

# Energy, a Networked Europe

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**Just a few months before the next COP 21 in Paris, Europe has a particular responsibility to put forward proposals and to make this Conference a global success.[1]**

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The Europeans were the first to make the fight against climate change a large structural policy of this half-century. As pioneers, we therefore find ourselves in the front line in meeting the challenges that are technological (deployment of new means of production, massive renovation of building stock, the invention of new local energy models), societal (acceptability of changes to life styles) and economic (activation of funding channels and mobilisation of savings) that structure energy transition.

European energy is the bearer of great hope for an industry in a strengthened, environment-protecting, supportive Union. But there is also great fear with the persistence of alarm signals (growing dependency on foreign fossil energy imports, a confused economic approach in its support for renewable energies, etc.) or even crisis with growing threats to winter electricity supplies, particularly in Belgium and in France.

This paradoxical situation is the result of more than twenty years of European energy reform which has led to an extremely complex set of common goals like the energy-climate policy which allow Member States to decide over their basic energy production choices.

Various European reforms have contributed towards certain successes. The deployment of renewable energies has been undertaken in a dynamic manner. Close cooperation has emerged between some players like ENTSO-E, ENTSO-G, Coreso, EPEX SPOT, ACER, etc.

However a lack of European "steering" has led to a number of dysfunctions. The massive integration of renewable energies has led for example to a reduction in wholesale prices on the markets thereby affecting the profitability of traditional production units which are necessary to the stability of the system. At the same time end consumers have not noticed this reduction in wholesale prices since the cost of renewable energy is directly transferred to their invoices by way of specific taxes.

The present situation results in a weakening of Europe's energy leaders and to "bubbles" in the development of certain renewable energy sectors, with dissonant price signals for investors. When all is said and done, quite logically, Europeans see that energy transition will not be achieved with 28 badly coordinated policies.

This observation calls for clear thinking: switching over to a single, totally integrated European energy policy is not really conceivable currently, given the differences between the Member States, both in their technical systems and in the existing institutional approaches.

However it is vital to strengthen the coordination of national energy transition policies if we are to re-establish the basis of European leadership in terms of industrial policy and competitiveness. It is only via a joint approach that we shall be able to rise to the dual, economic and ecological challenge faced by Europe today.

This same observation calls for the rapid identification of fields of cooperation with strong leverage effect. The energy networks, both electricity and gas, are, in their essence, an area of joint interest towards which efforts must be concentrated:

- Long-distance transmission networks provide the interconnections. They allow the management of collective security to be optimised and its cost to be reduced, thus guaranteeing the functioning of a genuine internal energy market beyond national borders;
- The distribution networks are at the heart of the development of renewable energy, to which the great majority of generation is connected. They also constitute the digital interface from which tomorrow's "smart" cities will emerge and in which the shared lifestyles of European citizens will be invented.

The various waves of energy directives initiated in the mid-1990s, defined and significantly increased

1. This text is a short summary of a report addressed to the president of the French Republic on Feb 23. <http://www.ladocumentationfrancaise.fr/var/storage/rapports-publics/154000139/0000.pdf>

the density of European network operators. The transmission system operators (TSOs) are thus responsible for guaranteeing the long-term capacity of infrastructure and ensuring the security of supply. For their part, the distribution system operators (DSOs) must also guarantee the ability of the local network to deliver a quality service, available to businesses and households.

However energy transition poses a challenge to the network companies and makes their work more complex. The systems are no longer limited to large generation units (large power stations) or imports (tanker terminals), but also include a myriad of small-scale units (wind, photovoltaic, biogas, etc) spread across all of the territories thereby overthrowing the previous pattern. The role played by the distribution networks is amplified since at the same time, new uses are being developed, such as electric vehicles.

In a context of sluggish economic growth and international competition that pressures European economies, energy infrastructures embody levers of tremendous endogenous growth and competitiveness. In this regard Article 194 of the Treaty of Lisbon sets out the way to greater intervention by the Union. But Europeans must go beyond this and explore areas of joint cooperation, innovation and investment as quickly as possible.

The challenge is great since hundreds of billions of euros of investment will have to be made between now and 2030, and no argument is needed to convince oneself that, in a convalescent Europe, every euro will have to be invested with the greatest concern for effectiveness for our communities. Recent studies have highlighted the savings offered by optimising capacity between the different countries[2].

Moreover "networked European energy", will not just be a physical, technical and economic challenge. It must also embody these "shared idiosyncrasies" that today characterise the European energy space: the verticality of the national hierarchies will be followed by the horizontality of communication between the territories; the authority of the powers in place, by the legitimacy of the citizen, initiative and success; industrial uniformity,

by the diversity of models of organisation; a situation of separate States, by exchanges within the European area.

