COMMISSION
DE RÉGULATION
DE L'ÉNERGIE

# Activity report
# 2011

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DE L'ÉNERGIE

# Contents

# Board of Commissioners' Message

In 2011, a succession of crises and profound changes affected the energy sector.
The Fukushima accident led to questions about the safety of nuclear energy. The Arab Spring brought great pressure to bear on oil and gas prices. The abandonment of nuclear power, decided on or confirmed in countries neighbouring France, particularly Germany, intensified the debate on the choice of energy mix and on security of supply conditions in Europe. On 8 February 2012, France broke its electricity consumption record, now set at 101,700 MW. This was covered by extra mobilisation of the nuclear fleet and energy imports. This practical cooperation between production systems and networks in different countries once again highlighted the importance of the building of the European energy market.

France was the first European country to incorporate the new provisions of the third directive on the liberalisation of the electricity and gas markets into its national law.
The Commission de régulation de l'énergie (CRE – the French Energy Regulatory Commission) played a key role in the inclusion of this directive in French law. Once the Energy Code became law, the CRE started to implement the missions assigned to it by the directive, such as certification of the independence of the three French electricity and gas transmission system operators (TSOs) from their parent companies (RTE, GRTgaz, and TIGF). This certification was an important step in the opening of energy markets to competition.

However, once again, this year the CRE has seen the limits of this liberalisation. There are still far too few alternative electricity suppliers.
Fewer than one in two consumers is aware of their right to choose their energy supplier.
However, progress has been made in gas and electricity for industrial consumers. The coming into force of the ARENH mechanism, (*accès régulé à l'éléctricité nucléaire historique* – regulated access to historic nuclear power) which seeks - under the law on the reorganisation of the electricity market (*Nouvelle organisation du marché de l'électricité, NOME*) - to provide access for alternative suppliers to electricity based on nuclear power, saw the presence of these alternative suppliers increased in this sector. However, the development of competition is hindered by the persistence of a margin squeeze which prevents faithful reflection of supply costs. For other types of consumers the role of regulated tariffs remains dominant.

In both electricity and gas, all costs incurred by the incumbents must be covered by regulated tariffs, as required by law, so that competition

can operate normally. The CRE highlighted this key principle in its report to the government on price setting for gas sales. The CRE recommends reform of the calculation method used for GDF SUEZ supply costs. The CRE also recommends removal of the regulated tariffs for industrial customers, most of whom are already market suppliers, in order to apply the same rule that will prevail in electricity from 2016.

In the electricity sector, the CRE underlined, in its decision of 28 June 2011, that alternative suppliers - who buy most of their electricity from EDF at a price set by the government (ARENH) - are still not generally in a position to compete with the regulated sales tariffs. However, the law provides that these regulated tariffs can be challenged up to 2015, i.e. they can be made subject to competition. Given the ARENH price set at 42 €/MWh by the government, the increase in the regulated sales tariffs which would be required to ensure that the average regulated tariffs for electricity in 2011-2012 could be challenged, would be between 4% and 8%, according to CRE calculations of mid-2011.

Widespread deployment of the Linky smart meter, which will provide greater control of consumption and greater efficiency in the use of electrical networks, should contribute to the development of competition to the benefit of consumers, by enabling suppliers to make energy offers that are more closely matched to consumer needs.

The CRE approved the deployment from July 2011 and asked for this innovative device to be deployed as quickly as possible. Linky meter deployment is part of the European measures requiring that 80% of consumers should be equipped with smart meters by 2020.

Network upgrades to safeguard electricity and gas supplies, the implementation of an ambitious energy saving plan, renewable energy development and reinforcing the safety of nuclear plants are all responses to energy policy guidelines that seek to guarantee social well-being. The investments required, however, will be considerable. As in the past, investment will ultimately be financed by the consumer, an issue that the CRE has frequently highlighted.

For this reason the CRE is concerned about the levels of energy price rises, which weigh heavily on household budgets, particularly those in fuel poverty. The CRE therefore finds it regrettable that the reform of the electricity and gas solidarity tariff was so limited. Assistance with bill payments is not the sole solution to the problem of fuel poverty. This was highlighted at the symposium held on 22 March 2012 by the CRE, the médiateur national de l'énergie (the national energy ombudsman) and the University of Paris-Dauphine.
The meeting opened up a broader debate on how to counteract the growing phenomenon of fuel poverty.

# The operation of the CRE and the activity of CoRDiS

## 1. THE ORGANISATION OF THE CRE

The CRE is an independent administrative authority created when the energy markets were opened to competition. The law of 10 February 2000 on the modernisation and development of the public electricity service, now included in the Energy Code, assigned the regulation of these markets to the CRE.

Its key mission is to contribute to *"the correct operation of the electricity and natural gas markets to the benefit of the end consumer and in accordance with energy policy objectives"* (article L131-1 of the Energy Code)

To accomplish this mission, the CRE is divided into two independent bodies: the Board of Commissioners and the *Comité de règlement des différends et des sanctions* (CoRDiS, Standing Committee for disputes and sanctions).

In its decisions the board relies on the expertise of the CRE directorates, under the authority of the president and the managing director.

► ***Board of Commissioners***
*From left to right: Olivier Challan Belval, Michel Thiollière, Philippe de Ladoucette (President), Jean-Christophe Le Duigou, Frédéric Gonand.*
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### 1.1. The Board of Commissioners

The Board of Commissioners is composed of five members appointed by virtue of their legal, economics and technical qualifications for a non-renewable period of six years. The president of the board and two members are appointed by decree of the President of the Republic following consultation with the Parliamentary committees specialised in the energy sector (organic law nº. 2010-837 of 23 July 2010). The other two members are appointed by the President of the National Assembly and the President of the Senate, respectively. Exceptionally, the current members of the board may be appointed for terms ranging from two to six years (in accordance with article 17 of the law of 7 December 2010 on the reorganisation of the electricity market).

To ensure the independence of the CRE, board members hold office on a full-time and irrevocable basis, except in cases of resignation, impediment or serious dereliction. Moreover, incompatibility rules prohibit simultaneous membership of the board and the holding of elected office at municipal, departmental, regional, national or European level. Members are also prohibited from holding any direct or indirect interest in companies in the energy sector.

▼ ***Members of the executive committee***
*From left to right : A. Monteil (Director of Publics Affairs and Communication Department), F. Lakhoua (Director of Finance and Wholesale Markets Surveillance), N. Bricnet (Director of Human Ressources), O. Béatrix (Director of Legal Affairs), C. George (Director of Electric Grid Access), D. Jamme (Director of gas infrastructures and networks), J.-Y. Ollier (Managing Director), P. Raillon (Director of International relations), N. Idir (Deputy Director of gas infrastructures and networks), F. Hauguel (Deputy Director to the General Director, responsible for administrative issues), E. Pivet (Director of Market Development).*
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### 1.2. CoRDiS

CoRDiS was created by the law of 7 December 2006 and is composed of four members: two of these are conseillers d'Etat (government advisors – senior members of the Conseil d'Etat, 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). They are appointed by the vice president of the Conseil d'Etat. The other two are advisors to the Cour de cassation (the Court of Cassation) appointed by the President of the Court. As with the CRE board, CoRDiS members 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. Thus, this independent committee of the Board of Commissioners enables the CRE to carry out one of its core missions - to ensure transparent and non-discriminatory access to the electricity and natural gas networks, which is the key to open competition.

## 2. THE CRE'S MISSIONS

The missions assigned to the CRE can be broken down into two main areas. First, regulation of the electricity and natural gas networks to guarantee users (businesses, local authorities, consumers, producers) non-discriminatory access to transmission and distribution infrastructures, which are natural monopolies, while ensuring security of supply. Second, regulation of the markets to enable the development of free and fair competition to the benefit of the end consumer. Since law nº. 2010-1488, of 7 December 2010, on the reorganisation of the electricity market (the NOME law), the CRE has been required to consult the Conseil supérieur de l'énergie (the Supreme council of energy) prior to its decisions on matters "that could have a significant impact on energy policy objectives", these matters to be listed by decree of the Conseil d'Etat.

The CRE's missions developed greatly in 2011, with the changes introduced by the NOME law and the transposition of the third energy package, the calls for tenders in the field of renewable energy, and a sharp increase in CoRDiS activity. However, the regulatory body's staffing levels have remained static since 2008 and are considerably lower than its European counterparts.

### 2.1. Regulation of the electricity and natural gas networks

Since the law of 10 February 2000, the missions assigned to the CRE have grown continually. The NOME law and the transposition of directives 2009/72/EC and 2009/73/EC concerning the common rules for the internal market in electricity and natural gas are important steps in the reform of the energy sector (see Focus p. 7).

**369**
**Commission sessions**
held in 2011.

FOCUS

## New functions assigned to the CRE: changes made by the NOME law and the Energy Code

*In the context of an open energy market, the adoption of the law of December 2010 on the reorganisation of the electricity market (NOME law) and of the Energy Code are significant steps in the reform of the sector. These two texts mark, in particular, the end of the transposition into French law of directives 2009/72/EC and 2009/73/EC – known as the third energy package - and establish regulated access to nuclear energy (ARENH) so that new entrants can have access to the incumbent operator's nuclear facilities. Furthermore, these two texts made changes to the CRE's powers.*

### *Regulated access to historic nuclear power (ARENH)*

*The CRE now proposes, to the Energy Minister, conditions for the sale of ARENH to alternative suppliers, in particular the provisions of the relevant framework agreement, and sets the volume of historic nuclear power to be sold to each supplier.*

*The CRE is also involved in the pricing of ARENH. Nevertheless, as with its duties relating to the setting of regulated tariffs for the sale of electricity, a transitional period was set by the legislature. Until 7 December 2013, the ARENH price will be fixed by the Energy and Finance Ministers, following consultation with the CRE. As of 8 December 2013, the CRE will send the suggested ARENH prices to the Energy and Finance Ministers. This decision will be deemed approved if no opposition is forthcoming from either of the Ministers within three months.*

### *Retail market monitoring*

*Article L131-2 of the Energy Code, derived from the provisions of the NOME law, authorises the CRE to monitor transactions between suppliers, traders and producers and transactions in organised markets, and also to monitor the consistency of offers made by producers, traders and suppliers, especially to end consumers, with their economic and technical constraints. The CRE may also issue an opinion and propose measures to promote the correct operation and transparency of the retail market.*

### *Tariff setting for the use of public networks*

*One of the major changes resulting from the transposition of the third energy package is that the CRE itself now fixes tariffs for the use of the public networks and related services carried out under the operator monopoly in these networks. Formerly, the CRE merely suggested them to the ministers, who could object to the proposals. Ministers now only have the right, within two months of the CRE's submission of its decision on the tariff, to request a new decision.*

### *Review of TSOs' ten-year investment plans/ outlines*

*The CRE's functions in relation to the scrutiny of the investments of the TSOs have changed with the codification of the Energy Code. Before the coming into force of the Energy Code, the CRE merely approved the annual investment programmes of the transmission network operators and ensured that the investments needed to develop the networks properly were made. Now, it also checks that the ten-year investment plan of the TSOs covers all investments necessary for developing the networks and that it is consistent with the European plan developed by the ENTSOs (the European Network of Transmission System Operators). If necessary, the CRE may require the TSO to amend its ten-year investment plan.*

### *The certification procedure*

*The CRE has certified the three French TSOs. The granting of this certification ensures that each of the three TSOs meets its requirements for autonomy and its independence from its parent company. These requirements, which are derived from the transposition of the third energy package, were controlled by the CRE. The CRE is the first European regulator to implement this new certification procedure (see the dossier on this issue, p. 25). In the future, the CRE will regularly ensure effective compliance with all obligations imposed on TSOs by the certification decision.*

***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 these networks, structures and facilities under transparent and non-discriminatory conditions. The CRE contributes to this requirement and ensures that networks are secure, reliable, efficient and consumer-oriented. It promotes network adequacy and energy efficiency and the integration of energy production from renewable sources. The CRE's missions in ensuring this right of access are broadly the same in both the natural gas and the electricity markets.

The principle of non-discrimination guarantees market access to new entrants and the development of fair competition to the benefit of the consumer. The CRE is the recipient of the contracts between the system or network operators and users, as well as of protocols for access to electricity grids and to natural gas transmission and distribution facilities, including liquefied natural gas (LNG) facilities. It receives justified notification of refusals to enter into contracts or access protocols for infrastructures. For access to electricity grids, the CRE issues preliminary opinions on the decisions of the préfet (responsible administrative authority) who refuses to allow the construction of a direct line.

For access to natural gas facilities, the CRE issues an opinion on the dispensations established by decree on the tariffs for the use of natural gas transmission and distribution networks and of LNG installations, as well as the dispensations made to the commercial terms of use for networks or installations.

**83**
**hearings**
conducted by the board in 2011.

The CRE has coercive power over operators in the case of serious and immediate threat to the rules governing access to installations or their use: as part of the settlement of a dispute, it may order precautionary measures to ensure the continued operation of networks.

**206**
**CRE decisions**
in 2011.

***Ensuring the correct operation and development of electricity and LNG networks and infrastructures***

To ensure optimal operation of the networks, the CRE, itself, now sets the tariffs for use of the public electricity and natural gas networks and the tariffs for additional services carried out under the operator monopoly in these networks. Prior to the coming into force of the third package, the CRE had no power to suggest tariffs to the relevant ministers, who might object to its proposal.

The CRE is also the recipient of the programme of investments from system operators or operators of the networks. It receives notice of development projects of the natural gas transmission or distribution network carried out by the operators and the status of their investment programme.

The CRE approves the annual investment programmes of the TSOs of the natural gas transmission networks (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 package into the Energy Code has changed the CRE's missions in the area of the investment programmes of the TSOs. In fact, every year the CRE reviews the ten-year investment plan of the TSOs to ensure that it covers all investment needs and is consistent with the European plan developed by the European Network of Transmission Operators (ENTSO). The CRE may, if necessary, consult the Agency for the Cooperation of Energy Regulators (ACER) and insist that the system operator alter 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, the 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 this investment.

In the case of serious and immediate threat to the safety and security of the public electricity transmission and distribution systems or to the quality of their operation, the CRE can ask the Energy Minister to ensure the continuity of their operation.

***Ensuring the independence of system operators***

Management of the electricity or natural gas transmission networks is provided by legal entities separate from those operating electricity or gas production or supply (article L111-7 of the Energy Code).

To guarantee the independence of the network operators, the CRE approves, following consultation with the Autorité de la concurrence (Competition Authority), the accounting rules for the separation of activities between production, transmission and distribution of electricity, and other activities of operators involved with electricity, and between transmission, distribution, and storage of natural gas and use and installation of LGN and other activities of operators involved with natural gas. 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 these codes of conduct established by any transport and distribution system operator, together with an evaluation of the independence of network operators.

The transposition of the third package into the Energy Code has assigned a new role to the CRE: certification of each TSO. 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 from their parent company and autonomy. The CRE launched the certification process and established the contents of the certification dossier in its decision of 12 May 2011 and then certified the three TSOs by its decision of 26 January 2012. TSO certification is valid indefinitely. However, the CRE's role does not end there: the TSOs are required to notify the CRE of anything that might justify a review of their certification. Furthermore, the CRE may, at its own initiative, or in response to a reasoned request from the European Commission, proceed to review the certification when it believes that events affecting the TSO's organisation, or its shareholders' organisation, are likely to threaten its requirement for independence.

The CRE approves the annual investment programmes of the TSOs and ensures that the investments needed to develop the networks properly are made.

**85**

**CRE working group consultation meetings**

in 2011.

### 2.2. Regulation of the electricity and natural gas markets

*Monitoring electricity, natural gas and $CO_2$ transactions*

The banking and financial regulation law of 22 October 2010 assigned the supervisory function of the CO2 market to the CRE. In cooperation with l'Autorité des marchés financiers (AMF - Financial Market Authority), the CRE monitors $CO_2$ market transactions by European suppliers, traders and producers of electricity and natural gas in the European Union Allowances (EUA), the Certified Emission Reduction Units (CER) and the Emission Reduction Units (ERU) provided by the Kyoto Protocol. The CRE analyses that these transactions are consistent with the economic, technical and regulatory constraints on the activity of these suppliers, traders and producers of electricity and natural gas.

*Ensuring the correct operation of retail markets*

The CRE's monitoring of the correct operation of retail markets focuses in particular on its role in the setting of regulated sales tariffs for electricity and natural gas.

Until 31 December 2015, these will be set by the Energy Minister and the Finance Minister, following consultation with the CRE. From 1 January 2016, the CRE will propose regulated sales tariffs for energy to the Energy and Finance Ministers. The decision will be deemed approved unless there is opposition from one of the Ministers within three months of receipt of the proposals.

The setting of regulated natural gas sales tariffs is the result of a complex procedure. First, a tariff formula is set for each supplier by the Energy and Finance Ministers, following consultation with the CRE. This formula specifies the full natural gas supply and non-supply costs for each supplier. Then, an order from the Energy and Finance Ministers, taken following consultation with the CRE, sets the rates for regulated sales tariffs in natural gas. These rates are reviewed at least once a year and revised if necessary, depending on any changes in the tariff formula. Finally, there is a supplier-initiated procedure for sending proposed changes to the CRE, together with a justification of the proposal. The CRE must ensure that the requested change is, in fact, the result of the application of the supplier's tariff formula and then it either approves or rejects this change.

The CRE also issues an opinion on the social tariff intended to guarantee the right to electricity for persons in precarious situations, and an opinion on the special solidarity tariff applicable to the supply of natural gas.

Finally, article L131-2 of the Energy Code, derived from the provisions of the NOME law, gives the CRE the power to monitor transactions between suppliers, traders and producers as well as transactions in organised markets, and also the power to monitor the consistency of offers made by producers, traders and suppliers, especially to end consumers, with their economic and technical constraints. The CRE may also issue an opinion and propose measures to promote the correct operation and transparency of the retail market.

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

The CRE contributes to the implementation of support devices for the electricity generation in several ways.

First, the CRE issues opinions on the orders which set purchase tariff rates for energy produced by small-scale facilities using household waste or renewable energy sources.

Secondly, if the operator-initiated production capacity does not meet the objectives of the programmation pluriannuelle des investissements (PPI - multiannual investment programme for the production of electricity), the Energy Minister may decide to issue a call for tenders, which the CRE will be responsible for implementing. The CRE therefore proposes the drafting of the specification which is ordered by the Energy Minister. It opens and examines the tenders. It issues an opinion on the bidders, from which the Minister designates the successful candidate(s). Activity in this area recorded a huge increase in 2011 (see "Renewable energy" dossier p. 57).

In addition, the CRE evaluates the level of expenses attributable to public service missions, which are subject to full compensation in accordance with article L 121-10 of the Energy Code and each year proposes to the Energy Minister, the amount of the Contribution au service public de l'électricité (CSPE - electricity public service contribution) and the amount of the contribution applicable to each kilowatt-hour It also proposes, to the Energy and Finance Ministers, the level of repayments made to the operators bearing public service charges.

Finally, the CRE proposes, to the Energy Minister, the conditions for sale of ARENH. Under the NOME law, this sale is open to all operators supplying end consumers in mainland France, or network operators for their losses. The CRE issues an opinion on the overall maximum volume of historic nuclear power that can be sold, depending, in particular, on the development of competition in the electricity generation markets and the supply to consumers. Until 31 December 2013, the ARENH price will be fixed by the Energy and Finance Ministers, following consultation with the CRE. As of 8 December 2013, the CRE will propose ARENH prices to the Energy and Finance Ministers.

For the natural gas sector, the CRE annually suggests, to the Energy Minister, the level of contribution applicable per kilowatt-hour under the special solidarity tariff.

***Keeping consumers informed***

To ensure the success of this mission, the CRE has created and manages the Energie-Info website in conjunction with the national energy ombudsman. This is a shared information service which answers individual consumers' queries. It provides fact sheets with information on the opening up of energy markets: how to change energy supplier, who to contact when moving, claims procedures and how to benefit from social tariffs.

**9**
**public consultations**
launched in 2011.

**4**
**calls for tenders**
in 2011.

The Energie-Info site also provides access to an electricity and gas supply comparison tool. The site is educational and easy to use and it can be used to compare offers from different suppliers with the current offer and to query, over and above the annual expenditure estimate, prices with or without taxes for standing charges and for the kilowatt-hour, together with the tax breakdown. Green offers can also be pointed out if this is a choice criterion.

### 2.3. Contributing to the construction of the European internal market for electricity and natural gas

The CRE is fully involved in the construction of a European energy market combining competitiveness, security and environmental sustainability. The CRE therefore participates in European work as a highly active member of the Council of European Energy Regulators (CEER) and also in ACER. It maintains close daily relationships with its European counterparts with whom it works on the development and harmonisation of the rules on access to networks and optimisation of interconnections between national markets.

The CRE, with the energy ombudsman, has created and manages the Energie-Info website – a shared information service which enables the questions of individual consumers to be answered. The Energy-Info site also provides access to an electricity and gas supply comparison tool.

► ***Members of CoRDiS***
*From left to right: Roland Peylet, Sylvie Mandel, Pierre-François Racine (President) and Dominique Guirimand.*
*© François Daburon*

## 3. THE SETTLEMENT OF DISPUTES HELPS CLARIFY THE CONDITIONS FOR ACCESS AND USE OF THE NETWORKS

During 2011, the number of disputes referred to CoRDiS for settlement showed a marked increase. There were no fewer than 272 referrals and over 206 decisions by the Committee in 2011, compared with 17 referrals and 11 decisions in 2010.

This change is mainly due to the combined effect of an increase in applications for connection to production facilities under the purchase requirement scheme and the coming into force of moratorium decree no. 2010-1510 of 9 December 2010 which suspended the requirement to purchase electricity produced by certain solar energy plants.

Moreover, it should be noted that the Cour d'appel de Paris (the Paris Court of Appeal), which has control over dispute settlement decisions, is receiving increasing numbers of referrals.

### 3.1. Areas of CoRDiS intervention

Several decisions taken in 2011 enabled CoRDiS to clarify the scope of its areas of competence. The Committee has highlighted that it had jurisdiction on two conditions only - one relating to the powers of the parties in dispute, and the other to the subject of the dispute, which must fall within one of a limited set of categories established in law.

This was not the case of the dispute between (the Company) Nicodis and ERDF, which was not related to network access, but rather to the issue of an electricity purchase contract (CRE, CoRDiS, 21 January 2011, Nicodis).

