COMMISSION
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REGULATION
ENERGY
MARKET
EUROPE
OPENING
COMPETITION
TARIFFS
SECURITY
NETWORKS
GAS
ISLAND
ZONES
FUTURE
ELECTRICITY
SUPPLY
CONSULTATION
TRANSPARENCY
COMPETITIVENESS
FRANCE

Activity Report 2014

COMMISSION
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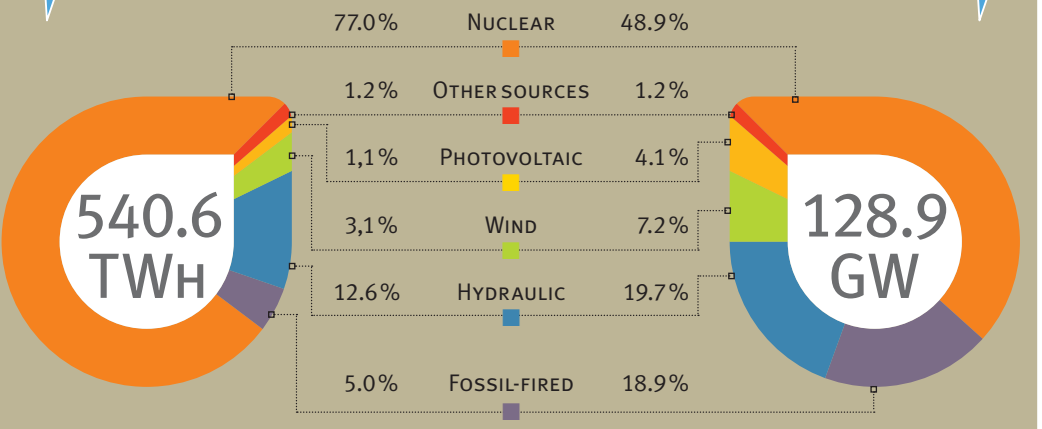
KEY ENERGY FIGURES FOR 2014

ELECTRICITY PRODUCTION MIX IN FRANCE

Source: RTE, 2014 Electricity Review



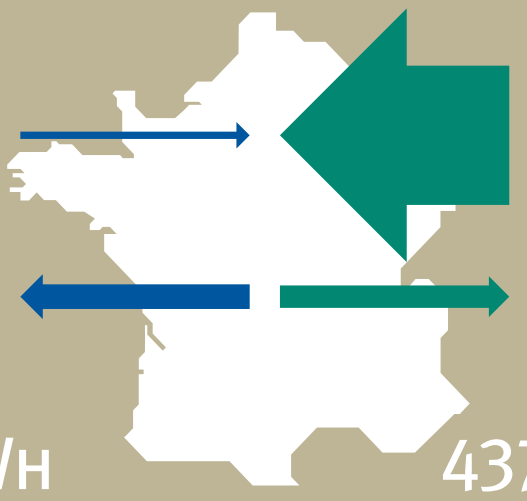
Total electricity production in France stood at 540.6 TWh for 2014, a 1.8% drop compared to 2013.

POWER STATIONS CAPACITY

Source: RTE, 2014 Electricity Review

In 2014, French power stations capacity was 128.9 GW.
+1,889 MW of wind or photovoltaic production
-1,296 MW of fossil-fired production

EXCHANGES AT FRENCH BORDERS



Imports
27.3 TWh

Entries
521.8 TWh

Exports
92.4 TWh

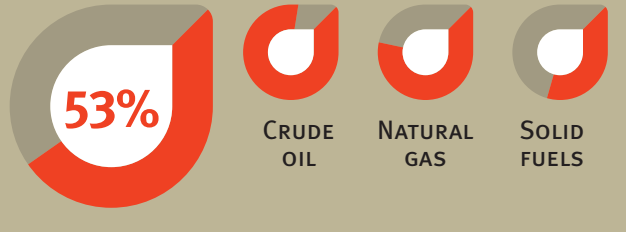
Exits
84.0 TWh

Export balance
65.1 TWh

Import balance
437.8 TWh

ENERGY DEPENDENCE

The European Union imported 53% of the primary energy it consumed in 2013, of which 90% crude oil, 66% natural gas, and 42% solid fuels such as coal.



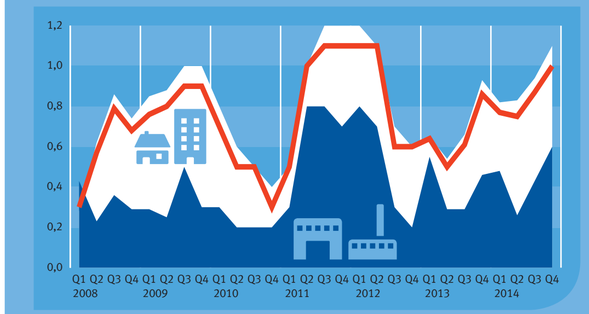
The bill for the year was
400 BILLION EUROS
of which
66 BILLION EUROS FOR FRANCE

Source: Eurostat

THE RETAIL ELECTRICITY MARKET

2014

SUPPLIER CHANGE RATE FOR THE ELECTRICITY MARKET



IN % RESIDENTIAL SITES NON-RESIDENTIAL SITES ALL SITES

3,035,000 RESIDENTIAL CLIENTS,
OF A TOTAL OF 31.3 MILLION, WERE UNDER MARKET OFFERS AS AT THE END OF 2014.

4,466,000 CONNECTIONS
WERE COMMISSIONED, OF WHICH
17% WITH AN ALTERNATIVE SUPPLIER (10% WITH GDF SUEZ).

-5%
GREATER DIFFERENCE RECORDED IN 2014
between an indexed-price market offer and the regulated sales tariff (incl. taxes) for an average 6 kVA Base residential consumer using 2,400 KWh per year

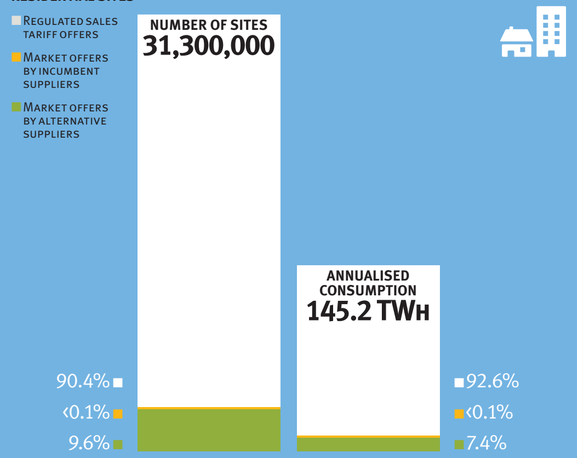
+22%
INCREASE IN THE NUMBER OF RESIDENTIAL CLIENTS UNDER MARKET OFFERS (+559,000 SITES)

+3%
INCREASE IN THE NUMBER OF NON-RESIDENTIAL CLIENTS UNDER MARKET OFFERS (+19,000 SITES)

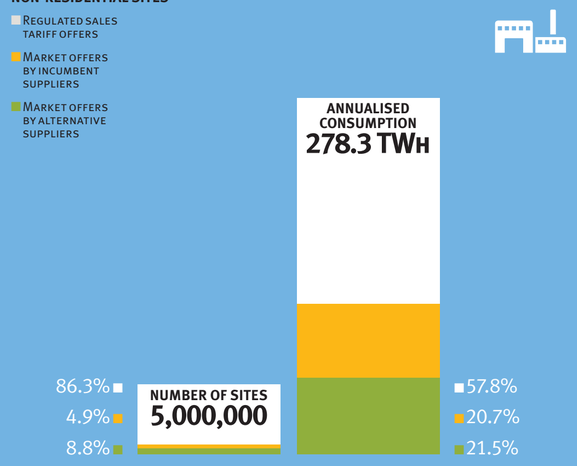
21 SUPPLIERS PROPOSED OFFERS AS AT 31/12/2014

	Non-Residential clients	Residential Clients
ALPIQ		
ALTERNA		■
AXPO		
DIRECT ÉNERGIE		■
EDENKIA		
EDF		■
ENALP		
ENEL		
ENERCOOP		■
ÉNERGEM		■
ENOVOS		
EON ÉNERGIE		
GDF SUEZ		■
GEG		■
IBERDROLA		
LAMPIRIS		■
LUCIA		■
PLANÈTE OUI		■
PROXELIA		■
SÉLIA		■
VATTENFALL		

RESIDENTIAL SITES



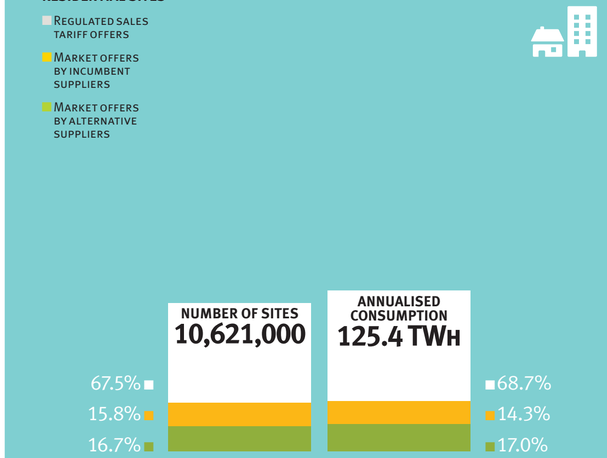
NON-RESIDENTIAL SITES



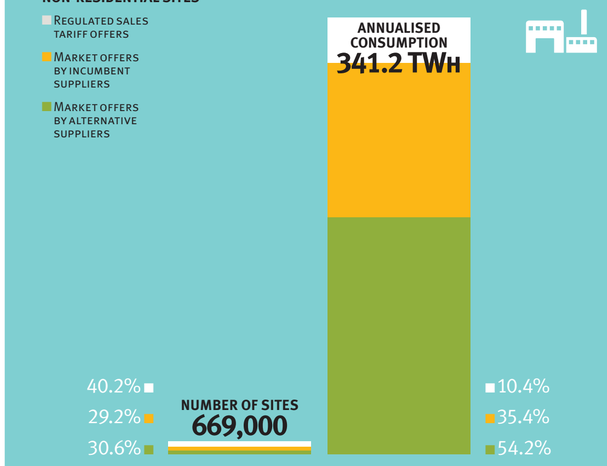
THE RETAIL GAS MARKET

2014

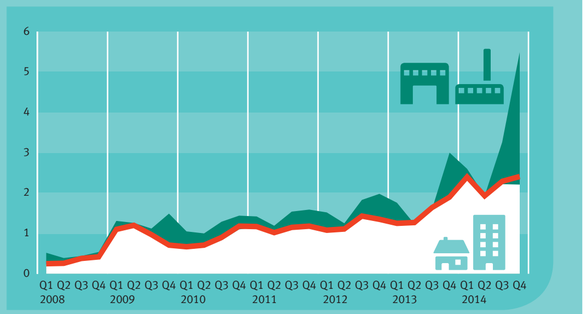
RESIDENTIAL SITES



NON-RESIDENTIAL SITES



SUPPLIER CHANGE RATE FOR THE GAS MARKET



IN % RESIDENTIAL SITES NON-RESIDENTIAL SITES ALL SITES

3,451,000 RESIDENTIAL CLIENTS
OF A TOTAL OF 10.6 MILLION, WERE UNDER MARKET OFFERS AS AT THE END OF 2014.

1,210,000 CONNECTIONS
WERE COMMISSIONED, OF WHICH
43% WITH AN ALTERNATIVE SUPPLIER (31% WITH GDF SUEZ).

-10%
GREATER DIFFERENCE RECORDED IN 2014
between an indexed-price market offer and the regulated sales tariff (incl. taxes) for a residential consumer using gas heating and consuming 17 MWh per year.

+39%
INCREASE IN THE NUMBER OF RESIDENTIAL CLIENTS UNDER MARKET OFFERS (+963,000 SITES)

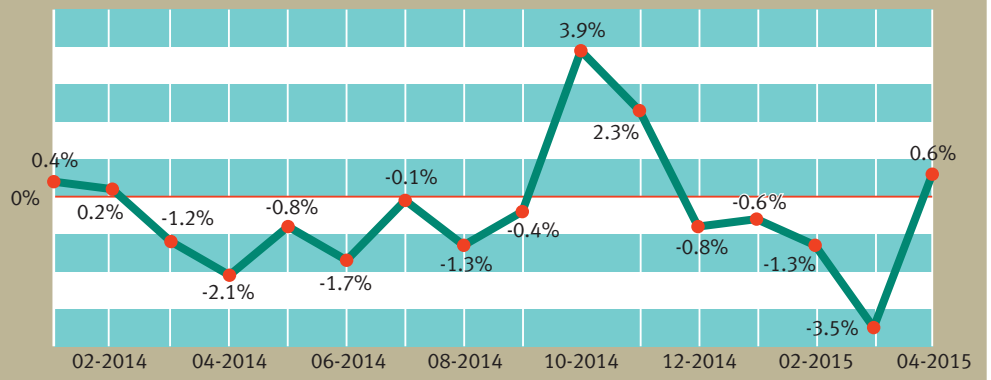
+18%
INCREASE IN THE NUMBER OF NON-RESIDENTIAL CLIENTS UNDER MARKET OFFERS (+61,000 SITES)

SUPPLIERS PROPOSED OFFERS AS AT 31/12/2014

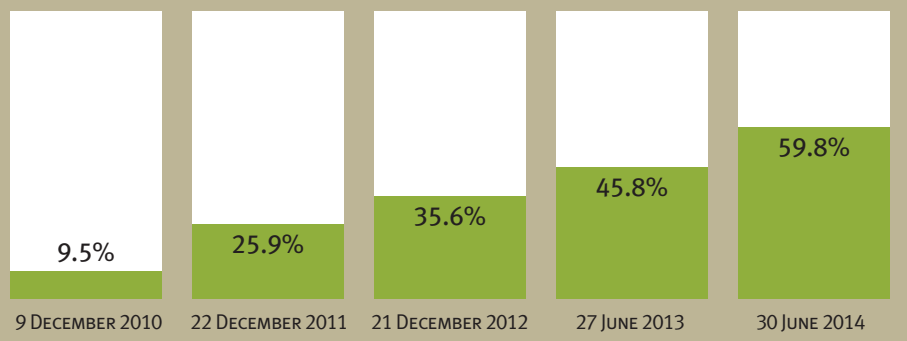
	Non-Residential clients	Residential Clients
ALPIQ		
ALTERNA		■
ANTARGAZ		■
AXPO		
DIRECT ÉNERGIE		■
EDF		■
ENDESA ENERGIA		
ENI		■
ENOVOS		
EON ENERGIE		
GAS NATURAL FENOSA		
GAZ DE BORDEAUX		
GAZ EUROPÉEN		
GAZPROM ENERGY		
GDF SUEZ		■
GEG		
IBERDROLA		
LAMPIRIS		■
NATGAS		
PICOTY		
SÉLIA		
TOTAL ENERGIE GAZ		
VATTENFALL		
VERBUNDNETZ GAS AG		

EVOLUTION OF REGULATED SALES TARIFFS IN 2014

July 2014	cancellation of a planned 5% increase as at 1 August 2014
November 2014 (start of cost stacking methodology)	**+2.5%** for residential clients **-0.7%** for non-residential clients (including catch-up of past shortfalls)



SHARE OF INDEXATION OF THE GAS PRICE IN THE WHOLESALE MARKETS



BREAKDOWN OF THE FINAL ENERGY BILL

Source: CRE, Observatory of retail markets for the fourth quarter 2014

CSPE

2014: **16.5 /MWh**

2015: **19.5 /MWh**

Contribution to the public electricity service (CSPE) represented approximately 13% of the bill including taxes of an average residential consumer in 2014 (15% in 2015).

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2014 **Activity Report**

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an actor
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Message from the board

GOING FROM AN ENERGY SUPPLY MONOPOLY TO A DIVERSIFICATION OF OFFER HAS REQUIRED, FROM ALL PARTICIPANTS, GAINING KNOWLEDGE ABOUT COMPETITION AND ITS VALUE.

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This year, the French energy regulatory commission celebrates its fifteen year anniversary. A lot of ground covered since 2000! The energy landscape in France and Europe has changed considerably, both in terms of organisation and economy. In 1996, the first European directive laid the foundations of a single integrated market in electricity, and in 1998, a second directive prepared for the integrated gas market. At the same time, in 2001, the Union established its first objectives in terms of renewable electricity sources.

> **FRANCE MUST CONTRIBUTE TO THE NECESSARY CONSTRUCTION OF THE EUROPEAN GAS MARKET WITHOUT MAKING ONLY FRENCH CUSTOMERS BEAR THE COSTS."**

Since then, competition has developed. European harmonisation of the operating rules for the functioning of energy infrastructure is underway with the implementation of European network codes, and new interconnectors have been built. These network codes, which are genuine common rules, are established under the supervision of regulators assembled within the Agency for the Cooperation of Energy Regulators (ACER). In France, CRE, in connection with sector participants, prepared and sometimes brought forward their implementation. The European project today is based on three objectives: ensure the security of energy supply in Europe, enable access of all to competitive energy in an interconnected market, within the framework of sustainable development. This three-pronged approach, and improving how the objectives link with each other, will be the guiding principle of the Energy Union project.

Over the last fifteen years, an important stage in France has been the separation between natural gas and electricity transmission activities, natural monopolies, and those of production and supply. The independence of system operators compared to their parent companies had become a necessity. It was necessary to guarantee suppliers non-discriminatory access to these networks, in order to open up and develop competition for the benefit of final energy consumers. It was also necessary to take part in the achievement of the integrated market through the development of gas and electricity transmission networks enabling flows throughout Europe. The independence of transmission system operators was achieved in full with the implementation of the third directive of 2009. That of distribution networks can still be perfected in certain countries, including France.

In the electricity sector, the construction of the integrated energy market is continuing today at the organisational level with the implementation of market coupling. To prepare for the network code on Capacity Allocation and Congestion Management (CACM), set to enter into effect in summer 2015, regulators and system operators of the Central West zone have decided to introduce flow-based market coupling. In April 2015, CRE greenlighted the process, which was launched on 20 May 2015. This mechanism will enable better optimisation of the use of electricity generation infrastructure in the region covering France, Germany, Austria, Belgium, Luxembourg and the Netherlands. This method will contribute to reducing costs and enhancing security of supply.

In the gas sector, the last fifteen years has seen a simplification in the organisation of the French market, which has gone from three to two market zones as at 1 April 2015, with the goal of having a single zone in 2018. The European network code on balancing of gas transmission networks will enter into effect on 1 October 2015.

> THE CHOICE OF NATIONAL ENERGY MIXES, THOUGH IT REMAINS THE RESPONSIBILITY OF EACH MEMBER STATE, SHOULD BE BETTER COORDINATED AMONG THOSE STATES."

Natural gas matters mostly depend on geopolitics. Europe has seen several crisis which have led oil prices, and subsequently, natural gas prices, to reach record levels. Recurring tensions in the security of Russian gas supply due to the Ukraine crisis show the value of diversifying supply sources, as is the case in France. With a view to participating in Europe's security of supply, the challenge for a country such as France, which is not located along the main gas transportation corridors, is to know how to contribute to the necessary construction of the integrated European gas market without making only French consumers bear the costs. In that respect, the stakes are very high for the Eridan project (link between Spain and North Europe via France) and the creation of a single zone.

At a more operational level, gas capacity allocation mechanisms have been homogenised, through the implementation of the trading platform PRISMA, common to operators of north-west Europe. This platform enables gas shippers to manage their supply/demand balance at European level.

At economic level, developments have been just as significant. Going from an energy supply monopoly to a diversification of offer has required, from all participants and consumers, gaining knowledge about competition and its value. The benefit for the final consumer has been shown largely for natural gas, but has not yet been quite as conclusive for electricity. The end of regulated gas and electricity tariffs for the entire business sector is a decisive stage in this process, which has been particularly long in France compared to neighbouring countries.

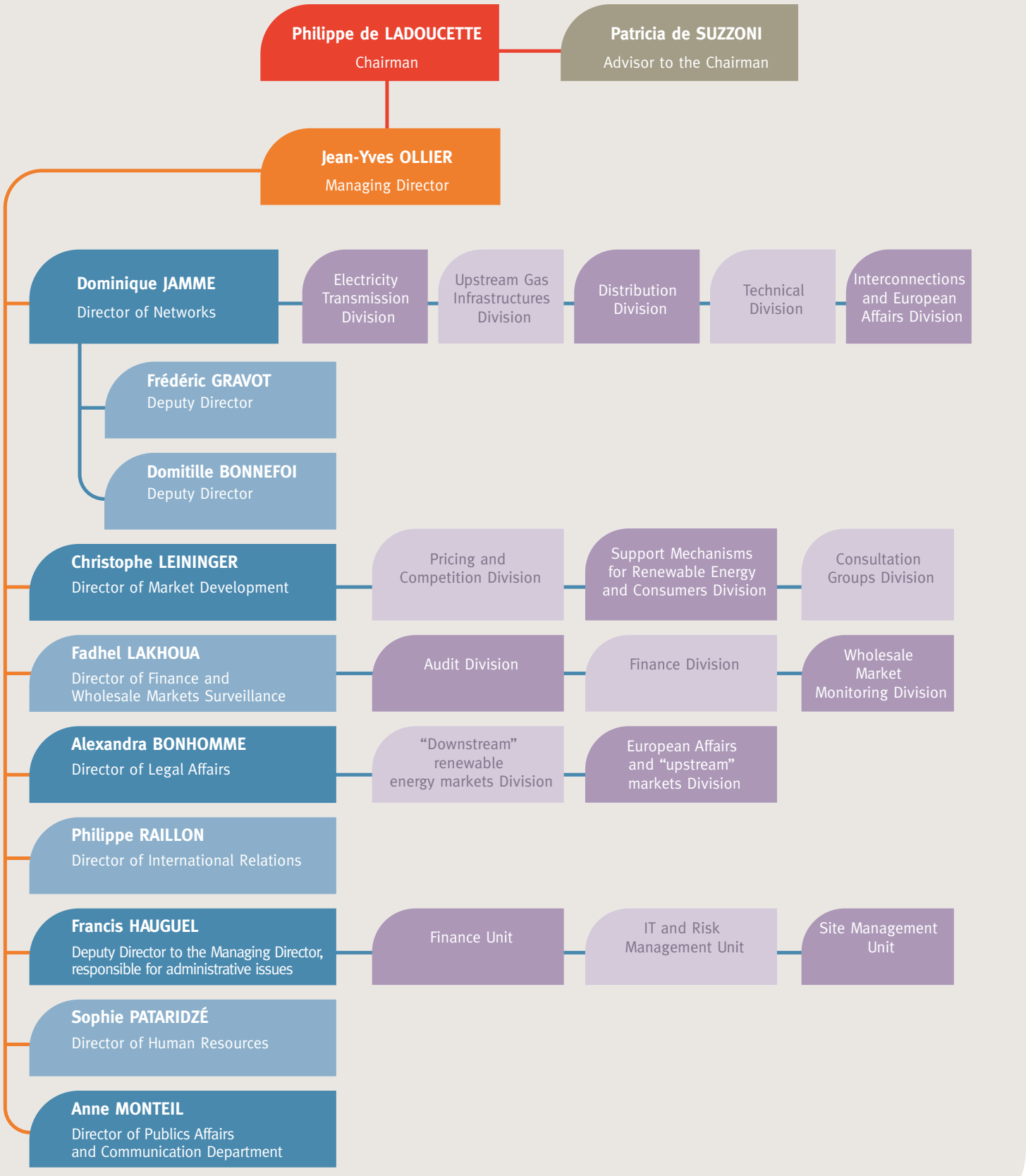
At both economic and sustainable development levels, the growth of green energy throughout Europe and France is now unavoidable. The European Union's decision to promote renewable energy and energy efficiency has led to a change in the production mix, reflected in France in the draft law on energy transition. The choice of national energy mixes, though it remains the responsibility of each Member State, should be better coordinated among those States. The growth of renewable energy against a backdrop of stabilised consumption leads both to the need to continue to develop interconnectors in order to draw on the complementarity of European production infrastructure, and to envision a system that is compatible both with centralised production and the development of decentralised production and the resulting complexity.

The development of renewables was not sufficiently prepared for by producers of energy using conventional sources. These players have been faced with a considerable drop in wholesale electricity prices over the last two years.

Future changes will have even a greater impact because of the wide-scale development of smart grids. Following a broad consultation of all participants, CRE published 41 technical, economic and legal recommendations in June 2014, in order to advance smart grids from the experimental stage to the operational stage.

In the upcoming years, much remains to be done: regulation shall have to both promote the achievement of the integrated market and, for France, ensure the continued development of competition and the opening up of the market, contribute to the quality and security of supply, while ensuring that the networks are adapted to the challenges of the future.

Organisational chart



The Energy Regulatory **Commission**

1 The organisation of CRE

CRE is an independent administrative authority, created when energy markets were opened up to competition. The law of 10 February 2000 on the modernisation and development of the public electricity service, the provisions of which have been included in the French Energy Code, assigned the regulation of these markets to CRE. Its main mission is to support "the proper functioning of the electricity and natural gas markets to the benefit of final consumers, in accordance with energy policy objectives" [1]. To achieve this task, CRE is composed of two independent bodies: the board of the Commission and the Standing Committee for Dispute Settlement and Sanctions (CoRDiS). In making its decisions, the board relies on the expertise of the management of CRE, placed under the authority of the chairman and the managing director.

1.1. THE BOARD OF THE COMMISSION

The law of 15 April 2013 amended the composition of the CRE board for the fourth time in thirteen years. The French Energy Code now requires the board of the Commission, which respects parity between men and women, to comprise six members. Members other than the chairperson appointed after the entry into force of the law will include:

– one member appointed by decree, on the proposal of the minister of Overseas Territories, due to his knowledge and experience of non-interconnected territories;

– two appointed members, one appointed by the Chairman of the National Assembly and one by that of the Senate, because of their legal, economic and technical qualifications respectively in the field of data protection and in that of local public energy services;

– two members appointed by decree, due to their legal, economic and technical qualifications, one in the fields of energy consumer protection and combating fuel poverty, and the other in the fields of energy demand control and renewable energy.

In accordance with these new provisions, Catherine Edwige was appointed on 1 April 2014 by decree on the proposal of the minister of Overseas Territories, Yann Padova was appointed by the chairman of the National Assembly, and Christine Chauvet was

1. Article L. 131-1 of the French Energy Code

appointed by the chairman of the Senate as from 7 February 2015. Hélène Gassin and Jean-Pierre Sotura were appointed by decree on 29 March 2013. The chairman, Philippe de Ladoucette, was appointed by decree by the President of the Republic of France on 7 February 2011.

The commissioners are appointed for a period of six years, which is non-renewable. By exception, the current members of the board have been appointed for periods ranging from three to six years, in order to ensure the renewal of the board every two years by third parties.

The members of the board perform their activities full-time. In order to comply with the independence requirements laid down by European law, they can only be dismissed in the three cases provided for in Article L. 132-5 of the French Energy Code, in the case of non-compliance with the incompatibility rules, a serious breach or impediment. In addition, the rules on incompatibility shall prohibit any accumulation of the position of member of the board with a municipal, departmental, regional, national or European elected mandate, and prohibit any taking of a direct or indirect interest in a company in the energy sector. This ban on the acquisition of interest applies until the expiry of a period of three years following the end of their mandate.

1.2. THE STANDING COMMITTEE FOR DISPUTE SETTLEMENT AND SANCTIONS (CORDIS)

CoRDiS, created by the law of 7 December 2006, is composed of four members:
– two government advisors appointed by the Deputy Chairman of the Conseil d'État (the body which examines bills before they are submitted to the Council of Ministers and which deals with legal irregularities within the public bodies and at government level);
– two advisors to the Cour de Cassation appointed by the president of that court.
Since 2013, the Committee also has four alternate members. As with the CRE Board, CoRDiS members and their alternates are appointed for a non-renewable six-year term.
CoRDiS is responsible for settling, in technical and financial areas, disputes between operators and users of the public electricity and natural gas networks. Therefore, this independent committee of the board of commissioners enables CRE to carry out one of its core missions: to guarantee transparent and non-discriminatory access to energy networks, which is the key to open competition. CoRDiS also has the power to sanction, through a temporary ban on access to the gas networks and installations or through a fine [2], the failings cited in the French Energy Code and - since the Law of 15 April 2013 – failings mentioned in the regulation of 25 October 2011 on Energy Market Integrity and Transparency (REMIT). This law has also clarified the procedures for separating the prosecution and sanctioning powers within the Committee. Decree No 2015-206 of 24 February 2015 on the procedures applicable before CoRDiS completes the functioning of the Committee's sanctioning mechanism ‹see box›.

CORDIS IS NOW ABLE TO FULLY EXERCISE ITS POWER TO SANCTION

Decree No 2015-206 of 24 February 2015 on the procedures applicable before CoRDiS completes the Committee's sanctioning mechanism. This decree enables CoRDiS to fully exercise its power to sanction.
It ensures the distinction and independence of persons in charge of determining the sanction compared to those in charge of investigations and prosecutions. This separation is aimed at ensuring the independence and impartiality of sanctions.
This decree was necessary in order to bring CRE's sanctioning procedure into compliance with the decision dated
2 December 2011 of the Conseil constitutionnel (constitutional council) in which the council considered, concerning the power to sanction of independent administrative authorities, that it is necessary for the law to be clear on the distinction between investigating authority and prosecution authority.

2. Limited to 3% of income (5% in the event of a repeated infringement) if the breach is not a criminal offence, and 8% in other cases (10% in the event of a repeated breach) (Article L. 134-27 of the French Energy Code)

Steering committee

From left to right:

- Frédéric Gravot, Deputy Director to the Networks Director
- Alexandra Bonhomme, Director of Legal Affairs
- Philippe Raillon, Director of International Relations
- Jean-Yves Ollier, Managing Director
- Sophie Pataridzé, Director of Human Resources
- Christophe Leininger, Director of Market Development
- Fadhel Lakhoua, Director of Finance and Wholesale Markets Surveillance
- Domitille Bonnefoi, Deputy Director to the Networks Director
- Francis Hauguel, Deputy Director to the Managing director, responsible for administrative issues
- Dominique Jamme, Director of Networks
- Anne Monteil, Director of Publics Affairs and Communication Department

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2 CRE's missions

CRE's missions are divided into two components. On the one hand, the task of regulating the electricity and natural gas networks consists of ensuring users (businesses, local authorities, consumers and producers) have non-discriminatory access to the transmission and distribution infrastructure which are natural monopolies, while ensuring the security of supply. On the other hand, it has the task of regulating the markets in order to develop free and fair competition to the benefit of the end consumer. CRE is required to consult the Higher Energy Council prior to its decisions for subjects that may "have a significant impact on energy policy objectives" whose list is determined by decree No 2015-248 of 3 March 2015.

2.1. THE REGULATION OF ELECTRICITY AND NATURAL GAS NETWORKS

Since the law of 10 February 2000, the missions assigned to CRE have grown continually. The law of 7 December 2010 on the new organisation of the electricity market (NOME law) and the transposition of directives 2009/72/EC and 2009/73/EC of 13 July 2009 concerning the common rules for the integrated market in electricity and natural gas are important steps in the reform of the energy sector.

Guaranteeing the right of access to the public electricity and natural gas networks and facilities

Competition can only be opened up in the electricity and natural gas markets if operators and consumers are able to access the networks, infrastructure and facilities under transparent and non-discriminatory conditions. CRE contributes to this requirement and to ensuring that the networks

are safe, reliable and efficient, to the benefit of consumers. It promotes the adequacy of networks and energy efficiency, as well as the integration of energy production from renewable sources. The tasks of CRE to ensure this right of access are essentially the same for the natural gas market and the electricity market.

The principle of non-discrimination is the guarantee of access to the market for new entrants and the development of fair competition to the benefit of the consumer. CRE receives contracts signed between system operators and users, such as protocols for accessing the electricity networks and natural gas transmission and distribution infrastructure, as well as liquefied natural gas installations. It receives justified notification of refusals to enter into contracts or protocols for accessing such networks, structures and installations. As regards access to electricity networks, CRE issues a prior opinion on the decisions of the prefet (responsible administrative authority) refusing to authorise the construction of a direct line.

As regards access to natural gas infrastructure, it issues an opinion on the exceptions established by decree to the tariffs for the use of the transmission and distribution networks of natural gas and liquefied natural gas installations, as well as on the exceptions made to the commercial conditions for using the networks or installations. CRE has coercive power in respect of operators in the event of a serious and immediate breach of the rules governing access to the networks, structures and installations or their use: it may order, by way of a dispute settlement, precautionary measures in order to ensure the continuity of network operation.

82 DAYS OF COMMISSION IN 2014.

243 DELIBERATIONS IN 2010 I.E A 34% INCREASE COMPARED TO 2013.

Ensuring the proper functioning and development of electricity and liquefied natural gas networks and infrastructure

To ensure optimal operation of the networks, CRE now sets tariffs for the use of the public electricity and natural gas networks, and related services provided under the monopoly of the operators of these networks. Before the third energy package came into force, CRE only had the power to suggest these tariffs to the relevant ministers, who could oppose its proposal

CRE approves the annual investment programmes of the natural gas TSOs (GRTgaz and TIGF) and of the public electricity transmission system operator (RTE) and ensures that the necessary investments are made for the correct development of the networks.

The transposition of the third energy package in the French Energy Code modified CRE's tasks regarding the investment programmes of transmission system operators. CRE examines the ten-year investment plan for transmission system operators each year checking that the plan covers all of the investment needs and is in line with the European plan prepared by ENTSOs (European Network of Transmission

> AS FROM 1 JANUARY 2016, CRE WILL FORWARD ITS PROPOSALS FOR ELECTRICITY REGULATED SALES TARIFFS TO THE ECONOMY AND ENERGY MINISTERS."

System Operators), agencies for the cooperation of European network operators. CRE may, if necessary, consult the Agency for the Cooperation of Energy Regulators (ACER) and require the transmission system operator to amend its ten-year investment plan. If a TSO fails to make an investment that, under its ten-year plan, should have been made within three years, CRE has coercive power. Indeed, if it considers that the investment is still relevant given the current ten-year plan, it may order the TSO to comply with this requirement and therefore make the proposed investment or organise a call for tender to third-party investors to make the investment.
In the event of a serious and immediate breach to the security and safety of public electricity transmission and distribution networks or to the quality of their operation, CRE may propose precautionary measures necessary to ensure the continuity of their operation to the Energy minister.

Ensuring the independence of network operators

Management of the electricity and natural gas transmission networks is provided by legal entities separate from those operating electricity or gas production or supply [3]. To ensure the independence of these networks, CRE approves, after the opinion of the French Competition authority, the accounting rules on the separation of activities between electricity production, transmission and distribution, and other activities of integrated electricity operators and between transmission, distribution, storage of natural gas and the use of liquefied natural gas installations and other activities of integrated natural gas operators. It exercises a monitoring and surveillance function embodied by the possible exercise of its powers of investigation and sanction. The CRE also publishes an annual report on compliance with the codes of conduct established by electricity and gas transmission and distribution system operators, and an assessment of their independence.

The transposition of the third package of directives into the French Energy Code has assigned a new role to CRE: certification of transmission system operators. The purpose of the certification procedure is to check that operators comply with all the obligations of the Independent Transmission Operator Model (ITO model), i.e. the requirement for independence and autonomy in relation to their parent company. CRE launched the certification process and established the contents of the certification dossier in its deliberation of 12 May 2011, and then certified the three TSOs in its deliberation of 26 January 2012. TSO certification is valid indefinitely. However, CRE's role does not end there: the TSOs are required to notify CRE of anything that might justify a review of their certification. As such, CRE was required to re-assess TIGF's situation following changes to the company's shareholder base. The TSO was re-certified on 3 July 2014. In addition, CRE may, at its own initiative or at the reasoned request of the European Commission, proceed to review the certification when it considers that events affecting the organisation of the transmission system operator or that of its shareholders are likely to affect its independence obligations.

2.2. REGULATION OF THE ELECTRICITY AND NATURAL GAS MARKETS

Monitoring transactions on the wholesale electricity, natural gas and CO_2 markets

Since 2006, CRE has been assigned the mission of monitoring the wholesale electricity and natural gas markets, in particular ensuring that the offers made by market players are consistent with their economic and technical constraints. This monitoring activity is based on data which is collected regularly. The aim is to ensure that prices are consistent with the physical and economic fundamentals which determine supply and demand, such as weather conditions, usage levels,

3. Article L. 111-7 of the French Energy Code

available production capacity and interconnectors, fossil fuel and CO_2 prices, etc.

The banking and financial regulation law of 22 October 2010 gave CRE the power to oversee the CO_2 market. In cooperation with the French Financial Markets Authority (AMF), CRE monitors transactions on the CO_2 market carried out by European electricity and natural gas suppliers, traders and producers on European emission quotas EUA (European Union Allowance), as well as on CER (Certified Emission Reduction) and ERU (Emission Reduction Units) units provided for by the Kyoto protocol. It analyses the consistency of these transactions with the economic, technical and regulatory constraints of the activities of these electricity and natural gas suppliers, traders and producers.

CRE's task of monitoring wholesale markets is also part of the framework of the Regulation on Energy Market Integrity and Transparency, called REMIT, which prohibits market abuses on wholesale electricity and gas markets. The monitoring of these markets is carried out in cooperation with ACER. CRE's Committee for Settling Disputes and Sanctions (CoRDiS) has the power to sanction breaches and violations of this regulation. As part of this task, CRE produces an annual report on the functioning of wholesale markets, the seventh edition of which was published in November 2014.

Ensuring the proper functioning of retail markets

Firstly, CRE has the power to monitor, on the one hand, transactions carried out between suppliers, traders and producers and those carried out on organised markets, and, on the other hand, the consistency of the offers made by the producers, traders and suppliers, in particular toward end consumers, with their economic and technical limits [4]. CRE may also issue an opinion and propose measures to promote the correct operation and transparency of the retail market. As part of this mission, CRE publishes an annual report on the monitoring of the retail market, the third edition of which will be published in 2015.

CRE's mission of ensuring the correct functioning of the retail markets focuses in particular on its role in setting regulated sales tariffs for electricity and natural gas. Until 31 December 2015, they will be decreed by the Energy and Economy ministers, after consulting with CRE. From 1 January 2016, CRE will forward the proposals for regulated sales tariffs for electricity to the economy and energy ministers and its decision will be considered accepted if the ministers do not object within a period of three months following receipt of these proposals.

The setting of regulated sales tariffs for natural gas results from a complex procedure, which was amended by the decree of 16 May 2013. On the one hand, a decision taken by the Economy and Energy ministers after consulting with CRE sets the tariff formula for each supplier reflecting its total natural gas supply costs and the methodology for assessing its non-supply costs. On the other hand, a decision by the Economy and Energy ministers, taken after consulting with CRE - and since 2013 after the latter has performed a detailed analysis - sets the regulated tariffs for the sale of natural gas. These rates are reviewed at least once a year and revised if necessary, depending on any changes in the tariff formula. Finally, the procedure for change at the request of the supplier became the common procedure for rate changes in 2013, done on a monthly basis for the GDF SUEZ tariffs. The supplier submits its proposal for change to CRE, accompanied by the justifying elements. CRE must ensure that the requested change results directly from the application of the supplier's tariff formula. CRE also issues an opinion on the electricity and natural gas social tariffs for vulnerable people.