In response to all of these issues the report presents twelve proposals that aim to promote the emergence of a coherent and pragmatic European approach in the field of networks, to solve today's problems and to meet tomorrow's challenges.

#### **Proposal No 1: strengthening coordination in terms of supply security.**

For the past few years, fears about European energy supplies have returned to centre stage, due to the Ukrainian crisis and intermittent energy deployment. Europe has to take ownership of the issue basing itself on work undertaken within the context of the Pentalateral Forum.

#### **Proposal No 2: extend and concentrate cooperation between the operators of transmission networks: for European TSOs.**

The transmission networks are vital for the optimisation of the generation base and supply security. For several years consolidation has been ongoing in terms of transmission activities notably in the realm of electricity. As a result new opportunities are emerging for the formation of European TSOs.

#### **Proposal No 3: encourage cross-border cooperation between distribution system operators**

Tomorrow's challenges will largely fall within the distribution networks: connection of decentralised energy production and consumption modes, the digital revolution. The priorities of the Union must now be placed on the deployment of intelligent energy networks and embody a common approach via cross-border cooperation projects that foster standardisation.

#### **Proposal No 4: interconnect the pioneers of local energy governance. Create a European Territories Forum**

Players in the territories have a major role to play in the energy transition under way in Europe. We now see the emergence of a great number of initiatives

2. 12.5 to 40 Bn€ per year by 2030 according to Booz & Co; 426 Bn€ between 2020 and 2030 according to the European Climate Foundation.

and a progressive widening of the communities' fields of intervention. The introduction of a European Territories Forum would enable the optimisation of these initiatives with the systematisation of feedback, the emergence of locally initiated good practice and the facilitation of thought on local regulations etc.

**Proposal No 5: promote coordination of the regulations providing visibility and incentives**

Several hundreds of billions of euros of investment will be required over the next fifteen years to guarantee the capacity of gas and electricity distribution and transmission networks, hence regulation and the tariff framework will play a central role in this. This notably means successfully guaranteeing investment visibility and stability whilst making the necessary adaptations to the new energy transition stakes, particularly an increase in the set share of the tariff.

**Proposal No 6: create an investment fund for the territories crossed by strategic infrastructure**

For several years, energy infrastructure projects have come up against problems of acceptance by neighbouring populations - this increases their cost and deployment times. But although these infrastructures of general interest provide diffuse benefits to an entire country or to Europe, their inconveniences are concentrated in particular areas. The establishment of a European investment fund would reduce these additional costs, accelerate the time needed to complete projects and boost the activity of the territories affected through investments from the fund.

**Proposal No7 : reintroduce a long-term perspective to funding**

The investments to be made in the networks are colossal meaning that additional levers have to be found. The Juncker Plan is a first step towards this but it might prove inadequate from the point of view of the networks. An increase in public investment seems desirable in order to couple low interest rates and the revival of economic growth.

**Proposal No 8 : pool the European efforts of R&D with respect to smart grids**

Given the challenges facing the networks, a number of R&D fields are promising; this is all the more

important since this could reduce energy transition costs. European budgets for energy R&D seem limited however, especially in light of international competition and the disparate, modest nature of the projects initiated. As a result it would be wise to strengthen and pool efforts around four areas: high-voltage direct current (HVDC), smart grids, storage and clean mobility.

**Proposal No 9: concentrate European standardisation efforts**

In Europe the diversity of standards between the European States severely limits the prospects for the deployment of new technologies, and hinders European companies in their international strategy. However, standardisation is a powerful factor to accelerate the energy transition and to achieve economies of scale. Strong political impetus in favour of strengthening collaboration between industry and research institutes is now vital.

**Proposal No 10 : create a European energy data platform**

With the deployment of smart meters and the arrival of connected objects, the data available will probably grow exponentially. Here we have a major opportunity both for the success of energy transition as well as for cyber-security and even the competitiveness of our industry and its capacity to establish tomorrow's standards and sectors. The distribution system operators, the operators of a public service will have a central role to play in this because of their data collection and processing function.

**Proposal No 11: map out European corridors for innovative mobility**

The development of clean vehicles is a key factor in the achievement of European energy and climate targets. One of the current obstacles for new mobility comes from the limited number of charging stations with the fear, for prospective purchasers, of a substantial loss of range. These terminals impact the design capacity of the network quite heavily. European corridors for innovative mobility" would send a strong signal to users and the car and energy industries, which would enable improved planning of distribution network investments.

**Proposal No 12: establish a Europe Energy College**

Reorganising the European energy landscape implies significant investment in education, training and intellectual sharing. The emergence of European excellence in innovation involves an increase in skills of thousands of employees, or future employees, of the

energy sector and related sectors to best accompany the hundreds of billions of euros of investment that the energy transition requires.

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