report on supply security, by June 2014. **For gas, this would mean accelerating the implementation of the internal market, especially in infrastructure, in order to help Central and East European countries exit their mono-dependence on Russia.** This also implies the **active support for nuclear projects** in these countries (financed by the European Investment Bank, recognition of State guarantee), and for projects exploiting shale gas. In short, all measures to develop domestic energies, decarbonised where possible or at least less carbonised, should be supported as projects of strategic interest, in the primary sense of the expression.

The need to increase domestic energy production is fundamental for all of Europe, but absolutely vital for this part of the Union. This implies a **differentiated policy according to the level of energy dependency and hence the implementation of specific measures for Member States that were formerly in the Soviet bloc, and whose situation has to be taken into account objectively. The need for such a differentiated strategy is hardly audible in Brussels, but the technocratic illusion of a uniform Europe is precisely what is making a European energy policy inaudible in Member States. Such a differentiated vision would be a bottom-up approach, and would be a way to reintroduce a political-strategic dimension into energy policy** which for too long has been reduced to economic and competitive concerns. Lastly, **the establishment of a more even-handed balance of power between the European Union and Russia in the field of energy is the**

condition for creating a long term, healthy and serene relationship between the two entities. This involves the Union demonstrating a clear willingness to develop its own energy sources as much as possible, and not to compromise on solidarity between Member States.

2. The principle of sustainability concerns **environmental sustainability** (the fight against greenhouse gas emissions) and **economic sustainability**. The European Union must play its part in the struggle against climate change, but should not do more than its fair share if this risks weakening it. This implies not taking measures leading the value of each CO_2 ton avoided to reach hundreds of euros. **The EU needs to fix objectives to bring the price of energy to levels compatible with its competitiveness over the next five years**: the supply of hydrocarbons and electricity is abundant, and this situation needs to be reflected in costs. **From this perspective, policies decided in the field of energy should be studied from the point of view of their environmental and economic impact (impact on competitiveness and the price of energy). The impact on competitiveness needs to be seen from both an intra-European but also an international position**.

Developing a doubly-integrated energy policy

Re-founding Europe's energy pact also implies a change of method. We have observed the worrying **lack of resilience of energy policy**, as it is presently being implemented: the policy is unfolding without taking into account internal and external changes. It is therefore important to work on **the necessary double integration of this policy: on the one hand, the integration with the real geopolitical and geo-economic conditions (1); and on the other hand, the integration with other policies in the European Union (2)**.

1. It is **urgent to connect Europe's energy policy to international realities**. And **the first international reality in the energy sphere is the continuing massive role of fossil-fuels**. It was only a few years ago that the end of such energies was being announced. Today they look to be abundant, and their share in energy will only fall very progressively. According to the 2013 edition of the IEA *World Energy Outlook*, fossil-fuels accounted for 82% of world energy consumption 30 years ago: the figure today is the same. In 2035, fossil-fuels are still forecast to cover75% of the world's energy demand, despite the massive growth in renewable energies. From this point of view, the EU should work closely with the IEA to ensure that oil and gas markets are fluid. As Jan Horst Keppler already emphasised in 2007: "*The cost of renewable energies may fall, a major nuclear energy programme may be re-launched, and energy efficiency could be strongly increased. None of that will however alter the fact that Europe will have to buy 10 million barrels*

of oil and about one billion cubic metres of gas on the international markets, per day. The absolute priority of European decision-makers is therefore to ensure that these markets are kept as fluid, transparent and competitive as possible".[32] **The second international reality is diplomatic and concerns international climate negotiations**. The EU cannot allow itself to make the same mistake that it made in Copenhagen: i.e. set goals for reducing greenhouse gas emissions which it alone follows. This would strongly penalise its economy, without having the slightest global impact. **The EU should definitely go to Le Bourget in December 2015 with ambitious objectives, especially as both China and the United States have their own reasons for wanting to move towards an agreement. But should negotiations fail, the EU must be ready to reassess its own objectives** in the face of international circumstances. Lastly, the third international reality concerns the relative competitiveness of the Union compared to its major rivals. The future mapped out by the IEA through to 2035 indicates a steady erosion of Europe's share of international markets, in favour of China and the United States too. But this evolution has not yet been written. An effective integration of the European energy policy with other policies conducted by the Union could allow Europe to escape this trend.