98 STAKEHOLDERS HEARD BY THE BOARD IN 2014 I.E. A 40% INCREASE COMPARED TO 2013.

4. Article L. 131-2 of the French Energy Code, stemming from the provisions of the NOME law

Contributing to the implementation of measures to support electricity generation and the supply of electricity and gas

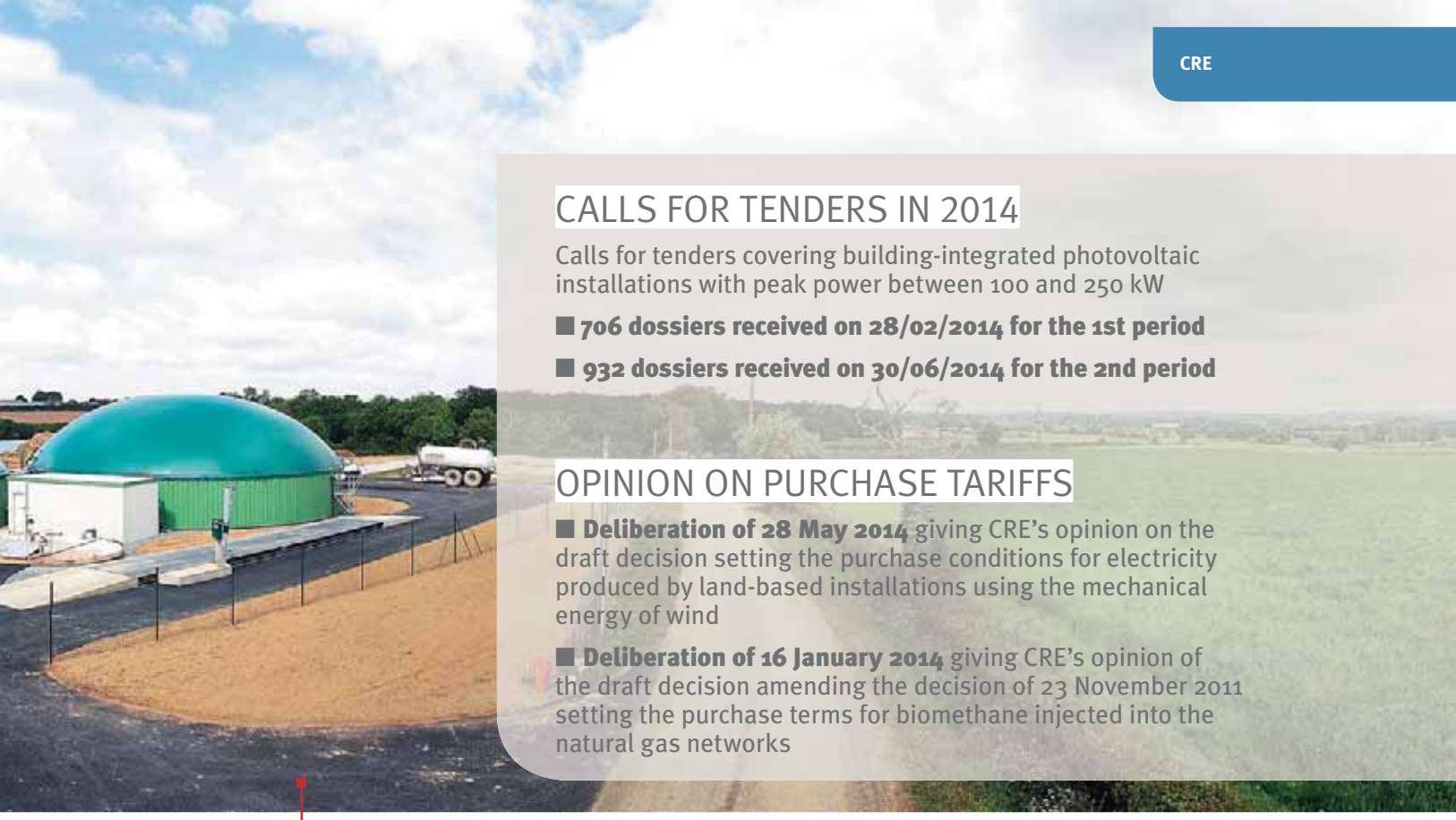
CRE contributes to the implementation of support mechanisms for electricity production through several channels. On the one hand, it issues an opinion on the decisions setting the purchase tariffs for energy produced by small-scale installations (installed power lower than 12 MW), recycling household waste, using renewable energies or based on cogeneration. On the other hand, if the production capacities do not meet, by the simple set of operator initiatives, the objectives of the multi-annual programming of electricity production, the Energy minister can resort to a call for tenders, which CRE is responsible for implementing. CRE thus proposes draft specifications based on general conditions defined by the Energy minister, who is in charge of deciding on the definitive version of that document. It answers questions asked by candidates during the tendering phase. It examines and appraises tenders. It issues an opinion on the candidates, from which the minister appoints the selected candidates.

Calls for tenders have expanded considerably since 2011, becoming as from that year the primary means of granting support to photovoltaic installations exceeding 100 kW. This trend is expected to grow as from 2015 following:
– the adoption by the European Commission in June 2014 of guidelines on State aid for energy, the use of calls for tenders as the main instrument of support for renewable energy;
– the setting of more ambitious objectives for developing the different renewable energies once the energy transition law will have been adopted.
In addition, CRE assesses the amount of charges attributable to public service missions which are fully compensated under the conditions laid down in article L. 121-10 of the French Energy Code, and each year proposes the amount of public service charges and the amount of the contribution (CSPE) applicable to each kilowatt hour to the Energy minister [5]. It also proposes the amount of repayments made to operators incurring public service charges to the Economy and Energy ministers. As regards the natural gas sector, every year CRE proposes to the Energy minister the contribution, applicable per kilowatt hour, for the social tariff.

Management of the ARENH mechanism

CRE ensures the operational management of the regulated access to incumbent nuclear electricity (ARENH) mechanism. Moreover, it proposes the

5. See CRE's reports *Analysis of the costs and profitability of renewable energy in metropolitan France* published in June 2014 and *Public electricity service contribution: mechanism, history and the future*, published in October 2014.



CALLS FOR TENDERS IN 2014

Calls for tenders covering building-integrated photovoltaic installations with peak power between 100 and 250 kW

- **706 dossiers received on 28/02/2014 for the 1st period**
- **932 dossiers received on 30/06/2014 for the 2nd period**

OPINION ON PURCHASE TARIFFS

- **Deliberation of 28 May 2014** giving CRE's opinion on the draft decision setting the purchase conditions for electricity produced by land-based installations using the mechanical energy of wind
- **Deliberation of 16 January 2014** giving CRE's opinion of the draft decision amending the decision of 23 November 2011 setting the purchase terms for biomethane injected into the natural gas networks

Methanisation plant at Sourdun in the Seine-et-Marne administrative department.
© GRDF-Grégory Brandel

framework agreement to the Energy minister. In application of the NOME law, ARENH is open to all operators supplying end consumers residing in continental metropolitan France or system operators for their losses. CRE issues an opinion on the overall volume of maximum incumbent nuclear electricity that can be assigned, particularly according to the development of competition in the electricity production markets and the supply of the latter to end consumers. The methodology for calculating the ARENH price must be defined by a decree of the Council of State in application of article L. 336-10 of the French Energy Code.

Informing all consumers

To carry out its task of informing consumers, CRE has created and manages with the French Energy Ombudsman (médiateur national de l'énergie) the website Energie-Info, an information sharing service, which answers questions asked by private and business consumers. There are also practical sheets to understand the opening up of the energy markets: how to change energy supplier, who to contact when moving or relocating, the procedure to follow in the event of a complaint or even how to benefit from social tariffs.

The website Energie-Info also provides access to an electricity and gas supply comparator. Educational and easy-to-use, it allows consumers to compare the offers of different suppliers with their current supply offer, consult, and get an estimate of the annual expenditure, the price excluding tax and with all taxes included for the subscription and the kilowatt-hour, as well as a breakdown of taxes, and to display green offers if this is a selection criterion. In preparation of the gradual elimination of regulated sale tariffs for business consumers, CRE has set up an information mechanism (guides, practical information sheets, information meetings by the chambers of commerce and industry, etc.) in order to support consumers during this transition. An initiative welcomed by energy suppliers and the different stakeholders, an educational video was also made, the preview of which was shown during a meeting of the working group devoted to communication and information on the end of the regulated tariffs set up by CRE.

3 CRE and other institutional actors

3.1. CRE AND PARLIAMENT

Independence from the Government is one of the reasons for being an independent administrative authority, such as CRE. CRE is not subject to the hierarchical authority or supervision of the executive authority, and its independence is enshrined in law. Nonetheless, article L.134-14 of the French Energy Code states that the Chairman of CRE "reports on the activities of the Commission before the parliamentary standing committees competent in matters of energy, at their request".

11 HEARINGS OF THE CRE CHAIRMAN BY NATIONAL ASSEMBLY IN 2014

CRE attaches particular importance to this dialogue. Each CRE publication is sent to Parliament and sometimes even a presentation is made before the competent committee. The chairman of CRE thus appeared before the National Assembly eleven times in 2014. These hearings are held to present the work of CRE, but also:
– to communicate elements within the framework of an investigation committee, such as those carried out in 2014 by the National Assembly on the cost of nuclear energy, then on the regulated tariffs for the sale of electricity, or an information task, as was the case for the adaptation of energy law to the overseas departments for example;
– to obtain CRE's opinion for a law being drafted. This year, CRE was heard on several occasions during the examination of the draft law on the energy transition towards green growth;
– to discuss allocations to be made to CRE: CRE's chairman was heard, within the framework of the draft finance bill for 2015, by the finance commission.

3.2. CRE AND LOCAL AUTHORITIES

With regard to energy, the towns and the public establishments for intercommunal cooperation provide five main functions: they develop production from renewable energies, distribute - this is their historic task - and consume energy, they arrange their regions and raise awareness among local actors and the population on energy management. In the context of the transformation of the energy system including the development of decentralised electricity production, their role in the planning of production means has increased. The local communities are now undertaking many innovative projects to help manage energy more efficiently.

Aware of this central role of the different levels of communities, CRE is strengthening its exchanges with local elected representatives

CRE answers many questions addressed to it each year by local elected representatives. In 2014, it travelled to regions for roundtable meetings on the theme of smart grids, in Nancy, Toulouse, Montbéliard and Nice. In addition, CRE representatives participate regularly in local public debates on infrastructure projects. For example, in 2013 CRE participated in two local public debates organised by the National Commission for Public Debate concerning the major Val de Saône and Arc Lyonnais gas pipeline projects. In October 2014, CRE travelled for the first time to Mayotte and Reunion to conduct several analyses of costs declared as part of public service charges. Contracts with institutional actors were rich and open.

This trip was also the occasion to take stock first hand of the particularities of non-interconnected territories and to make CRE's role and missions clearer to local actors. To assist professionals as the end of regulated sales tariffs draws near, in 2014, CRE took part in 38 meetings, 23 of which were in partnership with chambers of commerce and industry. These meetings brought together over 1,850 people, including 660 public buyers, as well as representatives of large multi-site companies (supermarket chains, the post office, etc.), i.e. several thousands of sites concerned by the end of regulated tariffs. Lastly, CRE invites local authorities to participate in its work by offering

CRE PRESENTED SMART GRIDS AT THE DIGIPOLIS FORUM FOR DIGITAL SOLUTIONS FOR TERRITORIES, MONTBÉLIARD, 20 NOVEMBER 2014.
© Samuel Carnovali

them a forum in the events it organises (forums or symposia) or by inviting them to respond to the public consultations that it organises on topics that interest them.

3.3. CRE AND OTHER INDEPENDENT ADMINISTRATIVE AUTHORITIES

CRE, as a regulatory authority, is required to work with other independent administrative authorities, in particular the Competition Authority, the Financial Markets Authority (AMF) and the National data protection commission (CNIL).

Article L.134-16 of the French Energy Code states that the CRE chairman must notify the Competition Authority of any "abuses of a dominant position or practices that may prevent free competition of which he is aware in the electricity and natural gas sectors". The CRE chairman can also refer to the Authority for an opinion. This opinion may be required, such as for example, in application of paragraph 6 of article 25 of law no. 2000-108 of 10 February 2000, within the framework of the approval of the principles of unbundling of local electricity distributors. In addition, the Competition Authority must communicate to CRE any referral concerning sectors falling within its scope of competence, so that the latter can submit any comments, within a period of two months. In the opinion forwarded to the Competition Authority on 28 May 2014, CRE considered that access to certain data in the GDF SUEZ's regulated tariff client file by alternative suppliers was necessary, in order to re-establish fairer competition between them and the incumbent operator. CRE's recommendations were followed by the Competition Authority in its decision of 9 September 2014 on precautionary measures. In fact, it expressly ordered GDF SUEZ to give access to any alternative supplier that so requested it, to certain data in the files of clients with a supply contract at the regulated tariff for the sale of natural gas. The information in question is, on the one hand, the contact information of the client (last name and first name, billing address, the service address and the landline number), and, on the other hand, the technical features of the delivery point (metering point number and estimate, annual reference consumption and consumption profile).

> TO ASSIST PROFESSIONALS AS THE END OF REGULATED SALES TARIFFS DRAWS NEAR, IN 2014, CRE TOOK PART IN 38 MEETINGS, 23 OF WHICH WERE IN PARTNERSHIP WITH CHAMBERS OF COMMERCE AND INDUSTRY."

Cooperation with AMF has been strengthened by the adoption, because of European law, of the banking and financial regulation law of 22 October 2010, which now provides for the possibility of an exchange of information and expertise when useful for both authorities to complete their respective missions. Within this framework, CRE and AMF signed a memorandum of understanding in 2010 providing for mutual assistance in terms of methodological support or contribution of expertise or information useful to perform their tasks on the gas, electricity and CO2 markets.

CRE also cooperates with CNIL on issues that present data protection issues, such as smart grids.

3.4. CRE AND EUROPEAN REGULATORY AUTHORITIES

In addition to the bilateral daily contacts that it maintains with its European counterparts, CRE actively participates in the construction of a single energy market within European regulatory bodies. It is therefore represented in all the working groups of the Council of European Energy Regulators (CEER) and the Agency for the Cooperation of Energy Regulators (ACER) within which it works on drafting the operational rules of the integrated market.

CEER is a non-profit association under Belgian law, which spontaneously brings together regulators from the 28 member states of the European Union (EU), Iceland and Norway, as well as regulators from Switzerland and from the Former Yugoslav Republic of Macedonia, as observers. CEER is the voice of the national regulators at community and international level. It promotes assistance and the sharing of experience and good practices between its members and enables common positions to be developed. It works closely with ACER on community issues and addresses several issues complementary to ACER's work, such as international issues, smart grids, sustainability and problems relating to consumers. CRE has been a member of CEER since it was founded in March 2000.

Furthermore, CRE is a member of the Board of Regulators of ACER, a European agency with a legal personality, established by the Third Energy Package and operational since March 2011. ACER's goal is to assist the national regulatory authorities to exercise and coordinate their regulatory tasks at community level and, if necessary, to supplement their actions. It ensures that the integration of markets and the harmonisation of regulatory frameworks are carried out in compliance with the objectives of the EU's energy policy [6]. The Agency also adopts the framework guidelines for the integration of markets, the objective of which is to establish principles intended to be developed in the network codes drafted by the European Network of Transmission System Operators (ENTSO). It is also responsible for monitoring the market, in coordination with national regulators and contributes to the coordinated development of the Union's energy infrastructure.

6. Article 194 of the treaty on the functioning of the European Union

HÉLÈNE GASSIN, COMMISSIONER, AT THE 6TH PARLIAMENTARY MEETING FOR RENEWABLE ENERGY, ON 1 APRIL 2015.
© TPG Communication

4 CRE, consultation and transparency

CRE is committed to the consultation process in the drafting of its deliberations and the transparency of its work. These are indeed essential factors for ensuring the quality and understanding of the work of the regulator and the proper functioning of the energy market, to the benefit of the end consumer.

CRE exchanges with stakeholders within its work processes, mainly in three forms. It organises the dialogue between actors from the energy market, within consultation groups where, in a self-regulation process, they draft the operating rules for the market themselves. CRE also performs several consultations and hearings, and sets up working groups and round tables to prepare its decisions and opinions, making sure they are increasingly transparent. Finally, it participates in European energy market construction work, the basic principle of which is consultation. It is through the cooperation of regulators, which meet within CEER and ACER, and through consultation between the actors of the sector, that the common operating rules of the vast European energy market are laid down. Consultation also allows the widest possible adherence to these rules, and, in so doing, facilitates implementation.

22 PUBLIC CONSULTATIONS LAUNCHED BY CRE IN 2014.

4.1. PUBLIC CONSULTATIONS TO OBTAIN THE OPINION OF ACTORS

Given their structural nature, some of CRE's deliberations systematically give rise to one, or even several public consultations. In 2014, actors were therefore consulted for matters as diverse as the creation of a single marketplace in France in 2018, the methodology for assessing investment and operation costs for electricity production means in non-interconnected territories and flow-based market coupling and its go-live in Central West Europe. In certain cases, the French Energy Code sets the principle of consultation of stakeholders by CRE prior to some of the regulator's deliberations. CRE moreover has made the decision to regularly consult market participants, including for decisions where such a consultative approach is not required by statutory or regulatory texts. This market consultation takes the form of either an ad hoc public consultation, or hearings before the CRE board. In 2014, CRE launched 22 public consultations and 98 actors were heard by the board. This consultation may also take the form of workshops or round tables bringing together stakeholders from the sector.

MEETING TO LAUNCH CEER'S AND ACER'S MARKET MONITORING REPORT, ON 22 OCTOBER 2014.
© CEER

90
CONSULTATION MEETINGS OF CRE WORKING GROUPS; 39 IN ELECTRICITY AND 51 IN GAS.

4.2. A PRINCIPLE OF TRANSPARENCY FORMALISED IN THE RULES OF PROCEDURE

The actions and procedures implemented by CRE comply with the principle of transparency formalised in its rules of procedure. CRE is responsible for ensuring the transparency of the energy markets, in particular through its monitoring tasks, which give rise to the publication of annual reports. It contributes elsewhere by means of the Energie-Info service. CRE also ensures the transparency of its own work to guarantee its quality and understanding by stakeholders. Its deliberations, the consultations to prepare them and its reports are available online at the website www.cre.fr. This website is part of the educational approach deployed by CRE across all of its communication tools. Prior to giving its opinions on the regulated sale tariffs, CRE systematically publishes reports on costs based on which those tariffs are set. Moreover, in 2014, it published for the first time an analysis report on the costs and profitability of renewable energy in metropolitan France, and a report on the contribution to the public electricity service (CSPE).

5 Human resources and budgetary means

Article 35 of Directive 2009/72 of 13 July 2009 and article 41 of Directive 2009/73 of the same date state that "the national regulatory authority has a separate budget and autonomy in the execution of the budget, and has sufficient human and financial resources to fulfil its obligations".

The tasks and activity of CRE have increased substantially since 2010, with the transposition of the directives of the Third Energy Package (decision-making power for setting the tariffs for the use of networks, certification, examination of transmission system operators' ten-year investment plans), the entry into force of the NOME law (ARENH, retail market monitoring), the massive use of calls for tenders in the area of renewable energy, the entry into force of the REMIT regulation and the European work on the drafting of the rules relating to market integration. However, the operating budget of the French regulator was never adjusted to these new

> THE NUMBER OF CRE AGENTS WAS DRASTICALLY REDUCED IN 2015. THIS DROP IN STAFF OCCURRED WHILE THE DRAFT ENERGY TRANSITION LAW ENTRUSTED MANY NEW MISSIONS TO CRE."

Full-time equivalents	2009	2010	2011	2012	2013	2014	2015
Commissioners	3	3	5	5	5	6	6
Agents	128	128	126	126	125	124	120
Total	131	131	131	131	130	130	126

missions, and even fell during the same period. The number of agents was reduced, drastically so in 2015. This drop in staff occurred while the draft energy transition law entrusted many new missions to CRE.

The 120 CRE agents are responsible for preparing CRE's decisions on the setting or checking of energy price components whose cumulative amounts annually represent almost €45 billion: €23 billion for the regulated tariffs for the transmission and distribution infrastructure for natural gas and electricity and the tariffs for accessing LNG terminals; approximately €15 billion for the supply portion of regulated sales tariffs; and €6.2 billion for the contribution to the public electricity service. The study of the resources of the European energy regulatory authorities revealed that eight regulators which already have more staff than CRE (in Germany, Spain, Great Britain, Hungary, Italy, Poland, the Czech Republic and Romania) saw staff increase in 2014 to between 224 and 878 FTE (full time equivalents), compared to 190 to 729 FTE in 2013.

The lack of staff at CRE is detrimental to the conditions and time required to fulfil its missions, and will affect in particular its ability to manage calls for tenders in the area of renewable energy by the required deadlines. CRE recalls that Directive 2009/72 of 13 July 2009 does not require this task to be entrusted to the energy regulatory authority. It could be entrusted to another independent body. The continued reduction of CRE's operating budget after the implementation of a savings plan basically affects its budget for studies, audits and external advice. However, these studies are essential for setting tariffs. CRE has proposed, in this regard, that the French Energy Code be amended so that certain study costs can be borne by the operators

> THE LACK OF STAFF AT CRE IS DETRIMENTAL TO THE CONDITIONS AND TIME REQUIRED TO FULFIL ITS MISSIONS, AND WILL AFFECT IN PARTICULAR ITS ABILITY TO MANAGE CALLS FOR TENDERS IN THE AREA OF RENEWABLE ENERGY BY THE REQUIRED DEADLINES."

concerned through a specific contribution. Article 47 of the draft law on energy transition towards green growth allows CRE to "have the information collected within the framework of its missions verified at companies' expense."

As at 31 December 2014, CRE's staff was composed of 124 agents (excluding commissioners), including 59 women and 65 men: 48% of task managers, 32% of heads of department and 42% of directors or advisers are women. Faced with changing tasks, the regulator seeks to acquire better technical and economic competence in the energy sector and better forecasting abilities. In 2014, CRE received more than 2,122 CVs for 18 posts open to recruitment, mostly concerning highly sought-after candidates with a very high level of qualification. CRE's collaborators, the majority of whom are contractual agents under public law (88% of the workforce), are mainly recruited in companies. Their average age is 35 years old. In 2014, 53% of the agents attended at least one vocational training course with an allocated budget of €115,000. During this same period, 7% of the workforce moved internally.

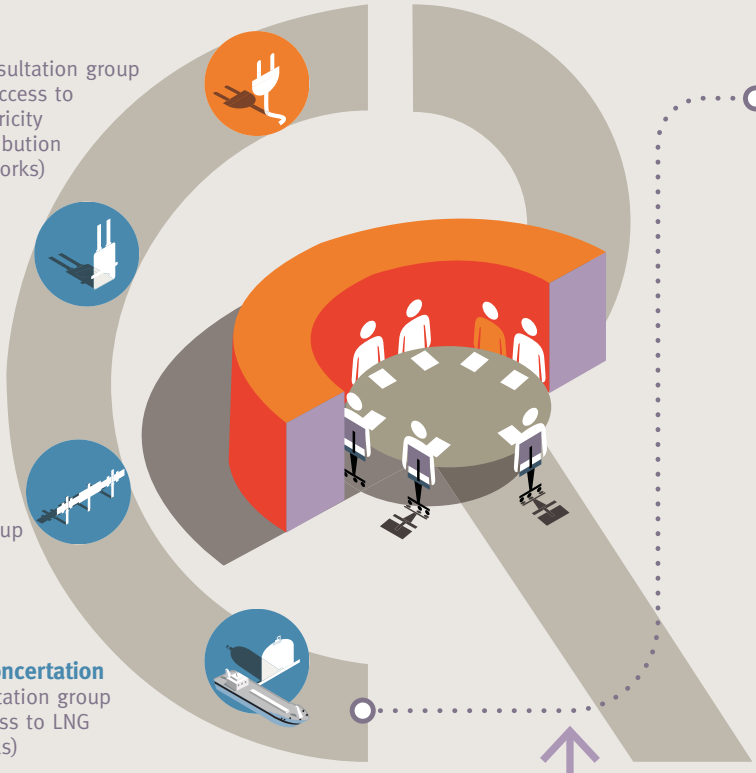
Consultation is at the centre of the regulator's work process

GTE
(Consultation group for access to electricity distribution networks)

GTG
(Consultation group for access to gas distribution networks)

GAS Concertation
(Consultation group for access to gas transmission networks)

LNG Concertation
(Consultation group for access to LNG terminals)



Consultation groups under the auspices of CRE

- These consultation groups were all set up following CRE deliberations.
- CRE guarantees the proper functioning of those consultations.
- CRE's departments are involved and active.
- They enable decisions to be made with all of the market participants on the different topics related to the conditions for accessing regulated infrastructure.
- Their work results in:
  - proposals for which CRE takes a decision;
  - procedures "standardising or overseeing" relations among actors;
  - sharing of information or feedback.

CRE ENSURES, WHERE NECESSARY, **THE CONSISTENCY AND THE PROPER COORDINATION** OF SUBJECTS BETWEEN THE DIFFERENT AUTHORITIES.

Consultation groups to which CRE contributes

- These consultations were all implemented by operators or other public authorities (DGEC, ADEME).
- CRE departments are present.
- They can result in proposals for which CRE takes a decision.

CURTE
(committee of users of the electricity transmission system, under the auspices of RTE)

CURDE
(committee of users of the electricity distribution networks, under the auspices of ERDF)

CGP
(profiling governance committee, under the auspices of ERDF)

Biomethane consultation
(under the auspices of GRDF and ADEME)

Storage committee
(under the auspices of the DGEC, and Storengy and TIGF storage companies)

Electricity committees

Gas committees

"Regulators must adapt to constant changes and remain independent with regard to the State and impartial with regard to the different actors."

3 questions to...

ERIC BROUSSEAU, *SCIENTIFIC DIRECTOR OF THE "GOVERNANCE AND REGULATION" CHAIR OF THE PARIS-DAUPHINE UNIVERSITY AND OF THE CLUB OF REGULATORS*

Why did the Paris-Dauphine university create a chair in governance and regulation?

The opening up of industry to competition led to the emergence of a regulatory institutional model. Administrative sector-specific entities were then created to organise relationships between operators and users. Regulation tends to impose itself as the dominant model for public authority intervention in all sectors and all economic activity across the world. However, it is surprising that no clear set of doctrine on the topic exists in France. The way of implementing regulation and the status of regulators vary considerably in the different sectors. However, reflection on regulation has developed significantly at the international level and will serve as a foundation. The goal is to create a platform that associates experts and stakeholders. The idea is to combine a conceptual approach with operational reflection, in order to make cross-sector and international comparisons. Academics specialised in regulation and public action as well as different sectors of the economy, the general council for the economy, industry, energy and technology (CGEIET), consultancies, public authorities, and lastly, regulated companies and regulators will take part in the work.

What are the major topics that will be addressed?

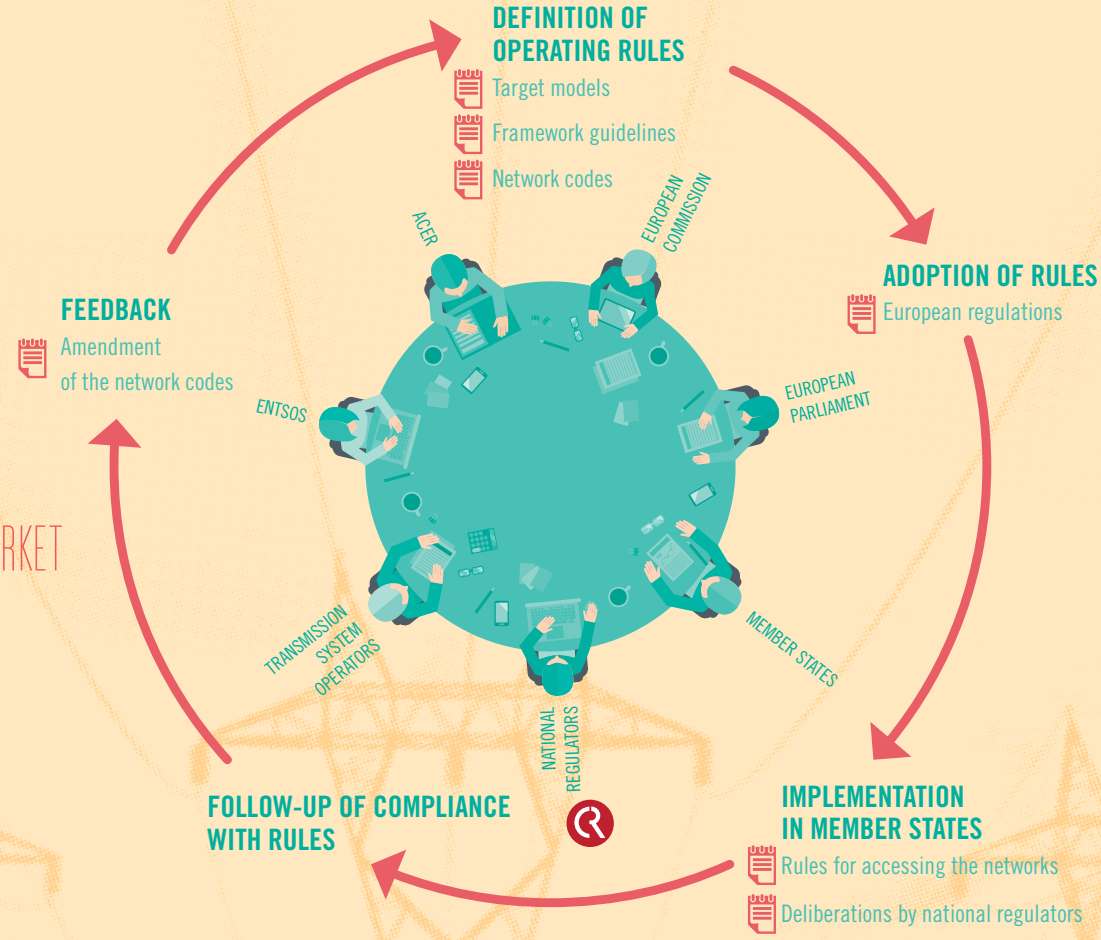
The first subject of reflection is that of the regulatory model. The roles and missions of regulatory authorities vary by sector. Similarly, public authorities and industry have different views of what regulation should be. The second topic is the institutional framework of the regulator's role: its status, articulation between its authority and that of other State components and European institutions, its funding. The third topic is the relationship between the regulator and stakeholders. The regulatory authority must both cooperate with stakeholders, in order to obtain information, develop detailed knowledge of the sector and industrial constraints, and be the referee and the watchdog. It also has contact with users and public authorities. Fourthly, reflection will cover the organisation that the regulator must set up in order to fulfil its missions. For example, since it defines rules, implements them, verifies that they are applied and mediates in the event of disputes, should it carry out its functions in silo or in an integrated manner? Lastly, regulatory techniques, the terms of intervention by the regulator is also a subject for reflection.

A club of regulators was also created. Why?

This club aims to serve as a forum for exchange among the regulators of the different sectors. Though regulators have very different statuses, they are faced with the same challenges. Regulators must adapt to constant changes (technology and marketing, the concept of general interest, market integration, etc.) and remain independent with regard to the State and impartial with regard to the different actors, and the matter of their legitimacy is raised by the accumulation of roles, i.e. rule setting, verifying and sanctioning. CRE, with the French Electronic communications and postal regulatory authority (ARCEP), was instrumental in the setting up of the club. A first public meeting on the topic of "regulation and competitiveness" was held in September 2014. ◗

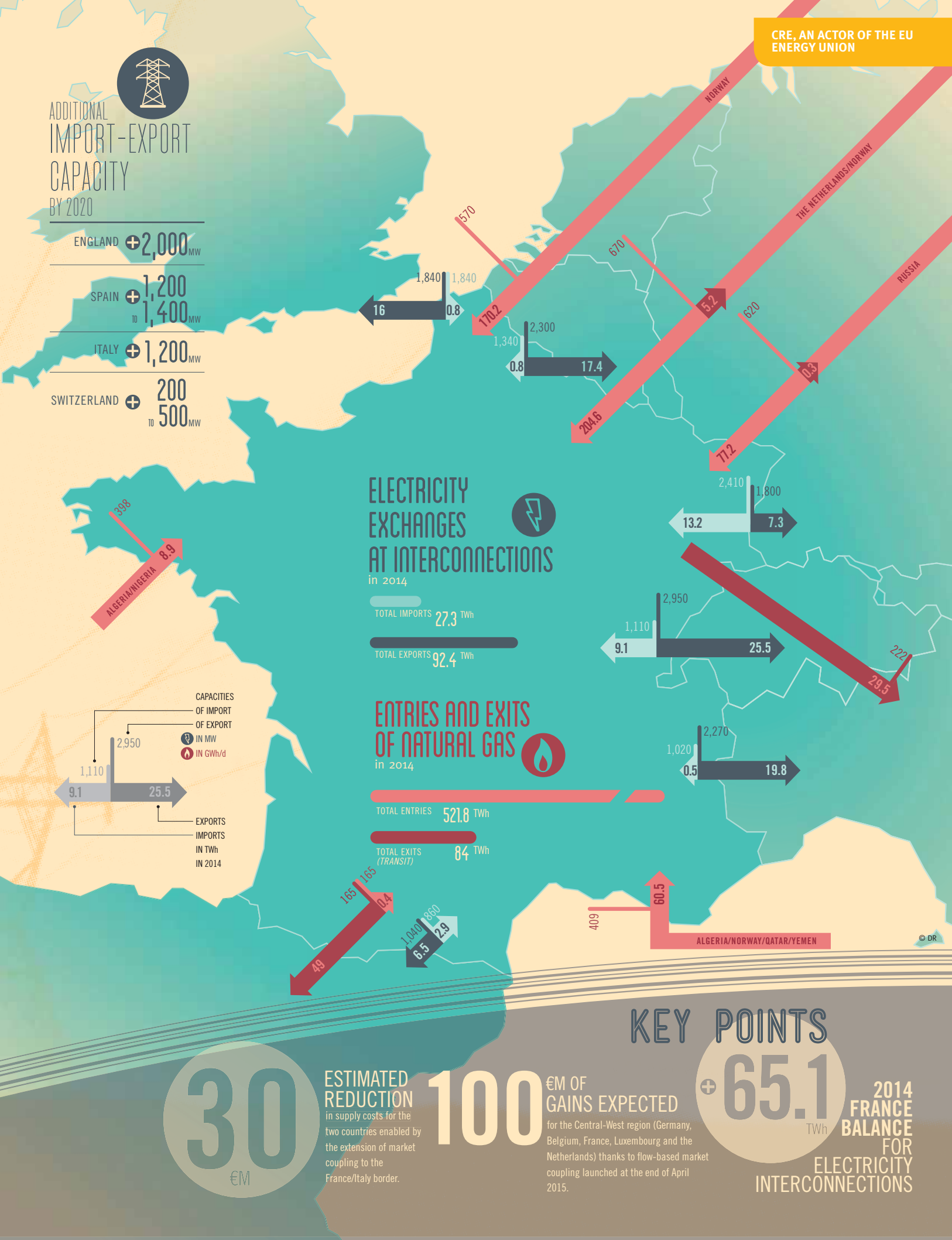
CRE, an actor of the EU energy union

PROCESS FOR ESTABLISHING RULES FOR THE FUNCTIONING OF THE INTERNAL ENERGY MARKET



INVESTMENT EXPENSES OF TRANSMISSION OPERATORS FOR 2015

Large-scale transmission networks and interconnections


CRE, AN ACTOR OF THE EU ENERGY UNION
ADDITIONAL IMPORT-EXPORT CAPACITY BY 2020
ENGLAND +2,000 MW
SPAIN +1,200 TO 1,400 MW
ITALY +1,200 MW
SWITZERLAND +200 TO 500 MW
NORWAY
THE NETHERLANDS/NORWAY
RUSSIA
570
670
620
1,840
1,840
16
0.8
170.2
5.2
0.3
2,300
1,340
0.8
17.4
204.6
77.2
2,410
1,800
13.2
7.3
398
8.9
ALGERIA/NIGERIA
ELECTRICITY EXCHANGES AT INTERCONNECTIONS in 2014
TOTAL IMPORTS 27.3 TWh
TOTAL EXPORTS 92.4 TWh
2,950
1,110
9.1
25.5
222
29.5
CAPACITIES
OF IMPORT
OF EXPORT
IN MW
IN GWh/d
2,950
1,110
9.1
25.5
EXPORTS
IMPORTS
IN TWh
IN 2014
ENTRIES AND EXITS OF NATURAL GAS in 2014
TOTAL ENTRIES 521.8 TWh
TOTAL EXITS (TRANSIT) 84 TWh
2,270
1,020
0.5
19.8
165
165
0.4
49
860
1,040
2.9
6.5
60.5
409
ALGERIA/NORWAY/QATAR/YEMEN
© DR
KEY POINTS
30 €M
ESTIMATED REDUCTION in supply costs for the two countries enabled by the extension of market coupling to the France/Italy border.
100 €M OF GAINS EXPECTED for the Central-West region (Germany, Belgium, France, Luxembourg and the Netherlands) thanks to flow-based market coupling launched at the end of April 2015.
+65.1 TWh 2014 FRANCE BALANCE FOR ELECTRICITY INTERCONNECTIONS

France, because of the size of its electricity and natural gas markets and its location in the centre of the European energy system, has a major role to play in the EU Energy Union.

For CRE, this situation requires close coordination with its European partners to ensure compatibility between the regulatory frameworks and to guarantee the proper functioning of the integrated energy market to the benefit of consumers.

1 The challenges of competitiveness, energy security and sustainability require a coordinated European response

The energy market integration process was undertaken by European Union Member States in the mid-90s in order to improve the economic efficiency of the sector to the benefit of consumers. This process introduced competition among European operators which must lead them to take better advantage of the complementarity of national energy systems. With the EU importing more than half of the energy it consumes, the development of energy exchanges within Europe was also aimed at diversifying supply and limiting the extent of risks related to excessive dependence on a single energy supplier. These challenges are no less significant today.

1.1. COMPETITIVENESS AND ENERGY SECURITY AT THE FOREFRONT OF EUROPEAN CONCERNS

The economic crisis has brought the matter of competitiveness and energy costs to the forefront of European concerns, in particular for the sectors of the economy that are most exposed to international competition. As such, support for the achievement of the integrated energy market, whose expected gains will range, according to the European Commission, between 16 and 40 billion euros per year in the electricity sector and between 8 and 30 billion euros per year in the gas sector, has not weakened [1]. Interconnectors enable mutual assistance between neighbouring countries thanks to the complementarity of their consumption profiles and production portfolios, and thus strengthen their security of supply. They also enable wholesale electricity market participants to source gas in the country where the wholesale market price is the lowest for a given time.