CoRDiS also had occasion to highlight that it had no jurisdiction to hear applications exclusively for the benefit of the purchase obligation at price conditions set in the order of 12 January 2010 (CRE, CoRDiS, 8/07/2011, SOPRODER COTMIG). It is, however, competent to hear disputes on the cost of connection of a generation facility (CRE, CoRDiS, 18/03/2011, Quatre termes I; CRE, CoRDiS, 18/03/2011, Fangas II).

Finally, CoRDiS received several requests for public electricity network operators to be required immediately to submit technical and financial proposals for connection, disregarding the application of decree no. 2010-1510 of 9 December 2010 suspending the requirement to purchase electricity generated by certain solar energy plants. Insofar as the Conseil d'Etat had received petitions for annulment of this decree, CoRDiS decided to suspend the processing of applications for dispute decision until the decision by the Conseil d'Etat was taken since the decision of the disputes submitted to CoRDiS was dependent on an assessment of the legality of the decree (CRE, CoRDiS, 29 April 2011). The Conseil d'Etat issued a decision on 16 November 2011 (Société Ciel et Terre et autres, nº. 344972) which confirmed the legality of decree nº. 2010-1510 of 9 December 2010 suspending the requirement to purchase electricity generated by certain solar energy plants.

**272**
**cases referred**
in 2011.

### 3.2. Access to networks and their use

CoRDiS's role in the settlement of disputes means that it is the guarantor of non-discriminatory and transparent access to gas and electricity networks and infrastructure.

***Conditions of connection to the gas transmission system***

Called for the first time to resolve a dispute concerning the enforcement of contracts relating to the interface between gas transmission and distribution operators, and concerning connection services to the gas transmission system, CoRDiS issued an important decision on 29 April 2011.

In this instance, the Somme and Cambraisis SICAE (Société d'intérêt collectif agricole d'électricité - Agricultural collective electricity company) had won the tender launched by three local councils in Picardy to supply the construction and management of the natural gas distribution networks. The supply of natural gas to these districts involved, in particular, works to connect the SICAE distribution networks to the GRTgaz transmission system. The SICAE was contesting, in particular, the connection costs charged by GRTgaz. The SICAE had sought clarification of the connection costs, especially the engineering costs. GRTgaz had refused to provide this information.

In its decision, CoRDiS first invited GRTgaz to establish, by making public as soon as possible under the Concertation Gaz consultation procedure established by the CRE in its decision of 18 September 2008, a draft connection procedure so that potential users of the transmission system could obtain all the information necessary for their connection.

Similarly, regarding the SICAE's contractual obligation to implement telephone and electrical connections from delivery stations, CoRDiS judged that, not having justified with objective evidence the reason why only the supply of electricity from the delivery stations via dedicated landlines would be acceptable, GRTgaz had violated its transparency obligation.

Finally, CoRDiS judged that GRTgaz was in breach of its transparency obligation by failing to notify the SICAE, despite the latter's requests, of the design study and by not defining the objective conditions that, in this case, made it necessary to install a gas heating system.

CoRDiS judged that GRTgaz's confidentiality undertaking in respect of information protected by trade secrets could not justify, in this case, refusal to provide any useful information. Such a practice would, in effect, render meaningless the requirement of transparency.

***The possibility of an indirect connection to the public electricity transmission and distribution systems***

After confirming, in its judgement of 7 April 2011, the possibility of indirect connection of a generation site to the public distribution system, the Paris Court of Appeal acknowledged the possibility of indirect connection of a generation site to the public transmission system via a private distribution network.

On 12 July 2010, CoRDiS had ordered RTE to send (the company) Le Nouvion an operating agreement and contract for access to the single public transmission network for the connection of its private network covering several independent production sites.

CoRDiS's role in the settlement of disputes means that it is the guarantor of non-discriminatory and transparent access to gas and electricity networks and infrastructure.

The Paris Court of Appeal, in its judgment of 30 June 2011, confirmed this decision. The Court found that, because Le Nouvion was not a producer, it was not required to hold an operating license to qualify for a network connection. However, the Court judged that this company, which supplies the public transmission system by wind power, should be regarded as a network user and, as such, should have a right to network access. The Court concluded that only restrictions relating to the fulfilment of public service functions or technical reasons relating to the safety and security of networks or the quality of their operation (reasons specified in article 23 of the law of 10 February 2000), would have justified a refusal of access to the networks. They were not, however, invoked in this case. The Court of Appeal then dismissed RTE's argument that, as with the public distribution networks, producers should be directly connected to the public transmission system. Indeed, no law or regulation imposes this type of connection.

Finally, the Court noted that the public electricity service, where RTE is responsible for the public transmission system, must, under the law, be provided *"under the best conditions of safety, quality, costs, price and economic, social and energy efficiency."* In this case, the indirect connection of the site to the public transmission system neither compromised safety or network security. Indeed, even if indirectly connected institutions were not subject to the general technical design and operational requirements for the connection of generation facilities to the public electricity networks, the organisation directly connected to the network still met the regulatory and contractual conditions governing connection and use. In addition, the indirect connection was the most economically advantageous solution for applicants.

***Failure by the public distribution system operator to comply with its procedure for handling connection applications***

During 2011 CoRDiS had the opportunity to clarify its interpretation of the public distribution operator's failure to comply with its connection procedure or its technical reference documentation. The procedure for processing ERDF connection applications, which is part of ERDF's technical reference documentation, provides in article 8.2.1 that *"from the date of on which the connection application was registered, the period for transmission to the applicant of the connection supply shall not exceed the period defined in the connection schedule for the type of facility. This period shall not exceed three months, irrespective of the supply voltage for connection"*.

It is clear from several CoRDiS decisions that, however regrettable ERDF's failure to comply with the processing periods set out in its own technical documentation may be, the applicant company cannot be judged to have accepted a technical and financial proposal upon expiry of that period. Furthermore, it is not part of the CoRDiS remit to order the distribution system operator to indemnify for the financial damages suffered by reason of breach of its requirements.

Similarly, CoRDiS judged, in its decision Vol-V Solar, that the absence of the submission of a connection agreement by ERDF within the allotted time limit did not allow it to be assumed, because it was not made explicit in the texts, that at the end of this period a connection agreement could be implicitly invoked by the candidate for connection.

Nevertheless, in its decision of 26 September 2011, Saint-Doué GAEC, CoRDiS made its position clearer on the expiry of the three month period by judging, in a dispute in which the transmission distribution operator had not submitted a technical and financial proposal, that the applicant company was *"entitled to invoke breach, by ERDF, of its obligations and of its technical reference documentation" (Saint-Doué Agricultural Collective (GAEC)*, 26 September 2011 included in the Aliotti decision, 30 September 2011).

***Queue management***

Called to settle disputes in which the electricity distribution system operator had excluded connection applications from the processing queue projects, CoRDiS had the opportunity to clarify the solutions adopted in its decisions Leonardo Valentini and Inti Energie of 19 and 26 November 2010. In these two decisions, the Committee had requested that the projects of these companies be reinstated in the queue for connection to the electricity distribution system, although they had been excluded due to the new planning provisions under decree no. 2009-1414 of 19 November 2009.

**206**
**CoRDiS decisions**
in 2011.

In its decision of 24 October 2011 Soleol II, CoRDiS, while recalling the solution adopted in the Leonardo Valentini case (confirmed on 3 November 2011 by the Paris Court of Appeal), found that the project for which Soleol II had obtained the building permit was substantially different from the project that led to the technical and financial proposal. Under these conditions, the Committee held that the Soleol II company was not entitled to apply for reinstatement in the queue for a project which it had replaced with a project to install a different production facility (the only one for which the construction permit had been obtained).

The dispute between Kezako and ERDF involved the application of the procedure for processing applications for connection, which stipulates that a project be removed from the queue if, on the expiry date of the technical and financial proposal, the applicant does not give his agreement to the proposal.

In its decision of 19 October 2011, CoRDiS judged that Kezako had implicitly acknowledged the lapse of the first technical and financial proposal sent to it, by asking ERDF to *"release a new technical and financial proposal"* and that EDF was therefore fully justified in removing Kezako's project from the queue.

***The suspension of the purchase obligation defined by the decree of 9 December 2010 does not apply to projects having a connection agreement signed by both parties and notified before 10 December 2010***

The question of the application of the provisions of decree no. 2010-1510 of 9 December 2010 to projects for which the connection agreement had been accepted was put to CoRDiS by the Tomca Company and its agent, TSE, on 5 November 2011.

In this dispute, TSE had returned a signed copy of the connection agreement on 3 December 2010, but EDRF had challenged the company under the decree of 9 December 2010 and asked it to make a new connection request.

CoRDiS first held that unlike a technical and financial proposal, the cost and time schedule of a connection agreement are final, as is clear from article 9.1.1 of the procedure governing the processing of connection applications.

Accordingly, CoRDiS stated that although valid both as a connection proposal under article 9.1.2 of the procedure governing the processing of connection applications and as the technical and financial proposal under article 4.5 of the same procedure, the connection agreement *"does not thereby have the status of a mere technical and financial proposal"*.

CoRDiS therefore concluded that the provisions of article 3 of the decree of 9 December 2010 cannot be invoked against a producer who notified ERDF of the connection agreement signed by both parties and sent the deposit cheque before the coming into force of this decree on 10 December 2010. It is of no consequence, therefore, that such notification did not take place before 2 December 2010 as is required for a technical and financial proposal.

***The Court of Appeal upholds the decision of CoRDiS concerning the GRD-F contract and unpaid charges***

In its ruling of 29 September 2011, the Paris Court of Appeal upheld the CoRDiS decision of 22 October 2010.

The GRD-F contract is a bipartite agreement between a distribution system operator (DSO) and a supplier (S) which sets forth the rights and duties of the parties with respect to network access, use and data exchange.

In this decision, CoRDiS held that for the system operator to be repaid the amounts due for use of the network, the supplier will have previously recovered these amounts from the end customer, other than in the event of supplier bankruptcy. This analysis was upheld in full by the Court.

After pointing out that there is a binding contractual relationship between the distribution system operator and the end customer under the single contract which allows suppliers to enter into contracts for network access on behalf of their customers, the court ruled that the single contract has neither the purpose nor effect of changing the respective obligations of the system operators, the supplier and the end customer, based on the law and the texts adopted for the application of these obligations.

The Court concluded that CoRDiS had correctly judged *"that the rights and obligations of the system operator in respect of the supplier cannot, under cover of a task entrusted to the supplier on behalf of the customer under the single contract, require the sole supplier to bear the full risk associated with the public service function that is the responsibility of the operator of public electricity distribution networks"*.

A working group was set up to define the contractual implications of the principle set forth by CoRDiS.

## 4. HUMAN AND BUDGETARY RESOURCES

Despite the very substantial increase in its missions and activity, the resources of the CRE have not improved since 2008.

The CRE's 131 full-time equivalents (FTEs) are responsible for fixing or checking energy price components representing annual charges of nearly 50 billion euros (19 billion euros for the regulated tariffs in gas and electricity transmission and distribution infrastructure, 23.6 billion euros for the supply part of the regulated sales tariffs and 5.2 billion euros in the public electricity service charges).

A study of the budgetary resources of the European energy regulatory authorities shows that in 2011 the CRE was in 6th place in the area of human resources. It is well behind its British, Spanish, Italian, Romanian and German counterparts, which have staffing levels of between 185 and 481 FTEs for energy-related activities.

**131 people**
CRE staff FTEs (full-time equivalents).

### 4.1. The men and women of the CRE

As of 31 December 2011, the CRE has 134 employees, of whom 58 are women and 76 men: 42% of project officers, 37% of departmental heads and 46% of directors or advisors are women.

In order to meet the demands of its changing functions, the regulator seeks to employ proven, highly specialised technical and economics skills in the energy sector, together with capacity for future adaptation.

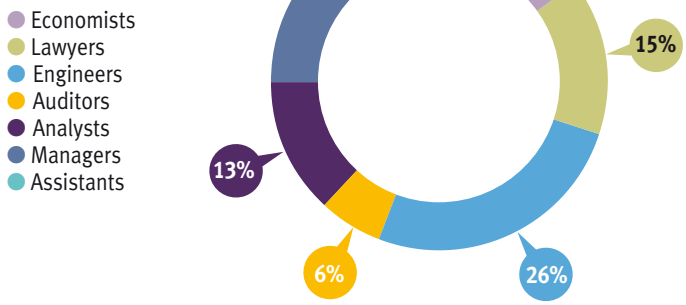
### 4.2. An agency recognised for its excellent recruitment and diverse specialisations

In 2011 the CRE received over 2,000 applications for 34 vacancies. The candidates were very highly qualified and largely met the required profiles for the posts.

CRE has a communication policy that targets key pools of candidates. The CRE's staff mostly comprises civil service employees (86% of the workforce) who are mainly recruited from business.

The average employee age is 33 years.

By sector, the CRE's employees are distributed across the following eight categories:

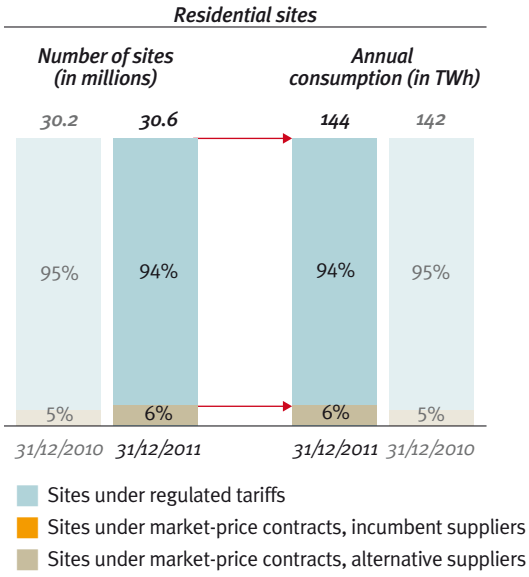


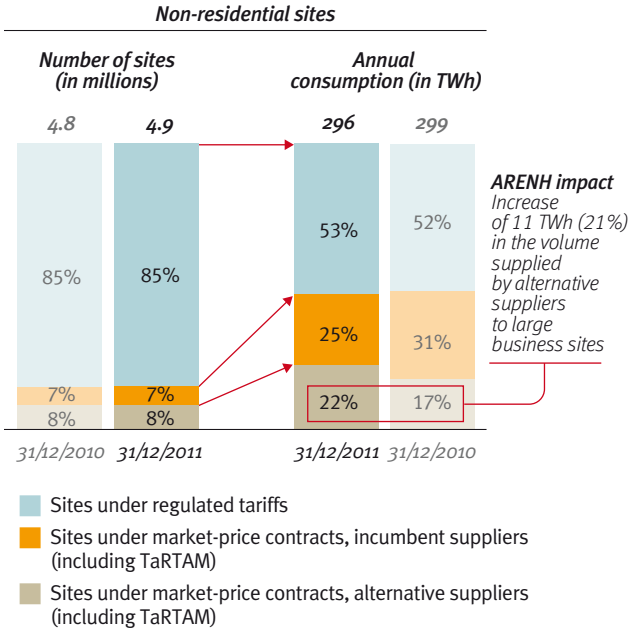

### 4.3. Performance-oriented in-service training and internal mobility policy

In 2011, 63% of employees attended at least one in-service training course. The training budget is 165,000 euros. Also in 2011, 10% of staff moved to a different post within the CRE.

# Overview of the **electricity** and **gas retail market**

## ANALYSIS OF THE ELECTRICITY RETAIL MARKET



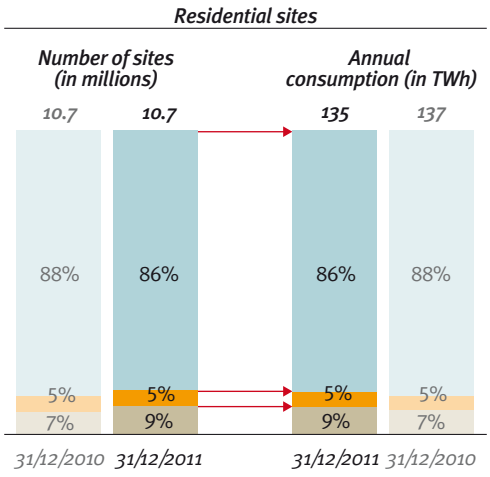

**Residential sites.**
The number of residential customers with market-price contracts grew by 16% in 2011 (+253,000 sites), 21,000 additional sites on average per month.

**Non-residential sites.**
The number of non-residential sites with market-price contracts fell 5% in 2011 (-35,000 sites).

**1,838,000**
of 30.6 million
**residential customers**
had market-price contracts at the end of 2011.

**5,113,000**
**supply contracts**
were activated during 2011, of which 9% were with an alternative supplier.

## Analysis of the gas retail market




Sites under regulated tariffs
Sites under market-price contracts, incumbent suppliers
Sites under market-price contracts, alternative suppliers

**Residential sites.**
The number of residential customers with market-price contracts increased by 15% in 2011 (+190,000 sites), against 11% in 2010 (+125,000 sites).

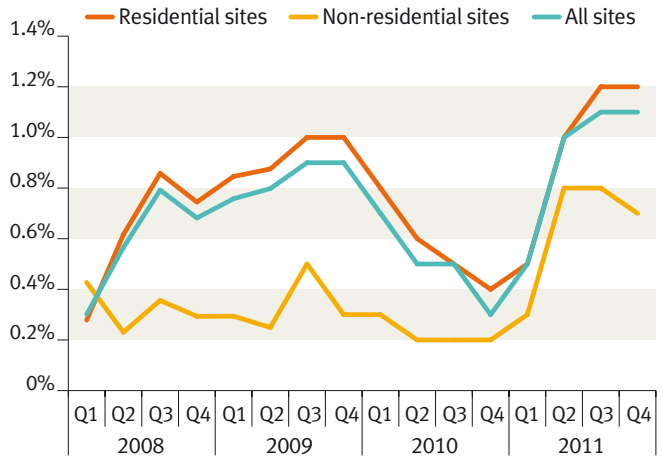
**Non-residential sites.**
The number of non-residential sites with market-price contracts increased by 7% in 2011 (+ 17,000 sites).

**1,459,000**
of 10.7 million
**residential customers**
had market-price contracts at the end of 2011.

**1,270,000**
**supply contracts**
were activated during 2011, of which 27% were with an alternative supplier.

# Overview of the **electricity** and **gas retail market**

## ELECTRICITY MARKET ACTIVITY: SWITCHING RATE




**-4.4%**

**Greatest difference recorded in 2011**

between market offer and the regulated price of electricity sales (incl. taxes) for an average 6 kVA base residential customer consuming 2,400 kWh per year.

## NATIONAL ELECTRICITY SUPPLIERS

*Of the 22 suppliers offering supply to non-residential customers, 10 also offer supply to residential customers.*


*10 suppliers offer supply to residential customers*

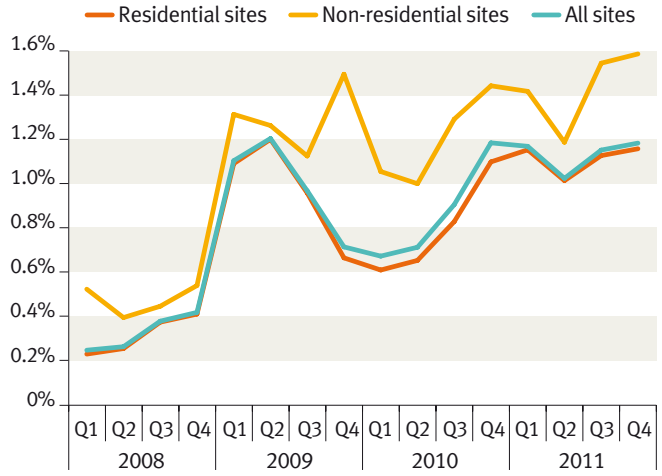
*22 suppliers offer supply to non-residential customers*

**+13%**

**increase in electricity bills, including taxes**

(between January 2007 and January 2012) for an average 6 kVA base customer consuming 2,400 kWh per year.

## GAS MARKET ACTIVITY: SWITCHING RATE




**-9%**

**Greatest difference recorded in 2011**

between market offer and the regulated sale price (incl.taxes) for residential customers with gas heating consuming 17 kWh per year.

## NATIONAL GAS SUPPLIERS

*Of the 17 suppliers offering supply to non-residential customers, 7 also offer supply to residential customers.*


*7 suppliers offer supply to non-residential customers*

*17 suppliers offer supply to non-residential customers*

**+31%**

**increase in gas bills, including taxes**

(between January 2007 and January 2012) for a residential customer with gas heating consuming 17 kWh per year.

# 26 January 2012

**The CRE certified the independence of the two French gas transmission network operators (GRTgaz and TIGF) and the electricity transmission system operator (RTE) on that date. European Union member states had until 3 March 2012 to complete the certification process.**

*European Commission: exterior view of the Berlaymont building at night.*
*© Médiathèque RTE, Philippe Lesprit*

# The CRE's brief has been extended by the implementation of the European texts of the third energy package

On 26 January 2012, the CRE certified the three French TSOs: RTE for electricity, GRTgaz and TIGF for natural gas. The granting of this certification ensures that each of the three TSOs meets its requirements for autonomy and independence from its parent company, in matters of governance and operations.

These requirements, which are derived from the transposition of the third energy package, are monitored by the CRE.

The CRE is the first European regulator to have implemented this new procedure. Continued compliance by the TSOs with the provisions relating to certification requires careful monitoring by the CRE of the measures it has imposed on them and of their ongoing activities.

**KEY WORDS**

*Certification of TSOs*

*Compliance officer*

*Third energy package*

## 1. THE TRANSPOSITION OF THE THIRD ENERGY PACKAGE WAS A CRUCIAL STEP THAT WAS TAKEN IN 2011

### 1.1. The third package strengthens the powers of the energy regulators

The obligations of autonomy and independence of the TSOs in relation to their parent companies are derived from the transposition of the third energy package. The third package is a set of two directives and three regulations concerning the internal market in electricity and gas, adopted by the European Parliament and the Council. It has several objectives which are common to European Union member states:

– to harmonise and strengthen the powers and independence of the national regulators;
– to ensure non-discriminatory access to networks by unbundling TSOs from their parent companies and to ensure efficient access through better coordination between transmission operators;
– to Increase investment in electricity and gas infrastructures;
– to improve the transparency and operation of the markets;
– to strengthen consumer protection;
– to coordinate more effectively the actions of the regulators at EU level by establishing the Agency for the Cooperation of Energy Regulators (ACER).