2. **In 2007, the European Union set out an integrated approach for energy and climate for the first time. In 2014, this needs to be reinvented by introducing an economic and industrial dimension**. Some positive signals have been emitted from this point of view, by the DG Energy. On 24 January 2014, its director general stressed that "*the enlargement of the angle of approach adopted by the Commission appeared with the simultaneous publication of communications on prices and costs of energy, on industrial renaissance and on the exploitation of shale hydrocarbons*". **This willingness to integrate energy, climate and industrial policy in order to adopt a common frame of reference – based on costs – can only be welcomed, even if it is coming a bit late in the day. Europe's energy policy, following from discussions presently in progress in Brussels, will either be centred on industrial competitiveness or will be nothing at all**, even though Europe's real problem today is not so much the falling off of its industrial competitiveness as the rise of competitiveness of its main trade partner and competitor, the United States. From this point of view, **questions remain concerning the place of competition policy in this integrated approach**. It is high time to recall that **competition is an instrument which is meant to serve industrial competitiveness and not vice-versa**: it is not for industrial logic to give way to the ideology of competition functioning for itself, with no relationship to the general interest.

---

[32] Jan Horst Keppler, « L'Union européenne et sa politique énergétique », *Politique étrangère*, 2007/3, p. 224 sqq.

Concretely, this new methodology translates into the following actions:

- specific **measures aimed at reducing energy costs need to be implemented** (tax exonerations, etc.), with the aim of maintaining the competitive position of **strategic European industries**;

- **long-term contracts need to be established for energy-intensive industries** and a market for long-term contracts should be set up;

- **a common methodological framework for calculating the costs of renewable energy systems should be established**;

- **the large-scale deployment of technologies with costs exceeding €200/MWh and with uncertain learning-curves** should be limited, for example by linking priority access to networks to the cost per MWh.

Favouring the use of the whole range of energy sources to set up political coordination between Member States

Restoring the credibility of energy policy requires a return to reality. From this point of view, **it is important to drop simplistic characterisations of "good" and "bad" energy sources**. There is no room for moralising in energy policy. Oil and gas account for 60% of primary energy consumption, and in most scenarios they will still provide between 50% and 60% even in 2030 and 2050. **Oil will remain the main source of energy for transport for many decades**: it should therefore be limited to this role and its future decrease prepared over a period of decades. Similarly, **making nuclear energy an anathema appears curiously out of touch with a Europe which is desperately seeking to develop domestic resources**. What should be made of the Commission communication of the 22 January 2014 that says nothing about the source of energy which accounts for two-thirds of Europe's decarbonised electricity production? One sometimes has the impression that **everything is done as if Germany's nuclear phasing out is implicitly Europe's phasing out, and that nuclear power is only set to play a residual role in Europe. Such a position is entirely hypocritical when everyone acquiesces to the fact in the four corners of Europe**

nuclear reactors ensure Europe's electricity supply,[33] with some countries even playing the role of nuclear "water tower"...

So let us return to the facts: **there is a nuclear Europe, which is embarking on programmes to build new reactors; and there is a non-nuclear Europe**. Apart from that, antinuclear behaviours should be left to individuals and organisations which struggle to end nuclear power, but they are not relevant from the point of view of an energy policy, except if a political choice has been made as in Germany. **What may be called the German exception, however spectacular it is, should not obscure European realities**: the European Union has **the world's best nuclear record in security and in industrial terms**. It has an **accumulated wealth of know-how which it should value, and develop across its territory from the point of view of decarbonising its electricity production. Europe should also seek to export this know-how for climatic and industrial reasons**.

Nuclear energy of course faces substantial political hurdles. From this point of view, **France must pursue its work in cooperation with its German neighbour**. We are faced with a typical situation in which the general interest must prevail over individual interests. In the opinion of this author, Joachim Bitterlich was absolutely right when asked in 2013: "*Why don't France and Germany do the impossible? Why don't they accept that the national framework is no longer appropriate to energy policy? Why don't they take the initiative [...] and sketch out together the essential elements for a historical compromise between two political lines which at first glance appear to be totally incompatible?*".[34]

Policy to date has pretended this subject does not exist and hence has in fact led to a kind of trench warfare in Brussels, neutralising what should be a European strength on the international scene. It is in the nuclear industry that we could have seen the emergence of a true energy Airbus, given the oligopolistic situation of the market. It is too late now to regret the split between AREVA and Siemens, whose cooperation held out the possibility of such a project. But it remains important to overcome differences on this issue. Paradoxically, the situation is more favourable today given Germany's decision in 2011, which made the two electricity production profiles of France and Germany more complementary than before. In terms of electricity, both countries need each other.

[33] In the West (France, the United Kingdom, Sweden, Belgium and even Germany), in the North (Sweden and Finland), in the East and Centre of Europe (the Czech Republic, Slovakia, Romania and Bulgaria, etc.).

[34] Joachim Bitterlich, « L'Europe à la dérive : Illusions et réalités de la politique énergétique européenne », *Question d'Europe n°279*, 21 mai 2013.