1. http://ec.europa.eu/energy/sites/ener/files/documents/20130902_energy_integration_benefits.pdf

PHILIPPE DE LADOUCETTE, CRE'S CHAIRMAN, WELCOMED HIS GERMAN COUNTERPART FROM THE BUNDESNETZAGENTUR, JOCHEN HOMANN, ON 20 JANUARY 2015 IN PARIS.
© François Daburon

270 SHORT-TERM MISSIONS TO TAKE PART IN THE WORK OF EUROPEAN REGULATORS' WORKING GROUPS CREATED UNDER THE AUSPICES OF ACER AS WELL AS AT REGIONAL AND BILATERAL LEVELS.

10 MEETINGS OF ACER'S COUNCIL OF ENERGY REGULATORS.

Moreover, in 2014, renewed tension between Ukraine and Russia rekindled concerns related to the EU's external dependence for its natural gas supply and contributed to re-launching the debate on how to achieve a more close-knit European energy market. It also reiterated to Europeans the importance of coordinating their positions with regard to their external partners.

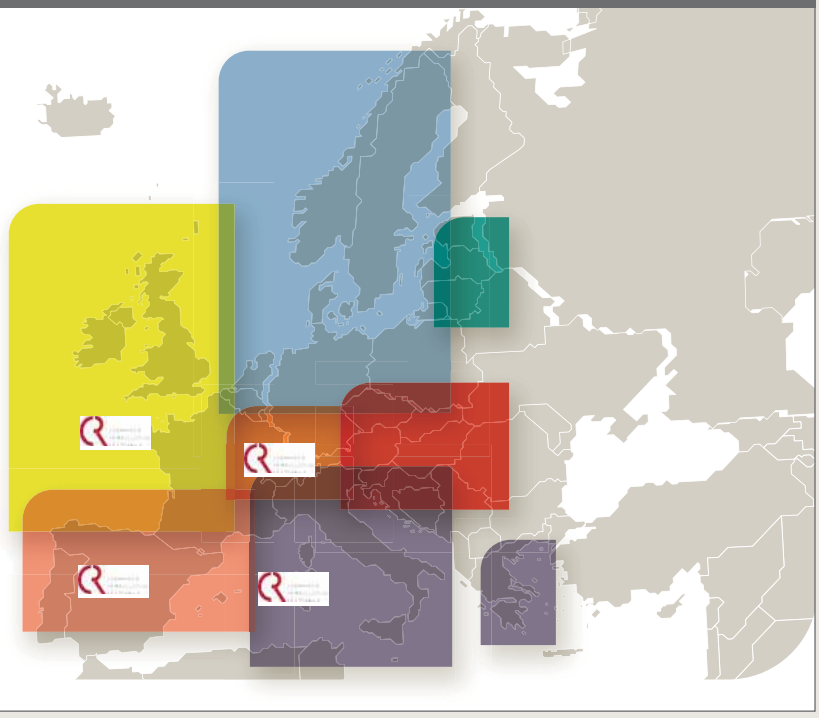
1.2. THE NEED FOR COORDINATION HEIGHTENED BY THE CHALLENGES OF SUSTAINABLE DEVELOPMENT

The efforts undertaken by European States to fight against climate change accelerated the renewable energy deployment pace and made close coordination necessary in order to ensure their integration into electricity systems. This entails pooling production means and the flexibility sources of Member States, which requires the setting up of compatible rules on either side of national borders and an efficient use of interconnectors. Work to harmonise technical operating rules for energy infrastructure is moving forward and national markets are now more closely interconnected. New tools have been introduced to identify the needs for transmission infrastructure modernisation and to ensure that the corresponding investments are made in a coordinated manner. Lastly, new forms of cooperation have enabled better coordination between national and European levels and sector-specific and financial aspects have been introduced to prevent and sanction any market manipulations.

This integration dynamic requires the regulator to cooperate strongly with its European partners and to continually renew reflection on the way it carries out its missions. This is why CRE devotes significant resources to that effect by actively participating in the work to draft European texts for structuring the implementation of the European energy market.

Regional electricity initiatives

- **Central West**
  Germany, Belgium, France, Luxembourg, the Netherlands
- **North**
  Germany, Denmark, Finland, Norway, Poland, Sweden
- **France, United Kingdom, Ireland**
- **South west**
  Spain, France, Portugal
- **Central south**
  Germany, Austria, France, Greece, Italy, Slovenia
- **Central east**
  Austria, Germany, Czech Republic, Hungary, Poland, Slovakia, Slovenia
- **Baltic**
  Estonia, Latvia, Lithuania

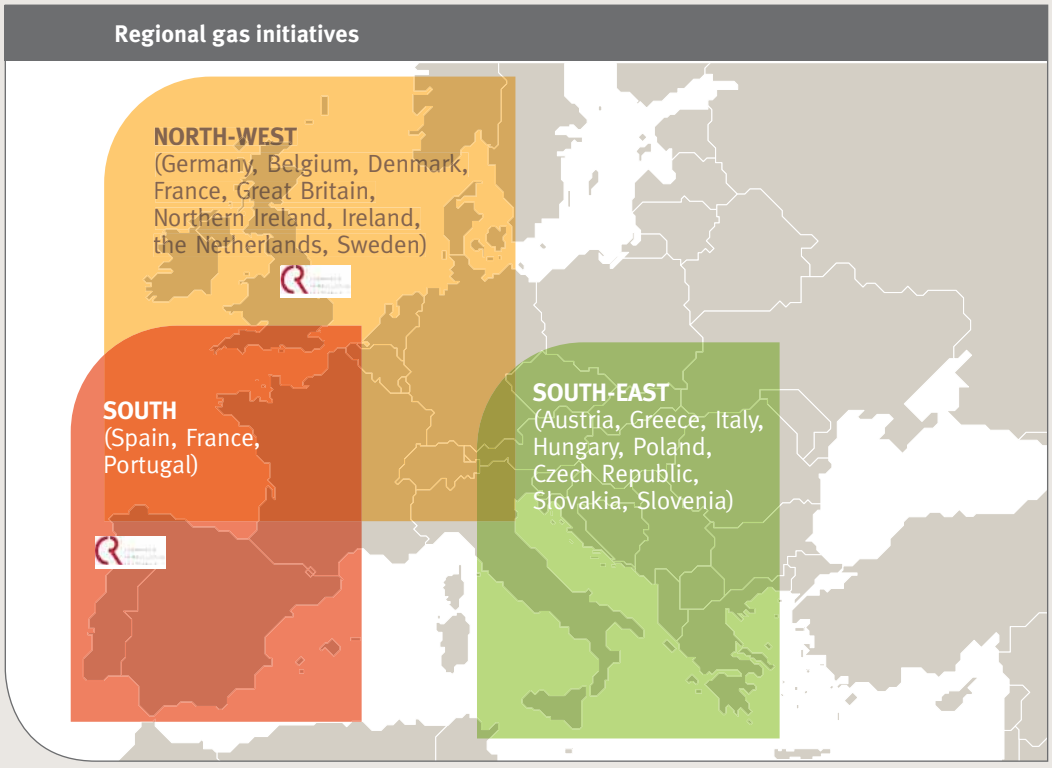


2 Regulators play a major role in the functioning of the EU Energy Union

Regulators, because of their expertise in and knowledge of national energy systems, have a central role in the reflection on market organisation so that the rules for accessing infrastructure and managing interconnectors can facilitate as best as possible the development of competition within the EU. Their role is also to ensure that energy infrastructure develops to suit the needs identified at European level.

2.1. REGULATORS ARE INSTRUMENTAL IN THE CONSTRUCTION OF THE INTEGRATED ENERGY MARKET

There are different ways of introducing competition in the electricity and gas sectors. The first two European legislative packages on the integrated energy market, moreover, led to different choices being made by Member States. One of the objectives of the recent developments in European energy legislation was to eliminate the regulatory obstacles to European market integration by promoting the harmonisation of applicable legislation in each country within the framework of discussions among all stakeholders. Faced with room for interpretation that existed during the implementation of the third package, the preparation of European network codes required the establishment of a common vision of optimal market organisation aimed at the efficient operation of the different supply means and the development of cross-border complementarity. This approach resulted in



CRE PARTICIPATES IN EUROPEAN REGIONAL INITIATIVES

The EU Energy Union has been divided into seven electricity regions and three gas regions, regional initiatives, within which regulators, Member States, the Commission and interested parties in neighbouring countries conduct concrete and practical actions to prepare for the implementation of target models.

the definition of reference market organisation models. These target models were established in consultation with national regulatory bodies, European authorities and market participants. This approach also resulted in numerous voluntary projects to implement these target models within the four regional electricity initiatives and the two gas regional initiatives to which France belongs.

Its involvement in market coupling [2] in the electricity sector and in the establishment of the "hub-to-hub" model [3] for gas, enabled CRE to be attentive to the compatibility of the French regulatory framework with the choices made in the European target models, by giving, for gas and electricity, a core role to the wholesale markets and interconnectors.

2.2. THE COMMON RULES FOR THE OPERATION OF THE INTEGRATED ENERGY MARKET ARE PREPARED UNDER THE SUPERVISION OF REGULATORS

Given the significant progress made within the framework of regional initiatives, Member States and the European Parliament have provided for a regulatory framework - the third energy package - which requires the implementation of common market operation rules within specified deadlines. Known as European network codes, these detailed rules are aimed at facilitating energy exchanges by specifying the conditions for accessing and managing the European energy transmission networks.

Preparing them is a real challenge. It is now about breaking down the common vision described in the target models into operational rules while taking into account the technical features of the energy systems of each country. This process also requires the involvement of a large variety of stakeholders, such as market participants, system operators, power exchanges and the European Commission. At the end of this process, Member States will be consulted for the formal adoption of texts that will become directly applicable in their territories.

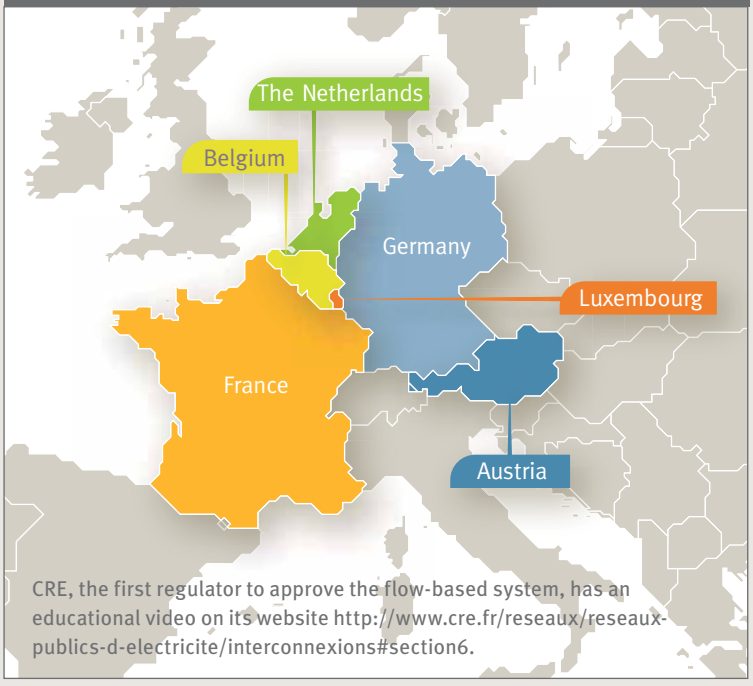
The national regulator plays an important rule in preliminary consultation, drafting and adoption of these rules. CRE serves in ACER's council of energy regulators and in its specialised working groups. It takes part, in particular, in the drafting of opinions rendered by ACER on the versions of texts that are proposed by the system operators. CRE thus ensures that the principles defined in the target models, as well as feedback on projects developed voluntarily, are reflected as needs be in the European regulatory framework.

2. Market coupling matches the purchase offers of all coupled countries with the least expensive production means in the entire zone (see 3.1)
3. The "hub-to-hub" model conceives of the European market as a set of entry-exit zones connected together through interconnectors to which access is simplified

MARKET COUPLING
ENABLES MORE EFFICIENT USE OF INTERCONNECTORS

Market coupling enables the efficient use of interconnectors and the optimisation of the work plan for European generation facilities, in order to give priority to the less costly means. The go-live of coupling at the borders with England (February 2014), Spain (May 2014) and Italy (February 2015) has resulted in the drop in production costs for the two countries concerned. This drop is respectively €50 million, €10 million and €30 million per year for these three borders. The go-live of flow-based market coupling, by enabling a more appropriate use of the limited capacity of the network should lead to a decrease in production costs by about one hundred million euros per year in the Central West region which comprises France, Germany, Austria and the Benelux.

Countries in the flow-based zone



CRE, the first regulator to approve the flow-based system, has an educational video on its website http://www.cre.fr/reseaux/reseaux-publics-d-electricite/interconnexions#section6.

> MEMBER STATES AND THE EUROPEAN PARLIAMENT HAVE PROVIDED FOR A REGULATORY FRAMEWORK WHICH REQUIRES THE IMPLEMENTATION OF COMMON MARKET OPERATION RULES WITHIN SPECIFIED DEADLINES: THE NETWORK CODES."

For example, CRE played a major role in defining the terms for the allocation of electricity exchange capacity at borders for long-term time timeframes (from one year to a few days before real time). Within that framework, its departments coordinated the drafting of two ACER opinions on the texts proposed by the electricity system operators gathered within the European Network of Transmission System Operators for Electricity (ENTSO-E) in order for them to comply with the framework guidelines set out by ACER in 2011. The European Commission intends to submit these texts for adoption by Member States in 2015.

2.3. REGULATORS ENSURE THAT THE TARGET MODELS STAY AHEAD OF ENERGY MARKET DEVELOPMENTS

The European network codes are designed based on the principles defined in the target models. However, developments specific to the energy sector require the frequent adaptation of these market operation rules. Consequently, the future-oriented work of regulators to modify these rules must be constant.

In the case of electricity, the target model for example, must be fine-tuned to support as best as possible the boom in renewable energy. Because

HARMONISATION OF THE OPERATING RULES FOR THE EUROPEAN ENERGY SYSTEM: **THE STATE OF PROGRESS?**

CRE participates actively in the drafting of European network codes which define the harmonised operating rules shared by all system operators in Europe.

For gas, three network codes have already been adopted, and for some, have been implemented earlier than required. The network code on the capacity allocation mechanism is thus one of the harmonised rules whose application is the most advanced, although it is not mandatory before 1 November 2015. This fundamental text of the European target model for gas aims to facilitate exchanges through the auctioning of transmission capacity at interconnection points between two zones. It requires, in particular, the sale of products with standardised timeframes following a common timetable.

For electricity, the first set of rules, adopted by Member States in December 2014, addresses the allocation of daily and intraday capacity and the management of congestion. At the end of 2014, the adoption of seven other network codes was recommended by ACER to the European Commission.

of their variable nature, more finesse (shorter timeframes) and greater market flexibility (continuous exchanges) have become essential. The target model can also be specified in order to facilitate the participation of consumers in the balancing of the electricity system.

For gas, the drop in demand observed over these last few years in Europe, price fluctuations in the LNG world market and tensions with Russia require a higher level of uncertainty to be taken into account than previously. In 2014, CRE contributed actively to the revision of the European target model for gas conducted by ACER, which will focus in particular, on the improvement of liquidity in the wholesale markets in Europe and on gas consumption prospects.

2.4. REGULATORS ENSURE THE CONSISTENCY OF INFRASTRUCTURE DEVELOPMENT PLANS AT NATIONAL AND EUROPEAN LEVELS

The efficiency of the European energy system requires coordinated planning of energy infrastructure development needs. Therefore, investment needs for transmission networks are no longer analysed at national level, through tools such as national network development plans, but also at European level. Published by the ENTSOs every two years, the ten-year European development plans for electricity and natural gas networks list the projects proposed by the transmission system operators and estimate infrastructure needs based on a methodology for analysing costs and benefits of projects beyond national level. The national regulator is responsible for ensuring the consistency of national ten-year plans with European ten-year plans.

> “THE EFFICIENCY OF THE EUROPEAN ENERGY SYSTEM REQUIRES COORDINATED PLANNING OF ENERGY INFRASTRUCTURE DEVELOPMENT NEEDS.”

The analysis of the costs and benefits of European network development projects also serves as a reference framework for identifying common interest infrastructure projects which receive fast-track approvals and, in certain conditions, European subsidies. In addition, the implementation of incentive measures and the sharing of the costs of these projects among countries to which they bring economic benefits can now be envisioned by regulators. This new mechanism therefore results in a greater connection between national and European analyses of network development needs.

CRE CONTRIBUTES TO THE ANALYSIS OF **THE EUROPEAN TEN-YEAR ELECTRICITY NETWORK DEVELOPMENT PLAN**

ACER is responsible for ensuring that the European network development plans contribute to the efficient functioning of the integrated energy market.

It its opinion rendered early 2015 on the European ten-year electricity network development plan (TYNDP), ACER made several recommendations for the following edition of that plan. One of those recommendations aims to increase the transparency of the assumptions used by ENTSO-E to model interconnector needs by 2030.

This work is carried out in close collaboration with national regulators: the expertise they have acquired from the analysis of national ten-year plans and the finer knowledge of projects proposed in their country enable them to contribute more effectively to the assessment conducted by the European Agency's teams.

In parallel, CRE has a simulation tool for valuing electricity interconnectors projects. This tool will enable it to improve its understanding of the European plan and to ensure that the strengthening of French infrastructure is carried out in line with the developments envisioned in the rest of Europe.

3 Increasingly close integration of the French energy system into the European market

The strengthening of cross-border cooperation among national regulatory authorities and the early implementation of network codes for gas and electricity are accompanied by many achievements that have improved the management of existing interconnectors and simplified access to them. The development of energy infrastructure is also addressed in close coordination between CRE and its counterparts.

3.1. THE DEVELOPMENT OF THE RULES FOR ACCESS TO FRENCH INTERCONNECTORS IS ACCOMPANIED BY MAJOR ACHIEVEMENTS

French electricity interconnectors are now used more efficiently. The year 2014 was marked above all by the geographical extension, for the daily timeframe, of market coupling. This mechanism enables the matching of the electricity needs of several countries with the least expensive production means throughout the zone, within the physical limits of exchange capacity. Thus, it guarantees that interconnectors are used so that energy flows in the right direction, i.e. from the country where electricity is the least expensive, towards that where it is the most expensive. Applied at the borders between France, Belgium and the Netherlands since 2007, then to Germany since 2010, market coupling was extended in February

ELECLINK, A NEW 1,000 MW INTERCONNECTOR, WILL CONNECT FRANCE AND ENGLAND BY THE END OF 2016, PASSING THROUGH THE CHANNEL TUNNEL, THE LONGEST UNDERSEA TUNNEL IN THE WORLD.
© Groupe Eurotunnel SA

2015 to 15 countries, before being extended a few months later to Spain and Portugal. For France, this means that electricity interconnector capacity is allocated efficiently at four of its six borders (Germany, Belgium, Spain and Great Britain). At the other two French borders, preparation work carried out in 2014 enabled the efficient use of the France-Italy interconnector from February 2015. The extension of coupling to Switzerland was also prepared technically, but its go-live remains dependent on the outcome of bilateral negotiations between the EU and Switzerland.

Other progress was made during the year. In particular, the terms for allocating long-term products (annual or monthly products) at the Spanish border were improved. These long-term products enable market participants to hedge against price spreads between two countries and contribute to better market liquidity. In particular, the guarantees associated with these products (firmness of rights in the event of network management difficulties), were reinforced at CRE's request.

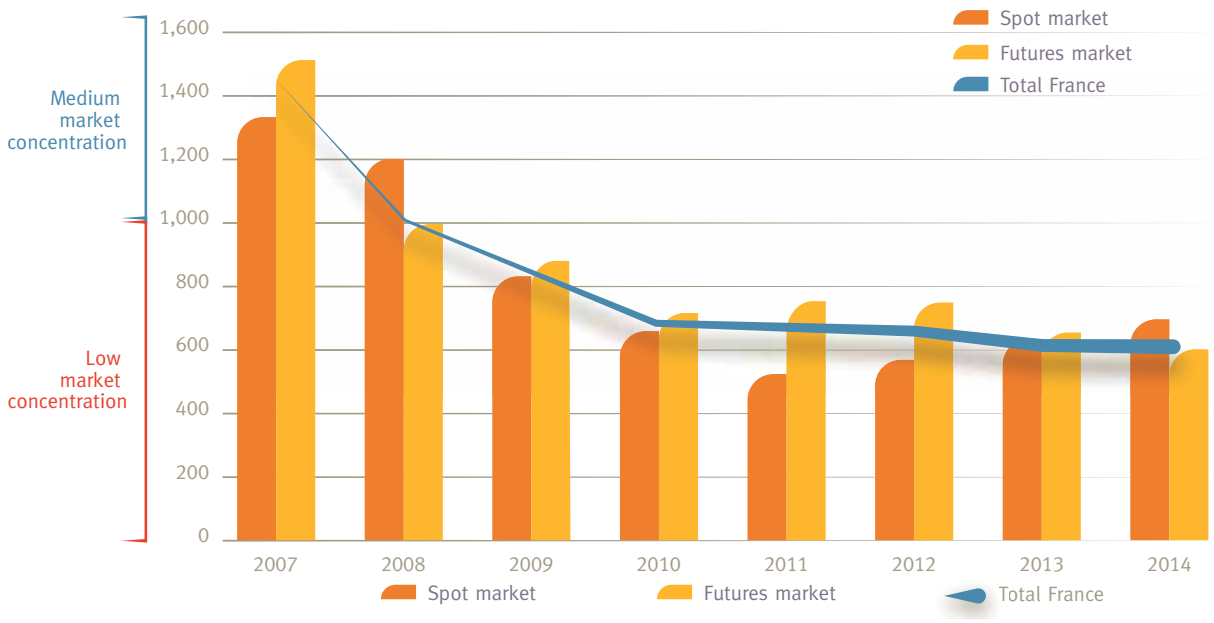
Mechanisms for gas capacity allocation have been homogenised

CRE ensures compliance with rules for congestion management in the French transmission network. The congestion management procedures aim to counter situations of contractual congestion at interconnections points, which is characterised by the subscription of all of the transmission capacity, however, without all of it being used. CRE also prepares as best as possible for the implementation of European legislation on the allocation of gas transmission capacity at its borders. As such, it supports the transmission system operators of the different Member States in the harmonisation of their practices, as illustrated by the setting up of a common platform for the allocation of gas capacity, known as PRISMA.

Put into service at the initiative of the transmission operators of north-west Europe in April 2013, PRISMA has considerably simplified the conditions for shippers' access to interconnector capacity, by centralising all of the auctions applied on interconnectors operated by its members, in compliance with the Capacity Allocation Management (CAM) code. In addition, this unique platform enables shippers to build their positions at European level. As a member of the PRISMA regulator supervision group, CRE contributes to steering efforts to develop the platform.

> THE ELECLINK INTERCONNECTOR, WHICH USES THE CHANNEL TUNNEL, WILL INCREASE BY 50% EXCHANGE CAPACITY WITH GREAT BRITAIN FROM 2017."

Concentration index of the French brokered market



> THE VAL DE SAÔNE PROJECT IS AN ESSENTIAL LINK IN THE CORRIDOR BETWEEN THE IBERIAN PENINSULA AND THE REST OF THE EUROPEAN GAS MARKET."

3.2. THE DEVELOPMENT OF FRENCH INFRASTRUCTURE CONTINUES

For gas, CRE expressed its opinion with its Spanish counterpart on the sharing of the Val de Saône investment costs

The Val de Saône project is essential for the reduction of congestion between the north and south zones in France. It is therefore an essential link in the corridor between the Iberian Peninsula and the rest of the European gas market. This is why it was adopted by Member States as a project of common interest. Following GRTgaz's investment request, the Spanish regulator (CNMC) and the French regulator, in compliance with European legislation, agreed in a joint decision taken in 2014 [4], that the creation of a single market zone in France would benefit the entire European market. Since the benefits for France outweigh the costs, the costs were fully allocated to it, in compliance with ACER's recommendations to the regulators.

CRE, in conjunction with Ofgem, granted derogation for the ElecLink electricity interconnector

In order to facilitate investments in new large-scale projects, European legislation, enables, under certain conditions, the granting of derogations from

GAS: A LESS CONCENTRATED WHOLESALE MARKET

The opening up of European gas markets increased liquidity in French wholesale markets: short-term and long-term volumes were multiplied by over 17 between 2007 and 2013.

The construction of an integrated energy market is also accompanied by greater competition in France. The Herfindahl-Hirschmann (HHI) index, which measures the level of market concentration is an important indicator in the process of opening up to competition. The higher the number of market participants, the lower the index and the less power players have to influence prices. For the wholesale gas market in France, the opening up to competition has more than halved the concentration of spot and futures segments.

the application of the rules for accessing energy infrastructure. The derogation granted by CRE and the British regulator to the ElecLink company for the construction and operation of a new 1,000 MW interconnector between France and Great Britain falls within this framework. This is the first ever derogation; all of the other French interconnectors are operated by RTE within a regulated framework. Adopted as a project of common interest, this interconnector, which uses the Channel Tunnel, will increase exchange capacity with Great Britain by 50% from 2017.

Prior to granting the derogation, CRE examined, with its British counterpart Ofgem, the interconnector's impact on network users and on the market. This served to ensure that the project's benefits for the territory outweighed the expenses required for strengthening the French transmission network [5]. Unlike the regulated interconnectors, ElecLink can cover its investments by income resulting from the sale of a portion of capacity for periods reaching up to 20 years. Regulators made sure that the method for allocating this type of capacity allowed it to be accessed by all interested players. In addition, above a certain limit, half of the profits exceeding this limit will be redistributed to network users. For the management of this interconnector over a period of time less than or equal to one year, the rules will be the same as those applied to the other French interconnectors.

4. Deliberation of 10 April 2014 on the decision concerning the request for cross-border cost splitting between France and Spain for the Val de Saône project of common interest
5. The funding of these expenses is borne by network users through TURPE
6. Law of 7 December 2006 relating to the energy sector
7. These rules apply to wholesale energy products, i.e. contracts for the supply or transmission of electricity or natural gas, including derivative products, and contracts with end consumers with a consumption capacity higher than 600 GWh/year

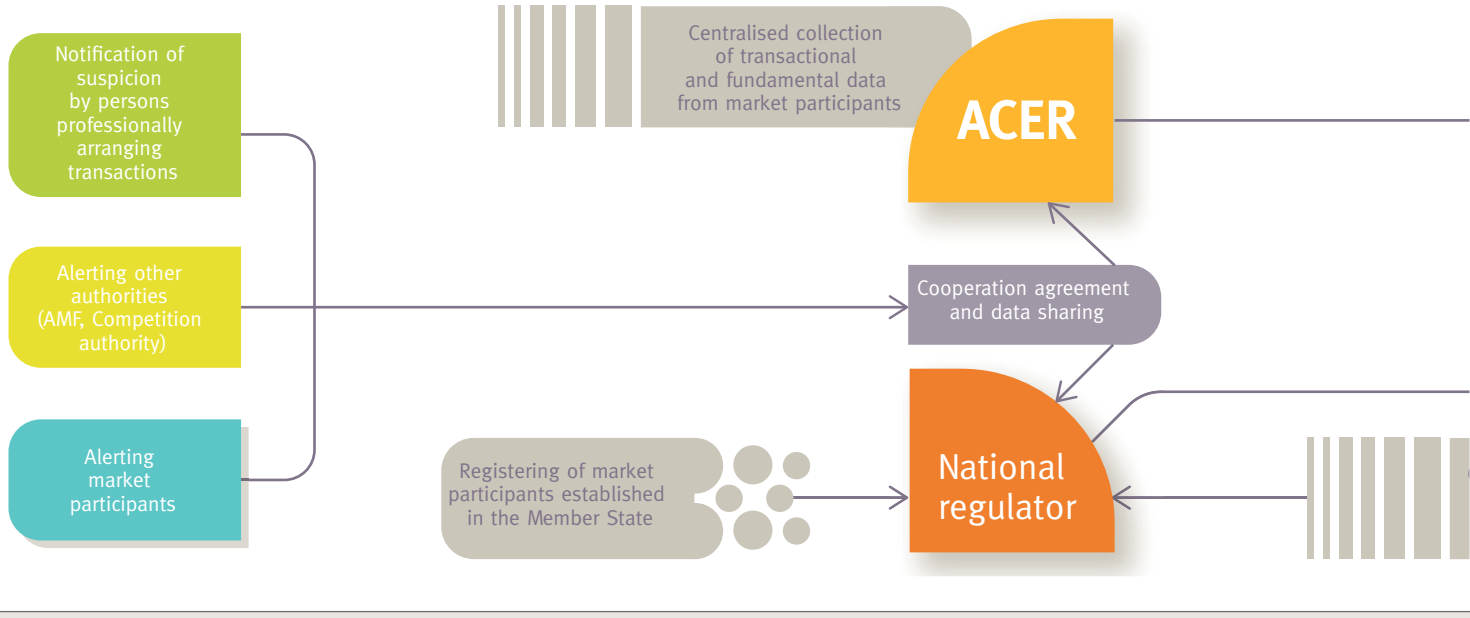
4 Wholesale market monitoring is shared with the European Agency of regulators

4.1. ACER AND NATIONAL ENERGY REGULATORS HAVE DISTINCT RESPONSIBILITIES

CRE has had a mission to monitor the wholesale electricity and natural gas markets since 2006. This covers, in particular, "transactions carried out between suppliers, brokers and producers, transactions carried out in the organised markets as well as cross-border trades. It monitors the consistency of the offers [...] with their economic and technical constraints" [6]. In that regard, CRE has collected relevant information on players active in the electricity and gas markets in France for several years. In order to analyse the potential effects on these wholesale markets, it also collects data relating to the CO_2 market. Since the end of 2011, this monitoring mission has also fallen within the framework of European Regulation No 1227/2011 of 28 December 2011 on the integrity and transparency of wholesale energy markets, known as REMIT. This prohibits insider trading and market manipulations and requires all participants to publish any inside information that they possess [7].

The implementation of these rules is accompanied by the development in the way in which the wholesale market is monitored. On the one hand, ACER collects the transaction logs and the data relating to electricity and natural gas fundamentals in a centralised manner for all Member States, shares the information with regulators and can establish and coordinate an investigation group comprising several regulators in the event of a suspected breach of the European legislation with cross-border effects. On the other hand, regulators record market participants at national level, monitor the national market in cooperation with ACER and ensures that REMIT is applied. To do so, they have investigation and sanctioning powers at national level. It is for this purpose that the French Energy Code granted to CRE, from 2013, the mission of ensuring compliance with REMIT, and within CRE, to CoRDiS the power to sanction breaches of REMIT.

The Agency for the Cooperation of Energy Regulators (ACER) and national energy regulators have distinct responsibilities with regard to market monitoring



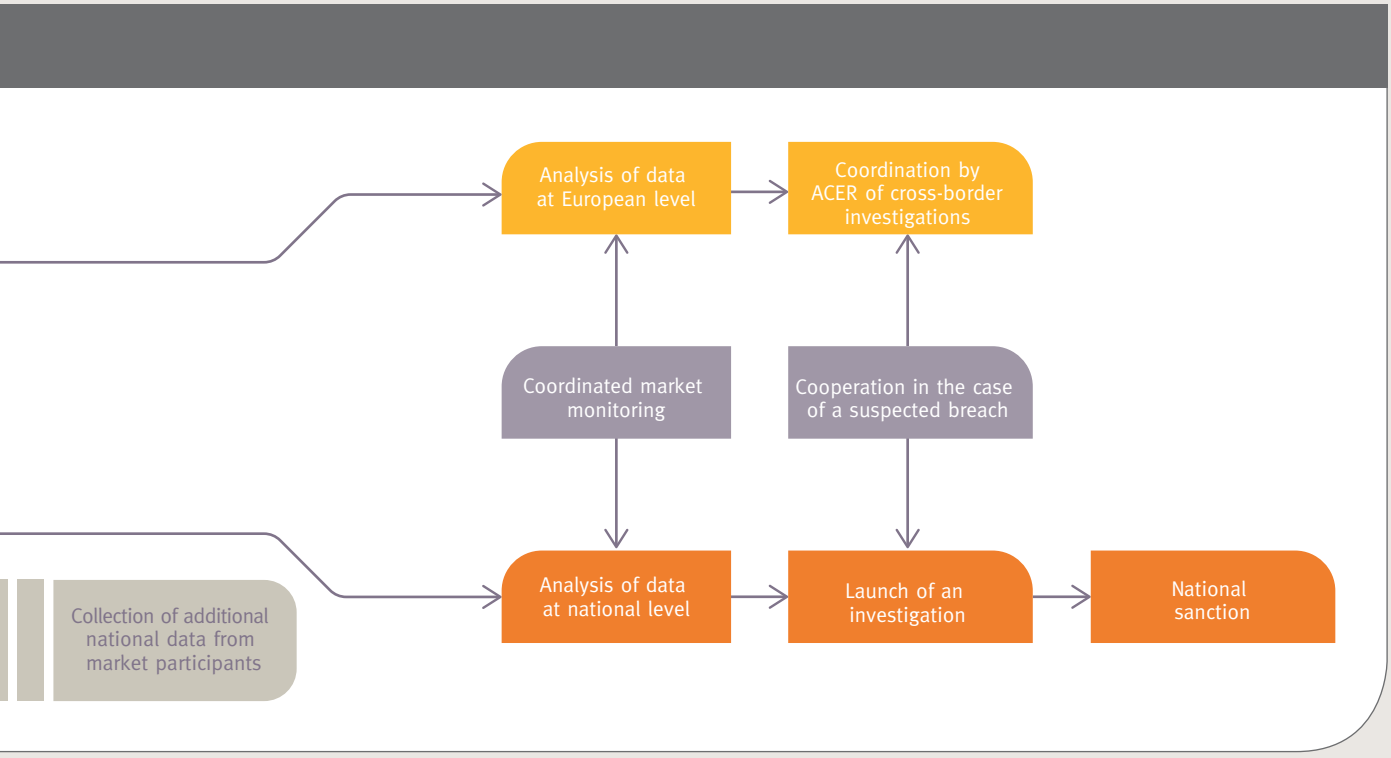
> TO AVOID ANY DUPLICATION IN THE COLLECTION OF DATA AT EUROPEAN AND NATIONAL LEVELS, ACER WILL SHARE THE INFORMATION WITH REGULATORS AND OTHER COMPETENT AUTHORITIES, IN COMPLIANCE WITH STRICT CONFIDENTIALITY AND DATA PROTECTION OBLIGATIONS."

4.2. THE DEFINITION OF THE PRACTICAL TERMS FOR THE IMPLEMENTATION OF THE EUROPEAN MONITORING FRAMEWORK HAS A DIRECT IMPACT ON THE FRENCH WHOLESALE MARKET MONITORING FRAMEWORK

The practical terms for the implementation of the European monitoring framework were decided in December 2014 [8]. The collection of data on standardised transactions carried out in the organised markets and of fundamental data will start on 7 October 2015 and 7 April 2016 for all other transactions. It will be centralised by ACER. Beforehand, market participants will have to be registered in the national register set up by regulators. CRE launched national registration on 7 October 2014 [9]. The information in the register will then be forwarded to ACER. It should be noted that registration in no way replaces the authorisation to conduct transactions or the supply authorisation, issued by the relevant authorities.

To avoid any duplication in the collection of data at European and national levels, ACER will share the information with regulators and other competent authorities, in compliance with strict confidentiality and data protection obligations. A memorandum of understanding signed in 2014 by regulators

8. Implementing Regulation (EU) No 1348/2014 of 17 December 2014 on data reporting implementing REMIT
9. http://www.cre.fr/marches/marche-de-gros/remit-enregistrement and presentation disseminated during the REMIT information meeting of 7 October 2014



specify the practical terms for their cooperation, in particular with regard to notifications to ACER of suspected breaches of REMIT, its requests for information from regulators and for the launch of investigations, as well as the terms for coordination by ACER during investigations of cross-border cases.

CRE's departments actively took part in European work on the topic of governance, market monitoring and IT development. Occupying in particular, the vice-chairmanship of ACER and CEER working groups on market integrity and transparency, CRE contributed, for example, to the drafting of different texts concerning the application of REMIT and cooperation between ACER, regulators and persons professionally arranging transactions for the detection of suspected cases. Moreover, CRE was able to raise French wholesale market participants' awareness of these new rules ahead of their implementation. On its website, it created a section devoted to these rules and held an information meeting on 7 October 2014 for market participants.

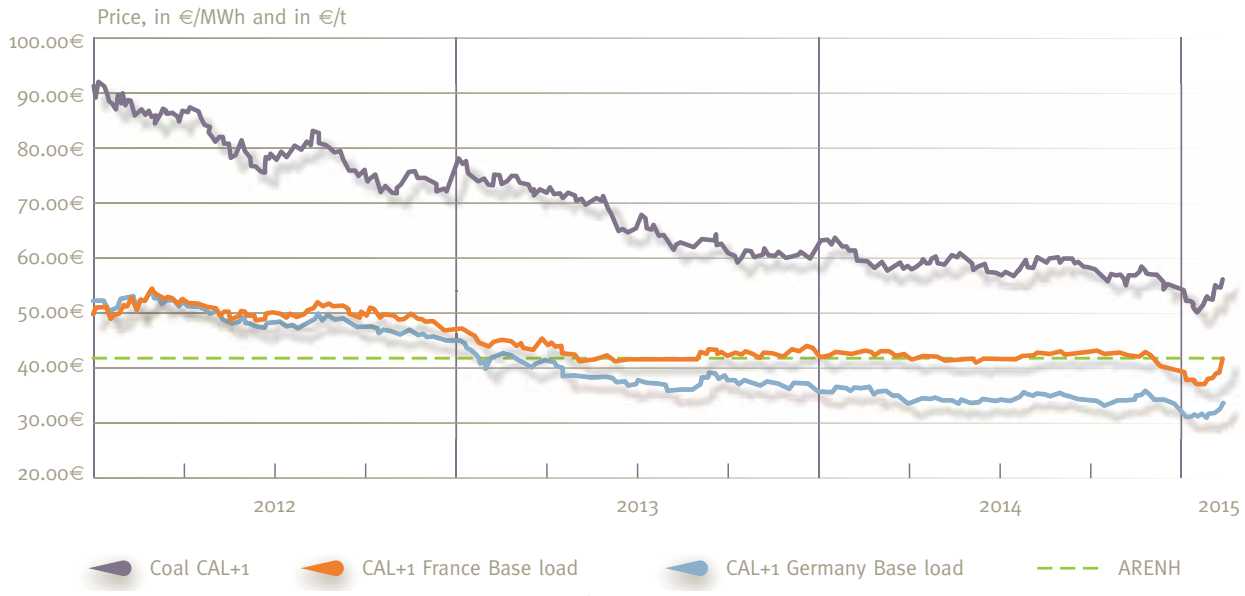
4.3. A NECESSARY INVOLVEMENT OF NATIONAL REGULATORS TO SPECIFY INTERACTIONS WITH FINANCIAL REGULATION AT EUROPEAN LEVEL

The mission of monitoring wholesale energy markets is conducted in connection with the authorities in charge of ensuring compliance with financial regulations, which include, in particular, the rules applicable to the financial instruments market, market abuses, and over-the-counter derivative products, central counterparties and trade repositories. Certain energy products traded in the wholesale markets are among the financial instruments concerned by these regulations. It is particularly important to ensure that the transactions concerning wholesale energy products already declared within the framework of financial regulations to not be subject to a double reporting obligation.