France is one of the first European Union member states to transpose the directives of the third package into its national law, which it did on 9 May 2011 by adopting ordinance no. 2011-504, which created the Energy Code. The provisions derived from the

► *The main aim of the actual unbundling of transmission system operator activities and production or supply activities is to avoid all risk of discrimination between network users and therefore eliminate potential conflict of interest between the system operator and its parent company engaged in the supply or production of gas or electricity.*

*400/225/90kV substation, Villejust (Essonne). © Médiathèque RTE, Laurent Vautrin*

third package were included in this code, which groups together all the French laws relating to gas and electricity.

The Energy Code extends the powers of the CRE in many areas. The CRE now has the mission of annually reviewing the ten-year development plans of the TSOs. It must cover all investment needs and be consistent with the plan developed by the European Network of Transmission System Operators for Gas (ENTSOG) and Electricity (ENTSO-E). If necessary, the CRE may require the TSO to amend its ten-year plan. In the event of failure to make an investment provided for in the three-year plan, the CRE may, if the plan is still relevant, order the TSO to comply with this requirement or, alternatively, it may organise a call for tender to third party investors.

Another key provision of the Energy Code stipulates that the CRE itself will fix or approve, before their coming into force and with transparent criteria, the tariffs for use of the electricity and natural gas networks and LNG facilities, or the methodology used to calculate them.

Furthermore, the CRE now has an enhanced role regarding connection to the electricity and natural gas infrastructures, since it is responsible for approving the applicable connection rates and conditions.

FOCUS

### The implications of the transposition of the third energy package

- *The establishment and assignment to the CRE of a procedure for certification of the independence of TSOs.*
- *Increased TSO obligations in the area of investment through the introduction of the requirement to publish a ten-year development plan for the networks concerned and control of the implementation of the investments.*
- *Wider powers for the CRE in terms of penalties and dispute decisions and in monitoring investment projects: the CRE must from now on issue an opinion on the ten-year plans produced by TSOs.*
- *Increased powers for the CRE in relation to tariffs for the use of electricity or gas transmission and distribution networks, and tariffs for the use of LNG terminals, which the CRE itself will now fix or approve.*
- *Increased powers for the CRE in connections to electricity and natural gas infrastructures.*

### 1.2. France has chosen the "Independent Transmission Operator" model to ensure the independence of the TSOs

One of the main objectives of the third package directives is to ensure that transmission activities are unbundled from production and supply activities in vertically integrated companies. Three unbundling options were defined by the directives and it is left up to member states to choose amongst them.

The first option, stipulated as a principle by the guidelines, is based on ownership unbundling between TSOs and any business engaged in production or supply (Ownership Unbundling model - OU). In this case, the TSO does not belong to a vertically integrated company.

Member states were offered two other options in the event that the transmission system is owned by a vertically integrated company:

– either to entrust the system operation to a third company, with the vertically integrated company retaining ownership of the transmission system (Independent System Operator model – ISO);
– or to strengthen the independence of the TSO from the supply and production activities of the vertically integrated company (Independent Transmission Operator – ITO).

France has opted for the latter model for TIGF, GRTgaz and RTE.

According to the ITO model, the TSO must have autonomous human, technical, material and financial resources for the exercise of its transmission activity. In particular, it must ensure that its commercial and financial relations with the other companies of the vertically integrated group adhere to market conditions. The TSO must also avoid any confusion with the vertically integrated company in matters of communication and they must not share premises.

Furthermore, the ITO model sets forth a number of ethical rules applicable to the managers, certain members of the supervisory bodies and to all employees of the TSO.

Finally, the governance rules are specified and clarify the respective roles of the TSO's management and also of its board of directors or supervisory body.

### 1.3. The CRE has implemented a new certification procedure

To guarantee full compliance by TSOs with the ITO model's organisational rules, a certification procedure was introduced by the third package. This procedure seeks to ensure compliance by TSOs with the organisational rules and independence requirements in respect of the companies engaged in production or supply within the vertically integrated company to which they belong. The main aim of the actual unbundling of TSO activities and production or supply activities is to avoid all risk of discrimination between network users and therefore eliminate potential conflict of interest between the system operator and its parent company engaged in the supply or production of gas or electricity. The purpose is to ensure, in particular, the full autonomy of the TSOs in investment decisions. The certification process has therefore provided for checking of compliance by RTE, GRTgaz and TIGF with the rules of organisation and independence within integrated groups.

Certification of a TSO in accordance with an independence model implies that the CRE continuously monitors this operator's compliance with all the requirements of the selected independence model.

▼ *The three French TSOs*

*GRTgaz is a limited company, a 75% subsidiary of GDF SUEZ and a 25% subsidiary of the Société d'Infrastructures Gazières, a public consortium owned by CNP Assurances, CDC Infrastructure and the Caisse des Dépôts et Consignations (Deposit and Consignment Office) (100% GDF SUEZ before 12 July 2011).*
*GRTgaz operates, maintains and develops a network of 32,200 km of pipelines transporting high pressure natural gas with 25 compressor stations.*
*The company carries approximately 700 TWh of natural gas per year.*
*GRTgaz has 2,690 employees.*
*2010 turnover: 1.520 billion euros.*

*TIGF is a limited company 100% owned by TOTAL SA. TIGF operates, maintains and develops a network of 5,000 km of pipelines transporting high pressure natural gas with 4 compressor stations.*
*TIGF carries approximately 80 TWh of natural gas per year.*
*The company has 490 employees.*
*2010 turnover: 370 million euros.*

*RTE is a public company whose sole shareholder since September 1, 2005 is EDF SA.*
*RTE operates, maintains and develops more than 100,000 km of very high and high voltage networks. It carries more than 500 TWh of electricity per year.*
*RTE has 8,500 employees.*
*2010 turnover: 4.4 billion euros.*

## 2. THE CERTIFICATION OF THE THREE TSOS WAS APPROVED BY THE CRE ON 26 JANUARY 2012

### 2.1. The CRE quickly opened the certification procedure

CRE began preliminary work on the transposition of the third package directives as soon as they were published in the Official Journal of the European Union. To this end, the CRE set up a working group consisting of the legal departments of the companies involved, in order to provide expert advice on the application of certain ITO model rules.

Pursuant to the ordinance of 9 May 2011, the CRE launched the procedure for certification of the French TSOs from 10 May 2011. By decision of 12 May 2011 the CRE determined the composition of the certification files. The processing of the files lasted less than four months, from their receipt on 6 June 2011. This phase ended on 15 September 2011 by a CRE decision establishing the draft certifications to be sent to the European Commission.

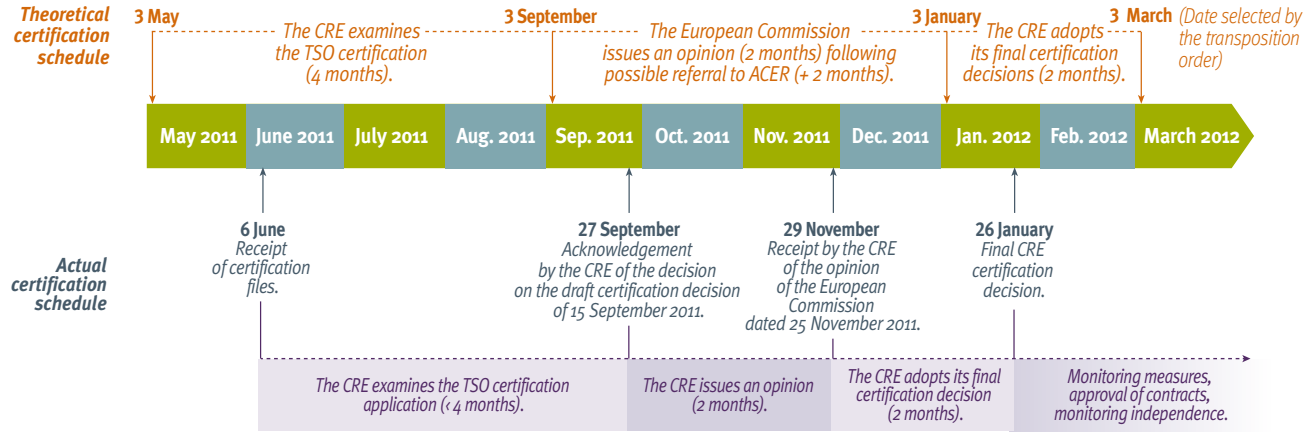
### 2.2. The CRE submitted the draft certifications of the French TSOs for the opinion of the European Commission

The CRE then sent the European Commission the three draft certifications for the TSOs, requesting its opinion, in accordance with the regulations. The Commission then had a period of two months to give its opinion, which could be increased to four if it decided to consult ACER. Because these were French draft certifications, the European Commission did not approach ACER, which meant it was able to issue an opinion to the CRE at the end of November 2011, with publication on 19 December 2011.

The opinions regarding RTE, GRTgaz and TIGF were, thus, the first to be published by the European Commission.

In these opinions, the European Commission recommended a number of changes to the governance or operational models of the TSOs, in order to achieve the required level of independence between the TSOs and the vertically integrated

▼ *Certification schedule*



companies to which they belong. Although these opinions are not binding and, in accordance with the provisions of European regulations No 714/2009 (electricity) and 715/2009 (gas), the CRE took full account of them in its final certification decisions on 26 January 2012.

### 2.3. The CRE's analysis addresses elements ensuring the independence of the TSOs in matters of governance and operations

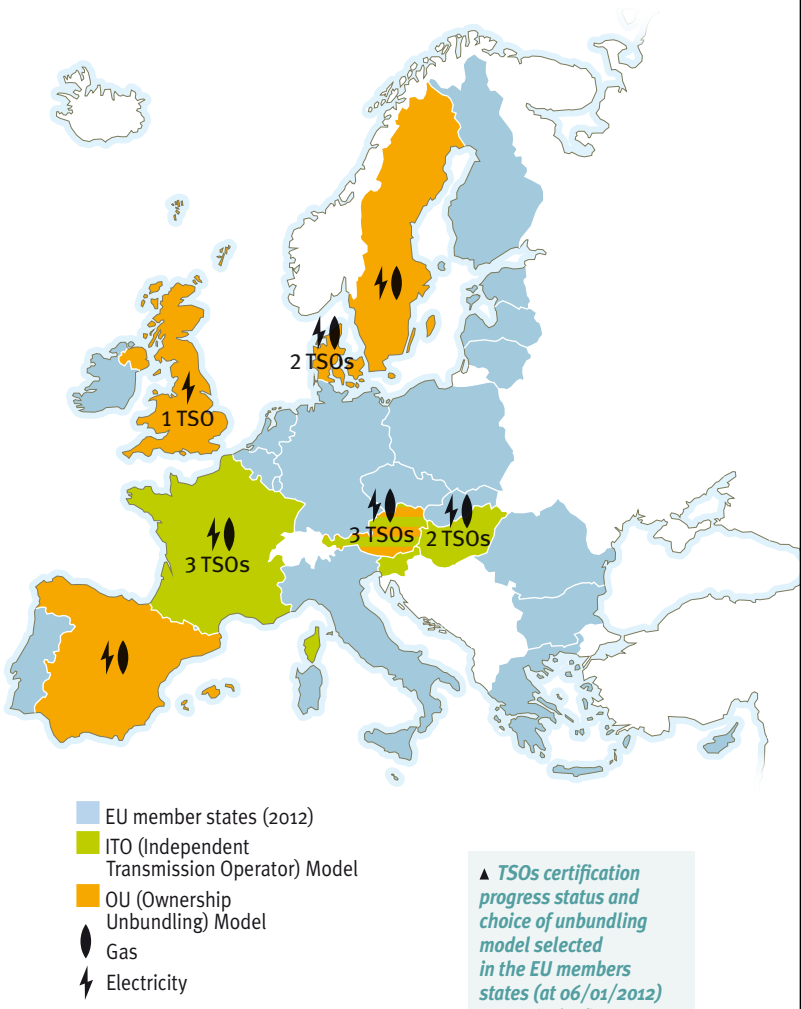
To ensure that the TSOs were independent from vertically integrated companies, the CRE's analysis focused on the following three areas:

– organisation and rules of governance;
– autonomy of operation;
– autonomy of resources.

*Organisation and rules of governance*
Analysis of the organisation and rules of governance seeks to ensure the independence of TSOs from the other companies in the vertically integrated group (engaged in production or supply activity).

In the area of governance, the CRE checked compliance with the rules covering the operation and powers of the supervisory body. The latter is required to take decisions that may impact significantly on the value of the assets of shareholders. However, to ensure the independence of TSOs from the shareholder, these decisions cannot address network management and development activities. This requirement has led some TSOs to amend their statutes.

Independence of individual persons is also a major requirement imposed on the TSO. This requirement applies in particular to certain members of the board of directors or the supervisory board (called the members of the minority), members of the corporate management and employees in general. This requirement led the TSOs to adopt new rules on minority member or management ownership of interest in group companies. The CRE also checked that remuneration of employees and managers was independent of the activity of the vertically integrated company. Henceforth, these persons will not be able to hold interests in the parent company's other companies.




▲ ***TSOs certification progress status and choice of unbundling model selected in the EU members states (at 06/01/2012)***
*France is the first member state to have certified three TSOs under the "Independent Transmission Operator" model.*
*Source: European Commission*

*Autonomy of operation*
Analysis of autonomy of operation focuses on commercial and financial agreements and on the provision of services between the vertically integrated company and the TSO. Historically, these agreements were the result of the integration of activities within the company (shared information

system for example). Sometimes they also allow for provision between the group and the TSO of certain services that no other company is in a position to provide (for example, in the area of transmission system security).

The provisions of the Energy Code based on the transposition of the third package note that with regard to this connection, these agreements must be consistent with market conditions and must be submitted to the CRE for approval.

Services provided by the vertically integrated company for the TSO are, in turn, prohibited, in principle, by the Energy Code. However, under the exception provided by the Energy Code, the CRE has allowed some of these services, to the extent that they are strictly necessary for adjustment or balancing of the networks or their safety and security, and to the extent that they satisfy a number of neutrality criteria. These services will also be subject to regular review by the CRE to ensure their continued compliance with the legislation.

Finally, the CRE checked that the services provided by the TSOs to the vertically integrated company were compliant with the performance conditions specified in its decision of 19 May 2011, in terms of user accessibility, non-discrimination and fair competition.

***Autonomy of resources***

The goal in analysing autonomy of resources is to confirm that the TSOs have all the human, technical, material and financial resources required to carry out their functions and for the management of the TSO's daily business.

In terms of human resources, the CRE required the TSOs to use their own personnel in accordance with the Energy Code. In this regard, TIGF, the only TSO that in 2011 still had staff seconded from the vertically integrated company, undertook to discontinue use of all staff seconded from the group by the end of 2013.

The CRE also examines the material and technical resources of the TSOs in accordance with the certification. The Energy Code requires that TSOs must be owners of the assets required for the performance of their transmission operations and must have all the technical and material resources required. The CRE checked that the TSOs complied with these provisions.

The Energy Code also requires that TSOs have access to the financial resources required for their activity, this having been checked by the CRE during the certification exercise. The law stipulates, in particular, that the public service functions entrusted to RTE, GRTgaz and TIGF (ensuring the security and balance of flows for example) are financed by network user tariffs that cover the incurred costs.

RTE's corporate name has been modified so that all references to the EDF group are removed. Similarly, the corporate identity of TIGF will be distinguished from the other companies of the Total group.

FOCUS

### The main highlights of the CRE certification decision of 26 January 2012

*The CRE has certified the independence of the three French TSOs. Certification is subject to obligations which include the following:*

| RTE Réseau de transport d'électricité | GRTgaz | TIGF |
|---|---|---|
| *The withdrawal of RTE from certain trade and service provision agreements entered into with EDF SA.* | *Total separation of information systems in 2014.* | |
| *Greater transparency in the conditions under which certain services are provided by RTE to its network users.* | *Systematic opening up to competition of funding sources.* | *Corporate name change to remove confusion with the corporate identity of the vertically integrated company.* |
| | *Discontinuation of the use of the vertically integrated company for services relating to translation and purchases.* | *The ending of staff secondment from the vertically integrated company before 2014.* |

## 3. CONTINUOUS COMPLIANCE BY TSOS WITH CERTIFICATION PROVISIONS CLOSELY MONITORED BY THE CRE

For the regulator as for TSOs, certification does not end with the certification decision. Indeed, the certified TSO must continue to comply with the texts, with the CRE's decisions and with the undertakings to guarantee its autonomy and independence from the vertically integrated company. The regulator is responsible for ensuring that there is no risk to the independence requirement of the certified TSOs. Should such a risk arise, it could lead to penalties.

For this reason, since the certification decision, the regulator's role focuses on two aspects: firstly, to ensure that the certified TSOs implement the measures defined in the certification decisions and, secondly, to monitor the development of the activities of these system operators, who must comply with the ITO model.

### 3.1. The CRE's certification decisions impose obligations on TSOs

For several years, system operators have been working closely with the CRE's services, in order to adapt their internal organisation and their relationship with integrated groups.

The measures taken to date by the TSOs, and also those they have undertaken to implement in the near future, provide them with a degree of autonomy and independence that the CRE considered satisfactory, provided that certain additional obligations imposed in the certification decisions are respected.

OVER TO ...

## Marie-Christine Jalabert,
### European Commission, Directorate General for Energy[1]

*Marie-Christine Jalabert has been responsible, for many years, within the European Commission for European issues relating to the internal energy market. Her most recent major portfolio within the Directorate General for Energy (DG ENER): transposition of the third energy package and certification of TSOs. As the CRE's preferred contact she reports on a long and complex process that required the collaboration of the regulator and the Commission services.*

***How was collaboration arranged between the CRE and European Commission services during the French TSO certification process?***

*The certification procedures are the focal points of the transposition process. They ensure the smooth implementation of the conditions of independence of the TSOs.*

*Cooperation with the CRE was both exemplary and proactive. The CRE was very quick to start the preparatory work and discussions with the European Commission. As soon as it was given legal authorisation, it began the formal procedures with regard to the TSOs concerned. The European Commission, aware of the legal difficulties of implementing the provisions of this procedure, had already drafted an interpretative memorandum on issues related to the unbundling of system operators to guide the national legislature and the regulatory body.*

*The DG ENER cooperated with many regulators, and each certification procedure raised specific issues that were useful in each national experience.*

*Despite a tight schedule for all parties, the objective was achieved and the three French TSOs were among the first to be certified within the specified time limit.*

***What method did you adopt for preparing the opinions issued by the Commission on the draft certification decisions?***

*The opinions of the European Commission represented an important legal innovation because no precedent exists for energy issues.*

*A questionnaire was drafted by the DG ENER to ensure that each national regulator within the Union adopted a consistent approach in the certification exercise. The questionnaire was sent to the Commission together with each project of individual certification decision. It provided a kind of roadmap for the national authority to address all the legal issues related to the concept of control and the limits of the scope of the vertically integrated companies. These concepts, derived from competition law, lie outside the traditional scope of the tools of regulation and practice of the regulatory authorities.*

*Within the European Commission, the procedure is formal and depends on the board's decision. The Directorate General for Competition (DG COMP) and the legal service were consulted for a favourable opinion.*

*The regulators are independent of the ministry, and the draft decisions are sent directly to the European Commission by the regulator. In return the regulator is formally notified of the opinion.*

*Although so far the Agency for the Cooperation of Energy Regulators (ACER) has not been sent any formal request for an opinion by the European Commission, it is involved informally through regular information exchange.*

***What are the next steps in the implementation of the third package in Europe?***

*To date, several member states have partially transposed the package and in certain cases no transposition law has yet been adopted.*

*The Commission and its services continue to work for the implementation of the directives, including sending the member states concerned a reasoned opinion giving them two months to finalise the transposition.*

*These infringement proceedings are complemented by increased assistance provided by the DG ENER services, which have no legally binding powers over the European Commission. Negotiations with some member states in the broader context of the treatment of their sovereign debt have also provided an opportunity to make progress on the implementation of the internal market in the countries concerned thus enabling the energy sector to contribute to economic growth in these countries. Thorough work has been carried out particularly in Greece, Portugal and Romania.*

*The target set by the European Council - achieving energy market integration by 2014 - is still valid.* ●

*1 – The views expressed in this interview are not binding on the European Commission.*

▲ *The certified transmission system operator must continue to comply with the texts, the CRE's decisions and the undertakings to guarantee its independence and autonomy from the vertically integrated company.*

*Delivery station, Saint-Pourcain-sur-Sioule (Allier).*
*© GRTgaz, Hamid Azmoun*

RTE's company name has been changed to remove all references to the EDF integrated group: network users can therefore clearly distinguish the TSO from the companies of the integrated group engaged in supply or production. TIGF has also undertaken to make changes to its corporate identity to enable it to distinguish itself better from the other companies in the Total group.

The statutes of the TSOs have been revised so that they comply with the provisions of the Energy Code. The power to determine the dividend amounts paid by the TSOs will now rest with their supervisory body or board of directors, some of whose members are subject to independence requirements.

The CRE also judged it necessary to reduce to the absolute minimum the services provided to TSOs by integrated groups. This will imply, in the future, either the internalisation of certain activities or the use of service providers outside the integrated groups.

As these are services provided to network users, RTE should also continue with the procedures for corporate transparency. The company will publish, for example, the conditions under which it provides certain services to users of its network. This will require the organisation of prior consultations with them.

The CRE has checked that the procedures implemented by TSOs were sufficient to ensure complete confidentiality of commercially sensitive information and that their information systems are wholly and in a required time limit separated from those of the other companies in the vertically integrated group.

On this last point, the CRE asked GRTgaz and TIGF to complete the full separation that they had begun between their information systems and those of their integrated groups.

In the future, the CRE will review compliance by the TSOs with the obligations to which the certification award is subject, and will continue to monitor the maintenance of their independent status.

### 3.2. The recurring activities of the TSOs are monitored by the CRE

The regulator's powers have been enhanced to enable it to check that TSOs meet the requirements of their certification. The CRE will focus, in particular, on ethical principles, compliance programmes and the role of compliance officers, in both the ENTSO ten-year development and the French TSO development plan for development of the networks and in trade agreements and service provision.

***Commercial and financial agreements and service contracts***

Certified TSOs are required to submit, for the approval of the CRE, the renewal or signing of any new commercial and financial agreement, or any service provision contract entered into and provided by the vertically integrated company. On such occasions, the CRE will analyse the compliance of such agreements or contracts with the Energy Code. It will continue to ensure that there is no threat to the independence of the TSOs.

***Services provided by the TSOs***

Each TSO must publish standard framework contracts for the services it provides to users of its network. These documents help to ensure that these services comply with the performance conditions in relation to user accessibility, non-discrimination and fair competition that the CRE specified in a decision adopted on 19 May 2011. The relevant contracts may also be subject to CRE audits to ensure that, in practice, the procedures for providing these services actually comply with the provisions of the Energy Code.