Even though it is a long term objective, France and Germany need to agree at least to a nuclear neutrality pact and should offer their European partners a political agreement on nuclear energy, implying:

- The mutual recognition of national choices;
- The political recognition of the role of nuclear power in the EU's energy security;
- The recognition of the role of EU countries and of the EU in international cooperation concerning European energy security and European support for the export of nuclear technologies, in particular through attractive finance mechanisms. These should be as effective as the Japanese system, for example.

At the same time, the role of German (and Polish, etc.) coal and lignite must also be recognised as energy sources that will be part of the European scene for a long time. From this point of view, **it is important to promote a large-scale European research project on CO_2 capture and storage (CCS) in order to neutralise the disastrous environmental consequences of this energy source**. The aim of such a programme would be to achieve viable costs for this technology, independently of the existence of a market for CO_2 that we cannot regard as universal.[35] European leadership in this area could indeed have major commercial spinoffs, given the role of coal in Chinese and Indian electricity generation.

Putting the DG Energy at the heart of European energy policy governance

Energy policy is the most recent of EU common policies, being quite young compared to environmental and competition policy. It needs to find its place in the Brussels landscape. This is all the more important as Member States often have an approach – as we have seen – that is tightly linked to their national interest. As soon as the political and methodological conditions set out here have been fulfilled, it is important that there is a control tower and a single coordinator of actions carried out. This must be the function of the DG Energy,

[35] According to the US Department of Energy, in its present state such technology raises the cost of electricity production from coal by 70% to 80%. Accordingly, this translates into a cost of $70 to $90 per tonne of CO2 capture, using first generation CCS technology. Second generation technology could cut this cost to $40 to $50 per tonne. It should be recalled that between 2005 and 2014, the US Department of Energy received $7.6 billion to finance the development of CCS technologies in the hope of bringing them to the market (Source: Enerpresse, 17 février 2014).

whose recent initiatives demonstrate that it is ready to assume such a role.

In particular, following the spirit of governance which the DG Energy put forward to Member States in March 2014 concerning renewables, it would be appropriate that it has responsibility for the **technical coordination of national investment policies in the means of production and transmission of electricity**. The DG Energy would head ***peer reviews* of multi-annual investment plans in capacity, along the lines of the reviews conducted by the IEA**. Lastly, in order to produce results, a warning mechanism could be put in place to alert the Council of overcapacities/deficiencies so that political arbitration may take place.

The DG Energy could also have a role as a **coordinator for Member States, in collaboration with the DG Research, of key research programmes to meet the goals of the European energy policy, especially in terms of decarbonisation** (the storage of energy). The implementation and piloting of a **real policy of energy innovation** are indeed key factors that would allow Europe to preserve its technological weight on the global stage. **Fragmented innovation policies are destined to remain below critical-mass: when coordinated they need to accompany the redeployment of a strategic and long-term vision of energy policy**.

Conclusion

Technical reforms are not enough to restore the credibility and dynamism of EU energy policy. Energy has to become a political priority once again. The Ukrainian crisis is calling for it, but we should have done it, and need to do it anyway. Energy is not just one industrial sector among others. Energy policy has consequences for the competitiveness of the whole economy, but also for the purchasing power of households. Energy is essential to industrial vitality, because the sector is both a component of industry and also because energy costs have an important impact on industrial costs. Energy is a determining factor for preserving the environment. And the Ukrainian crisis shows that energy is crucial in diplomatic affairs: vis-à-vis Russia, the Member States are pursuing a policy mirroring the level of their dependency, be it real or perceived.

As Jean Monnet wrote, "*human beings only accept change when it is a necessity, and they only see necessity during crises*".[36]

The crisis is here. It is not (yet) a crisis of the European energy system, but surely a crisis of European energy policy. The economic crisis has revealed how the imperative of competitiveness has been taken into account insufficiently. The Ukrainian crisis has recalled that the issue of supply security does not go away with market liberalisation. The latter is indispensable and needs to be fully achieved: it is making headway in the gas sector, but is blocked in electricity due to a lack of regulation that takes correctly into account the specificities of low-carbon energies as well as system costs.

The malaise is so deep that a real turnaround in policy has to be defended. This does not mean wiping clean the slate. But it does mean that the European political-industrial system still has to make a lot of progress, in order to know how to manage this area effectively. This implies an integrated and cross-cutting approach. It is important to learn how to reach compromises which do not lead to incoherent policies, and to adapt policies to international realities. These are two top-priority methodological changes needed for the effective governance of Europe's energy policy. The Commission will certainly

[36] Quoted by Pascal Lamy, *Quand la France s'éveillera*, Paris, Odile Jacob, 2014, p. 46

have to go through its *aggiornamento*, by working on the unity of its views. But it is up to the Member States to work more towards coherence, vision and a sense of the general (European) interest. The globalised world is ill-suited to old arguments: energy sovereignty must be thought of at the European level, while taking into account national specificities. The United States is calling on us to do so, while Russia is constraining us to. And what if we were to convince ourselves?