European energy regulators therefore exchange regularly with the European Securities and Markets Authority (ESMA) and share their expertise in order to carry out more in-depth analyses of the interactions between sector-specific and financial regulations. Sector-specific and financial regulators also hold discussions at national level to assess the complementarity of provisions. In France, CRE and the financial markets authority (AMF) signed a memorandum of understanding in 2010.

CRE ANALYSES THE CHANGES IN FUTURES ELECTRICITY PRICES IN FRANCE **COMPARED TO THE ARENH MECHANISM AND THE CHANGE IN THE GERMAN PRICE**

Change in the electricity futures prices compared to the ARENH and coal price



Source: EEX

Following the cancellation by four suppliers of the framework agreement giving them access to ARENH, the ARENH volume subscribed for the first half of 2015 is now 12.4 TWh (including 5.3 TWh for losses).

CRE undertook an in-depth analysis of the behaviour of operators active in the French wholesale electricity market after observing a stabilisation of the 2014 France base load calendar product price around €42/MWh in 2013, while the price of this same product in Germany dropped. It therefore analysed transactions made by market participants and orders posted on the trading platforms in 2013. In addition, CRE interviewed these market participants to obtain their analyses of this situation, and in certain cases, to obtain explanations of specific behaviours observed.

Many purchase transactions came from the choice of alternative suppliers, industrial clients or system operators to purchase electricity in the wholesale markets instead of the ARENH mechanism when the price was lower than €42/MWh [10].
CRE did not observe any increase in sales by EDF linked to subscription assumptions concerning ARENH. The incumbent operator EDF, which delivers the ARENH product, stated to CRE that it had no means of "anticipating subscriptions by suppliers before notification by CRE of the volumes to be delivered", and that "the ARENH mechanism requires it to make assumptions concerning volumes to be delivered with the risk, because of the optional nature of ARENH, of making errors regarding quantity".

EDF's behaviour, combined with that of alternative participants, very likely contributed to maintaining the prices around €42/MWh, potentially driven by the low market liquidity. CRE has not identified any elements likely to characterise market manipulation in the transactions made in 2013 for the 2014 calendar product.

The issue of the consistency of this price compared to market fundamentals was raised more seriously at the start of 2014. While a price spread of €4.2/MWh between France and Germany seems consistent in 2013 for the 2014 calendar product, this spread increased reaching an average €7.1/MWh in the first half of 2014. In this context, the behaviour of market participants, and in particular, their transactions since the start of 2014, continues to be monitored closely. Electricity prices, for the 2015 France base load calendar product, were lower than the ARENH price, at the end of 2014. This price drop, combined with the lack of visibility into the future changes in the ARENH price, moreover led alternative suppliers to request less ARENH in the first half of 2015: 15.8 TWh compared to 34.5 TWh in the 2nd half of 2014.

10. This value was adjusted by certain participants by the profiled character of a portion of the ARENH volumes and by transaction costs and costs related to the ARENH mechanism

"The expectations of domestic consumers with regard to the integrated market have not been yet been met satisfactorily."

3 questions to...

DOMINIQUE RISTORI *DIRECTOR GENERAL OF DIRECTORATE GENERAL ENERGY AT THE EUROPEAN COMMISSION*

Has the construction of the integrated energy market moved forward significantly?

The achievement of the integrated energy market is one of the major priorities of the European Union, and the geopolitical events of the year 2014 confirm the need for a common and community dimension. Moreover, the challenges of climate change and energy transition towards a low-carbon economy raise new challenges to all public actors, including energy regulators.

The EU has made much progress since market liberalisation: Europe in 2014 was no longer marked by national energy systems where a dominant operator sets the rules of the game. New actors enter the market more easily, competition among companies is increasing and consumers have greater choice among suppliers. However, there is still much to be accomplished to make the integrated energy market a reality and national regulators and the Agency for the cooperation of energy regulators (ACER) have a major role to play in this process.

In your opinion, what are some notable achievements?

First, the establishment of national regulators, independent from companies in the sector and governments.

wThis is the result of a natural evolution towards modern governance for market regulation. Then, the creation of ACER was a qualitative step. It was necessary to establish it in order to ensure greater consistency and address cross-border issues. Market integration also requires the development of interconnectors and projects of common interest to which European funding contributes significantly.

Market coupling, which now covers 19 Member States, should also be cited among the real achievements in market integration. It offers investors, companies and large consumers the guarantee of a homogenous and transparent price zone. A recent study estimated that electricity market coupling at European level will save approximately €4 billion per year.

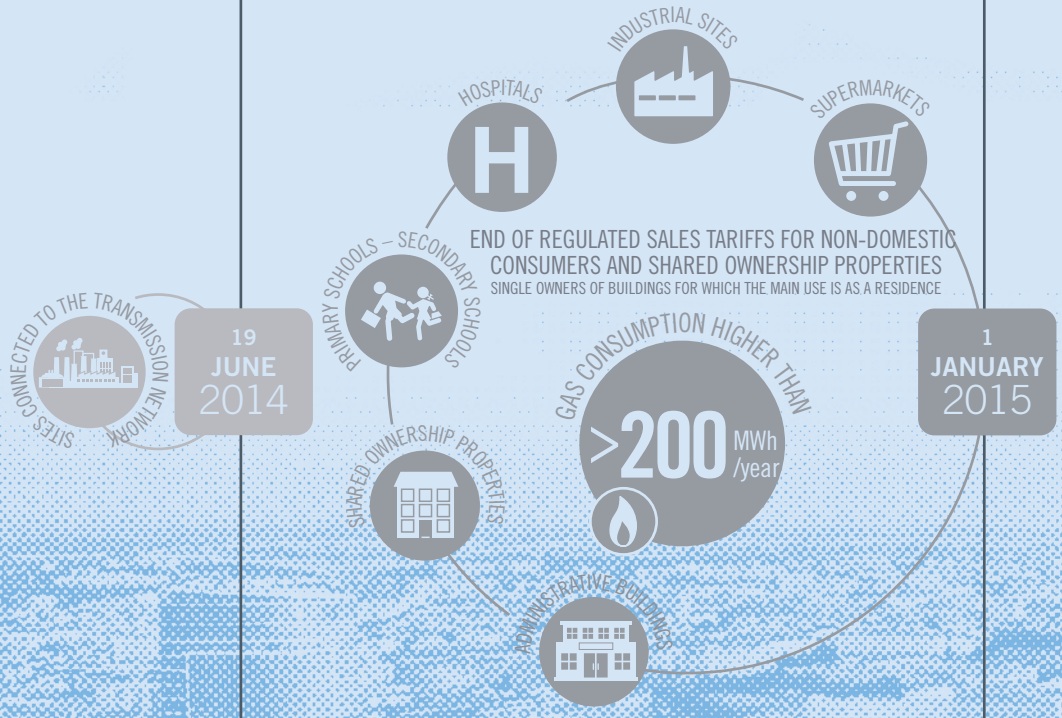
What remains to be achieved?

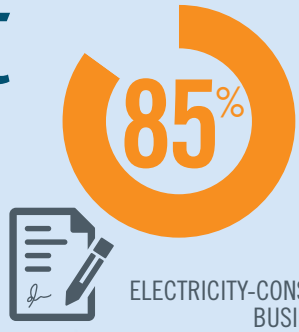
First, the expectations of domestic consumers with regard to the integrated market have not been yet been met satisfactorily. Price comparators are good information tools, but do not influence the formation of the price itself. In that regard, the increased competence of national regulatory authorities with regard to competition, set out by European law, should be used better.

Second, the network codes are one of the key points in European harmonisation and the development of an integrated energy market. Together they form the common rules that define the technical and commercial conditions for accessing the gas and electricity transmission networks. Some rules for allocating electricity and natural gas capacity have already been implemented in part of the EU, including France, which marks a major step towards an integrated electricity and gas market in Europe.

By ensuring the rigorous implementation of network codes and the achievement of the integrated market, national regulators promote not only investments, but also the establishment of fair competition conditions and concrete benefits so that consumers can take full advantage of the integrated market. ◗

CRE supports the opening up of the retail market





OF ELECTRICITY-CONSUMING BUSINESSES

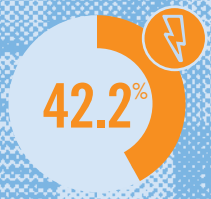
HAVE NOT TAKEN OUT A MARKET OFFER CONTRACT

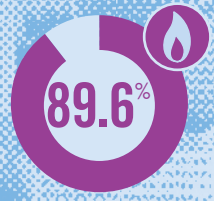
AS AT 31/12/2014

THEY HAVE UNTIL 31 DECEMBER 2015 TO DO SO.

PERCENTAGE OF CONSUMPTION OF NON-RESIDENTIAL SITES SUPPLIED THROUGH A MARKET OFFER

AS AT 31/12/2014





CRE SUPPORTS THE OPENING UP OF THE RETAIL MARKET

END OF REGULATED TARIFFS FOR BUSINESSES

ANTICIPATE!

YOU ARE CONCERNED IF:

1 JANUARY 2016

CONVENIENCE STORES

RESTAURANTS

WORKSHOPS

MINI-MARTS

ELECTRICAL POWER SUBSCRIBED HIGHER THAN >36 KVA

GAS CONSUMPTION HIGHER THAN >30 MWh/year

GAS CONSUMPTION HIGHER THAN >150 MWh/year

SHARED OWNERSHIP PROPERTIES

OFFICES

© DR

KEY POINTS

29 NATIONAL SUPPLIERS
PROPOSE MARKET OFFERS TO BUSINESS CONSUMERS.

YOU CAN CHANGE
supplier as of right now,
WITHOUT COST AND WITHOUT CANCELLATION NOTICE
even if your contract documents (general terms of sale or invoices) state otherwise.

JUNE 2016

PLEASE BE ADVISED OF A RISK OF POWER INTERRUPTION
Businesses (excluding public buyers) that have not taken out a market offer by the end of their contract will automatically shift towards a default market offer, for a maximum period of six months.

Alternative suppliers now enable consumers to enjoy market offers that are more competitive than the regulated sales tariffs.

The intensification of competition must enable, through the pressure it exerts on prices, the offering to consumers of even more favourable conditions. This is why, against the gradual elimination of regulated sales tariffs for medium- sized and large business clients, both for electricity and natural gas, CRE is working to improve the functioning of the market in order to make it dynamic.

1 CRE contributes to the setting up of a more open market, favourable to consumers

In 2014, CRE supported the process to eliminate the regulated sales tariffs for businesses at organisational and technical levels, and through actions aimed at informing the targeted audience. It also proposed changes to the market mechanisms and endeavoured to give suppliers equal conditions for accessing consumption data.

1.1. ACTIONS TO ACCOMPANY THE END OF THE REGULATED SALES TARIFFS FOR LARGE CONSUMERS

In order to put an end to the infringement procedures undertaken by the European Commission, the French government committed to gradually eliminating the regulated sales tariffs for non-residential electricity and natural gas consumers by the end of 2015. This elimination was specified, for electricity, by the provisions in the law of 7 December 2010 on the new organisation of the electricity market (NOME law) and, for gas, in the law of 17 March 2014 on consumption.

The abolition of regulated tariffs for large consumers represents a major step towards competition in the electricity and natural gas markets in France. As at 1 April 2015, 75,000 natural gas sites and 450,000 electricity sites were concerned by the elimination of regulated sales tariffs.

The deadlines

With regard to electricity, the sites located in metropolitan continental France with a subscribed power exceeding 36 kVA (medium-sized and large shopping centres, office towers, industries, large

CRE'S INFORMATION MEETING ON THE END OF THE REGULATED SALES TARIFFS FOR BUSINESSES, ORGANISED WITH THE CHAMBERSOF COMMERCE AND INDUSTRY OF CARCASSONNE AND NARBONNE, 22 OCTOBER 2014.
© CCI Narbonne

hotels, local administrations, etc.) will no longer be able to take out contracts under regulated sales tariffs as from 1 January 2016.

With regard to natural gas, regulated tariffs are being eliminated in stages for non-domestic sites with annual consumption exceeding 30 MWh. Since 19 June 2014, very large consumers connected to the transmission network go through the market. For consumers with consumption exceeding 200 MWh/year (school buildings, hospitals, retirement homes, supermarkets, offices, industrial sites, large apartment complexes), the deadline was 1 January 2015. The abolition of regulated gas tariffs will be complete on 1 January 2016 for business clients consuming over 30 MWh/year (restaurants, offices, workshops, neighbourhood businesses), with the exception of apartment complexes with consumption lower than 150 MWh/year.

Communication and information to end consumers

A working group devoted to communication and information on the end of the regulated sales tariffs was set up by CRE. Its objectives were to create a place of exchange among the different actors and to identify their specific needs. In order to give business consumers the most precise and practical official information on the deadlines and terms for exiting the regulated tariffs, educational tools were designed. Practical guides and sheets were therefore published on CRE's website, as well as on www.energie-info.fr/Pro. An awareness-raising video on the topic was disseminated on CRE's website from October 2014 to encourage consumers to become informed and prepare their contract change.

In addition, CRE established a partnership with the chambers of commerce and industry to strengthen its communication aimed at the clients concerned by the elimination of the regulated sales tariffs. This partnership provides the opportunity for many trips to the different regions. CRE therefore took part in 38 meetings bringing together 1,850 companies and public buyers across France. This local-based approach, in order to respond directly and practically to consumers' questions, is being continued in 2015. CRE is conscious of the low level of resources deployed compared to the magnitude of the task, which would require a large information campaign launched at the initiative of public authorities, which CRE's budget does not allow it to carry out.

The preparation and surveillance of the process for exiting the regulated tariffs

The abolition of the regulated tariffs was prepared well in advance and in consultation with all players (suppliers, system operators, consumer associations and public authorities). Work consisted in adapting the existing procedures to a new context. Operators were requested to develop their IT systems so that there would be no technical obstacle.

With regard to natural gas, an operating method for changing supplier was designed in order for the constraints of GRDF's IT system to be bypassed. With regard to electricity, the practical terms for resolving atypical and particular situations were presented to stakeholders, as well as developments in the procedure for changing supplier.

CRE's responsibility is also to ensure transparency of the measures implemented by the incumbent suppliers to inform consumers of the end of the regulated tariffs. The law[1] specifies that those suppliers must inform their clients of the termination

> "CRE ESTABLISHED A PARTNERSHIP WITH THE CHAMBERS OF COMMERCE AND INDUSTRY TO STRENGTHEN ITS COMMUNICATION AIMED AT THE CLIENTS CONCERNED BY THE ELIMINATION OF THE REGULATED SALES TARIFFS."

1. Article 25 of the law of 17 March 2014 on consumption

> THE INFORMATION LETTERS ON THE END OF THE REGULATED TARIFFS SENT BY INCUMBENT SUPPLIERS **MUST BE SEPARATE FROM ALL OF THEIR COMMERCIAL APPROACHES.”**

of their contracts and of the deadline date on three occasions. CRE issued recommendations[2] on the sending of information letters. These letters, stamped by the ministries of Economy and Energy, must be separate from all commercial approaches by the incumbent suppliers. In particular, CRE requested operators not to attach any invoices, letters or other document with the supplier letterhead to these letters.

Buyers that have not exited the regulated sales tariffs within the specified timeframe will benefit from interim offers. These offers have a maximum duration of six months. They cannot be renewed and can be cancelled at any time without any indemnities to be paid by either party. CRE signalled the risks to which public buyers that benefit from the interim offer as at 1 January 2015 could be exposed. Their calls for tenders shall have to be launched sufficiently in advance in order to have a contract before the end of the interim offer.

On the occasion of the end of the regulated sales tariffs for electricity and natural gas, certain shared ownership properties may be faced with difficulties to find a supplier since they are not protected by the ban on the refusal to supply. CRE deems it necessary to implement a specific mechanism to deal with this situation.

Finally, in 2015, CRE will strengthen its surveillance of suppliers’ commercial policies and offers. The situation in territories covered by local distribution companies will also be closely monitored.

1.2. COORDINATED WORK WITH THE FRENCH COMPETITION AUTHORITY FOR ACCESS TO CERTAIN DATA IN GDF SUEZ’S AND EDF’S REGULATED TARIFF CUSTOMERS FILES

Access to the consumption data of customers concerned by the end of the regulated tariffs is essential for creating conditions of real competition among suppliers, which, lacking this, cannot propose offers adapted to consumption profiles, and to enable consumers to have alternative and varied supply offers.

In that regard, the decision of 9 September 2014 by the Competition Authority concerning a request for precautionary measures presented by the Direct Energie company, confirmed by a decision by the Paris court of appeal on 31 October 2014, represents a decisive step towards the opening up of the natural gas markets. This decision obliges GDF SUEZ to communicate to its competitors certain data related to all of its customers, in particular non-domestic clients concerned by the end of the regulated natural gas sale tariffs.

CRE’s initiatives

At the end of 2013, CRE looked into the matter of access to data concerning clients under the regulated tariffs by alternative suppliers. The matter was brought before it by natural gas supplier ENI on 29 November 2013 and by the national association of retail energy operators (ANODE) on 20 December 2013.

On 9 April 2014, CRE then requested the opinion of the Competition Authority on the measures likely to be imposed on incumbent operators within the framework of the abolition of the regulated tariffs for the sale of electricity and natural gas to non-domestic clients. In its request, CRE stressed that the exclusive use of files of customers under the regulated sales tariffs gave incumbent suppliers an advantage that could not be counterbalanced by access to data held by distribution system operators. Indeed, the data directly accessible via the distribution system operators do not allow for the identification of sites still under the regulated sales tariffs nor for knowledge about their consumption.

2.CRE deliberation of 10 April 2014

THE LAW PROVIDES FOR THE SENDING OF A LETTER, STAMPED BY THE MINISTRIES OF ENERGY AND ECONOMY, BY INCUMBENT SUPPLIERS TO INFORM THEIR CLIENTS ABOUT THE END OF THE REGULATED TARIFFS.
© CRE

Moreover, this data was accumulated within the framework of the former monopoly and public service missions of incumbent suppliers. Therefore, the making and maintenance of these files was funded, as for all expenses related to supply under regulated tariffs, by these tariffs. CRE therefore wished to obtain the opinion of the competition authority on "alternative suppliers' access to the file of clients under the regulated sales tariffs of incumbent suppliers" in order to "guarantee real competition in the market segments concerned by the end of the regulated sales tariffs".

Referral to the French Competition Authority by Direct Energie

At the same time, the Direct Energie company requested a hearing by the Competition Authority on 15 April 2014 in order to sanction the abuse of a dominant position by the GDF SUEZ company in the natural gas and electricity supply markets. According to the alternative supplier, these abuses were related to, in particular, the abusive use by GDF SUEZ of the client file it held due to its mission to supply under the regulated natural gas sales tariffs. Direct Energie's request was accompanied by a request for precautionary measures against GDF SUEZ. This involved, in particular, an obligation to grant Direct Energie access to data relating to clients subject to the regulated natural gas tariffs, in objective, transparent and non-discriminatory conditions.
Consulted afterwards by the Competition Authority, on 28 May 2014, CRE rendered its opinion in order to clarify the examination of the complaint and Direct Energie's requests.

The precautionary measures imposed on GDF SUEZ

The French Competition Authority considered that it was likely that GDF SUEZ abused its dominant position in the gas market by using infrastructure devoted to regulated sales tariffs (client file, website, client platform, etc.), which falls under the public service activity, to propose gas and electricity market offers, a competitive activity. This use could have created confusion in the minds of consumers, preventing them from making rational choices for their supply of gas and electricity. Moreover, it considers that there is a major risk of market pre-emption, banning all dissemination of the most competitive offers.

The Competition Authority's decision of 9 September 2014 ordered GDF SUEZ "as a precautionary measure and pending a decision on the substance of the matter, to grant, at its expense, to companies that so request and that have a ministerial authorisation for natural gas supply, access to certain data in the files of clients with a supply contract

> ACCESS TO THE CONSUMPTION DATA OF CLIENTS CONCERNED BY THE END OF THE REGULATED TARIFFS IS ESSENTIAL FOR CREATING CONDITIONS OF REAL COMPETITION AMONG SUPPLIERS, WHICH, LACKING THIS, CANNOT PROPOSE OFFERS ADAPTED TO CONSUMPTION PROFILES."

ONCE THE LINKY METERS HAVE BECOME WIDESPREAD, EACH SUPPLIER WILL BE ABLE TO ACTIVATE THEIR OWN PERIODS OF SHEDDING.
© ERDF - Philippe Lesprit

under the regulated tariffs for the sale of gas, in objective, transparent and non-discriminatory conditions". This decision specifies that, for clients that are legal entities, this access must take place at the latest by 13 November 2014, failing which GDF SUEZ will be ordered to "suspend as from this same date any activity involving gas market offers" to the clients concerned. For clients that are natural entities, the Competition Authority's decision specifies that this access must be effective by 15 January 2015 at the latest.

The measures taken by EDF with regard to electricity

With regard to access to electricity client files, since 28 November 2014, EDF has transmitted to alternative suppliers that so request, data identifying the clients concerned by the elimination of the regulated sales tariff for electricity. The Competition Authority noted, at the time of its decision imposing precautionary measures on GDF SUEZ, that EDF was open to the principle of access to its own client file. EDF stated that it would forward, from April 2015, the consumption data of its clients concerned by the end of the regulated sales tariffs that are not be opposed to the communication of such information. The terms of this access, as well as the scope of the data, will be closely monitored by CRE in connection with the Competition Authority.

1.3. ALTERNATIVE SUPPLIERS WILL BE ABLE TO TECHNICALLY PROPOSE LOAD SHEDDING TARIFFS

The incumbent electricity suppliers (EDF and local distribution companies) propose to their clients regulated electricity tariffs (EJP or Tempo), which encourage clients, by a KWh price that is higher than for the rest of the year, to reduce (or "shed") their consumption, for certain periods that are communicated to them in advance. Prices therefore vary according to the day and are identified by their colour (blue, white and red, the least expensive to the most expensive, for Tempo offers). These contracts are useful for ensuring the supply/demand balance in the case of consumption peaks or production constraints. Moreover, they allow users that adjust their consumption to make savings in their electricity bill. These periods are activated automatically. It is ensured by a specific electric signal, ripple control, which is transmitted in the network to the clients' meters. Upon reception of this signal, the energy consumed over these periods is calculated separately.

A consultation group, created in March by CRE, met six times in 2014

In 2013, the Energy minister wished to launch a working group aimed at reboosting subscriptions

> SHEDDING CONTRACTS ARE USEFUL FOR ENSURING SUPPLY/DEMAND BALANCE IN THE CASE OF CONSUMPTION PEAKS OR PRODUCTION CONSTRAINTS AND ALSO ENABLE USERS THAT ADAPT THEIR CONSUMPTION TO MAKE SAVINGS IN THEIR ELECTRICITY BILL."

to load shedding tariffs and enable alternative suppliers and no longer only EDF and local distribution companies to propose such offers to their clients. Work served to determine the criteria and technical terms for triggering the ripple control signal. The terms for informing suppliers of the activation of shedding periods were also examined. Lastly, consultation was the occasion to present the developments in ERDF's IT systems which were necessary for the development of offers by alternative suppliers. Consultation work is continuing in 2015 with the setting up of a monitoring committee, which, based on feedback, will propose changes to the mechanism. Opening up to alternative suppliers offers such as Tempo for businesses and the identification of a solution to prepare for the deployment of smart meters will also be examined.

An interim solution before the deployment of Linky meters

CRE included the principles agreed on in consultation in its deliberation of 30 October 2014 on the decision concerning electricity system operators' missions related to load shedding tariffs such as Tempo. Governance of the signal has been entrusted to RTE since 1 November 2014; previously it was the responsibility of EDF and the local distribution companies.

For winter 2014-2015, the current characteristics of the Tempo option are maintained (300 blue days, 43 white days and 22 red days). The activation of load shedding periods depends on a net consumption criterion. If national consumption exceeds a certain limit, the ripple control is sent to the meters of the consumers concerned. RTE informs participants of the colour for the following day through a web page and a mailing list. Activation of the ripple control is shared between EDF and ERDF.

This change in the governance of the signal, henceforth entrusted to the transmission system operator, an independent actor in the electricity market, is therefore an important stage in the development of competition. But, by itself, it is insufficient. The absence of a new regulated sale tariff for shedding whose level would be debatable, did not enable alternative suppliers to propose offers capable of competing with that of EDF. However, the mechanism implemented is an interim solution. Once the Linky meters have become widespread, each supplier will be able to activate their own periods of shedding, without waiting for the ripple control signal.

1.4. DEVELOPMENTS FOR ACCESSING ARENH TO IMPROVE ALTERNATIVE SUPPLIERS' SITUATION

Since 1 July 2011, the mechanism for regulated access to incumbent nuclear electricity (ARENH) authorises alternative suppliers to access, at a regulated price, electricity produced by EDF's nuclear plants. This price, since 1 January 2012, has stood at 42/MWh. This mechanism aims to enable alternative suppliers to supply nuclear power under the economic conditions equivalent to those of EDF, which, to date, is the only supplier authorised to operate nuclear installations.

Nevertheless, competition in the electricity sector remains very limited (see the electricity and gas market observatory published every quarter by CRE). In its report of January 2013 on the functioning of the

> THE ABSENCE OF A NEW REGULATED SALE TARIFF FOR SHEDDING WHOSE LEVEL WOULD BE DEBATABLE, DID NOT ENABLE ALTERNATIVE SUPPLIERS TO PROPOSE OFFERS CAPABLE OF COMPETING WITH THAT OF EDF"

retail markets, CRE issued recommendations, for example, to make the operation of this mechanism more flexible. In July 2014, the energy minister contacted CRE concerning a draft decree amending decree No 2011-466 of 28 April 2011 setting the terms for ARENH which integrated some of these recommendations. CRE rendered a favourable opinion for this draft on 24 July 2014. As at May 2015, this draft decree has still not been adopted.

More flexibility in suppliers' payment deadlines

The draft decree provides for alternative suppliers to have the possibility of adapting their payment deadlines to their constraints, in the case, for example, of difficulties in cash-flow or in the lodging of securities. They can therefore continue to apply the current terms (with a payment on the last day of the delivery month) or follow the practices observed in the wholesale electricity market (with payment on the 20th day of the month following the month of delivery). This choice is not neutral. On the one hand, alternative suppliers shall have to, in the event of a request for longer payment deadlines, lodge a higher security in return for a more favourable cash-flow. On the other hand, EDF will receive cash-flow later.

Greater room for tolerance in the calculation of the price supplement

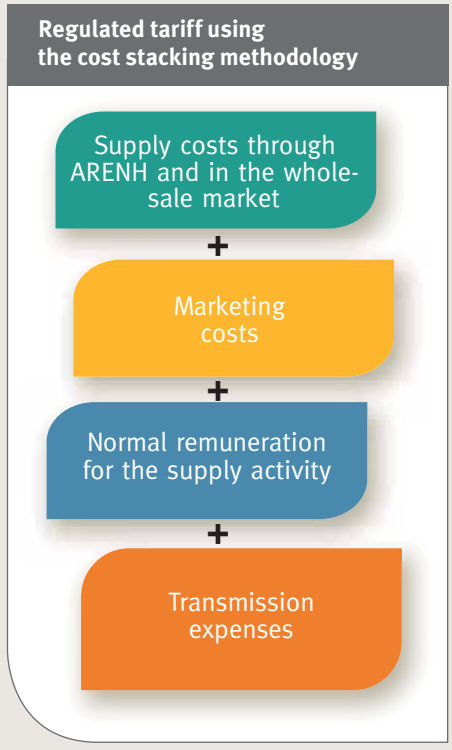
Access to ARENH is limited [3] in order to prevent alternative suppliers from requesting a volume of ARENH that is too much higher than the needs of their client portfolio and to avoid any windfall profits. These suppliers are thus penalised by a price supplement to be paid if their ARENH demand exceeds their theoretical right, beyond a certain tolerance. The draft decree provides for an increase in this tolerance margin [4], in line with the recommendations made by CRE in its report on the functioning of retail markets of January 2013.

In particular, CRE was in favour of the increase in the level of tolerance during the interim phase that will follow the end of the regulated tariffs and during which the prospects for development of alternative suppliers' portfolios will be more arduous.

3. Since 2012, this margin has stood at 10% of the supplier's portfolio volume and cannot be lower than 5 MW.
4. By bringing this margin to 15% of the supplier's portfolio volume and cannot be lower than 10 MW.

❷ The regulated sales tariffs have developed in order to better take into account market prices

Up until now they were established to cover the costs borne by incumbent operators and are now constructed with the cost stacking methodology which is the addition of the costs of an alternative supplier.



The regulated tariff is now calculated by adding up the costs of an alternative supplier.

2.1. ELECTRICITY PRICES ARE NOW CALCULATED WITH THE COST STACKING METHODOLOGY

The evolution of the regulatory framework

The French decree of 12 August 2009, prior to its latest amendment, specified that regulated sales tariffs were established in order to cover the costs borne by incumbent operators (EDF and the local distribution companies) to supply their clients, as well as a reasonable margin. It was amended by the decree of 28 October 2014, for which CRE's opinion was required [5]. It provides for pricing electricity tariffs with the cost stacking methodology, in compliance with Article L. 337-6 of the French Energy Code. This methodology reflects the costs of an alternative supplier.

A better tariff contestability

The regulated tariff is now calculated for each tariff category adding up the costs of an alternative supplier, i.e. supply costs through ARENH and in the wholesale market, marketing costs, normal remuneration for the supply activity, transmission expenses. The method of pricing by cost addition ensures that alternative suppliers can propose competitive offers and promote the opening up of the retail electricity market to the benefit of consumers. In 2014, the application of this method served to limit the price increase borne by customers.

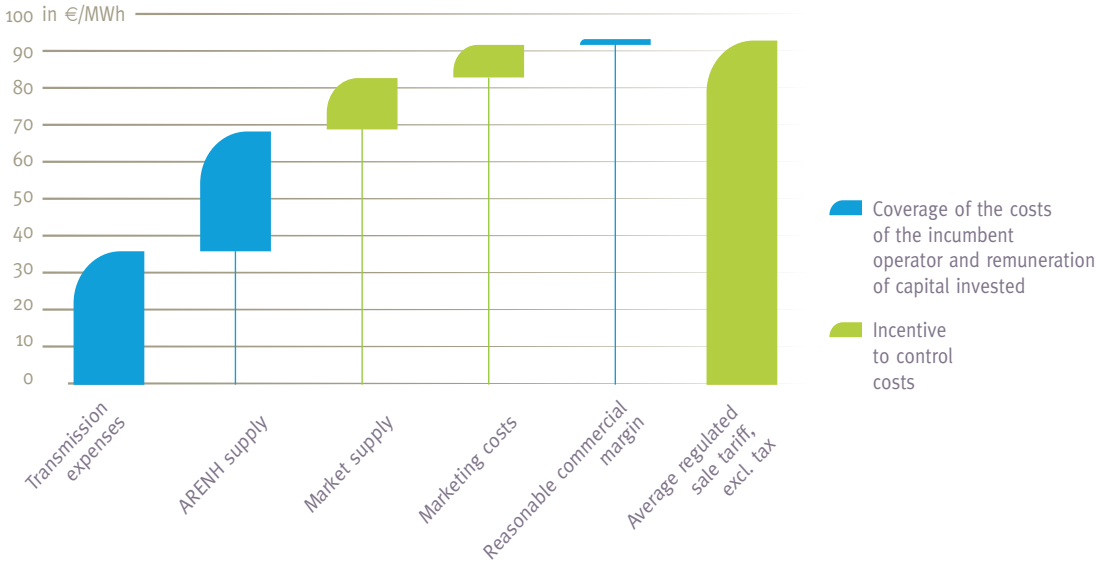
In order to determine the level of the regulated sales tariffs under the cost stacking methodology, CRE developed models to simulate a supplier's cost to source electricity in the market and within the framework of ARENH. These models are specified in its report on the regulated tariffs for the sale of electricity published in October 2014. They will be perfected over the following months in order to be able to evaluate the level of the shedding tariffs (EJP and Tempo). CRE published the principles of these models in order to ensure the necessary transparency to market participants and consumers.

CRE will conduct additional analyses in 2015 in order to define the notion of "supplier as efficient as EDF" specified by decree for the calculation of marketing costs.

> "THE CONSTRUCTION OF TARIFFS UNDER THE COST STACKING METHODOLOGY REFLECTS THE COSTS OF AN ALTERNATIVE SUPPLIER."

5. CRE opinion of 24 September 2014 on the decree amending decree No 2009-975 of 12 August 2009 concerning the regulated tariffs for the sale of electricity

Principle of electricity pricing with the cost stacking methodology and incentive to control costs



The cost stacking methodology for calculating regulated tariffs for the sale of electricity no longer guarantees strict coverage of EDF's accounting costs. It therefore further encourages EDF to control its costs.

Providing further incentive to EDF to control its costs

The new methodology for calculating regulated tariffs for the sale of electricity no longer guarantees strict coverage of EDF's accounting costs. Electricity sourced in addition to the volumes bought through ARENH is valued at the price of electricity in the wholesale market. However, these are usually different from EDF's accounting cost of production, excluding nuclear activities.

Any measure to control costs for EDF's activities outside of its nuclear operations will therefore improve the profitability of its production assets. However, the main components of the regulated tariff established by cost addition, i.e. transmission tariffs and volumes valued at the ARENH price, remain calculated according to the principle of covering the incumbent operator's costs, integrating a remuneration of the capital employed ‹ see graph ›.

2.2. GREATER TRANSPARENCY IN THE PROCESS FOR SETTING GAS REGULATED TARIFFS

Annual analysis of incumbent suppliers' costs

Since 2006, CRE has regularly audited GDF SUEZ's supply contracts and checked for consistency between its supply costs and its non-supply related costs and the costs taken into account in the regulated tariffs for the sale of natural gas.

The decree of 18 December 2009 on the regulated tariffs for the sale of gas entrusts CRE, since the amendment by the decree of 16 May 2013, with carrying out "each year a detailed analysis of all of the natural gas supply costs and non-supply related costs" of GDF SUEZ and the other incumbent suppliers: "It reports the results of this analysis to the government and publishes them, in compliance with requirements of professional secrecy, by 15 May at the latest". This work serve to check for consistency between the actual costs borne by the incumbent suppliers and the costs as they are estimated in the regulated sales tariffs. They also enable the analysis, looking forward, of the changes in the costs to be taken into account in the future tariff developments. In its report on GDF SUEZ's regulated tariffs for the sale of gas

ELECTRICITY PRICE INCREASES LIMITED WITH THE APPLICATION OF THE NEW CALCULATION METHODOLOGY

	Blue residential	Blue businesses	Yellow	Green
Price increase as at 1 November 2014	2.5%	- 0.7%	2.5%	3.7%
Regulated sale tariff in effect in €/MWh (excl. taxes)	104.2	101.0	90.6	67.4

Due to the depressed wholesale market price and the increase in EDF's production costs, the change in the calculation method (from the coverage of the costs of the incumbent regulator to the addition of the costs of alternative suppliers) limited the increase in regulated tariffs in 2014. These increases, set by the ministerial decision of 30 October 2014, correspond to the level calculated by CRE in its 2014 report on the regulated tariff for the sale of electricity. However, they only partly take into account the tariff "catch-up" of past shortfalls from the years 2012 and 2013[6].

published on 15 May 2014, CRE communicated the conclusions of its work and recommendations on the prospects for reviewing the formula and the non-supply related costs in GDF SUEZ's regulated tariffs as at 1 July 2014.

At the end of May 2014, CRE also published 22 detailed analyses concerning the other incumbent suppliers, while stating that, given the difficulties encountered during this work and those expressed in its opinion of 11 April 2013 [7], CRE was only able, in most cases, to carry out a partial analysis, and could not complete its analyses within the deadlines specified by the decree of 16 May 2013. All customers can therefore see the type and evolution of costs covered by the tariff applied to them.

Tariffs more indexed to the wholesale gas markets

For several years now, GDF SUEZ has been involved in a process to renegotiate its long-term gas supply contracts. This results in an increase in the weight of wholesale gas market indices in the tariff formula used to calculate developments in the regulated sales tariff. From the consumer's point of view, this makes the changes in GDF SUEZ's regulated tariffs for the sale of gas more comprehensible, since these changes depend more on the evolution of wholesale gas market prices and less on other indices, such as oil indices. However, a greater market share results in more seasonal tariff fluctuations, since market prices are volatile by nature.

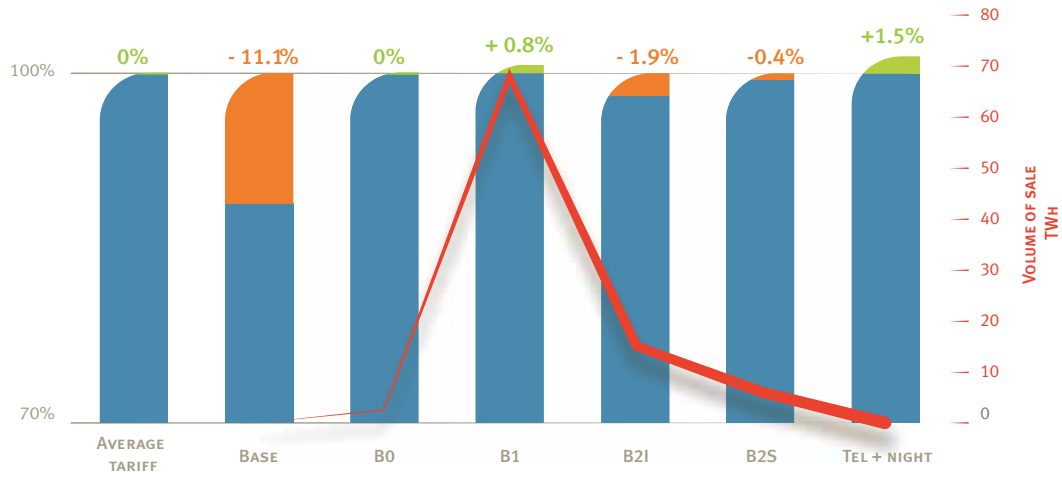
> "In 2014, the cost stacking methodology used to calculate electricity regulated tariffs served to limit the price increase borne by consumers."