***Ethics***

The regulator will ensure that the internal ethical rules, which ensure that the remuneration of the TSO's employees and managers is independent of their parent companies, are in accordance with the Energy Code.

The power to determine the dividend amounts paid by the TSOs will now rest with their supervisory body or board of directors, some of whose members are subject to independence requirements.

▼ *In case of breach by a transmission system operator, the CRE's Standing Committee for disputes and sanctions (CoRDiS) can impose fines of up to 8% of turnover excluding tax for the last financial year, increased to 10% in the event of further breach of the same requirement.*

*Compressor station Sauveterre-de-Guyenne (Gironde). © TIGF, Etienne Follet*

***Compliance programs and compliance officers***

Each TSO has developed a compliance program, approved by the CRE, which brings together the internal organisational measures taken to prevent the risk of discriminatory practices affecting third party access to the network. Changes to this program will be subject to the CRE's approval.

The CRE and each TSO's compliance officer (see Focus) oversee compliance with the rules set by the compliance programs and evaluate the independence of the TSOs. The CRE publishes an annual report on obedience to compliance programs and the independence of TSOs. The 2011 version will be the seventh edition of this report. It comprises an analysis of the implementation of compliance programs and recommendations, whose implementation by the transmission system officers, will be monitored by the CRE.

The work of the compliance officer and CRE audits will enable the principles of autonomy and independence to be fully integrated into the activities of the TSOs, particularly to ensure that there is no discrimination in respect of third party access to networks.

***Ten-year network development plans***

A ten-year network plan has been developed by each TSO. It documents the major construction or infrastructure upgrade projects for the next ten years. It also includes the investments that have already been decided upon and those to be made within three years.

Each year, these documents are submitted to the regulator for consultation with existing and potential users. A summary of these consultations is published. The controller examines whether the ten-year plans correctly cover all investment needs and whether or not they are consistent with the non-binding European plans developed by ENTSO-E and ENTSOG.

Where applicable, the regulator may require TSOs to amend these documents. The regulator supervises and evaluates their implementation.

If a TSO does not carry out a planned investment within three years, for reasons other than compelling reasons beyond its control, the regulator may send a formal request to the TSO to make this investment. It can then organise a call for tender procedure open to any investor, so that the investment in question can be made.

***New CRE procedures for TSO non-compliance***

The CRE checks that each TSO adheres to the requirements of the ITO model. If the TSO or a company owned by the vertically integrated company, fails to comply with the independence rules, or when the TSO fails to update its ten-year development plan, or when it refuses to make an investment in accordance with this plan, the CRE's Standing Committee for disputes and sanctions (CoRDiS) may impose fines of up to 8% of the pre-tax turnover of the previous financial year, rising to 10% in the event of further breach of the same requirement.

Moreover, if the TSO persistently breaches the independence rules, the CRE will be entitled, after sending a formal request to no effect, to entrust the missions performed by the TSO to another company meeting the rules of the Ownership Unbundling model (article L134-30 of the Energy Code). ●

**FOCUS**

## Compliance officers

*A new role in each TSO is introduced with the certification of the TSOs: the compliance officer. The holder of this role is responsible in particular for checking the implementation of codes of conduct and for alerting the CRE in relation to any matter regarding the independence of the TSOs. To ensure a degree of independence necessary for the exercise of his functions, the compliance officer has an suitable contract and working conditions.*

*During the certification process, the CRE approved the appointment of three senior managers to take responsibility for the compliance of RTE, TIGF and GRTgaz, and their employment contract and conditions, so as to ensure, in particular, that they have sufficient resources to carry out their functions.*

*These senior managers can attend any meeting of the supervisory board's management and any general meeting of shareholders of the TSOs. They have access to all relevant data, to all the premises of the TSO without prior notice, and all information necessary for their duties.*

*The compliance officers will forward to the CRE, an annual report on the implementation of compliance programs and will report any breach. They check the proper implementation of the ten-year development plan for the network and notify the CRE immediately of any proposed decision to postpone or suspend a planned investment provided in the ten-year network development plan and any matter relating to the independence of the TSO.* ●

# 3 March 2011

**The Agency for the Cooperation of Energy Regulators (ACER) has been operational since that date.**
**The CRE actively participates in its work, in partnership with its European counterparts.**

*France-UK IFA 2000 electrical interconnection: very high voltage line near the AC/DC converter station at the Mandarins substation in Bonningues-lès-Calais (Pas-de-Calais).*

# The CRE is working for the Europe of Energy

A Europe of energy is becoming a reality with the emergence of transeuropean corridors and the opening up of national electricity and gas networks.

The establishment of the Agency for the Cooperation of Energy Regulators (ACER) in 2011 and the announcement by the European Council of a 2014 deadline for completion of the internal market have given new impetus to the integration of European energy markets.

Together with other energy regulators and ACER, the CRE is involved in the emergence of a truly integrated European market.

**KEY WORDS**

***ACER***

***Interconnections***

***Network code in 2011***

## 1. EUROPEAN COOPERATION REACHED A NEW MILESTONE WITH THE CREATION OF ACER

### 1.1. A new institutional structure is now in place

The Agency for the Cooperation of Energy Regulators (ACER) officially took up residence in Ljubljana, Slovenia, on 3 March 2011. The establishment of ACER is a key accomplishment of the third energy package which formalises cooperation between the CRE and its European counterparts. Apart from its coordination function, ACER plays a central role in the development of the new European regulatory framework. It also has individual decision-making power in cases of cross-border disputes.

To ensure total impartiality in its roles, ACER is made up of three separate decision-making bodies in addition to its director: an Administrative Board, a Board of Regulators and a Board of Appeal. The Board of Regulators is a key body within the Agency. It is composed of representatives of the European Union's 27 independent regulators, including the CRE, and it met eight times during 2011. It provides guidance to ACER's director on the execution of its missions. No decision, recommendation or opinion of the director is therefore deemed valid without the favourable opinion of the Board of Regulators.

ACER was able to give its opinion on the draft statutes, list of members and draft internal procedures of the European Network of Transmission System Operators for electricity and gas (commonly referred to by their English acronyms ENTSO-E and ENTSOG), thus completing the institutional structure introduced by the third energy package. ENTSO-E membership now comprises 41 network operators from 34 European states, while ENTSOG has 39 managers from 23 states.

▼ *Members of the three ACER bodies (the Board of Regulators, the Board and the Board of Appeal) with the Director of the Agency, Alberto Pototschnig.*
*© ACER*

FOCUS

## The main European participants in market integration

***The Agency for the Cooperation of Energy Regulators (ACER)***

*ACER (Agency for the Cooperation of Energy Regulators) is a European agency established under the third energy package for more effective coordination of the activities of national regulatory authorities at European level. Its Board of Regulators is composed of one representative for each of the 27 European Union regulators and a representative of the European Commission.*

***European Commission***

*EU monitors ACER's work and the work of the European TSOs, the ENTSOs, in drafting framework guidance and network codes. It establishes upstream work priorities and validates the publication schedules. It monitors downstream compliance of the drafted texts with respect to European legislation. It decides whether or not to make the network codes binding by the process known as comitology.*

***Council of European Energy Regulators, CEER***

*CEER is a non-profit association of the regulators of the 27 member states of the European Union, plus the regulators of Norway and Iceland. Since 2000, CEER has been the forum for the voluntary cooperation of European Regulators working in partnership with ACER to implement the internal market in energy.*

***European Network of Transmission System Operators, ENTSO***

*The ENTSOs organise cooperation between the European transmission system operators (RTE, GRTgaz, TIGF and their European counterparts) in working towards the integration of markets. There is an ENTSO for electricity (ENTSO-E) and one for gas (ENTSOG).* ●

The establishment of ACER has brought important changes to the existing structures of European cooperation, which include the CRE. The European Regulators Group for Electricity and Gas (ERGEG) has seen the majority of its functions gradually integrated into the activities of the Agency. ERGEG was therefore dissolved on 1 July 2011. Meanwhile, the Council of European Energy Regulators (CEER), the association formed by 29 European regulators, has adapted its structure to the new context to provide complementarity by refocusing its activities on the intervention areas excluded from ACER's areas of competence.

The CRE, which this year has been assigned one of the vice presidencies of the CEER, renewed its commitment in 2011 to improving the operation of retail markets and the European regulatory framework for protection of energy consumers. It has also continued to promote cooperation between CEER and regulators outside the EU, which is another development priority of the association of European energy regulators. To this end, the CRE supported the expansion of CEER's geographical scope, thus enabling the Swiss regulator to join the association as an observer

### 1.2. ACER has adopted initial framework guidelines for market integration

The handover of the development of framework guidelines between ERGEG and ACER was successfully completed in 2011. With the preparatory work of the regulators in ERGEG, no less than five framework guidelines were adopted by ACER in the year it was set up.

OVER TO ...

## Alberto Pototschnig,
### Director of the Agency for the Cooperation of Energy Regulators (ACER)

*Alberto Pototschnig, economist and specialist in the energy sector, is the first director of the Agency for the Cooperation of Energy Regulators (ACER). This essential new agency will continue the building of the European energy market. Its workload is considerable: to coordinate the national regulators, to harmonise, at the European level, the national operating rules of markets and networks, to further open up to competition the electricity and gas markets. Alberto Pototschnig is looking back on a year's work, the Agency's relations with regulators in the member states and issues of international cooperation.*

***How would you assess ACER's first year activities? What has been achieved so far?***

*I am very pleased with the Agency's achievements over our first year of formal operations. In September last year we completed the establishment of the Agency's bodies, with the appointment of the Board of Appeal. By the end of 2011 we almost completed the recruitment of our initial complement of staff, as envisaged in our founding Regulation, and started the selection process for the additional staff required to implement the new Regulation on energy market integrity and transparency (REMIT). We have also advanced well in our regulatory activities, with five framework guidelines and a number of opinions and one recommendation already adopted. Finally we have put in place the IT tools related to those provisions in REMIT which were applicable since its entry into force last December.*

***How will European citizens benefit from the existence of ACER?***

*ACER reinforces the European dimension in the energy regulatory process. Two of the main tasks of the Agency relate to the efficient planning of network development and to the definition of the new common EU rules for the operation of energy systems and markets. Stronger and smarter networks and common rules directly applicable in all Member States are essential for the integration of national energy systems and the creation of an efficient, sustainable, secure and competitive internal energy market. In turn, a well-functioning internal energy market will promote competition and empower consumers, giving them greater choice and more transparent prices.*

***To what extent national regulatory authorities contribute to ACER's activities, and what can ACER bring in return?***

*National regulatory authorities (NRAs) have been and remain instrumental to the success of ACER in many respects. They are at the same time our "clients" as well as part of the "engine room" and of the governance structure of the Agency. In the run-up to the establishment of the Agency, NRAs cooperated – in an "as if" mode – to advance the work in several priority areas. This allowed the Agency, inter alia, to launch the first two public consultations on framework guidelines on the very same day of its official opening. Since then, NRAs support the Agency by participating in its working groups and by providing seconded national experts. Moreover, through CEER, they provide logistical support for our Brussels office. Last, but not least, NRAs' representatives sit in the Agency's Board of Regulators, a key player in defining the Agency's regulatory strategy and in its decision-making process. In return the Agency provides a more robust framework for the NRA cooperation.*

***How do you consider in particular the cooperation between ACER and CRE?***

*CRE has maintained a close cooperation with the Agency and I am very grateful for their continuing support. Experts from CRE have played and continue to play a leading role in the Agency's activities for the definition of the rules on cross-border capacity allocation for gas and on long-term allocation of transmission capacity rights in electricity. Moreover, CRE is one of the NRAs with the greatest experience in wholesale market monitoring and we are taking advantage of this experience for the implementation of REMIT.* ●

With the preparatory work of the regulators in ERGEG, no fewer than five framework guidelines were adopted by ACER in the year it was set up.

The framework guidelines establish non-binding general principles for the operation of the European energy market. These principles will be translated into more technical terms in the network codes drafted by the ENTSOs. The European Commission then decides whether these codes are to be made binding.

The guidance frameworks adopted in 2011, which address electricity network connection rules, capacity allocation and congestion management and secure operation of the electrical system and, as far as gas is concerned, gas network capacity allocation and balancing rules, will help to ensure effective competition in the European market. The CRE has therefore been highly active in each of these areas, including joint management of the drafting of some of the texts.

In this new context, ACER also wished to give new impetus to the "regional initiatives" launched by ERGEG in 2006. The aim of the seven Electricity and three Gas regions is to organise the transitional integration of energy markets by major regional areas.

In order to meet the milestone of 2014 for completion of the internal market, the role of the regional initiatives has been redefined around a work programme that identifies shared goals and stages in order to to maintain a global perspective. The working methods have also been redesigned with an approach focused on specific projects and more flexible governance. The CRE has shown its ongoing commitment in the four electricity regional initiatives and the three gas regional initiatives, which include France.

### 1.3. ACER's functions now include monitoring of the wholesale markets

On 28 December 2011 the regulations on integrity and transparency in the wholesale market for energy (REMIT) came into force. These regulations prohibit abuse in the wholesale markets for electricity and gas, namely:

- insider trading using inside information for operations in the markets. It is also mandatory for market participants to publish this information;
- market manipulation by giving misleading signals on price or the balance between supply and demand in energy markets.

This text adapts the concepts of financial regulation to the specifics of the energy markets. For example, the concept of inside information refers in particular to information about physical facilities.

Monitoring of energy markets, for insider dealing and market manipulation detection, is entrusted to ACER, in coordination with the national regulators. Monitoring will, where appropriate, take place in cooperation with the national financial regulators, the European Securities and Markets Authority (ESMA) and the competition authorities. The national energy regulators have investigative and punitive powers. The CRE contributes actively within CEER and in cooperation with ACER on the operational implementation of REMIT.

To make this control possible REMIT provides the requirements for the provision of data whose content and exact scope must be defined by implementing acts adopted at European level. REMIT also establishes a European register of wholesale energy market participants.

### 1.4. ACER will be called upon to encourage investment in energy infrastructure

In October 2011 the European Commission presented a package of legislative proposals to help achieve "priority energy corridors" and investment in energy infrastructure (infrastructure package). ACER should soon see its scope of action expanded to include the promotion of investment in cross-border infrastructure. ACER should thus be called to play a central role in the selection of "projects of common interest" and in monitoring their implementation. These projects will initially be selected on a regional scale, with the involvement of the member states, the TSOs and the national regulators.

In the second stage, ACER is expected to advise on the selected projects by ensuring consistency at European level. Finally, the first EU list of projects of common interest should be adopted by the European Commission by July 2013. At the end of this legislative process, due in late 2012, ACER may also be responsible for providing guidance to regulators on allocation of the of cross-border infrastructure costs.

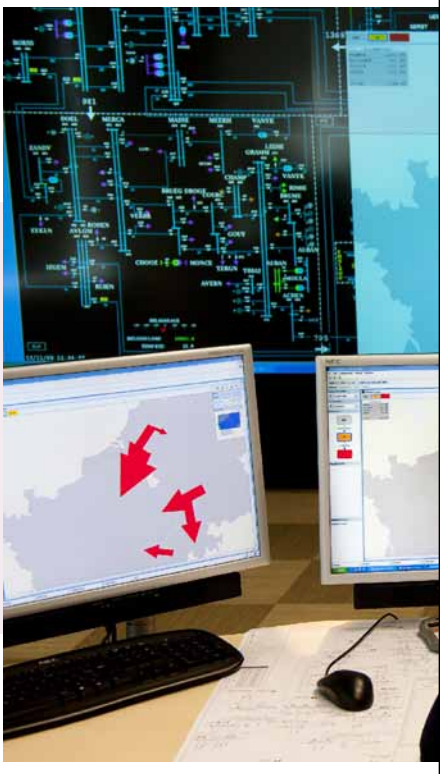
**FOCUS**

### Market integration and security of electricity and gas supply

*The integration of national energy markets seeks to increase cross-border trade for greater efficiency, price competitiveness and better service levels for the benefit of consumers.*

*This integration will require stronger European coordination: in fact, the use and development of interconnections between electricity and gas transmission systems enable pooling and therefore optimisation of production facilities and supply sources. This, in turn, contributes to the achievement of EU objectives in the fight against climate change and in the guarantee of security of supply.*

*Recent events provide an example that clearly illustrates the importance of developing interconnections and of strengthening European coordination. During the cold spell in February 2012, French electricity demand rocketed to record highs. Interconnections played a key role in maintaining security of supply. Indeed, France imported up to 10% of its electricity consumption during peak periods, thereby protecting the French power system from supply disruption. Interconnections in effect, by importing cheaper electricity, put a brake on the rise in spot market prices, driven up by strong demand.* ●



► ***At the Coreso Headquarters in Brussels, supervision room for the power grid at the French borders***
*Coreso, Coordination of Electricity System Operators, is the technical coordination centre for the French, Belgian and British power transmission systems. Its function is to observe, study, anticipate and propose solutions to improve the safety level of the European network. Cooperation between European transmission system operators helps ensure better security of supply in Europe.*
*© Médiathèque RTE, Stéphane Herbert*

## 2. WITH REGARD TO ELECTRICITY, WORK IN PROGRESS FOR MARKET INTEGRATION AND SECURITY OF SUPPLY HAVE INTENSIFIED

There was a considerable volume of European work on electricity in 2011. The work consisted of the following:

– the development of three framework guidelines that will make the internal market operate more effectively;
– the drafting of roadmaps for European level harmonisation of capacity allocation rules;
– the strengthening of interconnection capacity.

### 2.1. Three framework guidelines were adopted for electricity and the European Commission has asked ENTSO-E to develop the first network codes

In 2011, ACER adopted three major policy framework guidelines in the field of electricity: the framework guideline on network connection was published by ACER on 20 July, the Capacity Allocation and Congestion Management (CACM) framework guideline on 29 July, and the operational network framework guideline on 2 December. The texts are the fruit of several years' work by European regulators, in which the CRE has played a leading role.

The CACM framework guideline derives directly from a consensus on the target models for the calculation and allocation of interconnection capacities. As co-chair of the work of regional initiatives in this area, the CRE has been one of the main architects of this consensus.

French electrical interconnection management practices already largely comply with the provisions proposed by ACER. This work was presented by the CRE to the French participants in November 2011.

The European Commission confirmed that this framework guideline contributes to the efficient operation of the internal market for electricity by asking ENTSO-E to draft part of the corresponding network codes. By 30 September 2012 at the latest, ENTSO-E will have completed its work on the capacity calculations and on the allocation of daily and intraday capacities.

Further framework guidance is currently being developed by ACER. Thus, the CRE is steering, with the Italian regulator, the drafting of the framework guideline on adjustment. This aims to develop cooperation between network operators, harmonisation of standards and adjustment trading in the interest of greater economic efficiency, security supply enhancements and integration of renewable energy. It should be approved by ACER in the second half of 2012.

The CRE and the Swedish regulator will steer the work of harmonisation of the rules for allocation of capacity in the long term.

### 2.2. The interregional roadmaps in electricity set milestones for achieving the target date of 2014

Regional initiatives in electricity are a real success. They have enabled regional level projects to emerge: market coupling in the Centre-West region for example or the establishment of the CASC platform (Capacity Allocation Service Company), the single point of contact for the allocation of the long-term capacity of the Centre-West region.

In 2011, important work by the regulatory authorities in collaboration with ENTSO-E and industry participants and coordinated by ACER, helped to define roadmaps breaking down the milestones for implementation of the target model for calculation and allocation of capacity to different time frames (long-term, daily and intraday).

In December 2011, the Florence Forum[1] welcomed this work and adopted the roadmaps. It urged the regions to work together to implement them. In this context, the CRE and the Swedish regulator will steer the work of harmonisation of the rules for allocation of capacity with a long-term horizon.

The long-term horizon corresponds to the usage rights of interconnection capacity valid for a given year or month. Market participants require these rights, on the one hand to secure their supplies, and on the other to increase competition, and finally to cover themselves against the risks of price fluctuations in neighbouring countries. It is interesting to note that nearly 80% of transit rights to interconnections (see Focus) are sold with a view to this long-term horizon. Hence their strategic importance for market participants.

But today, the coexistence of non-harmonised products and operational processes specific to each country and multiple allocation platforms represent an obstruction to the correct operation of the market. The goal of the allocation rule harmonisation work is to simplify the allocation procedures by introducing EU-wide harmonised common rules and a single allocation platform throughout Europe.

Considerable work has been done in France, since, as result, in particular, of the CRE approval of 17 November 2011, of interconnections with Belgium, Germany, Switzerland and Italy are managed according to a set of common rules and a single platform, the CASC.