The weight of indexation to the gas market adopted in the formula in the ministerial decision of 30 June 2014 currently in effect is equal to 59.8% (compared to 45.8% in the decision of 27 June 2013), for which the greater part (45.6%) falls under the reference TTF index for future monthly gas contracts. This means, for example, that an increase by €1/MWh of the TTF monthly price leads to an increase by 0.456/MWh in GDF SUEZ's supply cost, which is then reflected in the regulated tariffs. In the future, the weight of the wholesale market in the tariff formula will have to grow, since in the first half of 2015, GDF SUEZ held options for renegotiating its long-term contracts covering large volumes. CRE will pay particular attention to these renegotiations and the way in which their effects are reflected in the supply costs of the incumbent operator as from 1 January 2015.

6. CRE opinion of 30 October 2014 on the draft ministerial decision on the regulated tariffs for the sale of electricity
7. In its deliberation of 11 April 2013 on this draft decree, for the first time CRE issued a clearly unfavourable opinion on the extension of its competence. In addition to the methodological problems raised by the absence of accounting unbundling for some of these companies, CRE highlighted that, given the limited resources at its disposal, it could not carry out annual audits and checks on all of the 24 suppliers

GDF SUEZ'S COSTS ARE NOT COVERED FOR CERTAIN CATEGORIES OF CONSUMERS

Coverage of costs, margin included, by GDF SUEZ's regulated tariffs for the sale of natural gas in July 2014



During each tariff movement, CRE makes sure that the tariffs cover on average the supply costs and the non-supply related costs of the incumbent operator. In order to enable better coverage of costs for the Base tariff (gas for cooking purposes), the price of the subscription to this tariff increased more than the average during the tariff movement of 1 July 2014. Although this increase brings, after that of July 2013, a new improvement, the pricing structure of the Base tariff still does not cover the costs of this tariff. Full coverage is expected as from July 2016.

Gas tariffs that better reflect GDF SUEZ's costs

Regulated sales tariffs that do not cover on average the incumbent operator's costs would reduce the economic space available to alternative suppliers to develop. The coverage of costs, tariff by tariff, is an indicator of an alternative supplier's capacity to compete with each tariff individually. The setting of GDF SUEZ's regulated sales tariffs by the ministerial order of 27 June 2014 was the occasion to improve the tariff structure in two ways:
- improvement of the coverage of costs tariff by tariff;
- for each tariff, improvement of the coverage of fixed costs by the subscription and variable costs by the proportional share.

The Bo tariff (gas for collective water heating purposes), the costs of which were covered by the tariff structure of the ministerial order of 27 June 2013, saw its subscription increase by the same amount as that of the Base tariff (gas for cooking purposes) in order to improve the coverage of fixed costs by subscription. However, the proportional part of this tariff dropped more than average in order to maintain a reasonable margin for this tariff. Despite this change, the fixed costs of the Base and Bo tariffs are not covered by subscriptions. The overall coverage of the Bo tariff however, is ensured by a proportional price that is above what is necessary to cover the proportional costs.

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AUTHORITIES ORGANISING THE DISTRIBUTION OF ENERGY (LOCAL AUTHORITIES, MUNICIPALITIES, ADMINISTRATIVE DEPARTMENTS) CAN GROUP TOGETHER THEIR ENERGY PURCHASES.

HOUSEHOLDS AND BUSINESSES: THE GAINS EXPECTED FROM A JOINT BUYING ORGANISATION

A purchasing association of consumers can result in buying gas at a lower than the regulated tariff.

For households, the consumer association UFC-Que Choisir launched a new call for tenders to all national suppliers at the end of 2014, in order to propose an attractive offer to all consumers concerned. The goal of this call for tenders is to boost competition in the gas market thanks to the most financially attractive offer and contract terms that protect the customers. The final offer will be at least 12% lower than GDF SUEZ's regulated tariff for January 2015. It could be even lower, since the power of negotiation has increased with the number of registrations through the site gazmoinscherensemble.fr.

For businesses, the end of the regulated tariffs is the occasion for many customers to group together in order to have the best prices through new market offers that they will have to subscribe to. UniHA, a cooperative joint purchasing network comprising 58 French public hospitals, grouped together the union of public procurement groups (UGAP), the ministry of defence and members of the federation of hospitals and personal care establishments (FEHAP) and associations for streamlining purchases (SARA) into a buying group that represents over a hundred sites. This network, which notified seven suppliers for framework agreements for a volume of 2 TWh, expects a gain of almost 13% compared to the regulated sales tariffs, i.e. €12 million per year.

LOCAL COMMUNITIES ARE COMING TOGETHER

Authorities organising energy distribution can also pool their energy purchases.
To do so, the federation of public service local authorities (FNCCR) provides its members with legal, technical and communication tools to facilitate their group purchases of natural gas and electricity. More than 80 administrative departments are covered by such groups.

THE REGULATOR IMPLEMENTED INCENTIVE REGULATION TO ENCOURAGE OPERATORS TO INCREASE THE QUALITY OF THEIR SERVICE WHILE MEETING PRODUCTIVITY OBJECTIVES AND COST CONTROL REQUIREMENTS.
© ERDF - William Beaucardet

INCENTIVE REGULATION FOR SERVICE QUALITY PROVES ITS WORTH

In 2008, CRE implemented incentive regulation for the quality of the service provided by system operators to users. In order to assess and improve this incentive, CRE established a series of performance indicators in fields such as relations with suppliers and users, connections, interventions, metering and billing and consumption measurements and forecasts.

Some of these indicators, considered to have specific importance for the proper operation of the market, are underpinned by financial incentives. These incentives take the form of either compensation passed on directly to users, or bonuses or penalties for the system operators depending on whether or not objectives set by the regulator have been reached. This incentive is integrated into the transmission tariff which is the main source of operators' income and is adjusted each year based on performance and market expectations. The challenge is two-fold, since it is a matter of encouraging operators to raise the quality of their service while meeting productivity objectives and cost control requirements.

Since 2009, CRE publishes an annual report reviewing the incentive regulation for system operators' service quality. The fifth edition of this report, covering 2013, was published in July 2014. It confirms the value of this mechanism, since CRE has observed, for the year 2013, that the operators' performance in terms of the quality of service provided to users conforms to the objectives set and continues to improve, even though there is still room for improvement in certain areas.


@ Gérard Uferas

"CRE undeniably has a role of 'supervision and vigilance' to play by informing the Competition Authority as soon as suspicious behaviour is detected on the part of operators in the sector."

2 questions to...

BRUNO LASSERRE, CHAIRMAN OF THE FRENCH COMPETITION AUTHORITY

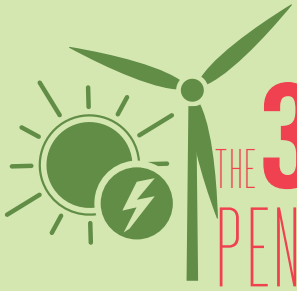
Would strengthened cooperation between the Competition Authority and CRE benefit the energy market?

The Competition Authority's and CRE's actions are complementary with regard to the development of competition in the gas and electricity markets. CRE has resources enabling close supervision of the gas and electricity markets. Through its market observatory and its retail market monitoring report, it is able, in particular, to carry out in-depth investigations on the level of prices and the commercial practices implemented by operators. The Competition Authority intervenes especially ex post, to sanction practices that go against competition rules. Therefore, CRE undeniably has a role of 'supervision and vigilance' to play by informing the Authority as soon as suspicious behaviour is detected on the part of operators in the sector. In that regard, the holding of regular meetings between the investigation authorities of the Competition Authority and CRE's departments over the last two years is commendable. Regarding opinions rendered to the government or parliament, both authorities provide complementary converging views. The Authority makes recommendations to ensure that the rules proposed do not deteriorate the competition structure, which is already fragile, of the energy markets. CRE however, focuses more on the technical aspects of the mechanism and how they integrate with the rest of energy law.

The Competition Authority required GDF SUEZ to open its customers files under the regulated sales tariff. How is this decision important for opening up competition and for consumers?

Within the framework of decision No 14-MC-02 of 9 September 2014, the Competition Authority considered that it was likely that GDF SUEZ abused its dominant position in the gas market by using infrastructure devoted to regulated sales tariffs (customer file, website, customer platform, etc.), which falls under the public service activity, to propose gas and electricity market offers, a competitive activity. This decision was fully confirmed by the Paris court of appeal. The benefits drawn from the use of the regulated tariff client file are not replicable under reasonable conditions by competitors since there is no database enabling alternative operators to specifically locate gas customers and to know their level of consumption, in order to propose to them the offers most suitable to their profile. New entrants therefore had a lot of difficulty in developing: while they can propose gas offers that are sometimes very competitive compared to GDF SUEZ's offers (up to -15% compared to the regulated sales tariffs), they are hindered when they wish to seek residential consumers and small businesses. This is the obstacle lifted by the Authority's decision, in compliance with recommendations made by CNIL, since the persons concerned explicitly received the possibility of refusing that their data be transferred. This is clearly an important step towards concrete opening up of competition in the gas sector, which should be favourable to the competitiveness of businesses and the purchasing power of households.

CRE's action in island areas



30% THE PENETRATION THRESHOLD FOR RENEWABLE ENERGY HAS BEEN REACHED OR IS ABOUT TO BE REACHED IN ALL OF THE TERRITORIES

64% OF ELECTRICITY PRODUCED WAS FROM THERMAL SOURCES IN 2013 (**78%** IN 2002)

PRODUCTION COSTS

225 €/MWh ON AVERAGE

5X ALMOST HIGHER THAN EDF'S ACCOUNTING PRODUCTION COSTS TAKEN INTO ACCOUNT IN THE REGULATED TARIFFS

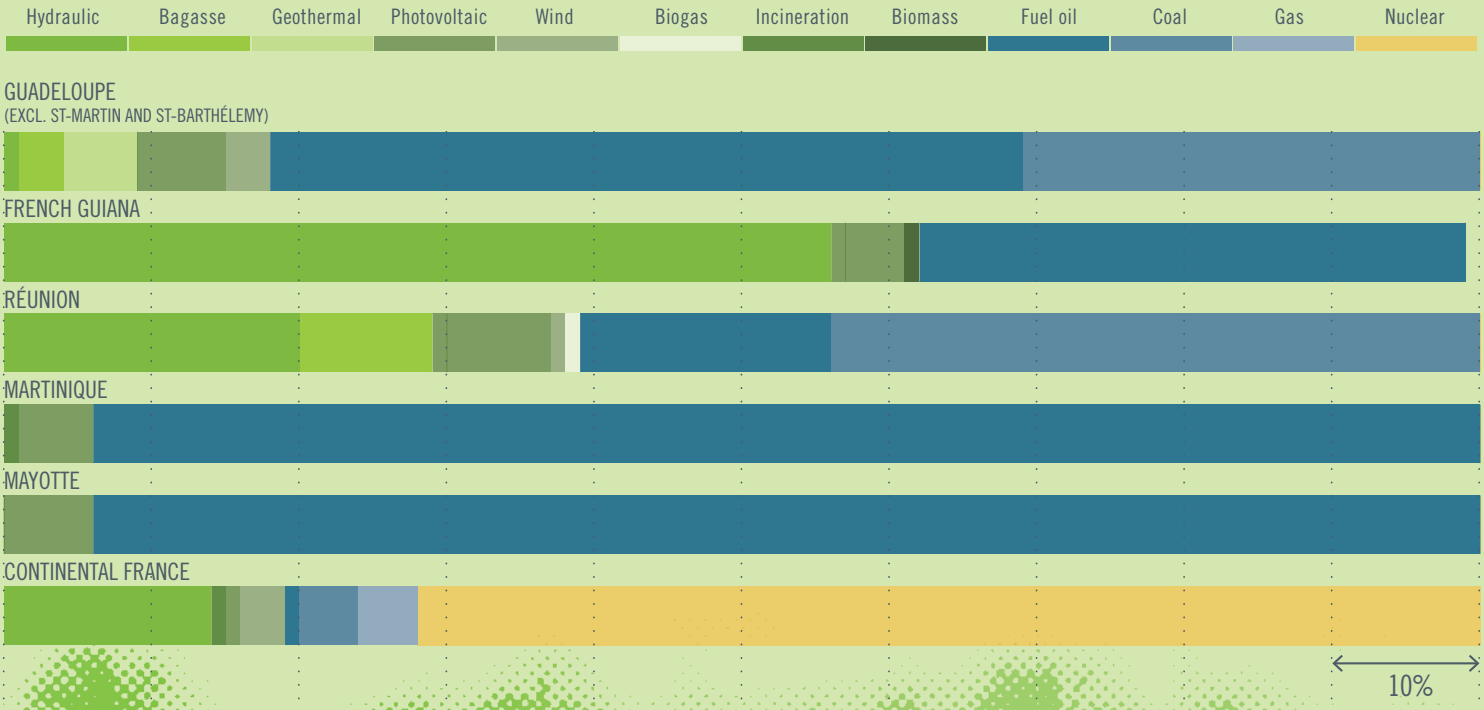
2 INCUMBENT OPERATORS IN THE NON-INTERCONNECTED TERRITORIES

EDF SYSTÈMES ÉNERGÉTIQUES INSULAIRES (EDF SEI) (MANAGEMENT OF GROUPE EDF SA)

ÉLECTRICITÉ DE MAYOTTE (EDM) (SEMI-PUBLIC COMPANY) HELD 50.01% BY THE GENERAL COUNCIL OF MAYOTTE, 24.99% BY EDF, 24.99% BY SAUR INTERNATIONAL AND 0.01% BY THE STATE

ELECTRICITY PRODUCTION MIX

IN CONTINENTAL FRANCE AND OVERSEAS TERRITORIES



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KEY POINTS

10.8 €BN CURRENT OVERCOSTS

cumulated under the equalisation tariff in the non-interconnected territories for the period 2002-2013, of which almost 70% falls under EDF SEI and EDM's production overcosts.

OBJECTIVE OF 50% RENEWABLE ENERGY

in the final energy consumption in the overseas departments and collectivities by 2020.

CRE requested EDF SEI and EDM to carry out, for 1 November 2015, a cost/benefit analysis of a **SMART GRIDS** deployment in the different territories.

Territories isolated from the electricity system in continental France, non-interconnected territories must be able to balance at any time their electricity consumption and production in order to avoid black-outs which penalise economic activity.

The use of fossil energy, from which electricity production is easily manageable, was given preference in the past. Because of the insularity of these territories, production costs are much higher there than in metropolitan France. Today, these territories wish to be examples of energy transition while improving their autonomy thanks to the development of renewable energy.

1 The particularities of non-interconnected territories

Corsica, the overseas departments and regions (Guadeloupe, French Guiana, Martinique, Réunion and Mayotte), certain overseas collectivities (Saint- Pierre-et-Miquelon, Saint-Barthélemy and Saint-Martin), Brittany islands Molène, Ouessant, Sein, the Glénan islands and the Channel island Chausey are not connected to the continental electricity network (or to a very limited extent in the case of Corsica). These non-interconnected territories have technical and economic particularities compared to metropolitan France.

1.1. THE ELECTRICITY SYSTEM OF NON-INTERCONNECTED TERRITORIES

The growth of electricity consumption in non-interconnected territories is higher than that of metropolitan France even though it has slowed down because of the crisis and the end of the process to close the gap in household equipment levels. In 2013, it remained significant in French Guiana (+1.5%) and very high in Mayotte (+5.5%). Also, electricity production costs are much higher there than in continental France, in particular, because of the composition of the energy mix, logistical constraints (inadequacy of road and local port infrastructure in terms of performance and density to transport fuels or the parts necessary for the maintenance of installations), climate constraints (corrosion due to the sea air, construction according to cyclone standards). In addition, the small size of networks limits expansion. These are very sensitive to a drop in frequency, which is a major obstacle to the development of "random unavoidable energy" (which means energy whose production cannot be controlled and which depends on natural elements such as wind farms and photovoltaic installations).

These particularities are not favourable to the emergence of competition for energy supply to

THE LONGONI SOLAR PARK IN MAYOTTE (VISIT BY CRE, OCTOBER 2014).
© CRE

clients. Without public support and in a context in which sale prices are regulated, production would be structurally in deficit. These structural overcosts are offset by the income from the contribution to the public electricity service (CSPE) paid by all national electricity consumers.

In addition, in order to promote the development of electricity systems in non-interconnected territories, law No 2005-781 of 13 July 2005 setting energy policy guidelines amended law No 2000-108 of 10 February 2000 [1]. It defined the conditions for remunerating fixed capital in electricity production means in non-interconnected territories. The nominal return rate before tax, on fixed capital for electricity production installations in the overseas departments, in Corsica, Mayotte and Saint-Pierre-et-Miquelon was set at 11% by a ministerial decision dated 23 March 2006.

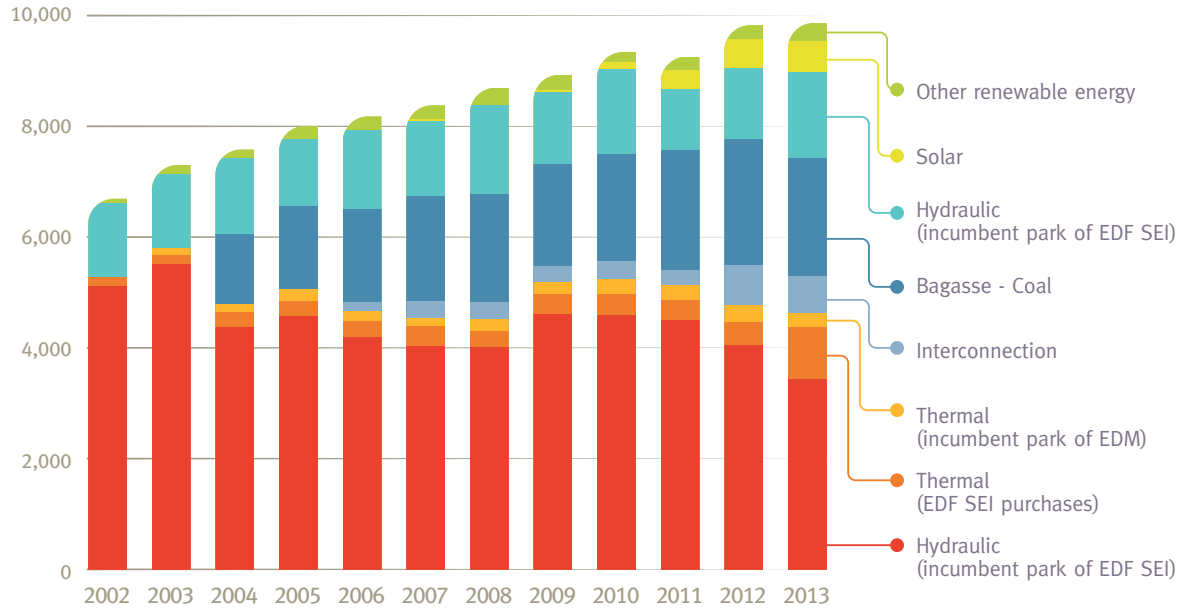
Article 44 of the electricity directive No 2009/72/EC specifies that European Union Member States which can prove that major problems exist for the operation of their small isolated energy systems (i.e. systems with consumption lower than 3,000 GWh and where less than 5% of their annual consumption is obtained through interconnection with other systems) may request the European Commission for a derogation from certain provisions of the directive relating to the operation of the transmission system, the operation of the distribution system, unbundling and transparency of accounts, and organisation of access to the system. In addition, paragraph 4 of Article 26 of this same directive expressly sets out that Member States may decide not to apply the rules relating to unbundling of distribution system operators from integrated electricity companies that supply small isolated systems. French law gradually broke down the notion of "small isolated energy system", as well as the derogations that apply to such systems, through, in particular, the notion of non-interconnected territories to the continental metropolitan network. Therefore, in these territories, the incumbent operator is not subject to the obligation to separate its network management activities from its production and sale activities.

Production still carbon-intensive

The production activity is shared between the incumbent operators EDF Systèmes énergétiques insulaires (EDF SEI), Électricité de Mayotte (EDM) and a few third-party operators. The latter sell their electricity to the incumbent operators within the framework of feed-in tariff contracts as part of the purchasing obligation – contracts signed following calls for tenders or over-the-counter contracts.

1. The provisions have been codified since 2011 in the French Energy Code

Volume of electricity produced and bought in non-interconnected territories between 2002 and 2013 (GWh)



Production costs are particularly high in non-interconnected territories, an average 225/MWh in 2013. However, the average production costs per territory depend heavily on the characteristics of both the production park and the network. In 2013, costs were €172/MWh in Corsica, €206/MWh in Réunion, €243/MWh in French Guiana, €247/MWh in Guadeloupe, €259/MWh in Martinique, €371/MWh in Mayotte, €376/MWh in the Brittany islands and €509/MWh in Saint-Pierre-et-Miquelon.

In 2002, thermal energy represented 78% of electricity produced locally; it represented only 64% in 2013, including coal-fired production from mixed bagasse/coal installations. More than 50% of the production in these territories (5.3 TWh in 2013) is ensured by the incumbent generation portfolio of EDF SEI and EDM, comprising thermal and hydraulic means.

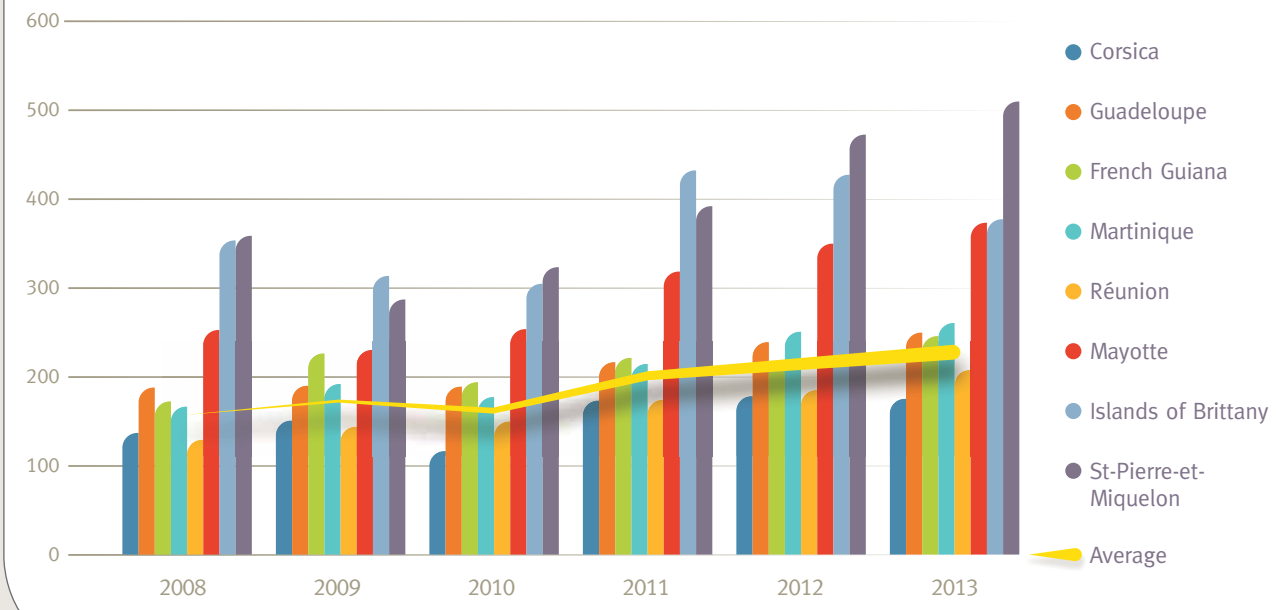
The development of renewable energy has financial support

Since 2002, electricity production from renewable energy in non-interconnected territories (excluding bagasse and excluding the hydraulic installations of EDF SEI's incumbent park) brought €939 million (current euros) to producers, including €738 million in overcosts funded by the CSPE. These overcosts result mostly from the photovoltaic sector.

The French public authorities can use two economic instruments to support the development of electricity production from renewable energy:
– the purchasing obligation which enables producers of energy using renewable sources to benefit from a guaranteed feed-in tariff for 15 to 20 years, which is higher than the market price. The feed-in tariffs are set for each sector by ministerial decision after consultation with CRE;
– calls for tenders, following which the project initiators selected have a purchase contract for their production for a defined period and at the price proposed in their offer.

National feed-in tariffs can be insufficient for enabling projects to develop in non-interconnected territories under satisfactory economic conditions. This is why certain tariffs provide for specific provisions for these territories. In addition, if a producer can show that its project cannot be paid off by the current feed-in tariff, it may ask to benefit from an over-the-counter contract, which is specifically analysed by CRE. This derogation has already been applied to the biomass sector. There is a specific tariff for wind power with storage in non-interconnected territories. The geothermal, biogas, hydraulic and incineration sectors have markups or specific tariffs compared to the tariff applicable to continental metropolitan France. For the photovoltaic sector, the tariff integrates the sunlight conditions.

Average production cost in each non-interconnected territory between 2008 and 2013 (€/MWh)



Between 2009 and 2011, three calls for tenders covered photovoltaic or wind installations with storage in non-interconnected territories. The call for tenders for solar energy in 2009 was closed without result. The two others led to the selection of 26 projects, all of which have not been commissioned. Moreover, in 2006, a call for tenders procedure was used to appoint the investor in charge of the construction and operation of a combustion turbine in Martinique. A new call for tender, devoted to solar installations with installed power exceeding 100 kW equipped with storage and located in non-interconnected territories, was published in the Official Journal of the European Union on 15 May 2015 for sought power of 50 MW.

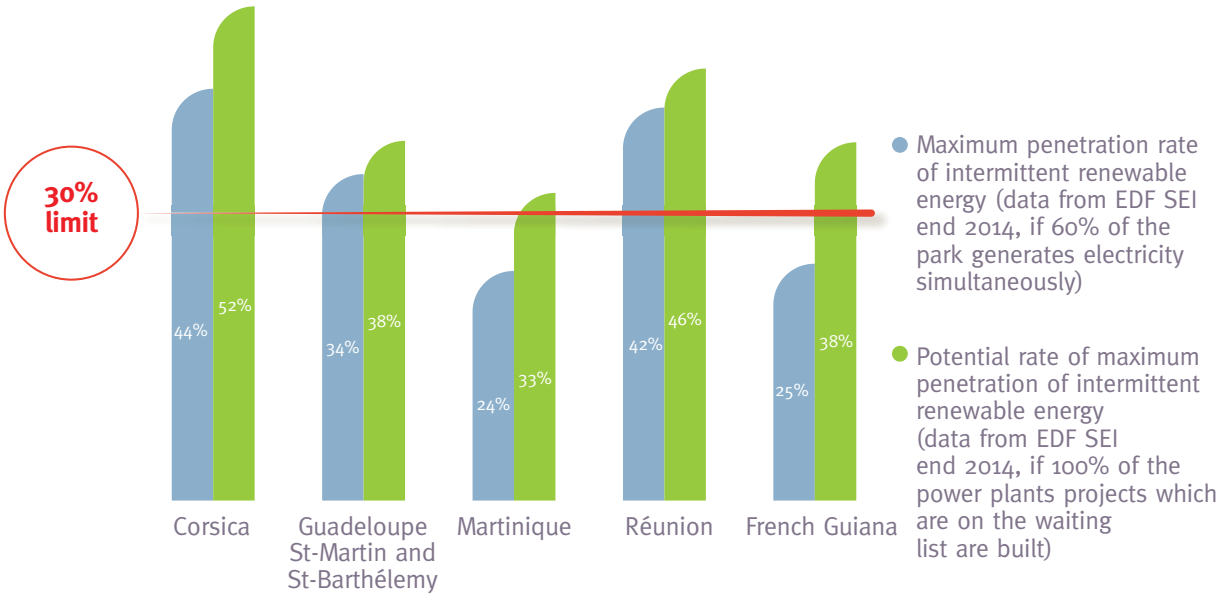
The development of renewable energy in non-interconnected territories is governed by certain regulatory constraints

The development of renewable wind and photovoltaic energy in non-interconnected territories falls under a restrictive legal and regulatory framework. The Littoral [2] and Montagne [3] laws have made a certain number of potential resources inaccessible. Law No 2013-312 of 15 April 2013, known as the Brottes law, amended the provisions of the urban-planning code [4], specifying that wind and photovoltaic installations can be installed near the shore, provided that they are compatible with the Schéma de mise en valeur de la mer (SMVM, scheme for sea enhancement), included in the Schéma d'aménagement régional (SAR, regional planning scheme).

Moreover, the maximum penetration limit of 30% for "unavoidable random energy" has been reached or is about to be reached in all of the non-interconnected territories. EDF SEI and EDM, in their capacity as system operators, are required to ensure that the cumulated production from these production means is at all times lower than 30% of the total power fed into the system [5]. Once this limit is exceeded, the system operator disconnects the last wind farm or the last photovoltaic installation connected to the system. Therefore, there is a risk of disconnection, and therefore, less profitability, for the most recent installations. To counter this difficulty, CRE, in its opinion of 23 January 2013 on the tariff decision of 8 March 2013, expressed its support of a certain flexibility for the 30% limit depending on the generation park of each territory, and of the implementation of pooled storage solutions that can be controlled by the system operator.

2. Law No 86-2 of 3 January 1986 relating to coastal development, protection and enhancement
3. Law No 85-30 of 9 January relating to mountain development and protection
4. Article L. 156-2, paragraph 5
5. Ministerial order of 23 April 2008 amended, relating to the technical requirements regarding the design and operation for low-voltage or medium-voltage connection to a public electricity distribution network of a power production installation, Articles 22 and 22 bis

Penetration rate of intermittent renewable energy in non-interconnected territories' electricity systems



Source: EDF SEI, CRE

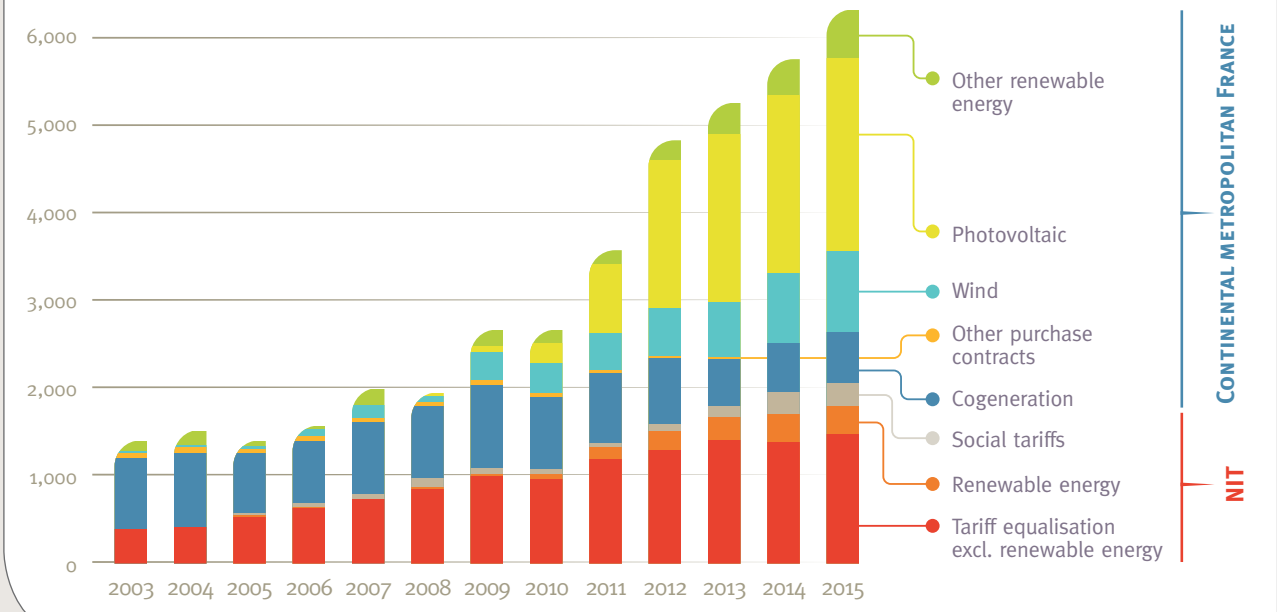
> CRE EXPRESSED ITS SUPPORT OF A CERTAIN FLEXIBILITY FOR THE 30% LIMIT DEPENDING ON THE GENERATION PARK OF EACH TERRITORY, AND OF THE IMPLEMENTATION OF POOLED STORAGE SOLUTIONS THAT CAN BE CONTROLLED BY THE SYSTEM OPERATOR."

1.2. TARIFF EQUALISATION AND NATIONAL SOLIDARITY

Tariff equalisation enables consumers in non-interconnected territories to enjoy regulated sales tariffs identical to those in continental metropolitan France, even though the electricity production costs in these territories are on average, for the year 2013, almost five times higher than EDF's accounting production costs taken into account in the regulated tariffs. The application of the tariff equalisation principle leaves the incumbent operators EDF SEI and EDM to bear the costs which are not covered by the regulated tariff. These costs are considered public service charges. Their compensation is ensured by national solidarity, through the contribution to the public electricity service (CSPE) paid by all electricity consumers. Total CSPE represents approximately 13% of the final invoice amount of a residential consumer.

Overcosts cumulated under the tariff equalisation mechanism in non-interconnected territories for the 2002-2013 period totalled €10.8 billion (current euros). Almost 70% result from EDF SEI's and EDM's production overcosts. The overcosts related to renewable energy purchase contracts represent less than 10% and are almost entirely

Evolution of the public electricity service charges between 2003 and 2015 (€M)



attributable to the support for the photovoltaic sector, for which the cost compensated by the CSPE, has stood at €600 million since 2002.

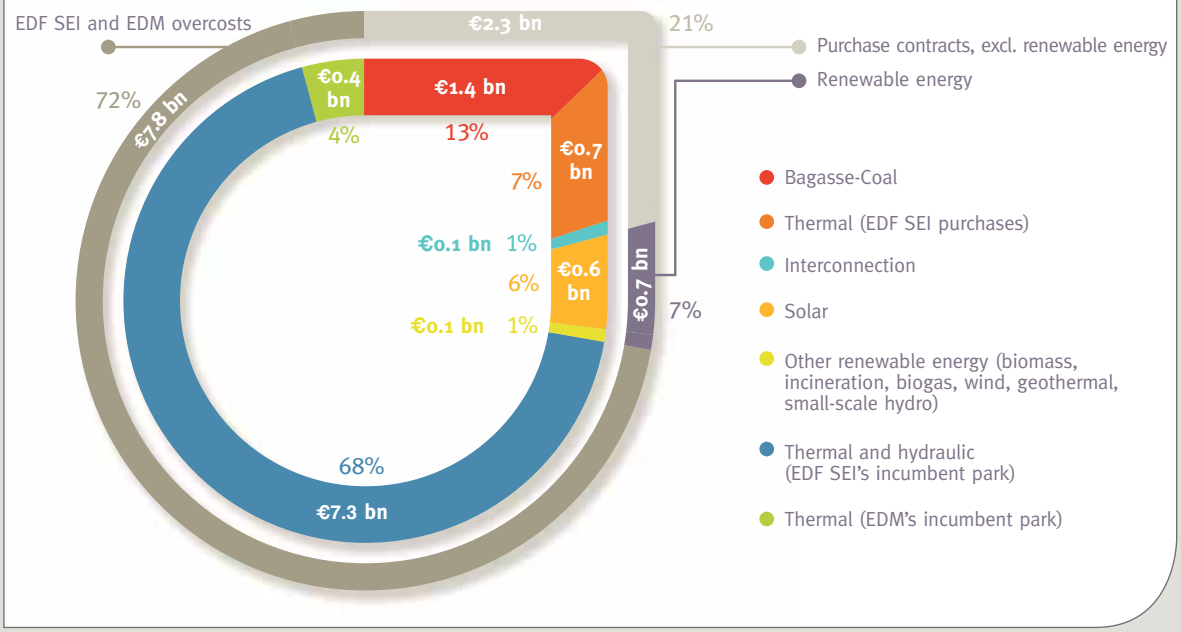
The consequences of choices made in the past will weigh on the future: 74% of the €26 billion in CSPE charges related to tariff equalisation in non-interconnected territories which can be anticipated for the 2014-2025 period will be due to currently running installations and to investment decisions already made such as the construction of EDF PEI's installations and the costs for dismantling old plants that they will replace. The remaining 26% corresponds to new investment decisions for the development of renewable energy and to new over-the-counter contracts whose repercussions on the CSPE were anticipated based on known projects (for biomass and hydroelectricity) and trajectories observed (for wind and photovoltaic energy). Assumptions of CSPE evolution by 2015 adopted by CRE are specified in its report CSPE: mechanism, history and the future, published in October 2014.

The overcosts related to new renewable energy installations (under over-the-counter contracts assessed by CRE or tender winners) are due, in particular, to the commissioning of a bagasse biomass plant in Martinique, a combustion turbine operating on bioethanol in Réunion, biomass installations in Corsica and Guyana and photovoltaic and wind installations with storage. Their cumulated impact stands at €2 billion. This amount, however, remains lower than the overcosts generated by the renewable energy park currently in operation, comprised almost exclusively of photovoltaic installations.

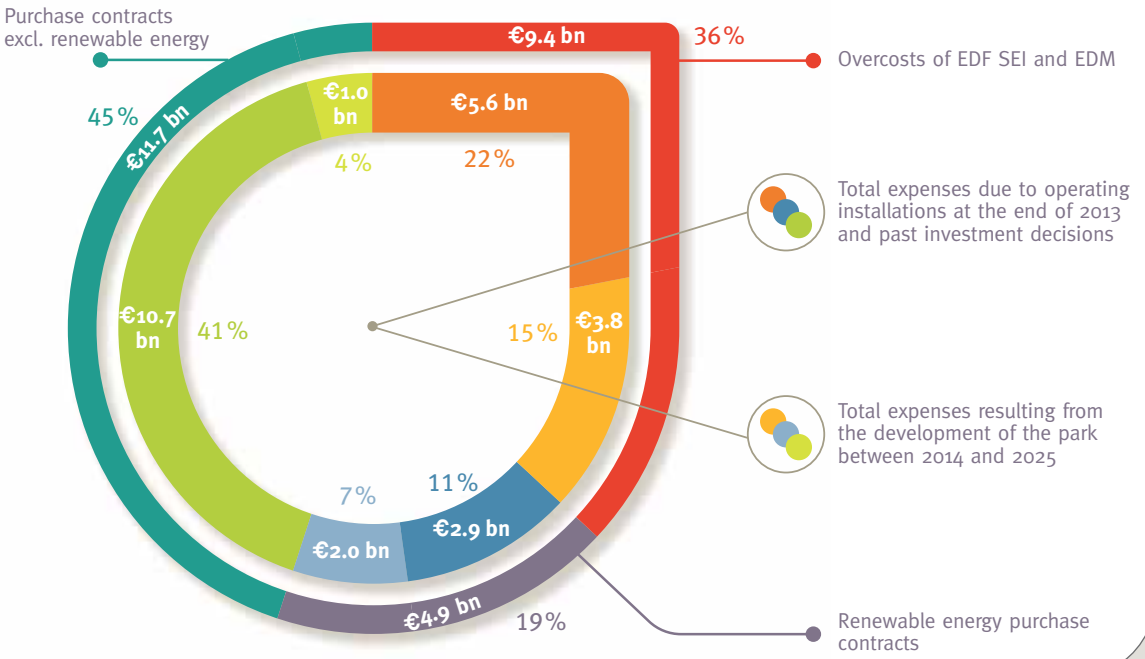
Since 2003, the expenses due to tariff equalisation have seen a significant 15% increase per year on average. This evolution results mainly from the growth of consumption and the development of the renewable energy park. In the upcoming years, these expenses will continue to increase (+54% by 2025) due to the replacement of EDF's historic production means by new installations, the bringing into compliance of bagasse-coal installations with environmental standards and the probable increase in the prices of CO_2 quotas.

TARIFF EQUALISATION GENERATES OVERCOSTS OFFSET BY THE CSPE

Total overcosts related to tariff equalisation cumulated between 2002 and 2013 (€billion, current euros)



Total overcosts related to tariff equalisation cumulated between 2014 and 2025 (€billion, current euros)



In non-interconnected territories, costs not covered by the regulated tariff borne by incumbent suppliers can be subdivided into three groups:

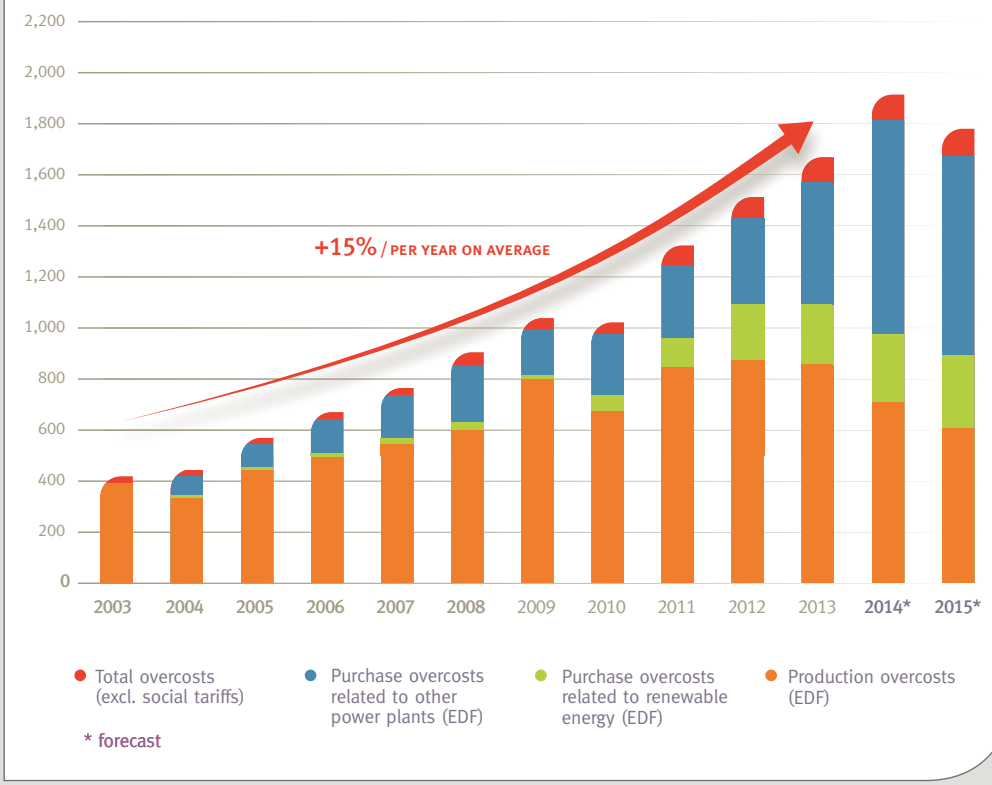
- production overcosts related to the operation of EDF's and Électricité de Mayotte's parks. In non-interconnected territories, the production park is composed mainly of thermal plants (diesel generator, combustion turbines). Therefore, fuel purchases represent the largest expense item and production overcosts depend heavily on the price of raw materials;

- overcosts due to purchase contracts signed between EDF (respectively EDM) and independent producers, either within the framework of a call for tender or a feed-in tariff (Articles L. 314-1 and L. 311-10 of the French Energy Code), or within the framework of an over-the-counter contract contributing to maintaining the supply/demand balance;

- overcosts related to the implementation of the social tariff for electricity. These overcosts are calculated each year by CRE (see 2.1.).

The overcosts observed in the non-interconnected territories were, in the past, mainly due to the production overcosts related to the operation of EDF SEI's and EDM's incumbent parks. The purchase overcosts related to renewable energy (excluding hydraulic plants which belong to EDF SEI) only began to appear as from 2006. The drop in EDF SEI's production overcosts is concomitant with the increase in the purchase overcosts related to other installations: the incumbent production plants, operated by EDF SEI, are gradually being decommissioned and replaced by new production units operated by EDF PEI.

Production overcosts and purchase overcosts of EDF SEI and EDM in non-interconnected territories between 2002 and 2013 (€M)



→ Key figures concerning renewable energy in non-interconnected territories

→ Specific data by territory and by sector

→ Forward-looking assessment

AVAILABLE ON CRE'S WEBSITE www.cre.fr

Specific regulated tariffs for businesses in non-interconnected territories

In accordance with the provisions of Article L.337-8 of the French Energy Code, stemming from the law of 7 December 2010 on the new electricity market organisation (NOME law), the regulated sales tariffs for subscribed power exceeding 36 kVA will continue after 2016 in the non-interconnected territories, contrary to the case of continental metropolitan France. These tariffs will have to be established based on the cost stacking methodology. Their amount will therefore result from the addition of the ARENH price, the extra amount for the supply of electricity at market price, electricity transmission costs, sales cost, as well as a normal remuneration. Yet, consumers in non-interconnected territories are not supplied through ARENH and the market, since this mechanism is specific to continental metropolitan France.

Without calling into question the general principle of equalisation, CRE notes, in its report on the regulated tariffs for the sale of electricity published in October 2014, that it will however be possible to adapt the characteristics of the regulated tariffs of the non-interconnected territories, particularly with regard to structure, in order to respond to consumption habits or a determination to manage energy demand specific to some of the non-interconnected territories.

The electricity social tariff is beneficial to a large number of clients

The electricity social tariff (called tarif de première nécessité) was implemented in 2004. It enables its beneficiaries to have a flat-rate reduction in their electricity bill. It is reserved for clients whose resources are lower than a certain level or lower than the threshold below which they have the right to obtain aid for supplementary health insurance (ACS) [6].

In its 2013 activity report, the French fund for the supplementary protection for universal health coverage of the risk of disease stated that beneficiaries represented 10.2% of households in metropolitan France (including Corsica), compared to 30.4% on average in the overseas departments (from 22.6% in Martinique to 36.7% in Réunion, excluding Mayotte).

RATE OF BENEFICIARIES OF THE ELECTRICITY SOCIAL TARIFF:

10.2%

IN METROPOLITAN FRANCE (INCL. CORSICA)

AND

30.4%

IN THE OVERSEAS DEPARTMENTS (EXCL. MAYOTTE)

6. Approximately 35% higher than the threshold for supplementary universal health coverage (CMU-C)

KAWENI STATION IN MAYOTTE (VISIT BY CRE, OCTOBER 2014)
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1.3. GOVERNANCE OF ENERGY POLICY IN NON-INTERCONNECTED TERRITORIES

French energy policy's major guidelines are defined in the pluriannual investment programme which covers the entire national territory. Its latest version [7] set a 50% objective of renewable energy in final energy consumption in the overseas departments and collectivities by 2020 (30% for Mayotte). The programme does not break down the objectives by sector.

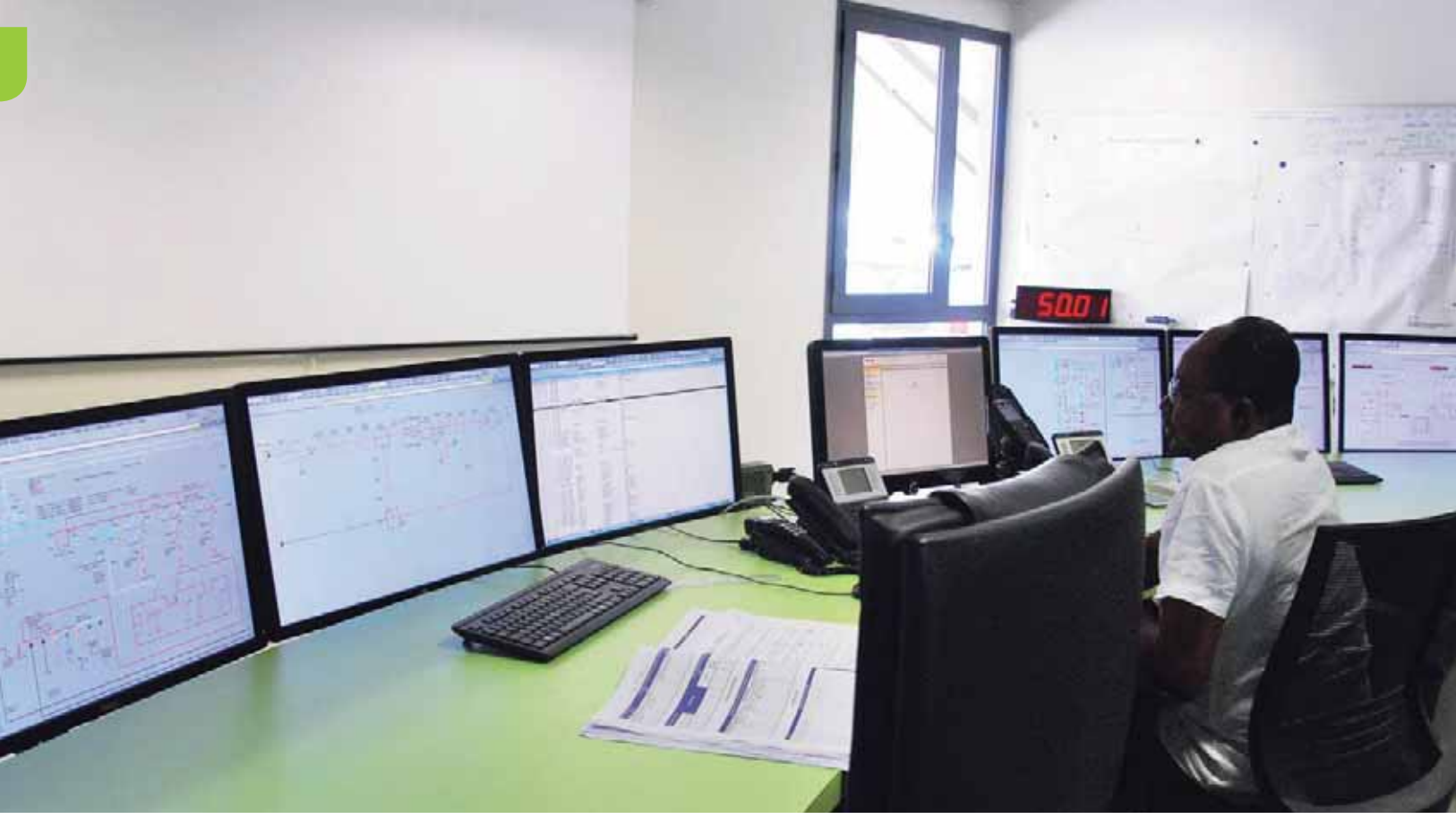
Moreover, the guideline law for the overseas departments and collectivities [8] confers to the regions concerned competence in energy. Within this framework, they have a regional pluriannual energy plan for forward-looking developments and operation of renewable energy and the rational use of energy (PRERURE). This plan defines the energy policy of the territory, both in terms of the management of demand and the development of renewable energy.

In addition, the regional councils of Guadeloupe (from July 2009 to July 2013) and Martinique (from July 2011 to July 2013) were authorised to set specific rules for their territories in terms of energy demand management, thermal regulation for the construction of buildings and development of renewable energy [9]. Both regions requested the renewal of this authorisation within the framework of the draft law on energy transition.

Lastly, the regional climate, air and energy scheme (SRCAE), drafted under the dual authority of the préfet of the region and the president of the regional council, aims to establish guidelines, by 2020 and 2050.

During its hearing before the special commission for the examination of the draft law on energy transition and in a letter dated 17 October 2013 to the Prime Minister, the chairman of CRE underlined the major importance of governance with regard to the coordination of all of these powers. In its version voted by the National Assembly, the draft law on energy transition specifies in Article 61 that Corsica, the overseas departments and Saint-Pierre-et-Miquelon must be subject to a distinct pluriannual energy plan which will indicate the development trajectories of renewable energy sectors. This document will be drafted jointly by the president of the territory concerned and the *préfet*.

7. Ministerial order of 15 December 2009
8. Law No 2000-1207 of 13 December 2000
9. Article 69 of law No 2009-594 of 27 May 2009 on the provisions of Article 73 of the Constitution



2 CRE's role in the implementation of energy policy in non-interconnected territories

The law does not confer any power to the regulator for the definition of energy policy. However, CRE plays an important role in the implementation of the different support mechanisms for renewable energy and for consumers.

2.1. WHAT FALLS WITHIN CRE'S MISSIONS AND WHAT DOES NOT

CRE calculates the public service charges borne by EDF SEI and EDM

Every year, CRE calculates and proposes to the Energy minister the amount of public service charges forecast for the following year. Production overcosts and purchase overcosts borne by EDF SEI and EDM as part of tariff equalisation are included.

Production overcosts are calculated as the difference between the "normal and full production cost for the type of production installation in question in a territory" and the production cost taken into account in the regulated sale tariff. The normal and

COMMAND CENTRE AT THE KAWENI STATION IN MAYOTTE (VISIT BY CRE, OCTOBER 2014).
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NEW COMMISSIONER CATHERINE EDWIGE IS AN EXPERT ON THE NON-INTERCONNECTED TERRITORIES

Under Article L.132-2 of the Energy Code, Catherine Edwige was appointed as a member of CRE's board on 1 April 2014 by decree on a proposal by the minister of the Overseas Departments and Collectivities, due to her knowledge and experience in non-interconnected territories. Her expertise in electricity and gas topics is complemented by extensive experience in territorial collectivities, in particular that of island areas.

She worked for fifteen years in Guadeloupe and Martinique. In particular, she was the head of the production department at EDF in Guadeloupe from 1998 to 2000. She therefore acquired much experience in electricity production under the best price conditions in island areas..

full production cost is calculated annually based on costs observed in the appropriate accounting of incumbent suppliers.

Purchase overcosts are calculated as the difference between the price at which the incumbent supplier buys electricity from a third-party producer and the production cost taken into account in the regulated sale tariff.

CRE assesses over-the-counter contract projects

CRE assesses the "normal and full purchase cost" of over-the-counter contract projects based on the file forwarded to it before its implementation [10]. The normal and full cost determines the different electricity purchasing price components (in particular the fixed premium and the price proportional to the volume of electricity produced) paid afterwards by EDF SEI or EDM to the third-party producer. This normal and full cost internalises only the expenses related to electricity production. It does not take into account elements falling under any other policy (territorial planning, employment, etc.). The purchase costs declared are verified by CRE which thus ensures the compliance with contractual conditions.

CRE implements calls for tenders concerning renewable energy

CRE is responsible for the organisation, monitoring and verification of calls for tender procedures [11]. CRE establishes the specifications based on terms and conditions transmitted to it by the Energy minister, answers to questions asked during the tendering phase, examines the candidates' dossiers and transmits to the Energy minister the bids and their ranking, and gives its opinion on the winning tenders envisaged by the Energy minister. The final winning tenders are selected by the minister.

2.2. CRE WORKS IN A TRANSPARENT AND COORDINATED MANNER WITH STAKEHOLDERS

CRE regularly meets with local players

Each time a request is made, CRE meets with local players, representatives of regions, project initiators, operators, etc. These meetings serve to review the questions identified and future guidelines.

In October 2014, CRE went to Mayotte and Réunion to take stock first hand of the technical and logistical constraints weighing on these networks and to

10. Under Vbis of Article 4 of decree No 2004-90 of 28 January 2004
11. Under decree No 2002-1434 of 4 December 2002 on the call for tender procedure for electricity production installations

EDF DISPATCHING CENTRE IN SAINT-DENIS IN RÉUNION (VISIT OF CRE, OCTOBER 2014).
© CRE

observe the operational application of the public service missions entrusted to EDF SEI and EDM by the Energy Code. This trip also provided the opportunity to visit several key installations (production plants, dispatching centres, customer branches). Contacts with institutional actors were rich and open. However, they had different views on the evolution of the energy mix. The trip also enabled CRE to clarify its role and missions to local players. If its financial resources allow it, CRE envisions the continuation of this round of trips. Following the analysis of the documents sent in addition to the trips made, CRE made a certain number of practical recommendations to players (see CRE's report *Rapport sur la mission de la CRE à Mayotte et à la Réunion).*

CRE publishes its assessment criteria

For the purposes of transparency, after carrying out a public consultation on the matter, on 9 September 2014, CRE adopted and published a deliberation [12] explaining the methodology it applies during the examination of investment and operation costs of the electricity production facilities in non-interconnected territories and borne by EDF SEI, EDM or which are covered in over-the-counter contracts. This methodology provides for an audit of production installations every five years.

Two electricity production installation projects were examined in accordance with this methodology in the second half of 2014: the 34 MW CCG2 electricity production installation project in Martinique initiated by the Galion cogeneration company for an installation running on bagasse during sugar seasons and on biomass the rest of the time and the 41 MW combustion turbine project in Réunion initiated by the Albioma Saint-Pierre company for an installation that will run mainly on bioethanol.

CRE will carry on similarly with the methodology that will be applicable to the assessment of investments in storage solutions and in actions for managing electricity demand [13].

12. Deliberation of 9 September 2014 amended by the deliberation of 23 April 2015
13. On 10 June 2015, CRE adopted and published a deliberation explaining the methodology it applies during the examination of an infrastructure project aimed at demand management for electricity consumption in the non-interconnected zones

THE MILLENER EXPERIMENT IN GUADELOUPE AIMS TO OPTIMISE THE USE OF RENEWABLE ENERGY THANKS TO SMART GRIDS. VIEW: HOUSE EQUIPPED WITH SOLAR PANELS AND SOLAR WATER HEATER.
© EDF-Philippe Eranian

3 The non-interconnected territories are lands of innovation

In the island territories, many research programmes and experiments have been undertaken regarding electric vehicles, management of consumption and development of storage to deploy smart grids.

3.1. EXPERIMENTATION MODELS

Given their particularities, island energy systems are a preferred location for testing smart grids. The deployment of smart grids in the islands allows for the "smoothening out" of the variable nature of renewable energies, and therefore the facilitation of their incorporation into the networks. It involves further integrating information and telecommunication technologies into the entire electricity value chain, from production to consumption, in order to increase system performance. In the future, experiments could serve as economic and technological models for metropolitan projects.

Development of electric vehicles: the DRIVECO project

Experiments on electric charging stations aim to determine the conditions necessary for the proper integration of electric vehicles into island systems. That's why a demo is in progress: the DRIVECO project in Corsica. DRIVECO aims to show, thanks to renewable energy sources and a smart energy demand system, that the overall CO_2 emissions of electric vehicles in the islands are lower than that of current combustion or hybrid vehicles.

MAMOUDZOU, THE CAPITAL OF MAYOTTE, WAS SUPPLIED FOR THE FIRST TIME AT THE END OF 2014 WITH THE 90,000V HIGH-VOLTAGE CABLE WHICH CONNECTS THE LONGONI THERMAL PLANTS TO THE KAWENI TRANSFORMERS.
© CRE

THE OPERA PROJECT, A HIGH-CAPACITY BATTERY TO SECURE ELECTRICITY SUPPLY IN MAYOTTE

The supply/demand balance in Mayotte is ensured up to 94% by diesel-based thermal generation. Photovoltaic systems have developed considerably since 2008, to the extent that the 30% limit for injection of random and intermittent energy on the grid was reached on 17 July 2011. To guarantee the security of the system and avoid load shedding, the rapid growth of the photovoltaic park is therefore accompanied by a significant increase in primary reserve (from 10 to 15%). A higher number of start-up/shut-down of thermal stations was also observed, which results in an increase in the average cost of the megawatt hour produced. EDM estimated these overcosts, funded by the CSPE, at €890,000.

However, photovoltaic energy is the key potential for developing an alternative energy source to fuel oil in this territory. Therefore, EDM has worked for several years to find an innovative solution for smoothing photovoltaic production in order to avoid any disruptions on the electricity system related to its intermittence. The OPERA pilot project's purpose is to secure the autonomous electricity system of Mayotte. It consists in improving the quality of electricity supply by combining rapid release of electricity from one or more batteries and contractual load shedding with major clients. The storage system which was adopted, following a comparative study of possible alternative solutions, is a battery, associated with an inverter, designed for maximum, rapidly available stored energy of 1,120 MWh and maximum power that could be fed into the network by this system of 2 MVA over 30 minutes. Immediate shedding in the event of a drop in frequency is estimated at about 1 MW. The combination of these two actions should therefore enable the immediate recovery of almost 3 MW for approximately 30 minutes.

With the financial support of ADEME (French Agency for the Environment and Energy Management) and the support of the administrative authorities of Mayotte, the OPERA project was designed by the following consortium:

- Électricité de Mayotte (EDM), the electricity system operator of Mayotte;
- SUNZIL (formerly TENESOL Outre-Mer), main developer of photovoltaic installations in Mayotte;
- TENESOL, supplier of solutions and equipment (photovoltaic, storage, energy conversion, management tools);
- CEA-INES, research laboratory specialised in photovoltaic systems and storage systems.

> CRE REQUESTED EDF SEI AND EDM TO CARRY OUT AN ANALYSIS, FOR 1 NOVEMBER 2015, OF THE OVERALL COSTS/BENEFITS OF SMART GRID TECHNOLOGY DEPLOYMENT IN THE DIFFERENT TERRITORIES."

Indeed, the energy mix in the islands is carbon-intensive; it is the electricity produced by diesel and coal plants that will serve to recharge the vehicles. Moreover, due to a fragile balance of electricity supply and demand in the islands, the simultaneous recharging of vehicles during evening peak hours could lead to further weakening of the network which would then require new investments in peak production means. Thus, the development of electric vehicles depends on, in the draft energy transition law, on the control of the impacts on the distribution network and the non-increase in greenhouse gas emissions. In other words, it is not possible to increase the installed power capacity of the existing thermal park to meet the recharging needs of electric vehicles.

Managing demand: the Millener and ADDRESS projects

Energy consumption management is a particularly important environment and economic challenge in the island territories where the growth of electricity consumption is much higher than elsewhere in metropolitan France.

The Millener project, in progress in Réunion, Corsica and Guadeloupe, is about to get information about behavioural impact of information on consumption, gains in terms of energy demand management envisaged in households, relevance of the management of distributed load shedding, analysis of the value and definition of associated economic models, improvement in the rate of penetration of renewable energy, and optimisation of system balance management, etc.

As regards the ADDRESS project in the islands of Houat and Hoëdic, it enabled the development of technical and commercial solutions for the "smart" management of electricity consumption for households and businesses.

The development of decentralised storage

This involves combining renewable electricity production installations with storage means (batteries, pumped storage power stations used in high-relief areas, hydrogen, etc.) to correct differences in production with forecast production of renewable electricity while enabling services with different timeframes such as energy transfer (a few hours) and frequency adjustment (a few seconds). The PEGASE demo in Réunion and the MYRTE project in Corsica aim to test these technologies and services. In Mayotte, EDM has a project that is about to become effective with its OPERA battery ‹see box›.

In its deliberation of 25 February 2015 communicating on the development of smart grids, CRE requested EDF SEI and EDM to carry out an analysis, for 1 November 2015, of the overall costs/benefits of smart grid technology deployment in the different territories. The analysis must cover, in particular, the deployment of electric vehicles and energy storage systems.

3.2. GOVERNANCE OF ENERGY HAS EVOLVED

The implementation of local energy governance

The draft law voted by the national assembly on 14 October 2014 should set a pluriannual programme for energy production of each non-interconnected territory. Objectives would be set for the development of renewable energies for each energy, storage systems, energy demand management, electric vehicle charging systems and electric vehicles and rechargeable hybrids. A maximum budget indicative of public resources to be allocated, including for CSPE, taking into account commitments and achievements shoul also be fixed.

RESERVOIRS OF THE RIVIÈRE DE L'EST DAM, RÉUNION (VISIT OF CRE, OCTOBER 2014).
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Moreover, the draft law renews the authorisation of the regional councils of Guadeloupe and Martinique to adopt legislative and regulatory energy provisions, within the limits provided by their respective deliberations of 14 June 2013 and 17 May 2013, until the following renewal of their authority in December 2015. These authorisations can be extended for six years at the simple request of the new administration. Any specific measure taken within the framework of this authorisation, excluding that which aims to manage energy demand, shall have to be assessed beforehand to determine its impact on the charges attributable to public service missions. This assessment, carried out by the region, as well as all underlying elements, shall be forwarded to the Energy minister, who will request CRE's opinion, which will have three months to respond.

Non-interconnected territories have already begun to obtain tools to implement the energy transition in their territories. Therefore, since the start of 2014, energy governance is organised in Réunion through a strategic committee bringing together the general council, the préfet, ADEME, SIDELEC (intermunicipal electricity board) and EDF around the regional council. This committee delegates the management and coordination of action techniques to SPL Énergies Réunion (local public company) whose only shareholders are collectivities. ADEME and EDF take part, however, in the direct funding of certain actions.

In July 2013, Martinique established Énergie de Martinique, a semi-public company whose mission is to contribute to the development of the renewable energy sector in this territory.

The extension of the CSPE to new territories

Before 31 December 2015, the government shall present to parliament a report stating the terms according to which New Caledonia, French Polynesia and Wallis and Futuna could benefit from the to the public electricity service (Article 63d of the draft law adopted in first reading by the National Assembly). Article 65 specifies that the provisions of the Energy Code governed by Articles L. 121-1 to L. 121-28 are applicable to Wallis and Futuna.

Due to its responsibilities in the management of the public electricity service, CRE will necessarily play a role in the implementation of these provisions.

"The portion of the European Regional Development Fund allocated to energy has increased to €120 million for the 2014-2020 programme, i.e. more than 10% of the programme."

3 questions to...

DIDIER ROBERT, PRESIDENT OF THE RÉUNION REGION

What do you think of the provisions concerning energy governance in the overseas departments and collectivities introduced by the energy transition law?

This is a subject for which we had made progress, in Réunion, well ahead of this law. We have been involved since 2010 with the programme "Réunion, Île solaire – terre d'innovations" of the Réunion region, in the implementation of projects and actions related to the development of renewable energy, energy efficiency and energy demand management. This pro-active energy policy enabled the territory to go, in a period of four years, from 33 to 38% of renewable energy in the energy mix and reach the 30% limit for intermittent energy in the electricity mix. The regional climate, air, energy scheme (SCRAE) which we validated in December 2013, establishes the strategies to be implemented in order to reach the objective of 50% clean energy in the energy mix by 2020, and electricity autonomy for 2030. To successfully achieve this energy transition, Réunion has implemented a new energy partnership governance comprising (1) a strategic steering committee with the region as the leader, in partnership with the State, ADEME, the Réunion general council, SIDELEC (intermunicipal electricity board) and EDF, (2) a coordinator and technical facilitator (la SPL Énergies Réunion), (3) seven working committees with a total of approximately twenty public and private partners. This new organisation will enable us to implement as early as possible a pluriannual energy programme, thanks to which our territory will have a single and general energy strategy.

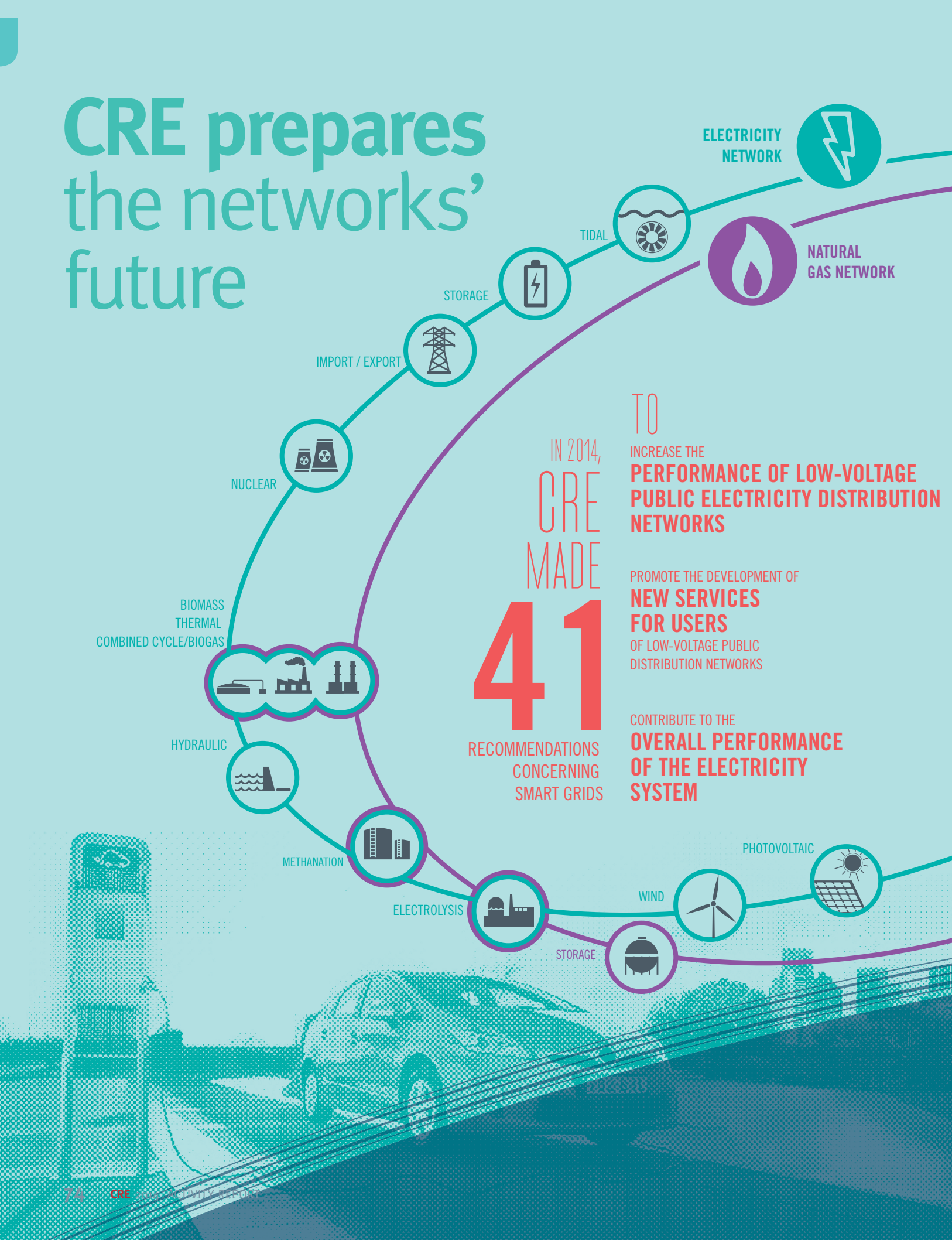
The region has the power to decide how to allocate the European regional development fund (ERDF). What position will energy have in your decisions?

When the Réunion region became a managing authority of the ERDF fund in 2014, we decided to significantly increase the portion of these funds allocated to energy. It went from €21 million over the 2007-2013 period to €120 million for the 2014-2020 programme, i.e. more than 10% of the programme. This funding will enable us to enhance our efforts to develop renewable energy, increase our energy efficiency actions and promote "soft" modes of transport.

What is your assessment of the local public company Énergies Réunion which has now been in existence for a year?

Going from the Agence régionale de l'Énergie's promotional structure to the Énergies Réunion's energy operator structure, has involved, for the agents, the learning of a new job and has therefore required a period of transition and adjustment. Today, the assessment is positive and the structure accompanies the regional community in its different actions such as the Éco-solidaire programme which consists in facilitating for vulnerable families the acquisition of a solar water heater, the granting to households of financial assistance for obtaining a photovoltaic installation with storage, or the development, for regional community departments, of clean vehicles powered by photovoltaic shade structures. The Réunion region remains determined to fight actively against climate change. This year, we will continue to strengthen our energy efficiency and energy demand management policy.

CRE prepares the networks' future



IN 2014, CRE MADE

41

RECOMMENDATIONS CONCERNING SMART GRIDS

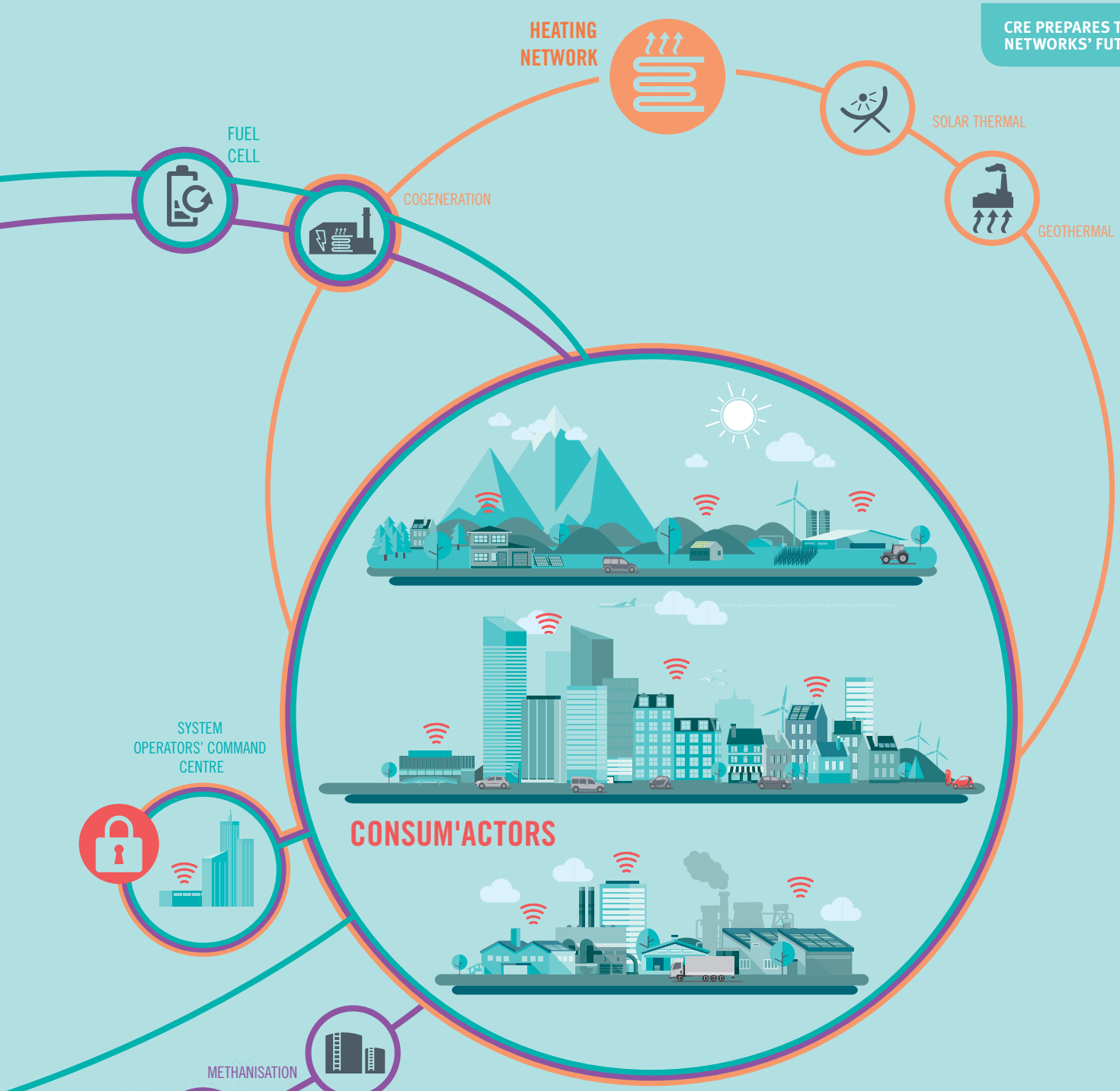
TO

INCREASE THE
PERFORMANCE OF LOW-VOLTAGE PUBLIC ELECTRICITY DISTRIBUTION NETWORKS

PROMOTE THE DEVELOPMENT OF
NEW SERVICES FOR USERS
OF LOW-VOLTAGE PUBLIC DISTRIBUTION NETWORKS

CONTRIBUTE TO THE
OVERALL PERFORMANCE OF THE ELECTRICITY SYSTEM

CRE PREPARES THE NETWORKS' FUTURE



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KEY POINTS

3 million
The installation of the first Linky meters starts in the second half of 2015

€6BN
ESTIMATED INCOME for the smart grid sector in France in 2020
(source: RTE)

10%
ANNUAL GROWTH projected at world level
(source: RTE)

MORE THAN **120** EXPERIMENTS LISTED ON **WWW.SMARTGRIDS-CRE.FR**

The development of renewable energy, new electricity and natural gas uses and the consumption control challenges require the networks to be modernised. Within the framework of its missions, CRE assists in this technological evolution. In particular, it defined a specific regulatory framework to take into account the exceptional technical, industrial and financial dimensions of the smart metering projects Linky and Gazpar, and therefore to prepare the networks' future.

1 Deployment of Linky and Gazpar: CRE checks the performance of system operators

Distribution system operators ERDF and GRDF have been preparing, since 2006 and 2007 respectively, smart metering systems for the retail electricity and natural gas markets. These systems provide for the replacement of all meters by smart meters - Linky for electricity and Gazpar for gas -, which will enable, in particular, remote metering and monthly transmission of actual consumption data. These meters are one of the essential blocks for the future widespread deployment of smart grids.

1.1. THE REGULATOR INVOLVED AT A VERY EARLY STAGE BEFORE DEPLOYMENT

Smart metering projects have been designed with all of the stakeholders concerned (consumer representatives, suppliers, system operators and public authorities) within the consultation committees set up by CRE (consumer working group, electricity working group and gas working group). After defining the specifications of the smart metering systems, in 2007 for electricity and 2009 for gas, CRE conducted cost/benefit studies to confirm the advantages of these systems for the entire value chain.

The implementation of the Linky and Gazpar projects will generate different risks from those usually encountered by the system operators ERDF and GRDF in carrying out their traditional activities, because their special technical, industrial and financial dimensions. Therefore, in order to prevent spiralling costs and non-compliance with forecast deadlines, a regulatory framework specific to each of these two projects has been implemented. CRE's objective is to encourage system operators to honour their deployment timetables, control investment costs and guarantee the level of performance expected of smart metering systems.

LINKY-GAZPAR: **KEY FIGURES** FOR TWO SPECIAL PROJECTS

ERDF's and GRDF's smart metering system projects are different to the classical projects initiated by these two system operators due to their high costs, but also to the gains expected for customers, as well as their deployment timetables.

	Linky	Gazpar
Number of meters to install	35 million	11 million
Level of investment	Approx.€5 bn	Approx.€1 bn
Deployment period	2015 to 2021	2016 to 2022

For consumers, there are many benefits related to the deployment of these smart metering systems:
– billing with actual consumption data;
– no disruptions for meter operations;
– reduction in service deadlines;
– diversified supply and service offers.
For electricity, gains related to energy demand management are estimated at over €2 bn.