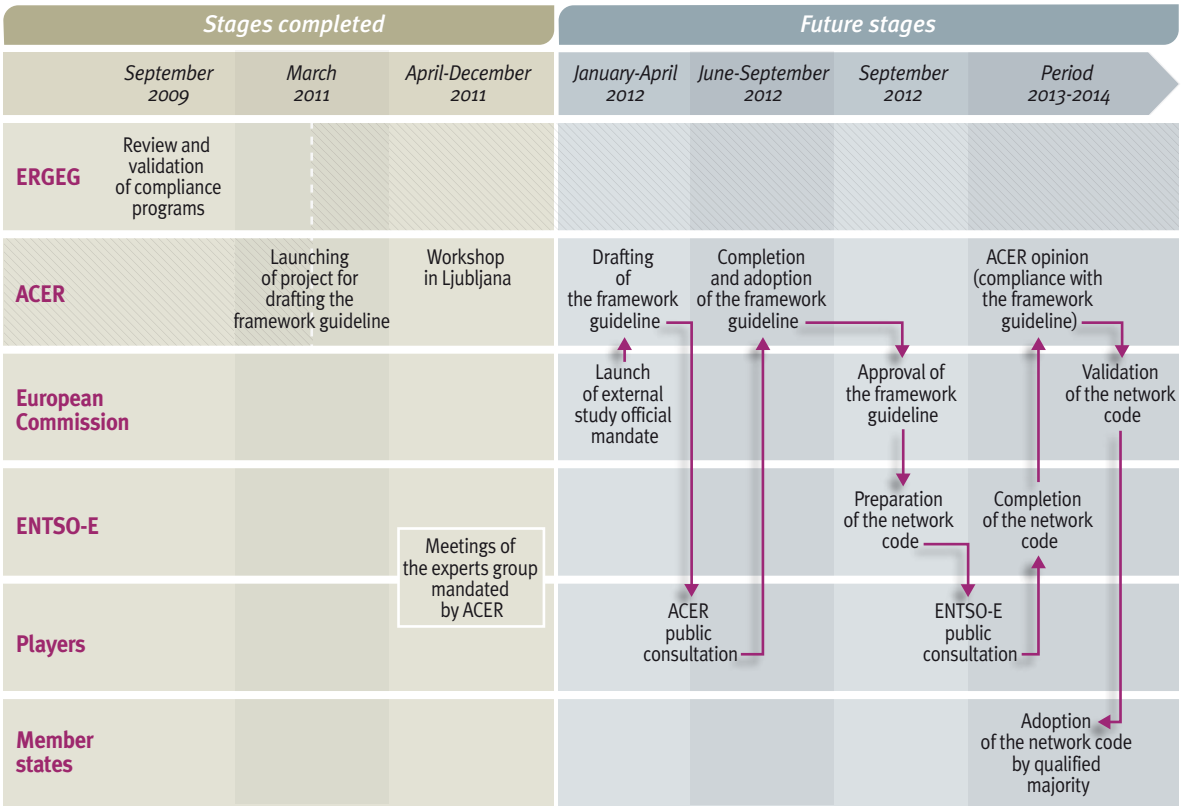
**FOCUS**

#### Transit rights for allocation of interconnection capacity

*Interconnections between European networks are not sufficient to allow electricity companies to make all the trades that they might wish: for example, interconnections between France and Germany are saturated a third of the time. To ensure effective use of interconnections and non-discriminatory distribution among market participants, the system operator auctions "transit rights", i.e. rights to use spare capacity available at borders.* ●

*1 – Created in 1998, the Florence Forum is a European group that focuses on the regulatory aspects of the electricity market. It meets twice a year.*

▼ ***Process for development of the framework guideline on adjustment in electricity***
*The work was launched in April 2011, shortly after the creation of ACER. Co-managed by the CRE and the AEEG, the Italian regulator, the project marks a key step in the integration of electricity markets.*




## 2.3. Work is undertaken at several levels to enhance interconnection capacity

In response to the challenges of market integration and security of supply, the ten-year network development plans provide an indispensable tool in the process of identification of infrastructure needs.

The publication in 2010 by ENTSO-E of a pilot version of a European ten-year plan (see Focus p. 51) provided an opportunity for regulators to express high expectations in favour of a coordinated approach to network planning at European level. In particular, an economic evaluation of trading capacity development needs has been advocated to highlight, particularly, the most beneficial projects for the community. The work undertaken in 2011 by ENTSO-E will enable a first version of the European ten-year plan incorporating this approach to be proposed in 2012 (see "third package and certification" dossier p. 25). This will also form an essential component of the selection process for projects of common interest provided by the legislative proposal for energy infrastructure.

# 700 million euros

**Cost of RTE project for electricity interconnection Baixas-Santa Llogia on the France-Spain border.**

For France, the CRE approved RTE's annual investment programme. The authorisation of the TSO's capital investment expenditure for French interconnections totalled 114.8 million euros for 2011. This figure will rise to 208.8 million euros in 2012.

2011 saw the start of construction of the interconnection between France and Spain to the east of the Pyrenees (Baixas-Santa Llogaia project). This new interconnection will start functioning in 2014 and will enable the target levels of physical export capacity from France to Spain of 2,800 MW to be achieved.

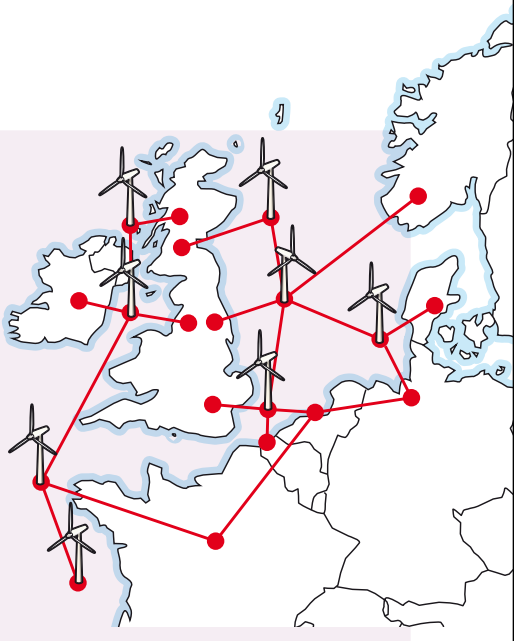
For the new interconnection project between France and Great Britain, RTE and its British counterpart have started feasibility studies for the search for an undersea route, which should be completed in 2012. Moreover, in 2011, the British and French regulators began work on analysis of the compatibility of the regulatory frameworks to provide a clear framework for both transmission operators if a decision is made on the project in 2012.

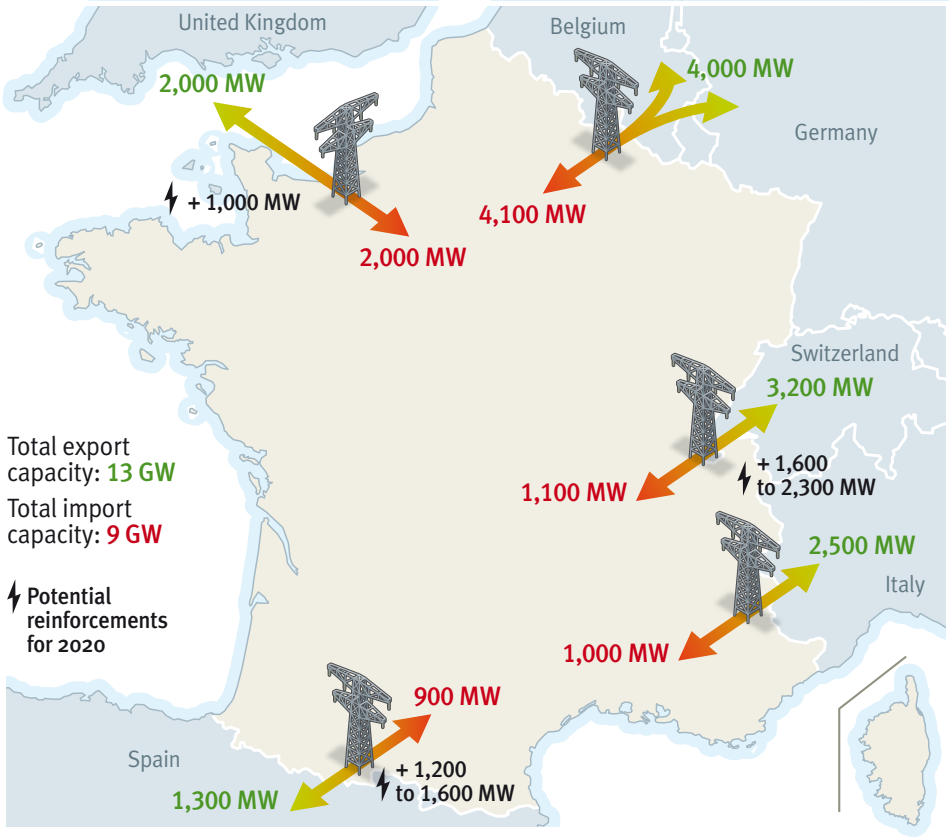
Development of interconnection is also contingent on proper development of the national upstream network. The network in the North of France, used for important flows associated with production in the area and with trading with Benelux and Great Britain, illustrates this situation. In this context, in 2011 RTE put forward a reconstruction project of the 400 kV Avelin-Gavrelle line. This project is the subject of public debate with implementation envisaged from 2017.

FOCUS

## The development of a transmission network in the North Seas

*Electricity production capacity in the North Seas (North Sea, Baltic Sea, English Channel, Celtic Sea and Irish Sea) is expected to reach 38 GW by 2020 and possibly 84 GW by 2030. With the other members of the North Seas initiative (North Seas Countries' Offshore Grid Initiative - NSCOGI), the CRE is studying the development of a coordinated offshore grid, necessary for the routing of the energy. Indeed, a network combining routing and interconnection flows of energy produced at sea may be more effective than the separate development of interconnections, on the one hand, and connection of offshore production facilities to the terrestrial network on the other. The initial work of the initiative shows that the regulation applied in the ten countries differs in several respects. The most striking fact, nonetheless, seems to be that this type of structure, combining interconnection and routing of production, is not described explicitly in the national and European regulations frameworks. Solutions to facilitate the development of such a network, particularly regarding management of flows and of the simultaneous allocation of the development costs of the offshore network and the costs generated in the national terrestrial networks, will be proposed during 2012. The infrastructure package and the ten-year network development plans will be important tools in the successful completion of this coordinated development .*






► ***Current and planned border electricity trade capacities***
*In 2011, France was a net electricity exporter across all borders, with a total balance of 55.7 TWh exported, compared to 29.4 TWh in 2010. This significant increase is partly explained by the change of trend in trade with Germany and the impact of the shutdown of eight nuclear power stations in March 2011.*
*On the border between France and Germany in 2011 the balance was 2.4 TWh of exports in 2011, compared to 6.3 TWh of net imports in 2010.*

## 3. IN THE CASE OF GAS, THE NETWORK CODES AND WORK ON THE ORGANISATION OF THE FRENCH MARKET PROMOTE EUROPEAN INTEGRATION

European work on gas in 2011 included the following:

– drafting network codes on mechanisms for capacity allocation and balancing;
– development of gas and interconnection infrastructures in France;
– further reflection on the merger of balancing zones in France.

### 3.1. The market integration process took an important step with the drafting of the network codes

*Development of the target model*
Harmonisation of rules is a complex mission in the European Union as member states have so far introduced competition based on the characteristics of their national gas industries. The third energy package sets clear guidelines for the development of the European gas market, but there is still significant room for interpretation, especially on cross-border aspects.

The launch of the first draft network codes quickly revealed the need to develop a common vision of an efficient market across the EU.

In September 2010, the Madrid[2] Forum entrusted CEER with the preparation of a target model for the European gas market, to ensure consistency over time of network codes developed according to different time-lines. CEER's work concluded with the publication of a document in December 2011 entitled Vision for a European Gas Target Model.

The proposed target model assigns a central role to market mechanisms. Its goal is to foster the development of gas exchanges by simplifying access to interconnections. This is called the "hub to hub" system, with capacity products sold by auction. Beyond the goal of optimisation of the distribution of short-term flows based on price differentials between hubs, i.e. between gas trading points, it has been shown necessary to consider the linkages between the short and long terms. This will need competition and security of supply to be properly joined up, in a context of increasing dependence on imports.

***The drafting of the network codes***

As for electricity, the work of drafting the framework guidelines and network codes proceeded at a steady pace in 2011. The implementation of the first codes in all member states will follow from 2014.

The first framework guideline addressing harmonisation of the methods for capacity allocation at interconnection points between zones was adopted by ACER on 3 August 2011. This text was the subject of lengthy negotiations between regulators in relation to a measure called the "sunset clause", requiring the modification of current contracts in order to provide, within five years, the required grouping of the output and input capacities for each point of interconnection. ENTSOG then began drafting the network code based on the ACER text. This code introduces major changes to the operation of the market with the standardisation of the capacity products to be allocated by a uniform system of ascending auctions.

Moreover, the Commission also drafted guidelines for congestion management, for situations in which the full capacity is purchased but remains partly unused by market participants. The text was adopted in April 2012 by the member states. It proposes measures to fight against capacity hoarding and, more broadly, to optimise the use of interconnections.

The second framework guideline drafted in 2011 was for balancing. It was adopted by ACER on 18 October 2011. The model selected is the daily market balancing regime. In case of imbalance, the TSO will basically intervene in the short-term markets to rebalance the system, and will charge shippers, who have an imbalance for the costs incurred.

In addition, in 2011 work started in two areas concerning the interoperability and harmonisation of tariff structures. The work in the first area aims to foster stronger cooperation between TSOs so that technical barriers to trade and business can be removed. Secondly, work on tariffs is an essential complement to the other texts being drafted, particularly those on capacity allocation. This work will have a major impact on the operation of the market and cost coverage.

*2 – In 1999, the European Commission set up the European Gas Regulation Forum to bring together member states, regulators and stakeholders. The Forum meets once or twice a year, depending on the interest and urgency of the issues to be addressed.*

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## The ten-year plans of the European electricity and gas networks

*The third package provides for the publication, every two years, by the European Transmission System Operators (ENTSO), of non-binding ten-year development plans for the European gas and electricity networks. In France, the transposition of the European directives into the Energy Code imposes an annual requirement on the electricity and gas TSOs to publish their ten-year development plans and stipulates that these plans will be submitted each year to the CRE for review.*

*In gas, ENTSOG published, in February 2011, its ten-year plan for 2011-2020 with a forecast analysis of the dynamics of the European market, forecast changes in supply and demand and a simulation of the reaction of the European system in the event of a supply crisis. The aggregate amounts of investment in transmission, storage and LNG infrastructures amount to 89 billion euros for planned and unplanned projects (including 72 billion for transmission projects) over the period 2011- 2020.*

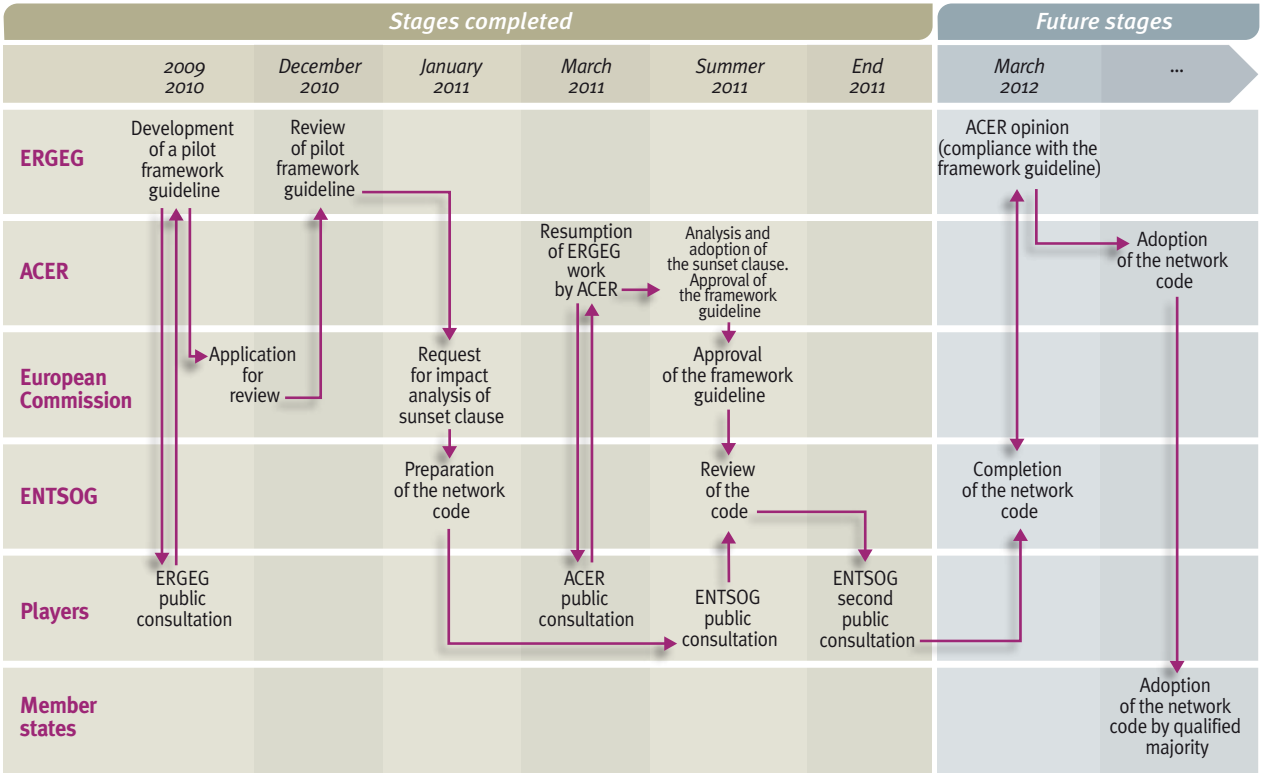
*ACER welcomed the ENTSOG ten-year plan. In its opinion issued on September 16, the Agency notes, however, the need for rapprochement with the ten-year plan of the electricity network to integrate the 3x20 objectives and the consequences of the abandonment of nuclear power in Germany. ACER also recommends a detailed cost-benefit analysis of the infrastructure projects in order to select "projects of common interest" provided for in the package for energy infrastructure.*

*GRTgaz and TIGF's ten-year development plans were submitted to the CRE in September 2011. Following public consultation, the CRE validated them in its decision of 15 December 2011. They are consistent with the plan published by ENTSOG. The CRE asked the TSOs to improve the information disclosed to the market, especially on projected costs of projects, in their future plans. TIGF was also asked to provide more detail on the first three years of its plan, which are binding.*

*In electricity, following a pilot version published in June 2010, ENTSO-E began work on the development of a new European ten-year plan with expected publication in June 2012. As in the case of gas, inclusion of a cost-benefit analysis of these projects is, in the context of the infrastructure package, a major challenge for future plans.*

*A first draft of the French network's ten-year development outline was published by the RTE for informal consultation on 15 November 2011. It was submitted on 31 January 2012 for consideration by the CRE, which will issue an opinion after public consultation.* ●

▼ ***Process for development of the framework guideline on capacity allocation***
*Preliminary work on the framework guideline for capacity allocation started in 2008, before the adoption of the third package. Led jointly by the CRE and the Bundesnetzagentur, the German regulator, this pilot project was used to test procedures for future framework guidelines.*




***Application and anticipation at national level***
The CRE is working to anticipate the coming into force of the network codes and is already promoting developments consistent with the codes in the organisation of the French market.

With this in view, the French TSOs and the CRE are working with their counterparts in Germany and Belgium to offer capacity products grouped as stipulated by the network code. Market participants will have the opportunity to subscribe to products that bring together the output capacity of one area with the input capacity of another area before the coming into force of the code.

The balancing rules and procedures on the GRTgaz and TIGF transmission networks are evolving gradually towards compliance with the future network code.

At the end of 2011, the CRE ruled on a roadmap which will lead to the establishment, in the French network, of an essentially market-based balancing

### 3.2. Key decisions were adopted in 2011 to promote the integration of the French market with the rest of Europe

Beyond efforts to ensure the consistency of the rules applicable in France with European provisions, the integration of the French market within the European market is based on the development of infrastructures and the organisation of balancing zones.

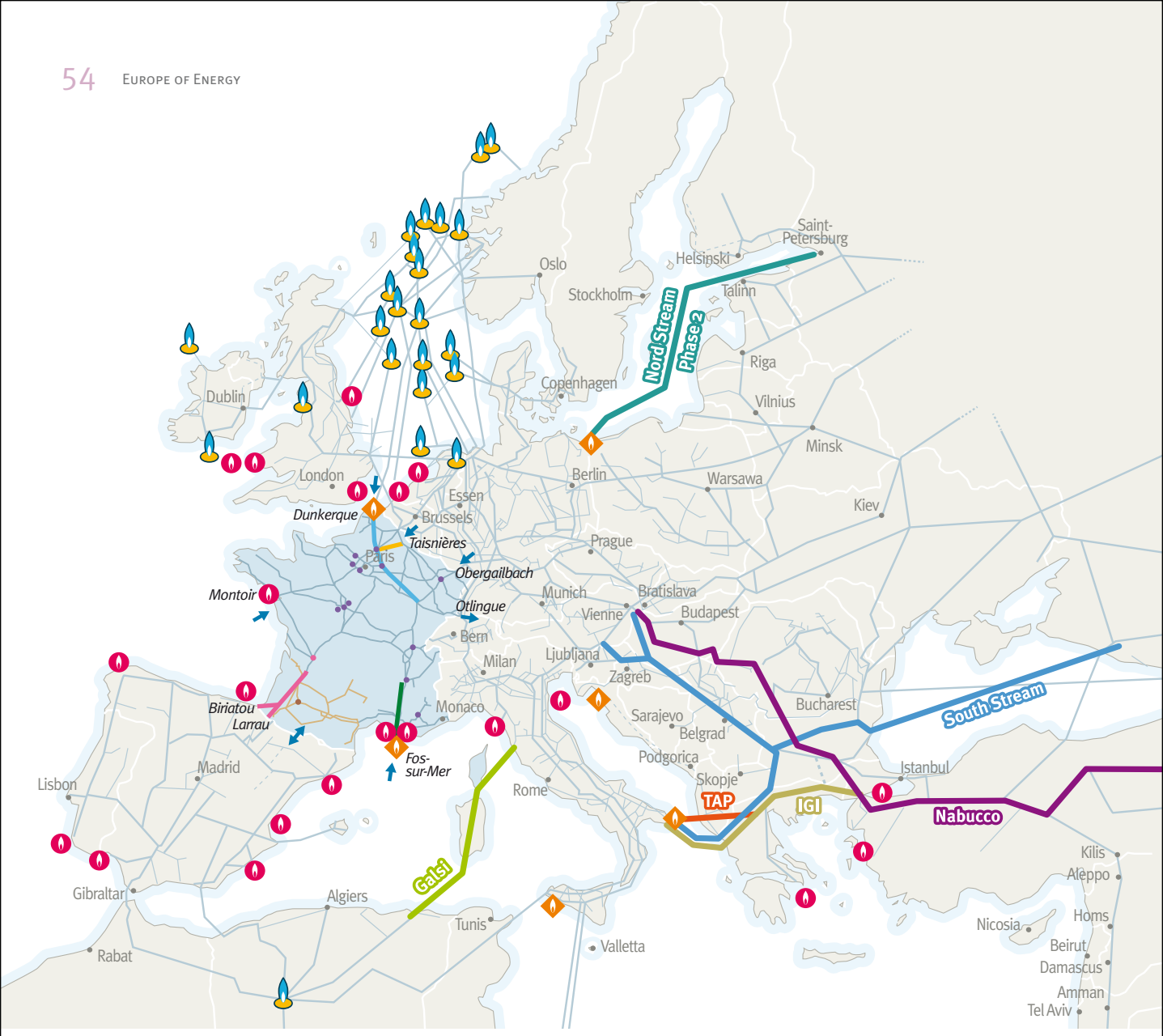
***Enabling the integration of new LNG terminals and the development of interconnections***

In 2011, the CRE approved the proposed doubling of the Rhone artery (Eridan project) carried by GRTgaz. Identified as a priority by the European Commission, the project is therefore receiving grant funding under the energy section of the European economic recovery assistance plan adopted in 2009. The investment was triggered, without the need for an open season and was a prerequisite for development of any new gas infrastructure in the south of France. It makes it possible to increase the regasification capacities at Fos and to develop a new interconnection with Spain to the east of the Pyrenees (Midi-Catalonia project) or to develop storage capacities in the GRTgaz South zone. Improving the flexibility of the French gas system facilitates the balance of the system and therefore the implantation of new gas power plants in France.