These regulatory frameworks were defined in CRE's deliberations of 17 July 2014, conducted after public consultations and an opinion by the Conseil supérieur de l'énergie (CSE, higher energy council) and published in the official journal on 30 July 2014. These deliberations amend and complete the deliberations on tariffs for the use of public electricity and natural gas distribution systems [1].

1.2. TWO REGULATORY FRAMEWORKS BUT SIMILAR PRINCIPLES

CRE considered that ERDF and GRDF should be made accountable and encouraged to ensure the success of the projects. In that regard, they will have to assume the financial consequences of any potential excesses.

The deliberations of 17 July 2014 set up a bonus mechanism. The operators will receive the full bonus if all of the objectives with regard to deadlines, costs and performance are reached between 1 January 2015 and 31 December 2021 for the Linky project, and between 1 January 2017 and 31 December 2022 for the Gazpar project. However, if they do not meet these objectives, the operators may be subject to penalties. Frequent follow-up of the projects throughout the deployment process is scheduled, with, in particular:

– a biennial follow-up of the compliance with the forecast timetables for the deployment of the project, with penalties in the event of delays;
– annual follow-up of the unit costs of the smart meters, with a penalty in the event of any excesses, and a bonus in the event of a reduction in these costs;
– annual follow-up of the quality of the service provided, once deployment starts, with financial incentives based on whether or not predefined objectives are met.

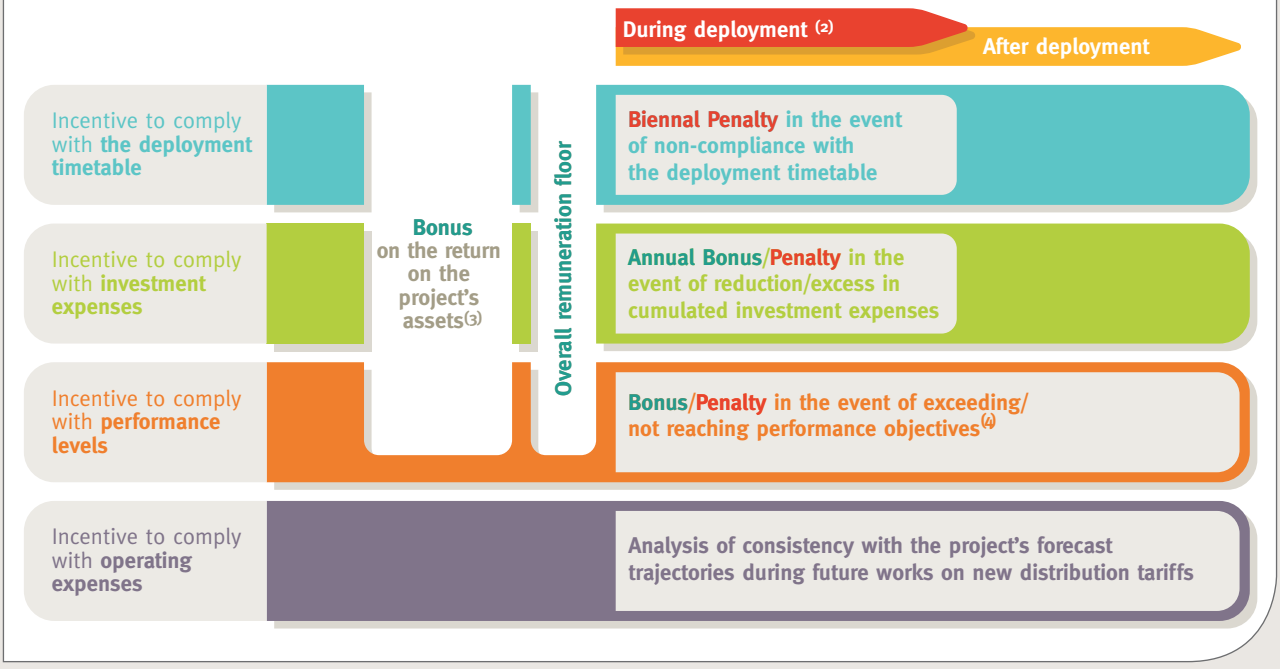
CRE has set reference values for the follow-up of deadlines and unit costs for the entire deployment period. The objectives and level of financial incentives related to the follow-up of performance are set for the first four years of deployment.

The operating expenses related to the metering activity will be specifically followed, in particular, on the occasion of the preparation of the next distribution tariffs. When the new tariffs are being defined, both for gas and electricity, CRE will ensure that the operating expenses trajectories presented by the system operators are consistent with cost reduction forecasts and forecast operating expenses for the smart metering systems.

> CRE CONSIDERED THAT ERDF AND GRDF SHOULD BE MADE ACCOUNTABLE AND ENCOURAGED TO ENSURE THE SUCCESS OF THE LINKY AND GAZPAR PROJECTS."

1. Decisions of 12 December 2013 concerning the tariffs for the use of a public electricity system (TURPE4) and of 28 February 2012 concerning the tariffs for the use of GRDF's public natural gas distribution network (ATRD4)

Linky and Gazpar projects' overall regulatory framework

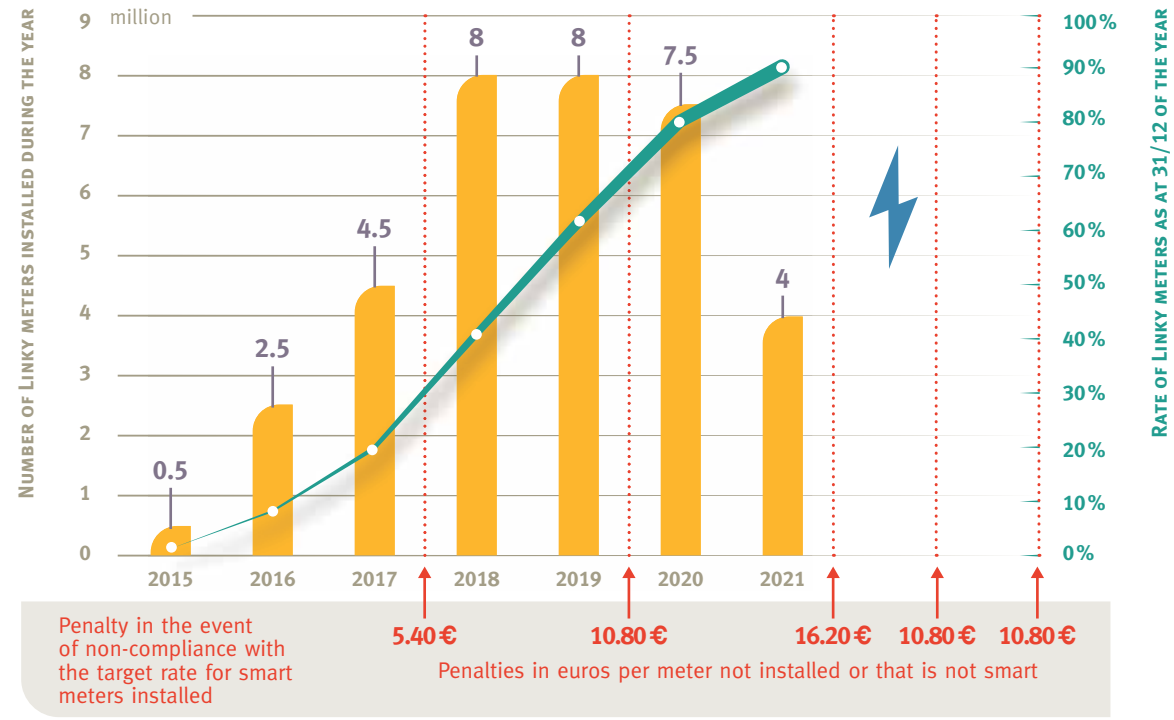


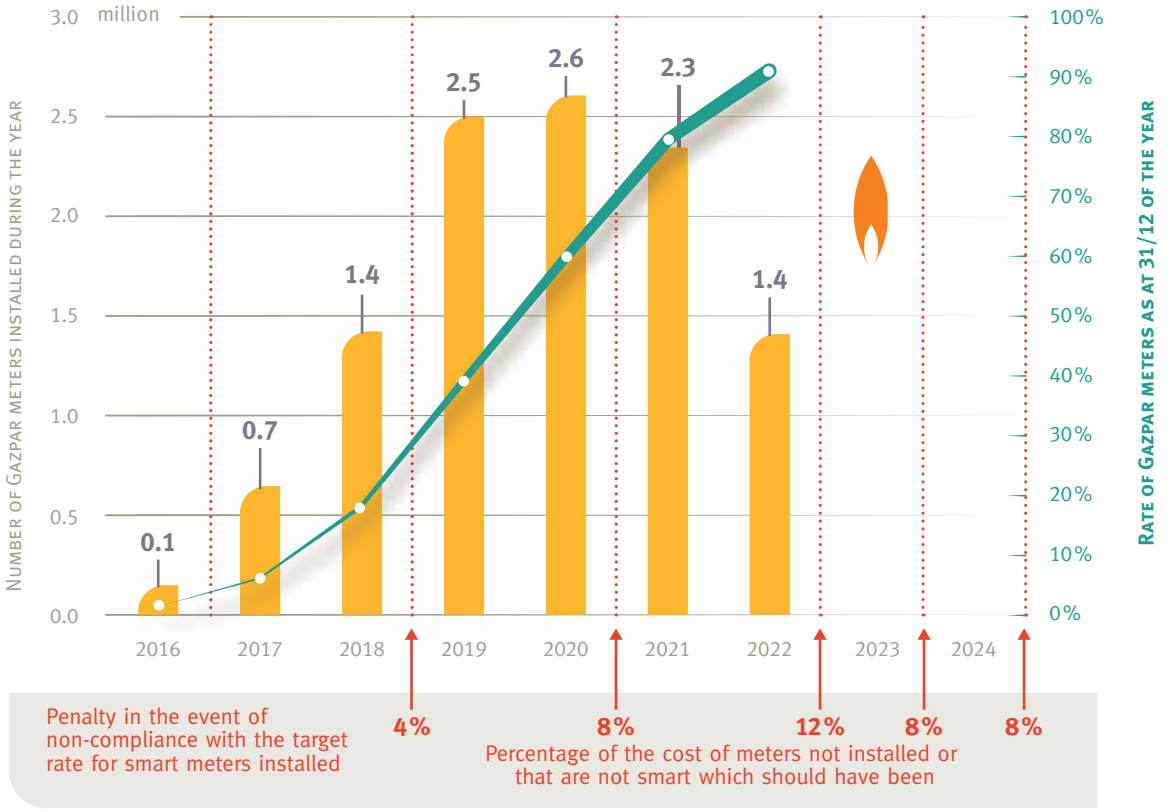
WHEN THE NEW DISTRIBUTION TARIFFS ARE BEING DEFINED, BOTH FOR GAS AND ELECTRICITY, CRE WILL ENSURE THAT THE OPERATING EXPENSES TRAJECTORIES PRESENTED BY THE SYSTEM OPERATORS ARE CONSISTENT WITH COST FORECASTS."

LEGISLATION ON SMART METERING

Directives 2009/72/EC and 2009/73/EC of 13 July 2009 concerning common rules for the integrated market in natural gas and electricity set the objective of deploying smart metering systems at European level. Directive 2012/27/EU of 25 October 2012 on energy efficiency reaffirmed the importance of smart metering systems. In French electricity law, Article 74 of the planning law setting energy policy guidelines (POPE law) of 13 July 2005 amended Article 4-VI of the law of 7 December 2000 specifying that "operators of public electricity transmission and distribution systems implement mechanisms enabling suppliers to propose to their clients different prices according to the periods of the year or the day and encouraging system users to limit their consumption during periods in which consumption of all customers is highest". These provisions were codified in Article L. 341-4 of the French Energy Code. For gas, similar provisions were introduced in Article L. 453-7 of the Energy Code by the order of 9 May 2011.

Penalties proportional to the delays observed





For each period followed, non-achievement of the projected smart meter deployment rate will give rise to a penalty proportional to the delay observed.

MANUFACTURING AND INSTALLATION OF METERS: **SCHEDULE ITEMS**

FOR NATURAL GAS METERS:

23 September 2014: final decision approving the deployment by GRDF of Gazpar meters signed by the Economy and Energy ministers.

Early 2014: end of the calls for tenders launched by GRDF for the supply of all of the meters, radio modules and concentrators.

September 2014: first calls for tenders for the installation of meters launched.

End of 2015: beginning of the one-year widespread deployment of 150,000 pilot meters across 24 municipalities in Brittany, Île-de-France, Normandy and Rhône-Alpes.

FOR ELECTRICITY METERS:

July 2013: ERDF launched a European consultation for the manufacturing of the first 3 million Linky smart meters. The markets were attributed in August 2014 to the Landis+Gyr, Itron, Sagemcom, ZIV, MAEC and Elster companies, for a total amount of close to €250 million. The installation of these meters will start during the second half of 2015.

31 July 2014: ERDF published a contract notice for the installation of Linky meters. The calls for tenders for meter installation were launched in the fourth quarter of 2014 with companies selected following the contract notice.

Other calls for tenders for the manufacturing of meters, the installation and recycling of meters handed over will be launched with a view to replacing all of the 35 million meters by 2021.

1.3. REGULATION PARTICULARITIES FOR EACH PROJECT

The Gazpar project

Unlike the Linky project for which a large-scale test phase was already conducted, with 260,000 meters installed in 2010, a "pilot" phase remains to be carried out by GRDF in 2016 with 150,000 meters. The purpose of this test is to ensure the smooth running of the future deployment and the proper functioning of the first meters installed during this test phase and commissioned under actual conditions of use.

Given the small scope of the test whose level of investment is approximately 15 million, CRE considers that specific treatment was justified; it therefore adapted a regulatory framework which authorises, in particular, a divergence in the projected deployment timetable. Moreover, with no incentive bonus for investments related to IT systems for the Gazpar project, CRE also implemented an incentive mechanism to optimise investment costs in this field for the years 2014 to 2016, period during which most of these investments will be realised. Lastly, the deliberation concerning the decision on the incentive regulation framework for GRDF's smart metering system determines the rule for changing GRDF's price list as at 1 July 2015, in order to take into account the coverage of the costs of the smart metering system for the period between mid-2013 and end 2015. The share of GRDF's ATRD4 tariff change as at 1 July 2015 related to the smart metering project will be equal to +1.32%.

The Linky project

In its deliberation of 12 December 2013 on the decision concerning the tariffs for the use of a public electricity system in the high-voltage A domain (HTA) or low-voltage domain (BT), CRE favourably welcomed ERDF's request to have a suitable regulatory framework, ensuring proper timing of cost coverage, in order to make it coincide with the period during which the gains expected from the Linky project are achieved. CRE's deliberation of 17 July 2014 implemented a mechanism for deferring the costs of the Linky project to ERDF's operating expenses and capital charges, until the theoretical end of massive deployment, i.e. 2021. During this interim period, these costs will be posted in a specific regulated smoothing adjustment account (CRL, compte régulé de lissage). From 2021, this account will be cleared gradually each year, through a tariff adjustment, until 2030.

2. Excluding the Gazpar project pilot (i.e. 2016)
3. Only for the Gazpar project's metering assets
4. No bonus related to compliance with performance levels for the Linky project

2 The regulator is preparing a framework favourable to the development of smart grids

Smart grids are necessarily included in CRE's work programme. It is a key topic for the regulator due to the decisive impact it will have on the functioning of all energy systems. Throughout 2014, CRE met and listened to stakeholders, followed the multiple smart grid experiments, and took part in European and national work on the topic in order to construct the regulation of the future's electricity and natural gas systems.

2.1. CRE, AN INDEPENDENT ACTOR THAT ORGANISES CONSULTATION

Smart grids are built brick by brick drawing on many sector actors (energy, telecommunications, local authorities, service providers, etc.) who must work together. Although CRE does not have the same competence along the entire electricity and natural gas value chain (production, gas storage, transport, distribution, supply), it wishes to give its decision, opinions and recommendations a cross-cutting dimension, fuelled by exchanges with all stakeholders. During 2014, these exchanges took many different forms.

Bimonthly professional forums

CRE continued to organise bimonthly forums on the arrival of information and communication technologies in the heating and cooling networks, as well as in the water networks by addressing cross-cutting topics such as microgrids and the management of smart grid data. Each of these topics are detailed in a dossier indexed in the CRE website www.smartgrids-cre.fr. These forums strengthened CRE's collaboration with other regulators working on smart grids: the data protection authority (CNIL) and the electronic communications and postal regulatory authority (ARCEP), as well as the national agency for information system security (ANSSI). They enhanced reflection on pooling energy systems as interactions between electricity, natural gas, heating, cooling and water systems are required to be increased in order to build a global energy system. To date, these developments and synergies between the different systems remain to be specified. Different tests are in progress, in particular, in Brittany, Rhône-Alpes, Île-de-France and Nord-Pas-de-Calais, such as the Brest Rive Droite project (use of the heating network as an alternative to the strengthening of the electricity network) in Brittany, the DEMETER project (transformation of electricity into gas) in the Rhône-Alpes region, the Descarte Grid project (deployment of a thermal and electric smart grid) in Marne-la-Vallée in Île-de-France, the GRHYD project (conversion into hydrogen of electricity produced from renewable energy) in Dunkirk and the SUNRISE project (Smart Urban Networks for Resilient Infrastructures and Sustainable Ecosystems) on the campus of Université de Lille 1.

In this perspective, and to support this work, on 1 January 2015, CRE created the Systems Directorate which brought together the regulation of electricity and natural gas networks. One of this new directorate's mission is to gradually extend CRE's reflections on smart grids as a whole – reflections carried out up until currently were mainly for the electricity grids.

THE SMARTGRIDS-CRE.FR WEBSITE INCLUDES FOUR NEW DOSSIERS FOLLOWING THE FOUR FORUMS ORGANISED BY CRE IN 2014 ON SMART HEATING AND COOLING NETWORKS, SMART WATER NETWORKS, MICROGRIDS AND DATA MANAGEMENT.

Visits to regions

As in 2013, CRE travelled to regions to meet local smart grid actors. The round table on energy and territories in Nord-Pas-de-Calais took place on 28 January 2014. CRE also went to Nancy (11 July), Saint-Lô (4 September), Toulouse (14 and 20 November), Montbéliard (20 November) and Nice (25 June and 20 November). These meetings enable CRE and local authorities to exchange regularly on the progress of their local smart grid projects.

Discussions with other project initiators (system operators, producers, component suppliers, etc.) took place regularly to get their feedback and questions that require a response by public authorities in order to further the development of experiments. The Smart Electric Lyon, Grid4EU, GreenMe and EnRPool projects for example, were the subject of meetings with ADEME in 2014.

In order to better follow experiments, CRE set up, within the framework of the fourth tariff for the use of public electricity networks (TURPE 4), entered into effect in August 2013 for transmission and in January 2014 for distribution, a mechanism for monitoring work and research and development projects of the public electricity system operators. In that regard, CRE requested that they present a report every two years on the resources allocated to innovation and the results of work conducted. The first report will be known in the second half of 2015.

Technical workshops

The public consultation on the development of smart grids launched by CRE in November 2013 collected 83 contributions from system operators, energy suppliers, industries, associations and labour unions. With 22 contributions, the participation by local municipalities and their public establishments (among which departmental energy unions) was very significant. The summary of responses was presented in a first technical workshop on 21 January 2014.

The second workshop of the year, which was held on 18 November 2014, was devoted to the presentation of the system operators' roadmaps, which are their response to the recommendations made by CRE in its deliberation of 12 June 2014 on the deployment of low-voltage smart grids.

2.2. CRE'S RECOMMENDATIONS FOR BOOSTING THE DEPLOYMENT OF LOW-VOLTAGE SMART GRIDS

The public consultation on the development of smart grids launched in November 2013, as well

CRE SUPPORTS THE **LARGE-SCALE DEPLOYMENT OF SMART GRID TECHNOLOGY**

The smart grid sector is of major industrial importance for France with the creation of almost 25,000 jobs and income estimated at €6 billion for 2020 according to RTE. The importance of the export sector is also significant, with a global smart grid market estimated at €30 billion in 2015 and growth projected at 10%.

Like other actors concerned by the development of networks (system operators, components manufacturers, administration, universities and research centres), CRE takes part in the smart grid plan of the Nouvelle France industrielle (new industrial France plan). This strategic reflection was launched by the French President of the Republic in September 2013. It is aimed at determining industrial policy priorities for France.

Within this framework, CRE is involved in reflections in three of the plan's ten actions:

- action 5, aimed at maximising the impact on job and value creation for the municipality of the deployment of smart grids in France and in export markets;
- action 6, devoted to the organisation of the large-scale deployment of smart grids in France;
- and action 8, devoted to the strengthening of the efficiency of French actions regarding smart grid standardisation.

as all of the work conducted by CRE on smart grids over the last five years revealed the need for legal, technical and economic changes to facilitate the large-scale deployment of smart grids, to the benefit of end customers.

Within this framework, on 12 June 2014, CRE published legal, contractual and normative recommendations. Intended for all smart grid actors, these first recommendations aim to:

- promote the development of new services for users of public, low-voltage distribution networks;
- increase the performance of public low-voltage electricity distribution networks;
- contribute to the overall performance of the electricity system.

Proposals for legislative and regulatory developments

Among CRE's 41 recommendations, several are proposals for legislative developments. They concern, for example, the definition of the legal qualification of the charging activity (CRE proposed that the charging of an electric vehicle not be considered as an electricity supply activity in order for operators of charging terminals to not be subject to all of the constraints specific to the supply activity); the introduction of upward adjustment of consumption and the development of general technical specifications for connection in order to take into account storage installations (CRE proposes that the terms "consumer" and "producer" be replaced by the term "network user" so that storage installations can be recognised as users connected to the electricity networks). The recommendation concerning storage was adopted by national assembly at first reading during the examination of the draft law on energy transition.

In addition, six recommendations cover proposals for regulatory developments. For example, the deletion of Article 9 of the ministerial decision of 23 April 2008 would enable production installations which are low voltage connected to absorb reactive power and thus take part in adjusting voltage.

Requests addressed directly to system operators

The public electricity transmission and distribution system operators are responsible for guaranteeing the proper functioning of these networks to the benefit of all users. They are therefore most directly concerned by the challenges related to the integration of renewable energy, the development of new electricity uses and energy demand

21 OF CRE'S 41 SMART GRID RECOMMENDATIONS ARE INTENDED FOR THE SYSTEM OPERATORS.

ELECTRIC VEHICLES CHARGING MANAGEMENT IS ONE OF CRE'S RECOMMANDATION. IN THIS WAY, ELECTRIC CARS WOULD BE CHARGED DEPENDING ON THE STATE OF THE ELECTRICITY SYSTEM.
@EDF-Philippe Eranian

management, and therefore by the development of smart networks. This is why 21 of CRE's 41 smart grid recommendations are intended for the different system operators.

In its deliberation of 12 June 2014, CRE requested the transmission system operator (RTE) and the main electricity distribution system operators to present their roadmaps for implementing the recommendations. These were forwarded to the regulator on 1 November and published on CRE's website. They cover each of the topics in the deliberation, describe the actions that the system operators conduct and indicate the technical and economic study programme they envision to assess the benefits and costs of smart grids for all actors. Roadmaps come with a timetable setting implementation milestones and meetings for sharing the results with CRE. They are frequently updated. The system operators will present to CRE what advances were made in 2015 and 2016.

2.3 . ACTIONS INCLUDED WITHIN THE EUROPEAN FRAMEWORK

In parallel to its national activities concerning smart grids, CRE actively participates in European reflections on the topic. It is involved, in particular, in two key topics for actors involved in the development of smart grids in Europe: smart grid business models and the development of the role of distribution system operators on the one hand, and confidentiality and security of data on the other hand.

Data security and confidentiality, a prerequisite to the smart grids development

With the deployment of smart grid technology, a very large amount of data is collected such as network assets data, technical data, quality measurement data and consumption data. The confidentiality and security of this data is therefore a prerequisite to the development of smart grids.

In order to satisfy priorities relating to the protection of personal data when rolling out smart grids, in 2012, the European Commission mandated a group of experts on the question of managing personal data collected via smart grids. The CRE, as representative of the Council of European Energy Regulators (CEER) within the group of experts (Expert Group 2 – EG2), actively participates in these works, and is convinced of the importance of ensuring the security and confidentiality of data.

Impacts of electric vehicles on the load curve by 2020, without charging management

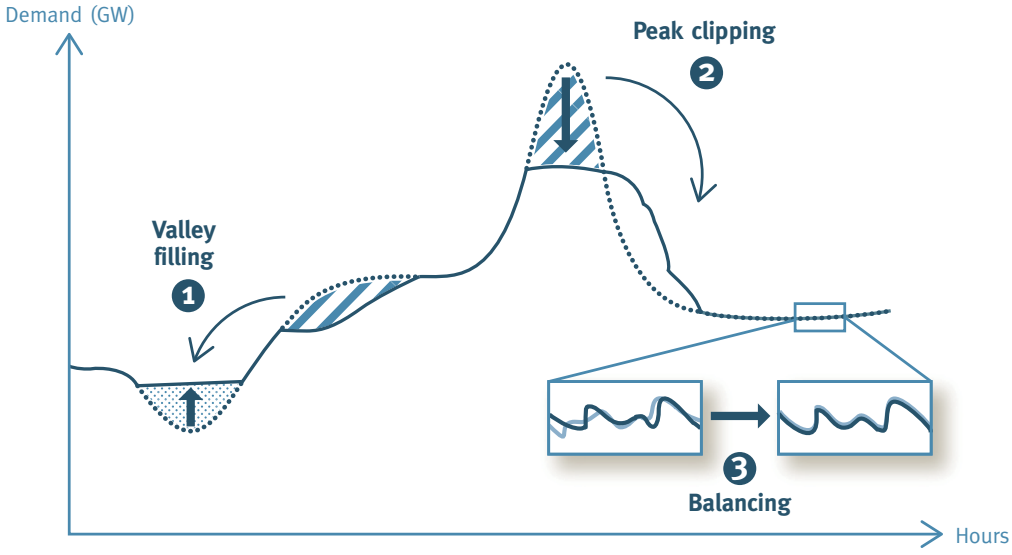
+11% FOR NATIONAL PEAK PERIODS

+25% FOR MAXIMUM POWER AT THE HVB/HVA TRANSFORMER STATION

+100% FOR MAXIMUM POWER AT THE HVA /LV DISTRIBUTION STATION.

CRE MADE 41 RECOMMENDATIONS TO PROMOTE THE DEPLOYMENT OF SMART GRIDS. TWO EXAMPLES:

Recommendation no. 35: Examples of applications of demand side flexibility



Source: CEER et CRE

Recommendation no. 10:
Electric vehicle charging management

Electric vehicle charging infrastructure is connected to the public electricity distribution systems. They have an impact on the management and configuration of grids at local and national level. Initial studies carried out by system operators show that the new use of electric vehicles comes on top of other uses, often during heavy consumption times, and causes a notable increase in electricity consumption during peak periods. Power demand related to electric vehicle charging could therefore have very significant economic consequences (network strengthening in particular) and environmental consequences (CO_2 emissions during peak times).

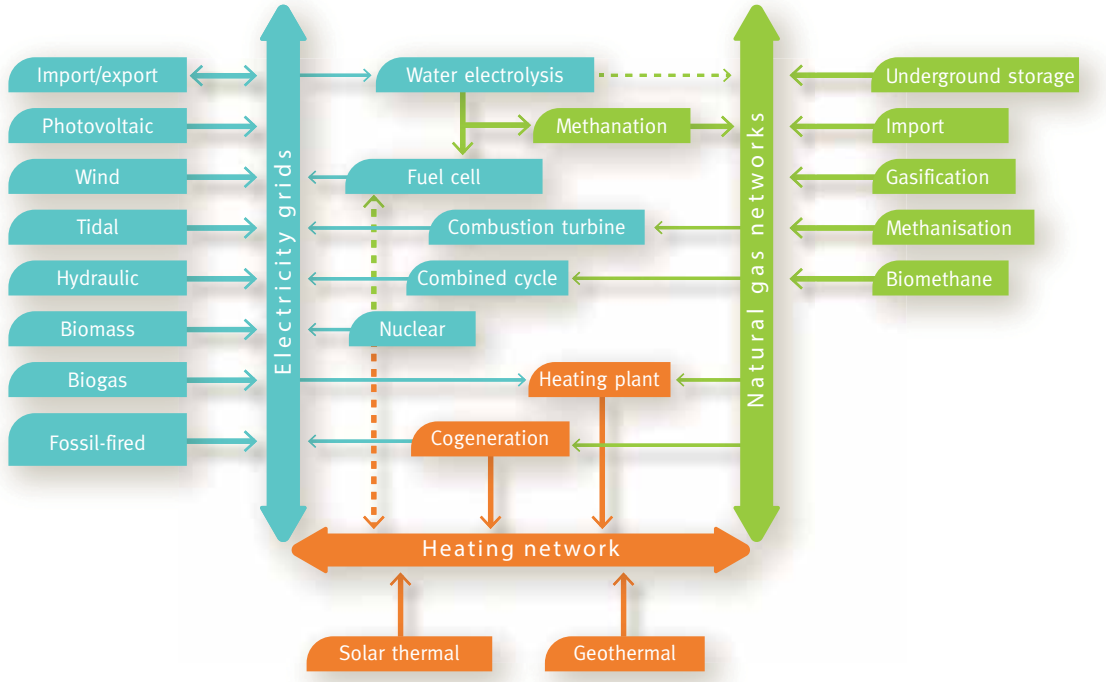
CRE supports the development of smart solutions for recharging electric vehicles. In particular, recharging devices (recharging points and management system) should be able to communicate with the different operators in the power system and should integrate pricing signals (pricing signal from supplier, pricing signal from the distribution system operator, signals transmitted by new operators such as demand response operators, etc.).

Recommendation no. 35:
Upwards modulation consumption
(see chart above)

Upwards modulation, involves temporarily raising the level of consumption when compared with the expected level on a punctual basis. It can contribute managing supply/demand balance constraints and improving the integration of renewable energies by anticipating certain uses (in particular vehicle charging, powering up household appliances and management of domestic hot water). It does not aim to increase the level of overall consumption and thus remains compatible with energy demand management objectives.

CRE supports changes to legislation to define the economic terms and conditions enabling the system to benefit from the flexibility inherent to temporary increases in consumption

Towards a synergy between energy networks



Thanks to the development of smart grids, the heating and cooling networks are gradually becoming flexibility and efficiency tools for the entire energy system.

This group of experts designed an impact analysis model relating to data protection for smart grids and smart metering systems, the Data Protection Impact Assessment Template for Smart Grid and Smart Metering Systems (DPIA Template). In its recommendation of 10 October 2014, the European Commission recommended a two-year test phase for the DPIA Template, with real cases, with the advice and support of the data protection authorities (CNIL in France). CRE had already taken the lead by recommending the implementation of the DPIA Template through recommendation no. 6 in its deliberation of 12 June 2014. Following the impact assessments phase, the model will be modified to improve its effectiveness.

New economic models to be set up

The development of smart grids has changed the electricity value chain and requires reflection on new economic models and on the evolving role of system operators. In that regard, CRE welcomed, on 30 September 2014, the smart grid task force which brings together representatives of CEER in the different European bodies. CEER is a non-profit association under Belgian law, which spontaneously brings together regulators from the 28 member states of the European Union (EU), Iceland and Norway, as well as regulators from Switzerland and the Former Yugoslav Republic of Macedonia, as observers. After publishing, in 2014, a review of the different approaches in terms of regulation of smart grids in Europe [5], early 2015, CEER launched a public consultation on the future role of distribution system operators. These reflections by CEER fuel the work of the European Commission, which, through the experts group 3 (EG3), is preparing a set of regulatory recommendations concerning new flexibility sources in the distribution networks such as storage, shedding, etc.

5. CEER Status Review on European Regulatory Approaches Enabling Smart Grids Solutions ("Smart Regulation") of 18 February 2014


@ GRDF-Grégory Brandel

"Gas and electricity networks pool their expertise at different levels, on many occasions, and act in the public interest."

3 questions to...

SANDRA LAGUMINA DIRECTOR-GENERAL OF GRDF

In your opinion, what are the necessary legal developments for boosting the deployment of smart gas networks?

Given the scale of the Gazpar project, which is the first brick in the smart gas network in France, GRDF has to be able to draw on a clear, simple and understandable tariff framework. Any brutal legal change in the distribution tariff framework would most surely be negative, not only for the Gazpar project, but more globally for the necessary continuation of GRDF's investment in the public natural gas distribution network. Once this principle is ensured, I believe that there must be no limits. No-one can think that the European legal framework is an additional constraint, or obstacle to the adaptation of the distributor's missions to a rapidly changing economic and technological global environment. That is not what I think! I think that European law authorises and promotes the emergence of smart gas grids provided that all possibilities are explored. However, there must be improvements in the regulatory, legislative and fiscal framework in certain strategic fields for the construction of smart gas grids. In particular, the promotion of natural gas for vehicles, but also the promotion of the distributor's actions towards clients within the framework of the deployment of smart meters. Law must support the transformation of the distribution network while preserving the fundamental rules of independence of distribution and gas supply activities.

How do you conceive of the pooling of gas and electricity networks?

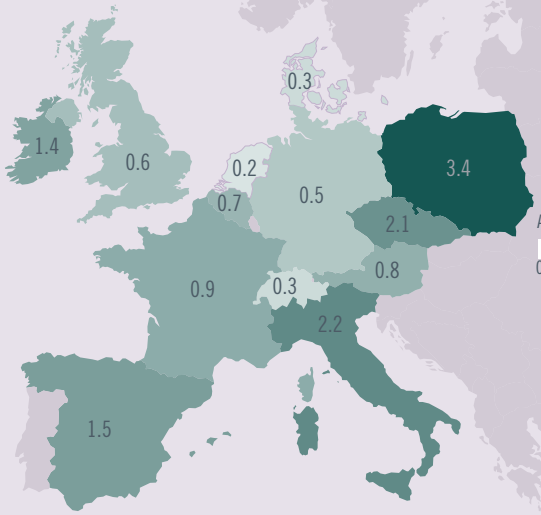
We strongly believe in the complementarity of electricity and gas systems. For example, consider data-centres energy needs, which are considerable. Today, they already represent 2% of world energy consumption. Before, only electricity could power them and the question was raised as to how to strengthen the existing networks to ensure local development. We developed a solution that will now ensure their energy supply thanks to gas. We are therefore using the gas networks, whose availability in terms of capacity is still significant, while optimising the economic and environmental performance of data-centres. For certain uses, gas and electricity could compete with each other. But gas and electricity are mainly complementary. Our two networks pool their expertise at different levels, on many occasions, and act in the public interest. This is the case within the framework of Brittany's electricity pact, with which GRDF signed an agreement in order to contribute to the electricity peak shedding by favouring a gas heating solution.

What position will gas occupy in the energy transition?

Energy transition is a large-scale mechanism. In addition to the major objectives regarding the energy mix, the fight against greenhouse gas emissions is very important. Mobility is also an important topic. We, system operators, are often at the cross-roads between several ecosystems.
For GRDF, the fact that biomethane can be integrated into the energy mix is vital. Thanks to biomethane, natural gas becomes a "greening" energy and its uses easily combine with renewable energies. A recent survey carried out on municipalities shows that 90% of them consider the gas network as a key tool for land-use planning and GRDF as an essential partner. Moreover, 88% of them trust us to provide light and support to their municipality.
We capitalise on this trust and we are committed to renew it. ◗

CRE and competitiveness

RELIABILITY AND QUALITY OF THE ELECTRICITY SYSTEM



SYSTEM AVERAGE INTERRUPTION FREQUENCY INDEX (SAIFI) IN 2013

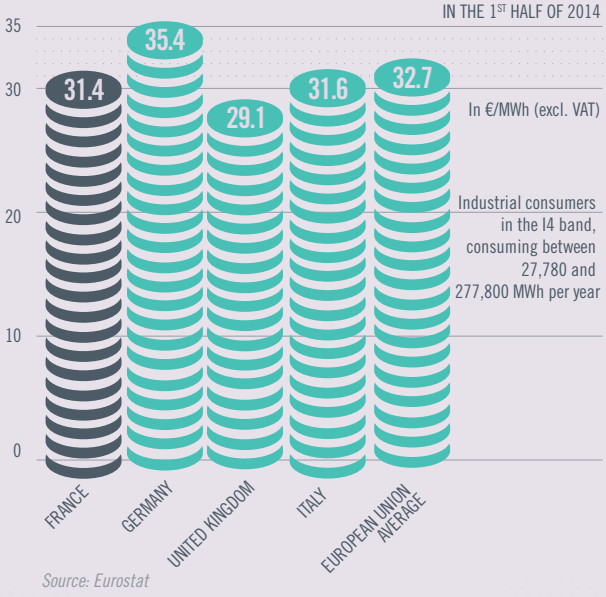
Average number of interruptions per year

0 — 4

Source: CEER Benchmarking Report 5.2 on the Continuity of Electricity Supply

PRICE OF NATURAL GAS FOR BUSINESSES

IN THE 1ST HALF OF 2014



In €/MWh (excl. VAT)

Industrial consumers in the I4 band, consuming between 27,780 and 277,800 MWh per year

Source: Eurostat

CARBON INTENSITY

SINCE 1990 IN FRANCE **-31%**

CO_2 EMISSIONS COMPARED TO GDP

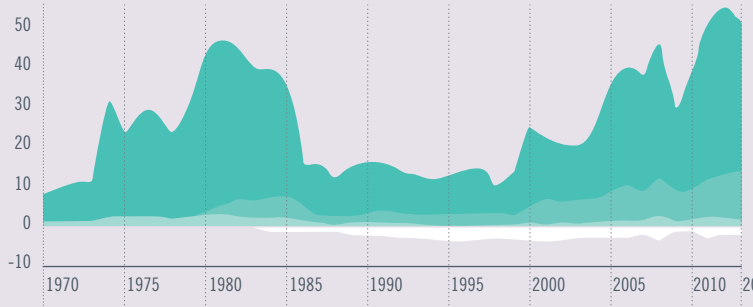
In thousands of tonnes of CO_2/GDP in millions of PPP

Source: Eurostat

ENERGY BILL
BY TYPE OF ENERGY

IN €bn 2013

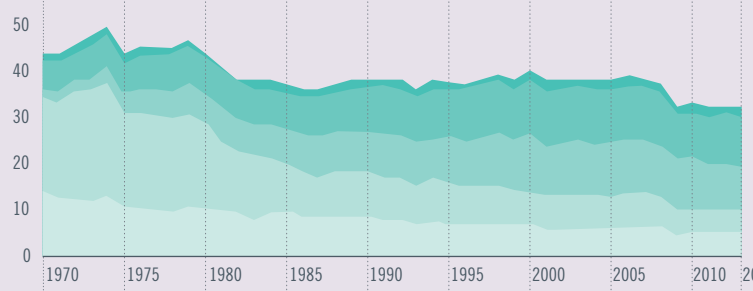
The electricity bill, France being a net exporter of electricity, counted in negative values, is represented in the bottom curve



Source: SOeS, according to customs

ENERGY CONSUMPTION IN INDUSTRY
(INCLUDING METALLURGY)

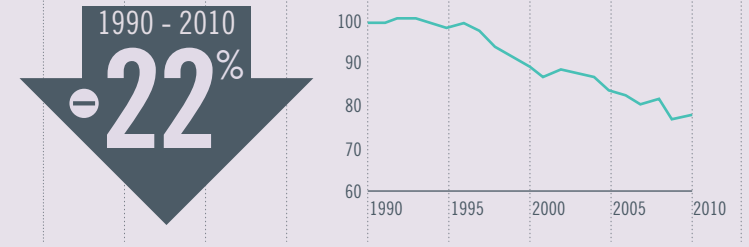
IN Mtoe



Source: MEDDE, Key energy figures for 2014

ENERGY INTENSITY IN INDUSTRY

Base 100 index in 1990



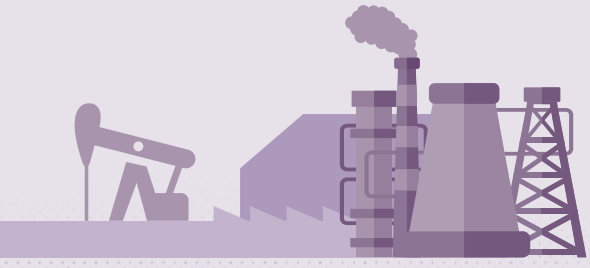
Source: ADEME according to CEREN/CITEPA/INSEE - 2012

1973 1ST OIL SHOCK

1979 2ND OIL SHOCK

1991 GULF WAR

2008 ECONOMIC AND FINANCIAL CRISIS



© DR

KEY POINTS

20% INDUSTRY CONTRIBUTION TO FRANCE'S GDP IN 2013.
(source: World Bank)

5% SHARE OF ELECTRICITY COSTS IN THE TURNOVER OF ELECTRICITY-INTENSIVE CONSUMERS.
(source: DGCIS, April 2013)

CRE is continuing to pursue the objective of a **SINGLE MARKET PLACE IN FRANCE** by 2018 in order to IMPROVE THE FUNCTIONING OF THE GAS MARKET.