The CRE ruled on a roadmap which will lead to the establishment of an essentially market-based balancing of the French network.

▼ *The Hauts de France II project involves laying pipelines between Pitgam (North) and Nédon (Pas-de-Calais) in the context of the development of new input capacity at Taisnières H. The pipe-laying will be completed by new work in 2013 between Nédon and Cuvilly and between Loon-Plage and Pitgam to enable the future LNG terminal at Dunkerque to be connected. Commissioning of the entire pipeline is planned for 2014. In its decisions of 27 May 2010 and 22 December 2011 the CRE approved the construction of these facilities totalling over 500 million euros.*

*The Hauts de France II site.*
*© Centre d'Ingénierie de GRTgaz*




▲ ***Interconnection projects completed and underway in gas, in Europe and France***

*France has domestic production of gas at Lacq in the Pyrenees-Atlantiques, but it is more than 98% dependent on imports to cover its annual consumption (478 TWh in 2011). Norway, Algeria, Russia and the Netherlands are the main contributors to French gas supply. In 2011, 407 TWh of gas entered the French territory by pipelines. LNG terminals also play an increasingly prominent role, with 159 TWh injected into the French network in 2011. Finally, 67.5 TWh of gas entered France for transit to Spain and to Italy through Switzerland. Investments decided on recently will increase interconnection capacity with neighbouring countries and will remove internal congestion in the French network.*

**International network key**

- Existing pipelines
- Pipelines under construction or study projects
- Gas fields
- LNG terminals , operational
- LNG terminals under construction or study projects

**French network key**

- GRTgaz pipellines
- TIGF pipelines
- Storengy Storage
- TIGF Storage
- Arrival of natural gas
- Arc de Dierrey
- Eridan project
- France-Spain Interconnection (open season 2013-2015)
- France-Belgium Interconnection (open season 2013)

**484 million euros**

**GRTgaz Eridan Project cost.**

The final investment decision taken in June 2011 for the Dunkirk LNG terminal also triggers significant investments in the GRTgaz North zone including the "Arc de Dierrey", and allows for the creation of a new interconnection with Belgium. This terminal has full exemption for regulated third party access and for tariff regulation over twenty years for an annual regasification capacity of 13 billion cubic metres with commissioning scheduled for late 2015. The binding phase of the open season for the development of the new Veurne interconnection was launched on 13 December 2011 and resulted in sufficient demand for the development of 270 GWh/day of firm capacity. This project will provide transmission capacity for the first time from the Dunkirk LNG terminal and the French PEG North marketplace towards Belgium. Indeed, today as it enters France, the gas is odorised, which prevents physical flows to Belgium, as the latter only accepts non-odorised gas in its transmission system. The proposed creation of the new terminal and interconnection point can therefore overcome this physical barrier to trade.

On the other hand, changing odorisation practices are under consideration in order to facilitate trade with north-west Europe. One option would be to abandon systematic odorisation of gas at entry points to France and to provide, in certain situations, decentralised odorisation to be carried out at the interface between the main transmission system and the regional network. This option would then make possible the physical delivery of gas from France to Germany and Belgium.

***Simplifying the organisation of the French market***

Work on reducing the number of balancing zones in France continued in 2011 with all market participants, within the Concertation Gaz (consultation procedure) set up by GRTgaz and TIGF.

The triggering of the Eridan and Arc de Dierrey projects facilitates the proposed merger of GRTgaz's North and South zones because these infrastructures remove congestion in the two areas and significantly reduce the number and frequency of congestion scenarios between the north and south of France.

Nevertheless, these projects alone do not facilitate this merger because of other remaining congestion in the GRTgaz transmission system. A comprehensive study was carried out in 2011 to analyse the feasibility and cost of the different contractual mechanisms and thereby to identify the most relevant options for achieving this merger.

Work on the development of the contractual structure of the French gas market should lead to a decision in 2012. Early in this process, the CRE intends to discuss all possible developments with all stakeholders. It therefore set up workshops open to all market participants in spring 2012.

Discussions held in 2011 also focused on developments in the operation of the North zone, which is now the subject of a partition between the gas H (high calorific value) and L (low calorific value)[3] balancing perimeters. The CRE is studying the opportunities for mergers and plans, at the very least, the deletion of the tariff period between these zones, North H and L, from 2013. This change would also improve the opening up of the market in North zone L . ●

*3 – H gas comes from Algeria, Russia and the North Sea, while L gas comes from the Netherlands.*

# 60 € including taxes

**This is the amount representing renewable energy charges in 2012 (about 6% of the bill) on a bill of 1,100 €, including taxes, for a typical electric heating customer. In 2020, these charges could reach 200 €, including taxes, if the Grenelle objectives are achieved.**

*Chemin d'Ablis wind farm at Fresnay-l'Evêque (Eure-et-Loire)*

# The CRE provides technical and economic expertise in renewable energy

France has set itself the goal of 27% renewable energy coverage of its electricity consumption by 2020, from 15.8% in 2010. This target is based on the European commitments of the 3rd Energy Package (3x20) and the conclusions of the Grenelle Environment Forum.

The power generation multiannual investment program is the mechanism by which this goal will be achieved. In this context, the CRE contributes to the implementation of support mechanisms for renewable energy.

The question of the evolution of the electricity mix is at the heart of current debates, as is the technical and economic impact on the networks of massive integration of decentralised renewable energy production.

## KEY WORDS

***Electricity public service contribution***

***Integration of European markets***

***Smartgrids***

## 1. THE CRE CONTRIBUTES TO THE IMPLEMENTATION OF SUPPORT MECHANISMS FOR RENEWABLE ENERGY

### 1.1. Calls for tender and guaranteed purchase tariffs are two economic tools used to develop the means of production from renewable energy

To promote the development of renewable energy, the government has access to two economic tools:

– guaranteed purchase tariffs impose on the incumbent an obligation to purchase energy generated from renewable sources at a tariff guaranteed over a long period. The tariff is partly revisable and is significantly higher than the market price;

– calls for tender enable ex ante setting of the amount of renewable energy receiving public subsidy. Projects are selected on the basis of the purchase tariff offered by bidders. The purchase tariff is the tariff proposed by the bidder in its offer.

Calls for tender are launched when the development of the means of production is insufficient to meet the objectives of the power generation multiannual investment programme. The call for tender procedure provides for the control of the production of renewable energy benefitting from public support, unlike purchase tariffs. In addition, any overestimation of the sector's production costs by the

► ***French renewable electricity generation capacity* (as of 31/12/2011)***
*Production from all renewable energy sources in France in 2011 represents approximately 12.8% of total production. French electricity generation amounted to 541.9 TWh.*

| Sector | Installed capacity in MW | PPI target, 2020 (in MW) ** | Share of generation |
|---|---|---|---|
| Photovoltaic | 2,230 | 5,400 | 0.3% |
| Onshore wind | 6,640 | 19,000 | 2.2% |
| Offshore wind and marine energy | 0 | 6,000 | 0% |
| Hydraulic | 25,400 *(of which 2,100 MW is compulsory purchase)* | – | 9.3% |
| Geothermal | 0 | 16,900 | 0% |
| Renewable fuel thermal | 1,270 | – | 1% |
| *biomass* | *152.4* | *2,300* | |
| *biogas* | *241.3* | – | |
| *waste incineration* | *876.3* | – | |

** Source: RTE, Electrical review 2011*

*** Source: Report to Parliament on power generation multiannual investment programme for (PPI), 2009 to 2020*

government, when setting the guaranteed purchase tariff, ensures very high returns for investors. This can trigger a speculation bubble as was the case in the photovoltaic sector.

### 1.2. The CRE manages the calls for tender, launched by the State, for renewable energy

The Energy Minister may issue calls for tender for power generation facilities from renewable sources. The CRE then manages their implementation: it prepares a draft specification (the final specification is established by the Minister), analyses the bids received and suggests their ranking to the Minister. Finally, it gives an opinion on the bidders whom the Minister is considering for selection. This role enables the CRE to provide technical and economic expertise.

In 2011, the CRE worked on five tenders with a total capacity of 4,345 MW:

- call for tender for wind power in the Overseas Departments and Territories, and Corsica (95 MW);
- call for tender for offshore wind power (3,000 MW);
- fast-track call for tender for photovoltaic facilities from 100 to 250 kW (150 MW);
- call for tender for solar facilities of over 250 kW (450 MW);
- call for tender for biomass 4 (200 MW).

Since spring 2011, the Energy Minister has been able to use what is called a "fast-track" bidding process, exclusively electronic, managed from a portal developed and hosted by the CRE. Analysis is faster than under a standard tendering procedure as the dossiers are scored, with price being the only criterion. Thus, all dossiers submitted in the call for tender for photovoltaic facilities with capacity between 100 and 250 kW were filed through the online bidding platform developed by the CRE services the between summer and autumn 2011.

**900**

**This is the number of questions that the CRE answered in the "renewable energy" calls for tender over five months.**

**48 information requests were submitted for the calls for tender on photovoltaic installations on buildings (100 to 250 kW),**

**85 on offshore wind;**

**236 for the call for tender on photovoltaic installations of over 250 kW.**

**An information request involves a range of issues.**

Depending on the type of call for tender (standard or fast-track), the nature of the work carried out by the CRE in the analysis is very different. In the ordinary procedure, analysis of bids received requires high levels of involvement of all CRE services. The CRE first ensures the eligibility of the dossiers in terms of the establishment of financial guarantees and applications for the required authorisations, and then the different criteria are scored. In the fast-track procedure, candidate ranking is based solely on the electricity purchase price offered. The CRE, therefore, has the task of checking the compliance of the documents provided by the project owners - an onerous mission given the number of dossiers received (345) and the number of documents to be examined (five for each dossier).

### 1.3. The CRE ensures the economic relevance of the purchase tariffs for electricity or gas, from renewable sources

The requirement to purchase electricity and gas generated from renewable sources is one of the policy instruments for supporting low-carbon energy. After referring to the CRE for an opinion, the Energy Minister stipulates the purchase terms and conditions (eligibility, tariff, duration of the purchase contract).

When the CRE decides on the revision of a purchase tariff or on the implementation of a tariff for a new sector, it ensures *"that the return on capital invested in facilities covered by these purchase terms and conditions [shall not exceed] a normal return on capital, given the risks inherent in such activities and the security enjoyed by these facilities by selling their entire output at a set tariff."*

This analysis of the profitability of the facilities generated by the proposed tariffs is of key importance. The CRE ensures that the profitability of power generation facilities is not excessive. Indeed, prices that are over-generous lead to the following:

– accelerated development of the energy production sector, far beyond the objectives of the power generation multiannual investment programme;
– higher costs for the consumer who part funds the projects through the electricity public service charges (CSPE) included in his bill.

The CRE ensures that the profitability of power generation facilities is not excessive.

► *The Sequedin (North) organic recovery centre has been injecting its biomethane output into the GrDF natural gas grid since June 2011.*

*© Max Lerouge/Lille Métropole*

On several occasions in 2011, the CRE recommended a reduction in the proposed tariffs.

***Biogas purchase tariff***

In April 2011, the CRE issued a negative opinion on the draft tariff order for electricity produced from biogas. Indeed it took the view that the proposed tariffs were likely to lead to excessively high returns for non-hazardous waste storage facilities with energy efficiency exceeding 40%. It therefore recommended a reduction of at least 10% in the benchmark tariff for these facilities under 150 kW and at least 40% for those over 2,000 kW. Furthermore, in order to develop more economically relevant projects, the CRE proposed increasing the duration of the purchase contract to twenty years (the same as the lifetime of the installations). The CRE also recommended a 7% reduction in tariffs and bonuses to maintain similar profitability levels for projects identified as profitable.

***Purchase tariff for biomethane injected into gas networks***

The CRE was approached in July 2011 on a draft decree on the tariff for biomethane injected into natural gas networks. It issued a favourable opinion, subject to consideration of the comments made in its decisions It found that the tariffs envisaged for agricultural waste biogas plants generated low economic returns for projects with capacity greater than 200 $m^3/h$. But these facilities benefit from economies of scale and are therefore more efficient than small projects. Accordingly, the CRE suggested removing certain purchase tariffs originally envisaged for facilities of 150, 250 and 350 $m^3/h$ to allow the development of projects grouping several plants operating the same digester which is more efficient economically. The CRE also recommended prompt revision of tariffs if the rate of connection requests becomes too high in relation to the development objectives for 2020 (degressive tariffs similar to the mechanism used for the photovoltaic sector).

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### Update on photovoltaic tariffs

*A new purchase tariff for photovoltaic electricity was fixed by the decree of 4 March 2011. This tariff is self-adjusting: the higher the number of connection requests during a quarter, the more the price is reduced. The target trajectory is for an annual reduction of 10% in purchase tariffs for 100 MW of cumulative installed capacity over the year. Since the order of 4 March 2011, the CRE has been evaluating, every quarter, the tariff digression coefficients. Some prices fell 26% between March 2011 and January 2012.*

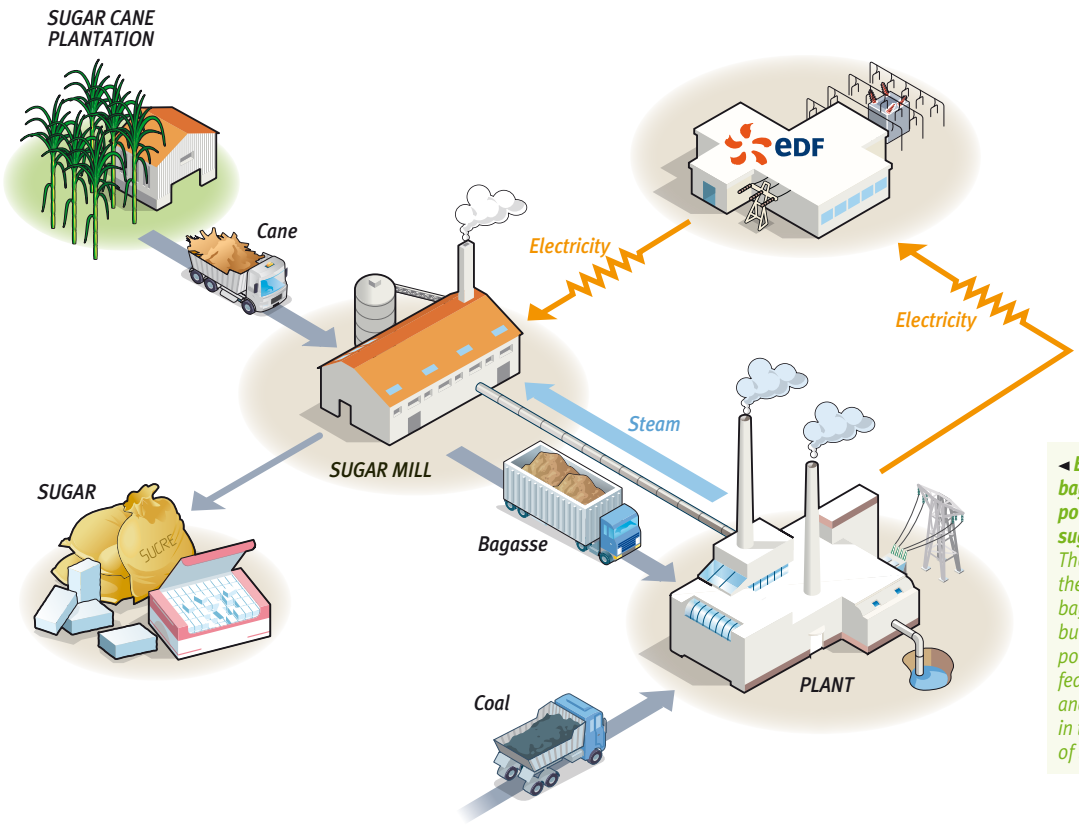
### 1.4. The CRE validated the installation costs of plants using renewable energy in the Overseas Departments and Territories

As part of the payment of public electricity service charges, any proposed contract between a producer and EDF SEI, the system operator in non-interconnected zones (islands such as Corsica and the overseas departments), is *"reported to the CRE, with all the necessary elements for evaluation of compensation. The Commission estimates the normal full cost of generation for the type of power plant considered in this area by applying the rate of return on fixed capital set by decree [...] and notifies the parties of the result [...] of its evaluation."* EDF SEI is only compensated for the cost validated by the CRE when the dossier is analysed.

On four occasions in 2011, the CRE issued an opinion on draft contracts or amendments relating to electrical power generation facilities operating wholly or partly from renewable sources:

– 23 June: draft contract and industrial commissioning protocol between EDF and Compagnie de Cogénération du Galion.
Bagasse/ coal plant (Martinique);
– 21 June: draft contract and industrial commissioning protocol between EDF SEI and Marie Galante Énergie.
Bagasse/coal plant (Guadeloupe);
– 22 September: draft amendment to the electricity purchase contract between the EDF Services Archipel Guadeloupe Centre and Compagnie Thermique du Moule.
Bagasse/coal plant (Guadeloupe);
– 22 December: draft amendment to the electricity purchase contract between EDF and Voltalia Kourou.
Biomass plant (Guyana).

The year 2011 showed that the biomass sector is beginning to take shape and develop in Guyana, a department that is particularly rich in forest resources. In the other overseas departments, electricity producers benefit from the presence of sugar or rum waste in developing hybrid units operating with coal and bagasse. These facilities are highly important economically because they promote the endogenous development of the territories.




◂ ***Economy of a bagasse and coal power plant during sugar harvesting***
*The sugar mill provides the plant with waste bagasse which is burned to produce power that is then fed into the grid, and steam used in the operation of the plant.*

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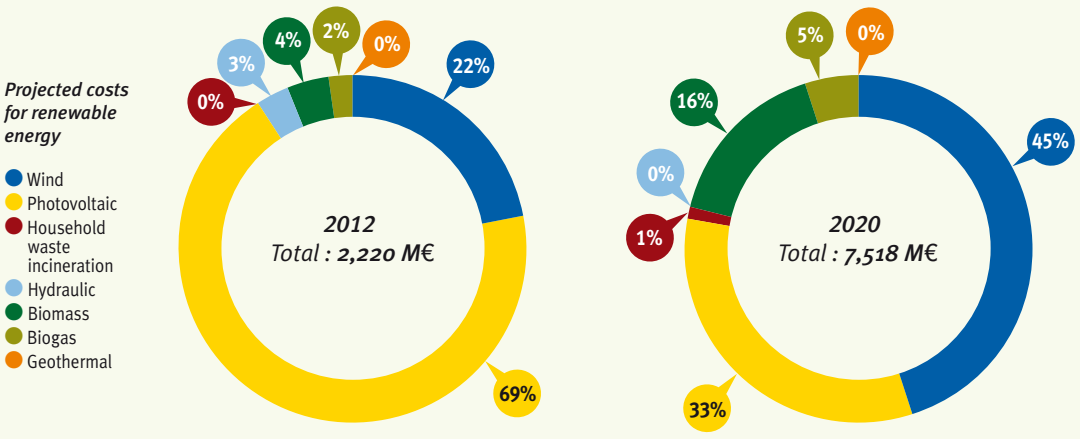
## Distribution of projected costs to the public electricity service for renewable energy, 2012 and 2020




*As part of its annual assessment of public electricity service costs, the CRE assessed the renewable energy costs recorded for 2010 and projected for 2012. The projected 2012 costs are estimated at 2,220 million euros, three times those recorded for 2010 (755 million euros). These costs are funded by the public electricity service charges (CSPE).*

*During the first half of 2011, the CRE built a computer forecasting tool to calculate the costs of renewable energy sources to 2020. It is based on a renewable energy fleet development scenario in line with the targets set under the power generation multiannual investment programme for 2020 for all sectors, except for photovoltaic, where the targets should be exceeded.*

*In a context of highly uncertain oil and gas prices, which affect the wholesale electricity market price, a 3% annual change in market prices was considered - i.e. inflation + 1%. The average market price for 2020 was 66.4 €/MWh, or 55.6 €/MWh in € 2011.*

*Based on the assumptions made, total costs for 2020 are estimated at 7,518 million euros.*

***Prospective additional costs for renewable energies in 2020 in metropolitan France.***

| *Metropolitan France only €2020* | *Purchase overheads (€ M)* | *Generation (GWh)* | *Installed capacity (MW)* | *Unit purchase overhead (€/MWh)* |
|---|---|---|---|---|
| *Onshore wind* | *1,158* | *38,244* | *19,000* | *30.3* |
| *Offshore wind* | *2,572* | *16,953* | *6,000* | *151.7* |
| *Photovoltaic* | *2,080* | *7,594* | *7,190* | *273.9* |
| *Hydro (compulsory purchase)* | *59* | *6,082* | *1,910* | *9.7* |
| *Geothermal* | *2* | *11* | *1.7* | *190.8* |
| *Biomass* | *1,263* | *12,072* | *1,890* | *104.6* |
| *Biogas* | *404* | *3,970* | *631* | *101.8* |
| *Household waste incineration* | *-20* | *2,337* | *356* | *-8.6* |
| ***TOTAL*** | ***7,518*** | ***87,263*** | ***36,979*** | *–* |

*Assumed market price: 54 € in 2013, +3% per year*
*Installed capacities: multiannual investment programme targets with update for photovoltaic power*
*Operating lifetimes used: standard reference periods or average observed periods*

## 2. THE CRE MONITORS THE INTEGRATION OF RENEWABLE ENERGY IN GRIDS

Connecting a generation facility to the public electricity grid involves creating the facilities needed for evacuation of all the power that the producer wants to inject into the grid. This is a prerequisite for network access, with transparency and non-discrimination guaranteed by the CRE.

### 2.1. The CRE has issued guidance and has overseen the development of the framework for connection of renewable energies to the networks

Connection of the generation plants is necessary so that the electricity they generate can be sold on the markets or by contract, including through compulsory purchase or tender mechanisms, so that this energy can be used by consumers.

The power generation facilities are connected either to the public transmission system or to the public distribution system, depending on their characteristics – in particular the electrical power they produce. The processing of applications for connection to the public grid is subject to procedures, implemented in accordance with CRE guidelines, on the content, design and monitoring of the implementation of these procedures, and included in the technical reference documentation of the TSOs.

At any given time, the grid has, at various points, limited power injection capacity, depending on its own characteristics and those of the locally connected production and consumption facilities. Thus, the large number of requests for connection of large power plants (including wind farms) led, from 2003, to saturation of the host capacities and therefore the need to strengthen the grids.

▲ *In 2011, wind farming increased by about 800 MW. In late December, queued connection projects represent a total capacity of 5,474 MW.*

*Aerial view of the Veulettes-sur-Mer (Seine-Maritime) wind farm.*
*© EDF, Didier Marc*

Encouraged by the CRE, TSOs have set up connection queues. On the one hand, these queues can enable projects to benefit, in the order of arrival of requests, from existing hosting capacity and from reinforcements in the transmission and distribution systems. On the other hand, for connection to distribution grids, queues can be linked to delays in processing applications received by the distribution system operators, which varied with the launch of the photovoltaic sector in particular, and also with changing compulsory purchase conditions for electricity.

The CRE guidelines and the procedures of the grid operators are changing to adapt to changing contexts and to better meet the expectations of participants. In 2011, the CRE approved changes to the procedure for processing RTE applications, which led to the successful handling of the call for tenders for offshore wind. In view of the analyses of the implementation of the procedures for processing connection requests submitted by system operators in 2011, following public consultation with participants the CRE will implement changes in the management of these procedures in 2012, in order to better reflect the interests of all participants while ensuring transparent, efficient and non-discriminatory processing of connection applications.

OVER TO ...

## Pierre-François Racine,
### President of the Standing Committee for disputes and sanctions (CoRDiS)

*Pierre-François Racine is president of CoRDiS, the CRE Standing committee for disputes and sanctions. CoRDiS is responsible under law for settling, in technical and financial terms, disputes relating to access and use of the public electricity and natural gas networks. 2011 was marked by an explosion in the number of referrals, particularly related to the December 2010 moratorium on photovoltaic power. Pierre-Francois Racine highlights CoRDiS's growing role in safeguarding transparency and non-discrimination in a competitive energy landscape.*

***What were the main disputes in in 2011?***

*The greatest numbers of disputes were in relation to the "solar moratorium." In legal terms, I would say the most significant was the decision on the Cogestar II dispute on 12 December 2011. This involved deciding whether a producer (a cogeneration facility) could receive an indirect connection to the grid. The Committee had already said yes in 2010 (Tembec Tarascon, 2 October 2009). EDF appealed to the Paris Court of Appeal which confirmed the solution (7 April 2011). But from case to case, the regulations have evolved. As originally drafted, the decree of 23 April 2008, applicable to the Tembec Tarascon dispute, concerned all connections of new power generation plants "to a public electricity grid" carried out to enable it continuously or intermittently to release to this network all or part of its output, or be coupled to this network if it is able to deliver its energy to it. The decree of 17 May 2010 complemented it in that it also covered "generation facilities already connected to this network". But the Committee found that, while the scope of the decree has been extended in this way, the very notion of connection to a public distribution network has, however, remained unchanged. Therefore, the possibility of an indirect connection, recognised by the Tembec decision and the judgement of the Paris Court of Appeal, remains in place under the 2010 text, regardless of the motives of those responsible.*

***How has the Committee managed applications related to the suspension of the photovoltaic electricity purchase requirement stipulated by the decree of 9 December 2010?***

*Most requests for dispute decision introduced between February and June 2011 (over 200) involved the legality of this decree. In principle CoRDiS has no jurisdiction to rule on this issue but can only implement the decree. But as the Conseil d'Etat had been consulted and as it had to issue its decision in 2011, it was more prudent to wait and, in the meantime, take a decision to formally suspend the processing of applications, which is what we did in April 2011. I recall that the normal period for settling a dispute is two months. However, sometimes CoRDiS has ruled on some of these disputes when they did not address the legality of the suspension order. Now that the Conseil d'Etat has rejected all pending applications, we are processing the suspended applications with a view to settling them before the end of 2012.*

***Does the increase in the number of applications show that referrals to the Committee have become the preferred option for operators for the decision of their disputes?***

*Frankly, I wonder about the jurisdiction of the commercial courts or the High Court to directly resolve a dispute between a public transmission or distribution system user and a system operator, when the dispute concerns access to such a network. This is because the law provided a specific mecanism with the CoRDiS with possible recourse to the Paris Court of Appeal. The question seems to me to be more one of knowing the degree of confidence that TSOs and users have in CoRDiS. But they are the ones who need to answer that question.*

***You have been president of CoRDiS for five years. What changes have you observed in relation to the submitted disputes or the parties who refer them to you?***

*What strikes me is the consistently low number of disputes over wind power and gas networks. I also see the emergence of disputes over issues such as management by the supplier or distributor of unpaid end consumer bills, the setting of a tariff applicable to a «link» between public network infrastructure and the generation facility. In short, in specific financial issues.* ●

## 2.2. The integration of renewable energy is a challenge for grids

Facilities producing electricity from renewable energy sources are mainly connected to the distribution grid. Their production is often intermittent and decentralised, which requires changes to the structure and management of the electrical system. Indeed, the power grid was designed to respond to diffuse and intermittent consumption from centralised output available on demand, connected to the transmission system.

This adaptation must be able to cope with the mass integration of facilities generating energy from renewable sources in the electrical system while maintaining the same level of quality and safety (voltage level, continuity of supply, risk of damage to property and persons, etc.). Investment will be needed, which will involve optimising volume and costs.

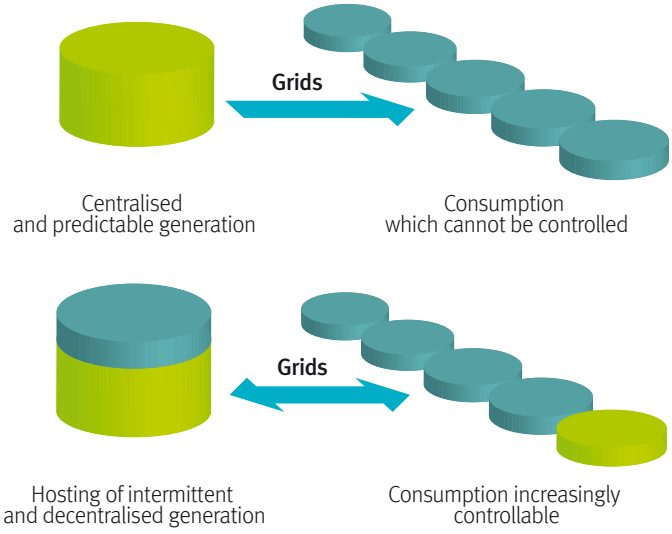
The intermittency, defined as high variability in the available power of a production facility, is a major obstacle. For relatively low penetration rates, the impact of renewable energy generators is limited and can be easily absorbed by the electrical system. However, as their proportion increases, it becomes more difficult to define solutions to offset any imbalances between production and consumption. Moreover, in the short term, these plants affect the profitability of existing thermal power stations as the latter are still needed to mitigate the intermittency and yet are forced to limit the amount of energy they inject into the grid.

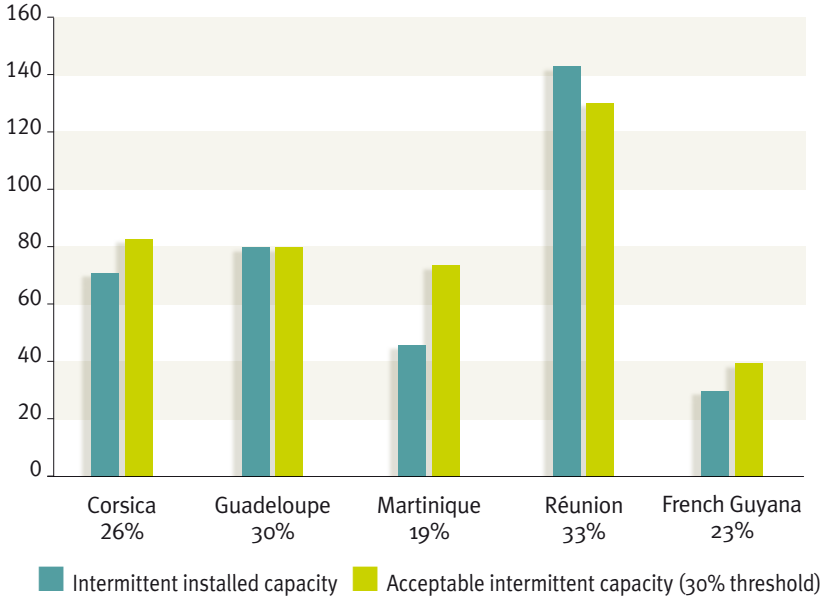
For some renewable energy plants, intermittency may be associated with the difficulty of predicting fluctuations in production. This is the case for wind power, which depends on wind, and, to a lesser extent, for photovoltaic energy, which depends on the sun.

► ***A new electrical system management***

*Intermittent renewable energies such as solar or wind power are mainly connected to distribution grids, which means electricity flows moving up from distribution networks to transmission grids. Formerly generation was centralised (thermal and nuclear plants) and electricity flows were one-directional, from generation to consumption. Today, production is partly decentralised and electricity flows are bidirectional.*

*Moreover, the power system has been balanced until now mainly by operating power generation based on demand, under the best supply and cost conditions. However, the integration of renewable energy sources makes the control of generation more difficult because these energy sources introduce fluctuations into electricity generation. For this reason, adjustment that enables the electric system to be balanced is now also based on demand (drop, etc.).*






◂ ***Intermittent power generation in non-interconnected areas***
*In the main communities overseas and in Corsica, generation capacity awaiting connection to the grid exceeds local demand for power.*
*The 30% threshold - the regulatory limit of technical acceptability of intermittent energy sources in relation to grid stability - will be exceeded in the short term.*

Today in mainland France, the lower predictability of energy generation from renewable sources no longer appears to be a major problem. Indeed, the whole of the French territory and the interconnection of European grids provides a profusion of effects: because of the diversity of weather patterns, the combined output of all intermittent facilities experiences no sudden changes. In fact, it is relatively easy to predict. The effects of this profusion are, however, limited by the interconnection capacities.

Moreover, significant progress has been made in forecasting in recent years, for example through the procedure for inserting wind and photovoltaic generation into the system (IPES – Insertion de la production éolienne et photovoltaïque sur le système – insertion of wind and photovoltaic generation into the system) involving collaboration between RTE, ERDF, some producers and Meteo France (the French weather service)

In contrast, in non-interconnected areas, the absence of the profusion effect makes production from renewable energy subject to rapid fluctuations that are very difficult to predict. The existence of such fluctuations, coupled with the inability of these facilities to adjust their production to match consumption, has led to a 30% limit on penetration of renewable energy generators that are not equipped with storage. Beyond this threshold, it becomes difficult to balance the grid and power cuts can be expected. This 30% threshold, already reached in Reunion and Guadeloupe, is related to the characteristics of island electrical systems. It is not necessarily justified on the European interconnected systems.

There is a range of solutions, both technical and economic, which enable the negative impacts of the integration of renewable energies in the power grid to be limited. The CRE plays a decisive role in the development of an appropriate framework for such solutions. However, many uncertainties remain in relation to the adaptability of the electrical system, which does not enable reliable assessment of the long-term costs of massive development of renewable energy sources.

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## € 1.5 billion investment is needed to accommodate photovoltaic output in distribution grids

*Faced with the strong growth in power generation plant connections to the electricity distribution grids and in the context of the preparation of the next tariff for use of public electricity grids (TURPE 4), the CRE carried out a cost benefit analysis of the development of photovoltaic generation on the electricity distribution grids.*

*On the one hand, the analysis found that the connection of photovoltaic panels to a distribution grid may lead to a reduction in losses [1] when photovoltaic power output is less than local consumption. This reduces the amount of electricity that needs to be injected into the distribution grid in order to compensate for the losses. The TSO can therefore manage the system more efficiently. But on the other hand, unlike conventional generation methods (e.g. power plants), it is not possible to rely on a precise amount of photovoltaic power that matches consumption. At certain times of the year, consumption is low, while photovoltaic output is high. This excess local output leads to an increase in voltage in the grid, which may exceed the permissible limit and cause premature aging of the equipment at customer sites. To prevent this situation, which is detrimental to end consumers, it is necessary to strengthen the grids by creating or replacing infrastructure (new power lines, transformers).*

*The study estimates that the development of photovoltaic generation in line with the objectives of the power generation multiannual investment programme would involve grids of about 1.5 billion euros over the period 2012-2020. But an alternative development scenario more in tune with the current strong growth trends would involve, according to this study, investments totalling 3.2 billion euros over the same period. These investments will be almost 70% financed by producers when they connect, and the rest will be funded by the TURPE.*

*An ERDF study calculates investment in the grids at twice as high as the first scenario and four times higher than the second. The discrepancy between the two outlooks is explained by the fact that, according to ERDF, absorption of this output will require systematic investment in new HV grid infrastructure. The CRE, meanwhile, arrived at its estimate by judging that the absorption of the output would mean that the existing HV grid needed to be upgraded; to date, this is also the solution adopted by ERDF. The CRE will soon require TSOs to submit accurate information on investments related to the reception of more output.*

*1 – The losses represent the energy lost when it is routed over grids for technical reasons. To ensure the required balance between production and consumption, the TSO ensures the energy injected into the grid is greater than consumption needs, taking into account the energy that will be lost.*

### 2.3. There are several tools which can be used to facilitate the integration of renewable energy sources

*Integration of European markets*

The creation of the internal market in electricity requires increased cooperation between the different member states and the reinforcement of interconnection capacity by building power lines between countries but also by coordinating the operation of their marketplaces.

The integration of European markets provides easier acceptance of new renewable power generation sources. It allows for surplus energy to be traded from one country to another and for the management of output intermittency by using complementarity of resources and pooling of flexible means of production such as hydraulic power.

A market participant can operate over different time periods. The long-term one enables participants to take up stable positions and provides them with the necessary visibility for their investment decisions. The daily one also allows them to benefit from the cheapest supplies for the next day. The intraday one allows participants to rebalance their positions more closely to the delivery of power (real time) where the output from renewable energy sources is intermittent. The adjustment mechanism, managed by RTE, intervenes in real time to adjust the balance between production and consumption. This makes it possible to cope with unexpected events (for example unplanned shutdown of a plant), by taking advantage of supply offered by market participants.

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#### The intraday market period

*The intraday period is the period between the closure until the next day of the day market and the delivery of electricity (real time). The intraday market enables participants, during this period, to adjust their position to take account of up to date information on consumption and generation.*

*Generation of renewable energy such as wind is unpredictable. However, this prediction becomes much more accurate as and when it approaches "real time". Through the intraday market, market participants are better able to take account of power generation fluctuations. The ambitious renewable energy development targets in France and Europe make this market essential for integration into the network and require highly flexible mechanisms. A market that operates continuously and which is integrated with the rest of Europe meets the needs created by the integration of these new renewable generation sources.*

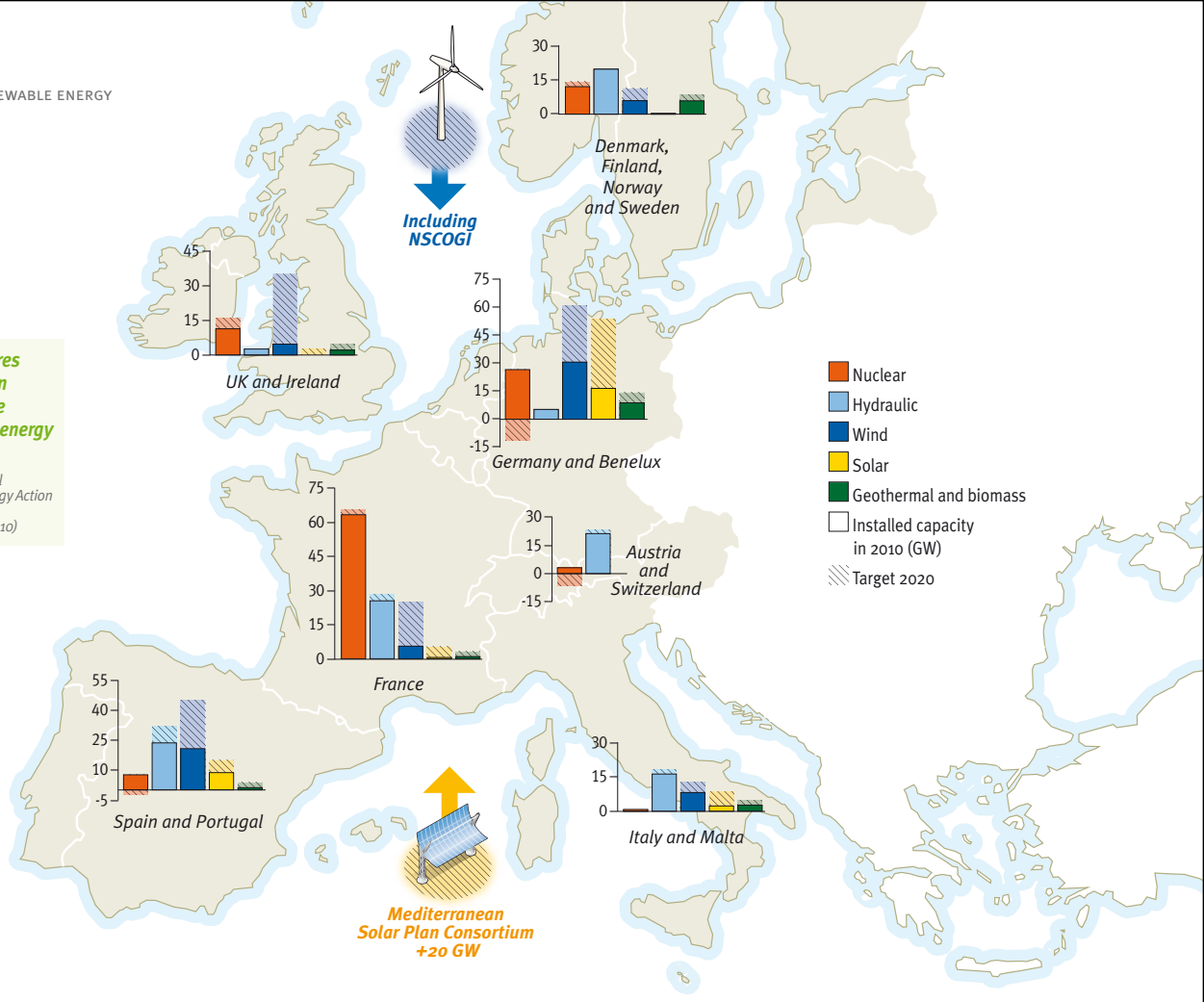
*Thus, during 2011, while transactions in the EPEX Spot intraday market only reached 1.7 TWh (less than 0.5% of French consumption), they did increase in volume by over 65% compared to 2010. This growth was also driven by the improvement in cross-border trade facilitated by the decisions of the CRE.* ●

◂ ***The Millener project***

*On 12 October 2011, EDF and its partners launched the Millener project in Corsica, "a thousand energy management installations in the islands." This trial will test smart electrical systems in an island environment. The project involves deployment of two types of systems in private homes: 1,050 installations with energy gateways for the management of heating/air conditioning and 500 installations with linked storage batteries for photovoltaic systems. The equipment will be piloted by EDF SEI from a communication integration platform. The trial will last until December 2014.*

*Launch of the Millener project: dispatching control room in Ajaccio (Corsica).*

*© EDF, Bruno Conty*




► ***Main centres of production of renewable and nuclear energy in Europe***

*Source: National Renewable Energy Action Plans, European Commission (2010)*

# 92 TWh

**Amount of energy produced from renewable energy sources in metropolitan France according to the forecasts for 2012, i.e. 20% of projected consumption.**

Intermittent generation forecasts are more reliable the closer they can be matched with real time. And the more the markets are integrated in the short-term, the greater the flexibility enjoyed by market participants (see Focus p. 69). Accordingly, to facilitate the participation of operators using renewable sources, it makes sense to adjust the current mechanisms that govern intraday and balancing markets. Better functioning of these short-term markets could allow TSOs to limit the reserve capacity needed to cope with unforeseen contingencies (peak load, extreme cold).

With regard to the integration of intraday markets, the CRE has promoted a cross-border trade mechanism that allows participants continuously and automatically to use interconnections to complete a transaction, provided that these interconnections are not saturated. The CRE approved, in particular, new rules for allocating capacity on the German border in late 2010 and then changes to the rules governing trade on the Swiss border in late 2011. Furthermore, under the North-West project[1], the CRE is involved in the creation of an efficient intraday market extending from France to Scandinavia and Great Britain.

In terms of cross-border trade adjustment, the CRE and RTE were pioneers in Europe in facilitating the participation of German and Swiss participants

*1 – Pilot project, based on inter-regional roadmaps, for the extension of market coupling processes and the development of intraday trade.*

and in exchanges between RTE and the British system operator. These initiatives have helped to increase competition and reduce the costs of adjustment to the benefit of the end consumer. Due to this success, the CRE is working today on the extension of the mechanism to Spain and Portugal. It is also co-piloting work on drafting a framework guideline (see section 2.1. of the dossier "Europe of Energy," p. 45) on the adjustment of electricity. One of these objectives involves defining a common regulatory framework in Europe for the development of cross-border trade adjustment, to facilitate, in particular, the integration of renewable energies and management of their intermittency.

***Smart grids***

Another tool for facilitating the integration of renewables into the grid is provided by smart grid solutions. These technologies bring together a host of tools and systems for grid operation (advanced metering, electricity storage, inverters and controllable loads, etc.). The latest information and communication technology will also be used to optimise energy flows and, in particular, to ensure balance between supply and demand.

All these technologies will contribute to the development of the observability, operation and flexibility of grids and, thus, better management of the intermittency of renewable energy.

The proliferation of sensors, such as smart meters, will enable accurate measurement of bidirectional flows (see diagram "A new electrical system management", p. 66) of electricity on the grids and thus monitoring of the status of the power system at any time (default, congestion, change of voltage, etc.). System operators will therefore be able to anticipate incidents and will be assisted in their decision-making in order to optimise grids and to make them safer.

Tools for control and steering will also be put in place for better integration of decentralised production while respecting system stability and quality. This means interaction with decentralised production by developing automated functions (voltage and power settings, reconfiguration after default under normal operation) or aggregation of centralised output through a local "virtual plant".

Smart grid technologies will also help develop flexible grids. FACTS (Flexible alternative current transmission systems) and static compensators will enable the transfer of a greater amount of energy on existing power lines, while also improving voltage stability, and will increase the electrical resistance of the grid system to fluctuations and disturbances.