An intermediate stage in the merging of the GRTgaz PEG Sud and TIGF zone was completed as at 1 April 2015.

In the preamble of European directives, competitiveness of energy prices is cited as one of the main objectives of the creation of a competitive integrated market in electricity and gas.

It is one of the objectives that the French Energy Code assigns to energy policy. The regulator's action contributes to that objective. CRE therefore works to develop competition in France and to equip the country with tools and infrastructure to reach a level of European integration that would benefit all consumers, especially industrial ones.

1 The importance of energy for the competitiveness of companies

Competitive companies are those that are capable of efficiently and profitably dealing with international competition. This capability depends on different factors, both qualitative (quality of research and development, competence of the workforce, quality of infrastructure, land-use planning and effectiveness of public authorities) and quantitative (production costs, including the cost of work, the cost of energy, taxation, investments, etc.). The large energy-consuming sectors are often those where cost competitiveness, i.e. the control of production costs at a level lower than that of competing companies, is decisive.

1.1. ENERGY, A KEY FACTOR OF PRODUCTION FOR ENERGY-INTENSIVE COMPANIES

Industrial competitiveness is largely determined by the productivity of sites or by labour costs. But access to energy and its cost are also decisive economic performance factors for industry, the third largest final energy-consuming sector after transport and housing, and for many small and medium-sized enterprises. For energy-intensive industries, energy purchases represent more than 3% of production value[1] and more than 10% of added value[2]. On a wider scale, the European Union is the main exporting region of energy-intensive goods, which represented in 2011, more than a third of the total value of its exports[3]. For electricity-intensive industries[4], whose electricity consumption is higher than 2.5 kWh per euro of added value, electricity expenses compared to their income are almost five times higher than for the industry average[5]. Moreover, the major drop in gas prices in North America, which resulted from the operation of non-conventional hydrocarbons, modified the balance of power and weakened the European chemical industry.

1. Source: Energy-intensive industries are those for which energy purchases represent more than 3% of production value. They are defined by the European Council in directive 2003/96/EC restructuring the Community framework for the taxation of energy products and electricity
2. Source: Thesis by Mathieu Bordighoni, according to Djemaa, 2009; Martin, 2007
3. Source: European Commission, Energy prices and costs in Europe, p. 192
4. Under the amending finance law No 2005-1720 for 2005. According to this threshold, adopted in different European studies, 523 industrial companies, i.e. 3% of all industrial companies, were electricity-intensive in France in 2010
5. Source: French Directorate general for companies (DGCIS), Electricity-intensive companies are strategic for the economy, April 2013

FOR THE INDUSTRY, ACCESS TO ENERGY AND ITS COST ARE DECISIVE ECONOMIC PERFORMANCE FACTORS. INDUSTRY REPRESENTS THE THIRD LARGEST FINAL ENERGY-CONSUMING SECTOR AFTER TRANSPORT AND HOUSING.
© iStock_sdlgzps

€31.4/MWH

A GAS PRICE FOR FRENCH INDUSTRIES VERY CLOSE TO THE EUROPEAN AVERAGE (€32.7/MWH)
Source: Eurostat

Energy prices rather favourable on average, but which dissimulate major disparities

Comparing electricity prices for final consumers is a delicate exercise, since pricing structures are specific to each country, varying in particular according to the consumer category and the level of taxes. Eurostat data[8] however offers evaluations for all Member States based on a common methodology.

For example, for the category of industrial consumers in the Ic consumption band (i.e. consuming between 500 MWh and 2 GWh per year), during the first half of 2014, in Europe, the average electricity prices billed to industrial consumers vary substantially, from €71/MWh for Sweden to €183/MWh for Cyprus. The prices considered exclude recoverable taxes and VAT. On this basis, it appears that at €96.4/MWh, French industrial consumers using less than 2 GWh per year[9] enjoyed relatively low prices compared to the European average, in comparison with €128.9/MWh in the United Kingdom, €158.6/MWh in Germany and €172/MWh in Italy.

Largest consumers can enjoy, in certain Member States, specific provisions (tax exonerations, interruptibility, CO_2 compensation, etc.) that result in the significant drop in their electricity bills, considerably reducing the price difference with France, even inversing it in some cases.

> WELL FUNCTIONING OPEN GAS MARKETS (...) ARE ESSENTIAL FOR THE COMPETITIVENESS OF THE ECONOMY (...)[6].”

> THE DEVELOPMENT OF CROSS-BORDER INTERCONNECTORS AIMS TO SECURE THE SUPPLY OF ALL SOURCES OF ENERGY AT THE MOST COMPETITIVE PRICES FOR CONSUMERS AND INDUSTRY WITHIN THE COMMUNITY[7].”

6. Directive 2009/73/EC, recital 22
7. Directive 2009/72/EC, recital 5
8. Quarterly reports on European electricity and gas markets, European Commission
9. Industrial clients in the Ic group whose annual consumption is between 500 MWh and 2,000 MWh

> CRE IS IN FAVOUR OF THE DEVELOPMENT OF CALLS FOR TENDERS, WHICH WILL CONTRIBUTE TO ACHIEVING RENEWABLE ENERGY DEVELOPMENT OBJECTIVES UNDER THE BEST COST AND EFFICIENCY OBJECTIVES."

In order to appreciate differences between EU prices, CRE compared the bills of electricity-intensive industrial consumers within the framework of a study published in June 2013 on the competitiveness of energy-intensive companies [10]. This revealed that when market prices are higher than the ARENH price, which was the case in 2012 and 2013, the price paid by a German industrial consumer enjoying the different exonerations to which it has a right, is higher than the price it would pay in France. However, against market prices lower than the ARENH price, as is the case since December 2014, the price paid by such an industrial customer would be higher in France than in Germany ‹see graph p.36›.

With regard to gas, the average price billed to industrial consumers [11] was, according to Eurostat, €31.4/MWh in the first half of 2014 in France, i.e. a level very close to the European average (€32.7/MWh). More generally, the prices excluding taxes billed to industrial consumers [11] in Europe (I4 band) are relatively uniform and range from €26.6/MWh in Romania to €43.2/MWh for Greece. Industrial consumers in central European countries pay lower gas prices than the European average, similar to those in the United Kingdom, which enjoy a lower price (€29.1/MWh), thanks to the resources of the North Sea and a high level of competition. However, the prices proposed to industrial consumers in Germany are 8% higher than the European average and 13% higher than the prices in France.

10. *Analysis of the competitiveness of energy-intensive companies: France/Germany comparison*, CRE, June 2013
11. Industrial clients belonging to the I4 group whose annual consumption is between 27,780 MWh and 277,800 MWh

Assets specific to France

France's assets result from the characteristics specific to the country. It has relatively comfortable supply capacities: its nuclear and hydroelectric park has been an important asset for supply security thanks to political and structural choices together with a historical development which provides a considerable and effective infrastructure. France also has a privileged geographical position, which offers it excellent integration into the European system. These conditions are favourable to the development of competition. For instance, gas consumers can benefit from the major spread in European wholesale prices (downward trend) and prices indexed to oil – characteristics of historic long-term contracts, which increased considerably over the last few years due to the very high oil prices.

The significant increase in wholesale gas market prices in the South zone from winter 2013-2014 and until September 2014 however, tarnished this situation. Following the shutdown of nuclear plants in Japan, LNG flows were mostly redirected to Asian countries, ready to pay a higher price than European countries to cover their energy needs. This situation was reflected in the drop in LNG imports in Europe, in particular in the south of France, and by an increasing demand on the link between the North and South zone in France. A difference in the price of gas therefore widened between the two market places (PEG Nord and PEG Sud) and resulted in an increase in the cost of gas supply for industrial consumers in the South zone. This situation confirmed the need to create a single market zone for the country, which will be the best guarantee of consumer protection against external shocks.

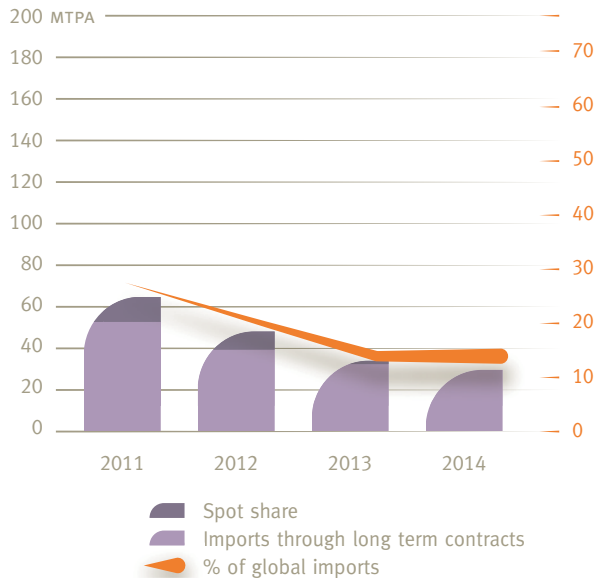
Challenges to come

Two projects are currently being conducted in France and could cause a significant increase in energy prices: EDF's improvement of its nuclear park safety and the investments related to its aging, and the energy transition.

THE FRENCH GAS MARKET IS EXPOSED TO **UPHEAVALS IN THE WORLD LNG MARKETS**

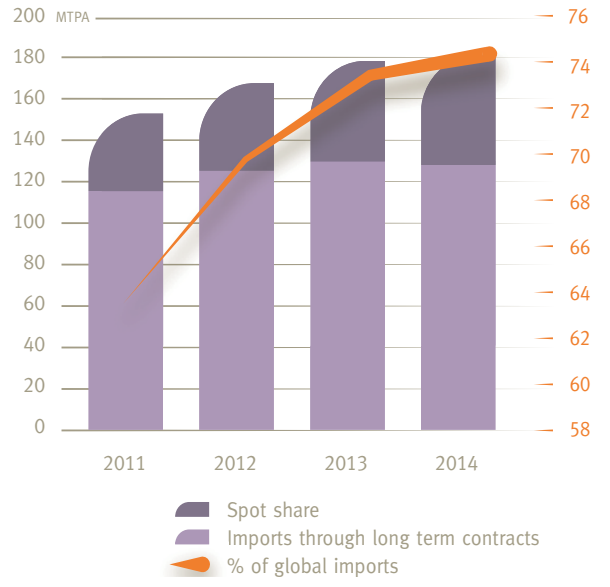
To compensate for the shutdown of nuclear plants after the Fukushima catastrophe of March 2011, Japan significantly increased its LNG imports. These represented more than a third of world volumes, i.e. 112.6 bn cubic meters (Gm^3) in 2013. Against an energy crisis situation, Asian countries bought short-term traded LNG and at a higher price than other importers. Between 2011 and 2013, spot prices in Asia oscillated around $16/MMBtu on average, with a peak at $20/MMBtu in February 2013, compared to $10-12/MMBtu in Europe. This caused tensions in the markets and LNG flew from Europe to Asia. In 2013, 95% of cargo redirected throughout the world came from Europe, with the majority from Spain (2.7 Gm^3), Belgium (1.4 Gm^3) and France (0.4 Gm^3). While in four years Asian countries tripled the number of transactions in short-term markets, European country purchases were divided eight-fold in three years in these markets, dropping from 15.8 Gm^3 in 2011 to 1.96 Gm^3 in 2013.

Between 2011 and 2013, LNG imports dropped in Europe ...



Source: GIIGNL 2014

... to the benefit of Asian countries, which receive an increasing share of world imports



Source: GIIGNL 2014

On the French market, this situation was reflected by a drop in LNG entries by 33% in France between 2012 and 2014, and by an increasing demand on the link between the North and South zones for the transport of gas lacking in the South zone and in Spain.

In physical congestion situations, with an average use rate of 94% in 2014 (compared to 89% in 2012), the PEG Nord/PEG Sud link was used at maximum level for 164 days, 60% more than in 2012.

A price spread of €3.52/MWh on average appeared between the two zones in 2014, compared to €2.9/MWh in 2013, i.e. a difference twice as high than in 2012.

This price spread, which reached a maximum of €14.75/MWh on 16 December 2012, was completely resorbed during the months of November and December 2014, thanks to the arrival of LNG at the French and Spanish LNG terminals. Europe was once again attractive for LNG purchases following the drop in demand in Japan, and in particular, a drop in the prices for "spot" cargo delivered in Asia at the end of 2014. LNG injections in the networks reached up to 32 million m3/day in November, i.e. the highest daily level since March 2012.

The PEG Nord/PEG Sud price spread was even inversed on 20 November 2014, for the first time since 13 September 2011, with a daily price at the PEG Nord slightly higher than that of the PEG Sud.

> ENERGY TRANSITION PROVIDES AN OPPORTUNITY TO DEVELOP NEW KNOW-HOW IN FUTURE-ORIENTED SECTORS SUCH AS RENEWABLE ENERGY PRODUCTION AND SMART GRIDS."

Following the Fukushima meltdown, the French Nuclear Safety Authority (ASN) recommended stronger safety requirements to handle extraordinary accidental situations which generate an investment of about €10 billion (2010) [12]. This investment is part of the Grand carénage programme (major overhaul) of current EDF's nuclear production park to extend reactors running.

Energy transition paves the road to consumer involvement in energy sobriety and step up the continuous effort to improve the manufacturing industry energy efficiency observed in France since the 1980's. Economic benefits of the transition would compensate for unit prices, which are likely to increase, by a reduction in volumes consumed and therefore lead to a monitored energy bill and greater energy efficiency. It is based in particular, on the boom in renewable energy and the development of smart grids. Energy transition helps to boost the development of new industrial sectors, in manufacturing activities or in installation and maintenance.

This development is funded by the contribution to the public electricity service (CSPE) paid by all electricity consumers, and, with regard to the development of biogas injected into the networks, by a contribution paid by natural gas suppliers proportional to their delivery to final customers. In a report published in October 2014[13], CRE made CSPE development projections. It resulted that the public service charges due to the development of renewable energy should increase from €2.9 billion in 2013 to €7.5 billion in 2025. This is why CRE favours more calls for tenders, which will contribute to achieving renewable energy development objectives under the best cost and efficiency objectives.

The success of these two major projects requires that public authorities pass on the impact on tariffs and on energy taxation, in compliance with European rules relating to competition and the internal energy market, while being attentive to the competitiveness of electricity-intensive industrial consumers exposed to international competition, and relating to the protection of fuel poor consumers.

1.2. ENERGY, A MAJOR INDUSTRIAL SECTOR FOR FRANCE

The French energy industry has several major global players in the value chains. Since the reindustrialisation in the second half of the 20th century, these companies have moulded the French energy system as it exists today. They assisted in the opening of markets and developed installations that are efficient and consistent at national level. They also have sources of growth at the international level. They export their expertise and have considerable weight when dealing with producing countries.

More generally, the energy industry stimulates France's economy. In 2011, the sector's contribution to national added value totalled 1.7%[14]. According to the directorate general for enterprise, the nuclear sector represented 220,000 employees in 2013, for an income of €46 billion in 2013. In addition, with more than €1.8 billion invested in R&D in 2012, the nuclear sector is the fourth most innovative sector in France.

Today, energy transition provides an opportunity to develop new know-how in future-oriented sectors such as renewable energy production and smart grids. In France, installed wind and photovoltaic capacity represented 14.7 GW [15] as at 31 December 2014, i.e. an average connection rate up 14.5% compared to 2013. According to the directorate general for enterprise, the renewable energy sector, which gathers together all of the companies operating in biofuel, biogas, wood energy and solid biofuels, wind (onshore and offshore), renewable marine energy, hydroelectricity, geothermal energy, solar energy (photovoltaic, thermodynamic), solar heating and heat pumps, generates income of approximately €20 billion and represents 100,000 direct jobs.

12. Source: *Analysis of EDF's production and marketing costs*, CRE, October 2014, p.30
13. Source: *CSPE: mechanism, history and the future, CRE*, October 2014, p.13
14. Source: Ministry Energy (MEDDE), *Key Energy Figures for 2013*, February 2014 issue
15. Source: MEDDE, *Wind and Photovoltaic report*, Q4 2014

TO CONTRIBUTE TO IMPROVING THE COMPETITIVENESS OF MOST COMPANIES WITH AN INDUSTRIAL ACTIVITY SENSITIVE TO ELECTRICITY PRICES, CRE TOOK INTO ACCOUNT THE ECONOMIC CONTEXT AND EXPOSURE TO INTERNATIONAL COMPETITION.

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2 What does CRE do for competitiveness?

CRE works to establish a favourable framework for the functioning of the competitive market, which contributes to competitiveness and the economic performance of France. In 2014, it continued to promote electricity and gas supply conditions which enable industrial clients to not be at a disadvantage compared to their foreign counterparts, in compliance with non-discrimination, economic rationality and accurate price requirements.

CRE examines and approves investments devoted to infrastructure development. It encourages the development of cross-border interconnections that enable the country to benefit from the complementarity of the supply systems of its European neighbours. In order to adapt to the economic context changes, CRE takes account of the situations of the different industrial sectors and consumers in its decisions.

2.1. PROMOTION OF COMPETITION AND OPENING UP OF MARKETS TO THE BENEFIT OF ENERGY-INTENSIVE CONSUMERS

Open electricity and gas markets brings competitive pressure on suppliers who have to improve their economic efficiency and commercial offers. The main benefits expected are an improvement in productivity and the rationalisation of investment decisions, in order to more closely meet consumers' needs. CRE plays a direct role in the implementation of conditions for effective competition development, while ensuring the long-term sustainability conditions of the system, in particular, through the investments programmes of the transmission systems and the setting up of the capacity market.

Therefore, CRE's contribution to improving competitiveness covers two major aspects. It builds a framework favourable to the emergence of credible competitors to the incumbent operators, enabling them in particular, to acquire significant market share. It encourages infrastructure operators to be efficient in terms of costs, maintenance and development of infrastructure through the tariffs for the use of the networks, the approval of investments and incentive regulation.

COMPETITION INTENSIFIES IN FRANCE

The 2014 fourth-quarter observatory of retail energy markets published by CRE shows that French gas and electricity markets continued to open up in 2014. This holds clearly for the industrial sector.

In the electricity sector, the incumbent supplier remains predominant, with 40% of consumption of the industrial sector covered by regulated sales tariffs. However, the market offers are supplied at equal portions by the incumbent operator and alternative suppliers, which are gradually increasing their market share.

In the gas sector, competition among suppliers in the big industrial clients segment has been intense for several years. As at 31 December 2014, 64% of consumption was covered by alternative suppliers, compared to 36% for incumbent suppliers.
The opening up of the market and the high availability of interconnections enabled large consumers to enjoy lower prices as from 2009, when the prices in European wholesale markets dropped sharply compared to the prices in effect in long-term import contracts. The spread between the Dutch TTF prices and the long-term contract prices in Europe have already reached up to €8/MWh[16].

Competition is less intensive in the microenterprise/SME segment, for which 20% of consumption was covered by the regulated sales tariffs as at 31 December 2014.
The disappearance of these tariffs is an opportunity for these consumers which will now have to subscribe to market offers. CRE supports the companies concerned by informing them about future developments.

The energy prices however, respond to complex mechanisms that cannot be controlled by the regulator. External factors come into play, such as taxation, the change in oil prices, developments in the LNG market, tightening of nuclear safety rules and the choices made by other Member States.

2.2. A PROPER DEVELOPMENT OF WHOLESALE MARKETS FOR PRICE ARBITRAGING TRANSACTIONS IN THE ADJACENT MARKET PLACES THANKS TO INTERCONNECTIONS

The work conducted by regulatory authorities was decisive in the establishment of the current architecture of the European electricity and gas markets. Action carried out in France, in coordination with other Member States, resulted in the creation of price indices with a regional dimension set in the power exchanges. Three major benefits are expected of these wholesale markets: mobilisation of the most efficient supply sources through the general application of the merit order principle, the creation of risk management and risk sharing mechanisms and the improvement of transparency by giving a signal to market participants on the state of tightness between supply and demand and by revealing participants' medium-term anticipations.

Therefore, in electricity market coupling as in the hub-to-hub model which conceives of the European gas market as a combination of interconnected national markets, the principle is the same. It is a matter of making energy flows between Member States as fluid as possible and optimising the use of interconnectors in order to enable price convergence in Europe. The gains in terms of liquidity must be sufficient to reduce the market power of dominant players.

By facilitating the entrance of new suppliers and enabling the establishment of reference market prices, the development of wholesale markets benefits competition in retail markets and supports the termination of regulated tariffs for companies. The growth of wholesale markets has therefore enabled the integration in the calculation of regulated gas sales tariffs of an increasing share of market indexation. Large consumers can even obtain supplies directly in the wholesale markets or access prices in compliance with their needs. For gas, thanks to cross-border interconnectors, market participants can combine interventions in the French PEG and carry out hedging operations in more liquid and deeper markets, such as the Dutch TTF.

16. Source: http://www.developpement-durable.gouv.fr/IMG/pdf/29_-_Les_prix_du_gaz_-Def.pdf

DEVELOPMENT OF TRADES ON THE FRENCH WHOLESALE MARKETS

The development of liquid wholesale markets and the formation of accurate market prices for the different timeframes enable actors to carry out arbitrages to obtain supplies at the best price.

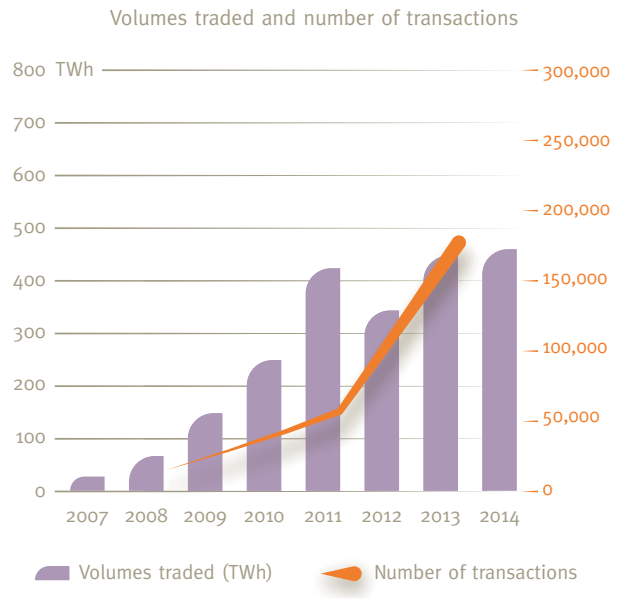
In the gas sector, since 2007, there has been a growth in activity in the French markets, with short and long-term traded volumes being multiplied by over 17 between 2007 and 2013. In France, disparities exist however in the different markets. In 2014, the volumes traded in the PEG Nord remained four times higher than those traded in the PEG Sud.

In the electricity sector, the volumes traded dropped 24% between 2009 and 2013, from 750 TWh to 572 TWh. The ARENH mechanism, introduced as at 1 July 2011, enables alternative suppliers and system operators to directly obtain supply with the incumbent operator at a regulated tariff, which, against market prices higher than the ARENH price, hindered the development of exchanges in the wholesale markets. However, a significant increase was observed in 2014 with 960 TWh traded, due to the drop in market prices and arbitrages by the different participants.

ARENH orders stood at 15.8 TWh for the first half of 2015 compared to 34.5 TWh for the second half of 2014.

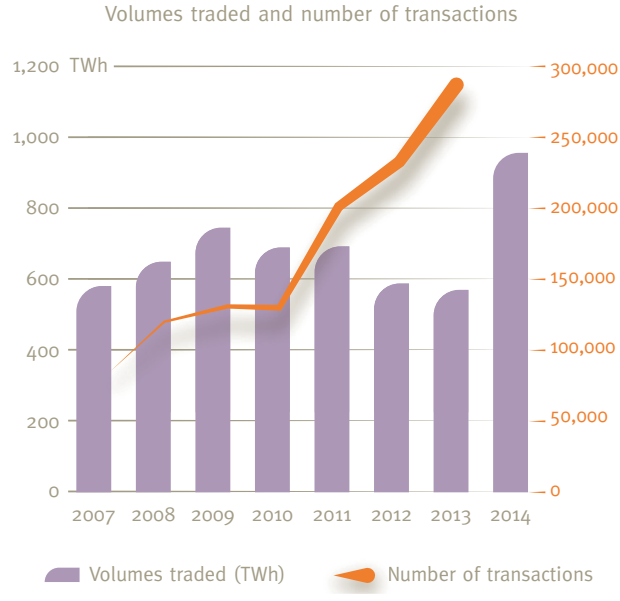
French market liquidity however, remains low in comparison with Germany, where more than 1,330 TWh were traded in the EEX exchange alone.

Wholesale gas market

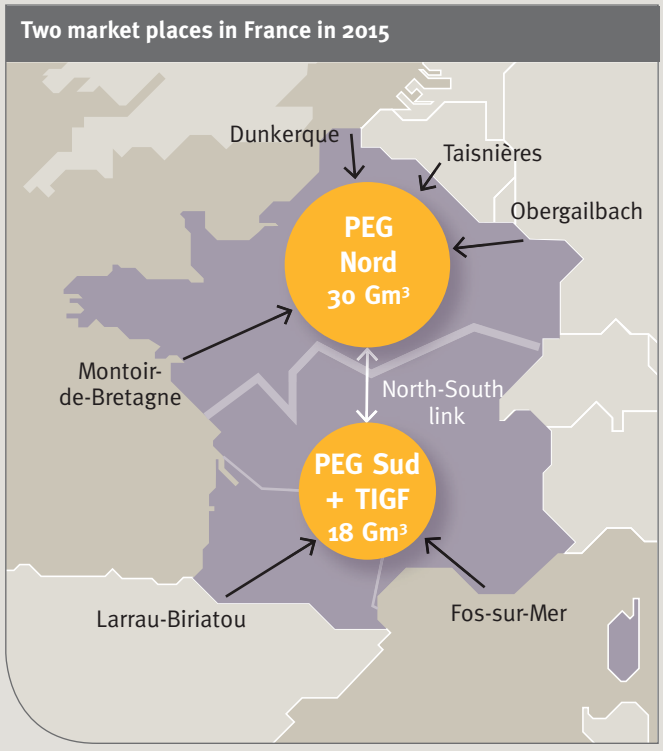


Source: CRE – Wholesale market observatories from 2007 to 2014

Electricity wholesale market



Source: CRE – Wholesale market observatories from 2007 to 2014



CRE's ongoing objective is a single market place in France by 2018 in order to improve the gas market functioning.
An intermediate stage in the merging of the GRTgaz PEG Sud and TIGF zones was completed as at 1 April 2015.

Monitoring of wholesale and retail markets carried out by CRE ensures that the price of energy is formed transparently and is part of a competitive context given the general economic and energy environment. It ensures, in particular, the consistency of prices with supply and demand, and in particular, the consistency of offers made by market participants with their economic and technical constraints. Since 28 December 2011, this mission is part of the framework of the Regulation on energy market integrity and transparency (EU Regulation No 1227/2011 of 25 October 2011), known as REMIT, which forbids market abuse in the wholesale energy markets.

2.3. ENABLE MAJOR CONSUMERS TO BETTER DEAL WITH CERTAIN MARKET UNCERTAINTIES

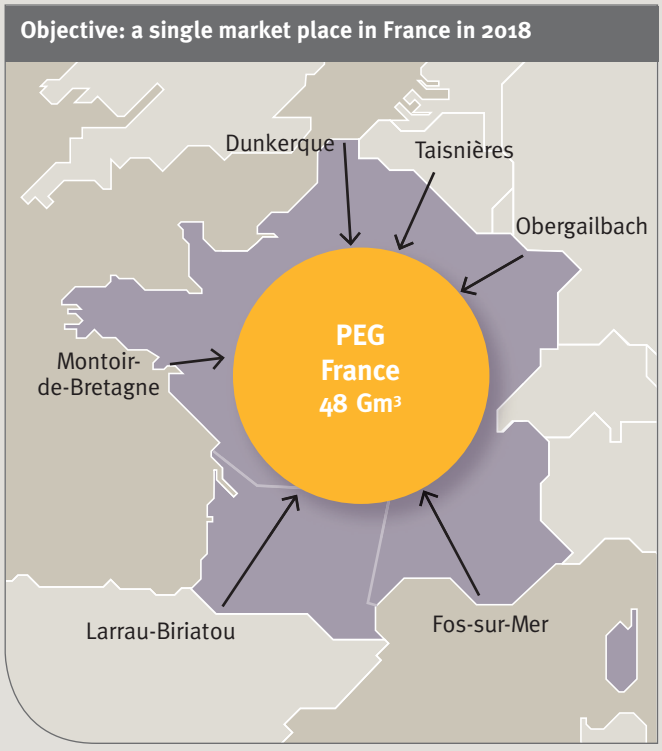
When market whim produces undesirable effects – as in the case of the North/South spread in the gas market in 2013-2014 – CRE seeks the most effective solutions, in consultation with the different stakeholders. In this example, it decided in May 2014 to create a single market place in France by 2018. This will put an end to the price spread between the north and south of the country and will protect consumers in the south from uncertainties specific to their market zone whose supply is not sufficiently diversified. The mechanism specified requires solidarity among the most privileged consumers and the most vulnerable. Costs are mutualised in the tariffs for the use of the networks.

A specific status for electricity and gas-intensive companies

In 2005, the legislator and the Government took measures aimed at enabling electricity-intensive companies to group together to sign long-term electricity supply contracts in order to take advantage of competition among suppliers and limit the risk of a price increase [18]. This possibility resulted, in particular in the Exeltium contract.

CRE is working on mechanisms to enable industrial consumers to access the fairest tariffs. They can, for example, value on the market the flexibility they bring to the system by adjusting their consumption. Within the framework of interruptibility contracts [19] signed with RTE, electricity-intensive consumers can be remunerated for their capacity to interrupt immediately and without notice their consumption, in the event of a serious and imminent threat to the security of the system. Moreover, since 1 July 2014, consumers connected to the public transmission network can offer, on an experimental basis, remunerated system services, i.e. an automatic adjustment of

17. Directive 2009/72/EC of 13 July 2009 concerning common rules for the internal market in electricity and Directive 2009/73/EC of 13 July 2009 concerning common rules for the internal market in natural gas, recital 1
18. Source : http://www.developpement-durable.gouv.fr/IMG/pdf/29_-_Les_prix_du_gaz_-Def.pdf
19. Article L. 321-19 of the French Energy Code and the ministerial decision of 27 March 2014
20. Decree No 2013-972
21. Articles L. 461-1 and L. 461-2 of the French Energy Code



> THE INTERNAL MARKET AIMS TO DELIVER REAL CHOICE FOR ALL CONSUMERS OF THE EUROPEAN UNION, HOUSEHOLDS OR BUSINESSES, NEW BUSINESS OPPORTUNITIES AND MORE CROSS-BORDER TRADE, SO AS TO ACHIEVE EFFICIENCY GAINS, COMPETITIVE PRICES, AND HIGHER STANDARDS OF SERVICE, AND TO CONTRIBUTE TO SECURITY OF SUPPLY AND SUSTAINABILITY." (17)

frequency and voltage. Therefore, these sites can sell possibilities of adjusting frequency and/or voltage to producers under obligation, at whatever price through over-the-counter transactions. The provisions stemming from the law of 15 April 2013 (Brottes law) also offers consumers the possibility of selling their load shedding directly in the electricity markets. They may do so directly or through operators with which they have signed an agreement to temporarily curtail all or part of their consumption.

Lastly, and exceptionally, CRE decided in its deliberation of 7 May 2014 to allow certain energy-intensive industrial sites to benefit from excess revenue collected by RTE through a 50% reduction in their electricity transmission bills for the period from 1 August 2014 to 31 July 2015. CRE therefore took into account the economic context and exposure to international competition of most companies with an industrial activity sensitive to electricity prices to contribute to improving their competitiveness and keeping them set up in France.

However, such a measure can only be implemented sustainably with a modified legislative base. For gas, the status granted to gas-intensive companies by the law of 16 July 2013 falls within this same context. Companies using gas as a raw material and for which the volume of gas consumed/added value ratio exceeds €4/kWh[20], enjoy special conditions for supply and for accessing the natural gas transmission and distribution networks [21]. In October 2013, since market conditions were particularly unfavourable to gas-intensive companies in the south of the territory, CRE introduced interim measures for access to link capacity between GRTgaz's Nord and Sud zones to reduce the cost of gas for consumers in the south of France. Thus, for the year 2014-2015, CRE devoted to gas-intensive consumers located in the Sud and TIGF zones 40 GWh/d of firm capacity and 23 GWh/d of interruptible capacity at a regulated price, which means that more than half of these companies' needs will be covered until 2018 by the Nord-Sud capacity tariff set by the regulator.

2.4. PREPARE FUTURE COMPETITIVENESS BY CONTRIBUTING TO CREATING A PRO-INNOVATION FRAMEWORK

Energy transition involves significant restructuring in terms of energy sources and energy efficiency. CRE supports these developments and contributes to reflection on the integration of renewable energy into the French electricity system and in smart grids.

CRE WORKS TO EQUIP FRANCE WITH THE TOOLS AND INFRASTRUCTURE TO REACH A LEVEL OF EUROPEAN INTEGRATION THAT WOULD BENEFIT ALL CONSUMERS, IN PARTICULAR INDUSTRIAL ONES.
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In terms of renewable energy, it is a matter of getting the maximum potential of solar and wind production by enabling these sectors to reach technical and economic maturity. The calls for solar power tenders launched since 2011 are part of this logic. This competitive procedure for example, led to a drop by almost 30% of the average price proposed by tender winners between the calls for tenders in 2011 and in 2013. Moreover, the specifications provide for the introduction of a criterion to assess the innovative character of the projects presented in the tenders with regard to high-power installations.

Smart grids are a key innovative sector, at the cross-roads of the competencies and technology of several sectors (energy production, electricity storage, telecommunications, etc.). France has a competitive advantage in terms of smart meters; this is why CRE in its deliberation of 7 July 2011 reporting on the results of ERDF's test results for the Linky smart metering mechanism, called for rapid roll out of this project, favourable to French industry.

CRE helps to implement the necessary conditions for the emergence of an innovative industrial fabric by also providing economic security to actors via the tariffs for the use of networks. TURPE covers the R&D investment costs aimed at supporting the work to modernise the operators' networks. However, there is still the matter of sharing responsibility among stakeholders and identifying the missions that must be assigned to system operators, and therefore defining what should be included as regulated activities. Maximising development of collaborations at European level serves to progress collectively through experience sharing in order to better manage uncertainty surrounding the development of innovative sectors ‹see smart grids dossier: CRE prepares for the networks' future, p. 74 ›.

"Smart grids directly contribute to the competitiveness of our companies by holding energy prices down and ensuring its quality and availability."

3 questions to...

DIDIER HERVÉ, *DIRECTOR OF THE ECOBUSINESS ACTIVITY AT SCHNEIDER ELECTRIC FRANCE*

What challenges do French energy-intensive companies face?

With regard to energy, three factors directly influence French companies' competitiveness: cost, quality and availability. For electricity-intensive consumers, which in France consume approximately 20% of the electricity produced, electricity price is fundamental: it represents a large portion of their production costs.
The reliability of this energy and of the distribution systems is also equally important, since it guarantees the quality of processes and the performance of the equipment used. For example, harmonic pollution could affect engines performance and increase the bill. Many processes require continuous supply, and any interruption can jeopardise production. The security of supply therefore enables industrial consumers to minimise their investments in emergency supply means. However, buildings energy consumption is also essential. Therefore, companies may benefit from implementing energy efficiency policies covering both their industrial processes and their buildings, in order to control their overall expenses.

What assets do smart grids bring to French companies?

In France, access to high-quality, reliable electricity at the best price, is the most important asset for companies – especially against the volatility of fossil energy prices. Smart electricity grids are now a new driver, since they enable consumption to be optimised during the day. Thanks to smart grids, electricity-intensive consumers can participate in a demand-side response programme via an aggregator, to the benefit of the electricity network. Similarly, buildings smart grid ready can adjust upwards or downwards their energy consumption based on energy availability, and therefore based on its cost. This provides companies with both economic benefits and a lower carbon footprint. These new uses open up very interesting prospects in terms of innovation, but also in terms of economic model. Today, the demand-side response business model is totally viable. With regard to small industrial consumers, technology is mature, but everything else remains to be done: raising awareness, regulatory framework and business model.

In your opinion, how can regulation contribute to making smart grids a sustainable tool for competitiveness?

Smart grids directly contribute to the competitiveness of our companies by holding energy prices down and ensuring its quality and availability. Regulation must maintain balances and support the transition from a centralised model, where electricity output adjusts to demand, towards a more decentralised model with a portion of renewable energy close to 40%, where consumption will have to adjust to production. Smart grids are the technological part of this development. Associated with smart energy management systems, they will allow for better and less consumption. Moreover, they present a real opportunity for the development of renewable energy.
A legislative development is therefore necessary to define fair economic terms to participate in a demand-side response programme, but also in order to avoid windfall effects that would quickly disserve actors' interest.

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