In the islands, which are favourable to the development of photovoltaic and wind power generation, smart grid technologies can be put into place very quickly. Because they are small in size and are not interconnected to mainland systems, island electrical systems are more fragile and more "unstable" than mainland systems. The deployment of smart grids in the islands can "smooth out" the intermittent nature of power generation from renewable energy sources, which facilitates their integration into grids. The island areas are the testing grounds par excellence for smart grids.

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### The 5th CRE forum on smart grids

*The 5th CRE forum on smart grids, which took place 5 July 2011, was devoted to the integration of renewable energy in networks.*

*Following a presentation by Robert Durdilly (UFE) on the context and the issues, Gilles Galléan (ERDF) and Fabrice Cassin (CGR Legal), clarified the legal and technical challenges to the injection of decentralised output into networks. This was a meeting for information and knowledge sharing between participants in smart power grids. It was organised as part of the ambitious smart grids work programme initiated by the CRE. Forums on a range of topics related to smart grids are organised by the CRE every two months. In order to create synergies between the numerous participants in the field, the website www.smartgrids-cre.fr is central to this approach.*

*Paluel nuclear power plant, aerial view of the four generation units*
*© EDF, Marc Didier*

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**Suppliers have signed a framework agreement with EDF for the supply of nuclear electricity at a regulated price.**

# The NOME law places the CRE at the heart of the mechanisms for a more competitive electricity market

For five years, competition in the electricity market has grown at a very moderate rate in the residential customer sector. And although a significant number of business customers opted for a market offer in the early years of the opening up of the French market, there has been little change over time.

The law on the reorganisation of the electricity market (NOME) and the procedure for regulated access to historic nuclear power (ARENH) are intended to boost the development of competition in electricity markets. The CRE is at the heart of this procedure.

**KEY WORDS**

- *Competition*
- *Nuclear power*
- *Regulated price*

## 1. LACK OF COMPETITION IN THE ELECTRICITY MARKET

In 2006, France had to send formal notice and a reasoned opinion concerning the transposition of Directive 2003/54/EC concerning common rules for the internal electricity market. The European Commission had criticised France for extending the regulated electricity sales tariffs to all customers, and for only authorising sales at these rates to EDF and non-national distributors - a non-transparent and discriminatory procedure - and finally for keeping rates at a particularly low level, below market prices.

Then in 2007, the European authorities launched an investigation into regulated tariffs for medium and large companies and into the "Tarif réglementé transitoire d'ajustement du marché " (TaRTAM - transitory regulated tariff for market adjustment)[1]. These tariffs are deemed to constitute state aid to companies. This enquiry was extended in 2009 following France's decision to extend the TaRTAM until 2010.

In terms of the development of competition in the electricity retail market, from 2008 to 2010 there was stagnation in the market shares of alternative suppliers in the business customer sector. In the residential customers' sector, which has been open to competition since 1 July 2007, there was relatively limited change in the market shares of alternative suppliers. 2010 was marked by a sharp slowdown in the development of competition in this sector. By way of illustration, at the end of 2009, 1,399,000 out of a total of about 30 million residential sites were being supplied under a market offer. 752,000 out of a total of about 5 million business sites were being supplied under a market offer.

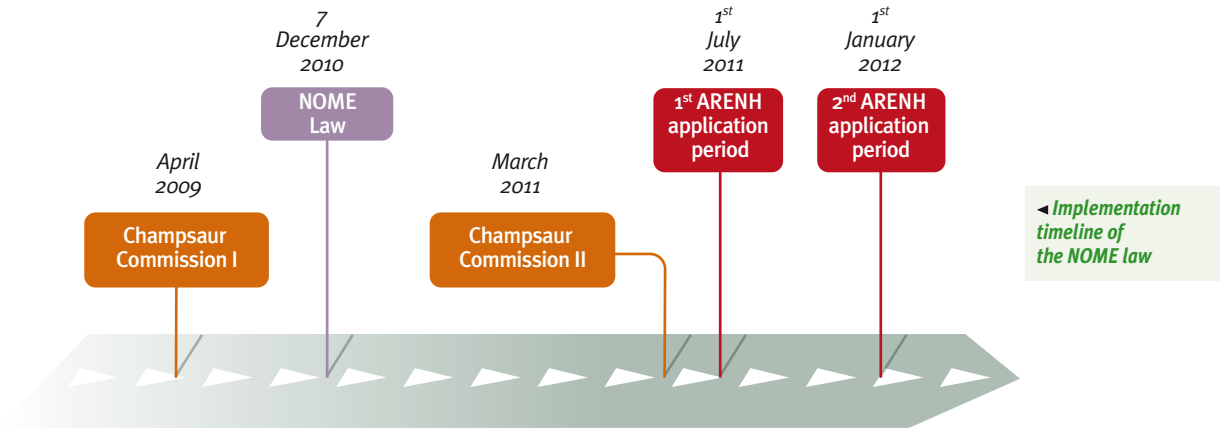
*1 – The TaRTAM is a provision of the law of 7 December 2006. Customers with market price contracts who do not have the right to return to regulated tariffs for electricity could opt for TaRTAM, an administered tariff whose level was increased in relation to the historic regulated sales tariff. This tariff will no longer be included in the effective implementation ARENH, on 1 July 2011.*

While the opening of the market for larger customers started at a faster pace, notably because it was possible for alternative energy suppliers to find supplies at competitive prices in the wholesale market, later the pace dropped. The development of competition is thus partly linked to the supply conditions of alternative energy suppliers of electricity, most of whom have little, if any, power, generation capacity and must therefore use the wholesale market.

These European procedures and observation of the situation in the French electricity retail market have led the government to appoint a commission of experts, chaired by Paul Champsaur, to formulate proposals for organisation of the electricity market that *"balances consumer protection, development of competition, and investment financing"*. These proposals include:

- upstream, right of supplier access to EDF's historic nuclear energy fleet, at a regulated price that reflects the full generation costs;
- downstream, the removal of regulated sales tariffs for industrial users and their maintenance for small consumers.

These proposals were translated into the law for reorganisation of the electricity market (NOME), passed on 7 December 2010, which in particular establishes the mechanism for regulated access to EDF's historic nuclear power (ARENH), and its implementing decree of 28 April 2011. In addition to this mechanism, the NOME law provides for the establishment of a requirement for electricity generation capacity or a cut-off of consumption to ensure the balance between supply and demand at peak load. Finally, it provides for monitoring of retail markets, to be managed by the CRE.




◂ *Implementation timeline of the NOME law*

## 2. ARENH PRINCIPLES AND PROCEDURES

### 2.1. Description of the ARENH mechanism

*Description of ARENH procedures*

For alternative energy suppliers, regulated access to historic nuclear power (ARENH) means access to the electricity generated by EDF's nuclear energy fleet, namely the capacity of the nuclear facilities operational at the time the NOME law was passed. This access is regulated: its characteristics are fixed by the government.

ARENH is therefore defined by:

– a purchase price for electricity, called the ARENH price;
– a purchasing volume to which each supplier has a right, known as the ARENH right;
– a product whose form suppliers use to source their ARENH from EDF, characterised by a delivery profile (i.e. hour by hour delivery of capacity throughout whole the delivery period);
– application periods opened on 1 July and 1 January of each year, during which a supplier may make ARENH requests. A volume of ARENH is allotted to the supplier on the basis of the forecast consumption of its customers (end users and system operators for their losses);
– a price supplement, payable by suppliers purchasing ARENH, if the volumes they want to purchase ex ante exceed the volumes to which they actually have the right, recorded ex post on the basis of the actual consumption of their customers.

*The scope*

From 1 July 2011, for fifteen years, alternative electricity suppliers are entitled to ARENH for a total not exceeding 100 TWh a year (i.e. about 25% of historic nuclear production capacity). This absolute ceiling is set by article L336-2 of the Energy Code, which also provides a sub-ceiling, implemented by order of the Ministers of Finance and Energy, following consultation with the CRE, particularly for the development of competition in the electricity generation markets and supply to end consumers. This sub-ceiling was set at the maximum possible, i.e. 100 TWh, by order dated 28 April 2011 (see Focus p. 78).

Contracts for large TaRTAM customers on 30 June 2011 and large customers who contracted market offers before 8 December 2010, representing consumption volume of about 67 TWh, can be immediately challenged by alternative suppliers (alternative suppliers can make competitive offers compared to the incumbent supplier). The sub-ceiling was set with particular regard to this volume.

***The ARENH price: 40 €/MWh at the launch of the mechanism, then 42 €/MWh from 2012***

The price of ARENH is set initially by the Government following consultation with the CRE. Then, from 8 December 2013, it is set by the CRE. The Energy Code provides that the initial price must be fixed in line with the TaRTAM, so that a TaRTAM consumer on 30 June 2011 may subsequently be offered a market contract at the same price level.

The CRE received a draft order setting the ARENH price at 40 €/MWh on 1 July 2011. The price level is determined by cross-referencing two factors: market prices and volumes attributed to ARENH. In its opinion of 5 May 2011, the CRE judged that the proposed price of 40 €/MWh on 1 July 2011 was consistent with the TaRTAM level.

Moreover, the Energy Code provides that, in order to ensure that EDF receives fair remuneration, the price must be representative of the economic conditions of electricity generation from its nuclear plants over the duration of the mechanism. A decree of the Conseil d'Etat must specify the conditions under which ARENH prices are fixed. Since this text was not available on the date of the CRE's decision, the CRE, in order to issue an opinion on the price of 42 € / MWh on 1 January 2012, had to establish the cost identification and accounting method it judged appropriate to reflect the economic conditions of generation of historic nuclear power.

This calculation method is based on consideration of the following:

– the capital invested in EDF's nuclear fleet, which will be reimbursed through an asset base amortised over the life of the ARENH mechanism, at the weighted average cost of EDF's capital. This asset base will include the amounts originally invested in the historic nuclear fleet that have not yet been amortised, and all or part of the capital that EDF has invested and has yet to invest in assets in order to cover its long-term nuclear costs (dismantling, deconstruction, waste management, etc.) under law no. 2006-739 of 28 June 2006:

– operating expenses related to the nuclear fleet to be reimbursed as and when they are recorded, based on a forecast and its correction ex post;
– investment in maintenance and extension of the term of the operating license that will be included in the ARENH price as they are incurred by EDF, based on a forecast and its correction ex post.

Based on figures provided by EDF, this method leads to an ARENH price from 36 €/MWh to 39 €/MWh.

▲ *The NOME law requires EDF to sell the electricity produced by its nuclear fleet to its competitors at a lower price than the market electricity price.*

*Saint-Laurent-des-Eaux nuclear power plant.*
*© EDF, William Beaucardet*

The difference from the 42 €/MWh price is justified by the government by anticipated consideration of the investment required to improve the safety of nuclear plants - as a consequences of the Fukushima accident - on which the CRE is not able to decide.

The Cour des Comptes' (Court of Auditors) report on the costs of the nuclear power industry and the Autorité de sûreté nucléaire (French Nuclear Safety Authority) report on additional security assessments provide insights into these issues. They will be taken into account in the next ARENH price.

The CRE will fix the ARENH price from 8 December 2013. Until then, the price is fixed by the government, following consultation with the CRE.

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## Prospects for development of competition in the retail electricity market

*In its opinion of 14 April 2011 on the draft order establishing the maximum total volume of electricity to be sold by EDF for regulated access to historic nuclear power, the CRE evaluated the prospects for development of competition in the retail market for electricity, segment by segment.*

*The table below shows customer distribution at the end of 2010 [1]:*

| Annualised volumes (in TWh) | TRV [2] | Incumbent supplier market | Alternative supplier market | Total |
|---|---|---|---|---|
| Residential | 135 | ±0 | 7 | 142 |
| Small non-residential sites | 39 | 4 | 3 | 42 |
| Medium non-residential sites | 64 | 3 | ±0 | 67 |
| Large non-residential sites | 58 | 82 | 47 | 186 |

*To anticipate ARENH needs, the CRE grouped the end customers in the following four categories:*

- *customers who are significantly affected by the new organisation of the electricity market: customers who already have market supply from alternative suppliers. These customers are among the most flexible in terms of electricity prices, as they have already exercised their eligibility in order to choose a competitive offer;*
- *customers who are affected ,to a certain extent, by the new organisation of the electricity market: medium and large customers with market supply from EDF. The fact that they have exercised their eligibility also shows high price flexibility. However, assuming that they retain supply with EDF, they will not be impacted by the ARENH;*
- *customers moderately affected by the new organisation of the electricity market: residential and small business customers at regulated sales tariffs or with market supply from EDF. Their price flexibility is lower than industrial consumers. Nevertheless, maintenance of full reversibility between regulated sales tariffs and market supplies should encourage these consumers to make more significant use of their eligibility than in the past;*
- *customers who are hardly affected by the new organisation of the electricity market: medium and large business customers at regulated sales tariffs are likely to be little affected before 2016.*

*The following table lists the ARENH volume required for three normative competition development scenarios:*

- *Scenario I, weak development of competition, mainly focused on customers who are significantly affected by ARENH, who already have market supply from competing suppliers;*
- *Scenario II, moderate development of competition;*
- *Scenario III, development of strong competition, including the segments already at regulated tariffs.*

| Customer category | Scenario I | Scenario II | Scenario III |
|---|---|---|---|
| Customers with significant impact | 100% | 100% | 100% |
| Customers affected to a certain extent | 0% | 20% | 40% |
| Customers with moderate impact | 0% | 5% | 15% |
| Customers - little impact | 0% | 0% | 5% |
| ARENH Volume | 44 TWh | 65 TWh | 96 TWh |

*The CRE concludes that a scenario of rapid development of competition, in line with the objectives of the new organisation of the electricity market, could lead to an ARENH requirement of about 90 to 100 TWh.* ●

*1 – Data from the observatory of the retail markets published on 1 March 2011*
*2 – Regulated sales tariffs*

*ARENH Products*

- **ARENH rights calculated based on consumption during the off peak periods**

The CRE gave a favourable opinion on the rights allocation method after ensuring that it fully met the twofold principle provided by the Energy Code:

– ARENH must represent the share of historic nuclear generation in total consumption in France. That is to say that with the electricity they buy from EDF at the ARENH price, alternative suppliers must be able to cover a share of the consumption of their customers that is equivalent to the share of total French consumption covered by nuclear generation;
– the distribution of ARENH between suppliers must be organised according to the consumption of their customers during times of low domestic consumption.

**Small consumers (residential and small business)**

| Year | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|
| ARENH volume (in %) | 77 | 79 | 74 | 74 | 70 |

**Large consumers**

| Year | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|
| ARENH volume (in %) | 81.3 | 79.8 | 85.8 | 85.8 | 89.3 |

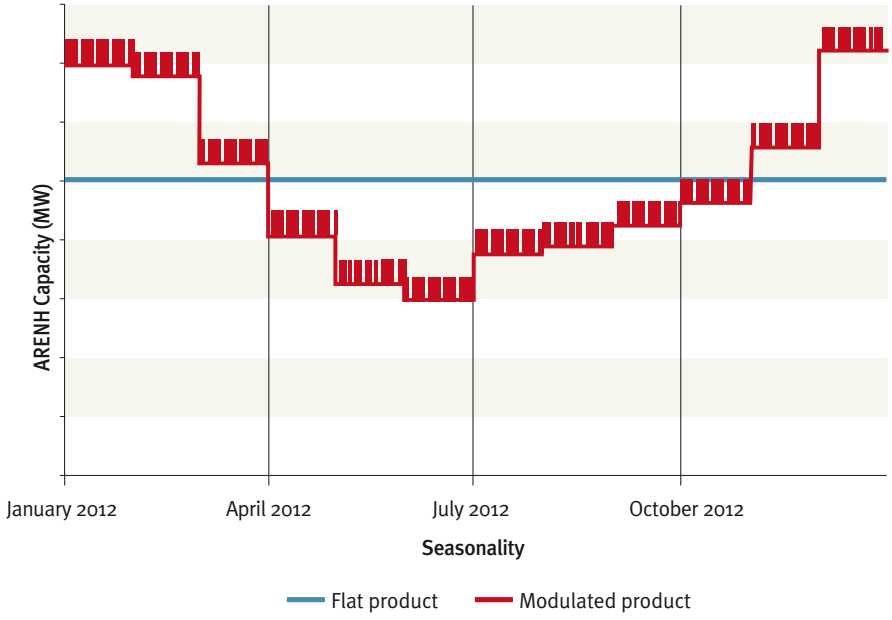
▲ ***Change in ARENH volumes in percentage of total consumption of sites.***

- **A flat delivery profile for large consumers and modulated for small consumers**

The profile of ARENH products for small consumers (residential and small business customers) is organised to reflect the modulation of the generation of the French nuclear fleet [2]. The profile of the products for large customers is flat until 2015.

On 12 May 2011 the CRE issued a positive opinion on the draft order on delivery profiles submitted to it, these being consistent with the provisions of the Energy Code.

*2 – This adjustment is made on an annual basis (seasonal variations), weekly basis (weekday/weekend) and daily basis (peak/off-peak).*




► ***ARENH flat and modulated products*** *The modulated product is the delivery of a higher power in winter compared to summer, to reflect the modulation of EDF's nuclear fleet generation.*

• **Deduction of Exeltium volumes**

Exeltium is a consortium of electro-intensive companies with a long-term electricity supply contract with EDF.

Article L 336-4 of the Energy Code states that the volumes of electricity purchased under the contract between EDF and Exeltium (or any similar contract) are deducted from the ARENH rights. Decree no. 2011-554 of 20 May 2011 sets forth the terms of this deduction.

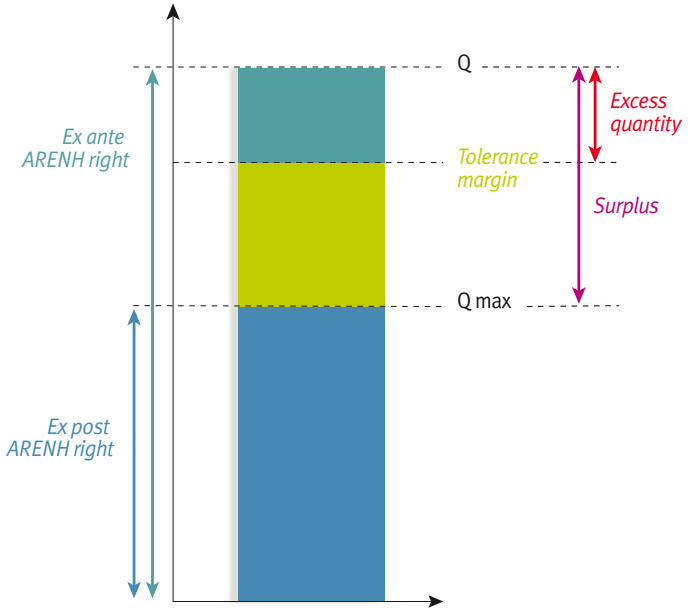
This decree was amended on 28 October 2011 in order to clarify the specific procedures to be applied when launching a new similar contract during the ARENH delivery semester, with suppliers not permitted to bring forward this launch when making their ARENH request.

On 28 April 2011 the CRE issued an unfavourable opinion on the draft decree submitted to it for opinion on the grounds that the procedures it provided for calculation of the deduction from the ARENH right could not be applied as things stood. The decree that was finally adopted took account of the CRE's comments. On 20 October 2011 the CRE also issued a positive opinion on a draft decree amendment.

***A price supplement to avoid resale of ARENH volumes on wholesale markets and encourage the best forecast***

The Energy Code provides that, in the event of oversubscription of ARENH volume relative to their theoretical rights (annually, calculated retrospectively), suppliers must make two price supplement payments calculated on the basis of the wholesale market resale price.

The first price supplement seeks to neutralise the gains that would be unduly made by a supplier requesting an excessive amount of ARENH under its customer portfolio in order to resell it on the wholesale markets. This price supplement is transferred to EDF.




▲ ***Tolerance margin***
*A provider who subscribes more ARENH than he delivers to his customers is penalised financially: he must pay a "price supplement".*
*If the subscription exceeds a tolerance margin set at 10% of recorded ARENH consumption, the supplier must pay a second price supplement.*

The second price supplement seeks to encourage suppliers to make better forecasts of their sales volumes.

This means, especially when the 100 TWh ceiling is reached, that there is no need to ration suppliers formulating realistic forecasts. This price supplement is transferred to all suppliers receiving ARENH in proportion to their recorded ARENH volumes.

The decree of 28 April 2011 therefore provides a price supplement when the supplier has had more ARENH than its theoretical right (price supplement 1), plus a second price supplement (price supplement 2) when the difference exceeds a margin of tolerance. This margin of error of 10% of recorded consumption means a supplier making a forecasting error in good faith will not be penalised.

• **The market price to be considered for the calculation of the price supplement**

In a decision dated 20 May 2011, the CRE fixed the spot price as the wholesale market reference price to be used in calculating price supplement 1, on the grounds that the risks borne by the suppliers in making their ARENH forecasts, if they are within the 10% margin of tolerance, are largely unpredictable.

In return, the CRE will ensure, based on feedback from the first delivery periods, the correct size of this margin and will propose to the Energy Minister any necessary adjustment of this amount to ensure that volumes deviating from the correct forecast match the unpredictable risks properly.

By decision of 15 December 2011, the CRE also set the spot price as the market reference price to be used for calculating price supplement 2.

It also introduced specific procedures for calculating the price supplement in the event that a supplier only participates in the mechanism in one half of a calendar year, in the event of termination of ARENH delivery during the period due to payment difficulties or when an Exeltium type contract is launched in the semester and leads to deductions from ARENH rights, as explained above.

• **A 20% margin of tolerance suitable for the launch of the mechanism**

For the first ARENH delivery period, namely the twelve month period starting 1 July 2011, the tolerance margin was increased to 20%. Given the tight implementation schedule of the mechanism over the first six months of 2011, the period of analysis granted to the suppliers, between the publication date of all the regulations specifying the procedures for implementing the ARENH and the date on which the suppliers were required to submit their initial ARENH application, was found to be extremely short. However, to enable suppliers to participate in the first ARENH application period, the margin of tolerance was lifted to reduce the risk to suppliers in the event of poor forecasting of the final consumption of their customers.

The implementation of the ARENH mechanism provides system operators with a further opportunity to buy the cheaper electricity required for compensation of losses.

***System operators have access to ARENH products to cover losses***

The transmission of electricity in grids causes energy losses. System operators are responsible for compensation of such losses: as such, they carry out public consultations to which the suppliers respond and intervene directly in the markets until the day before delivery.

The ARENH mechanism provides indirect access to historic nuclear energy for compensation of losses. The volumes of ARENH products sold to suppliers for losses are added to the 100 TWh annual ceiling set by article L336-2 of the Energy Code. Contracting for these volumes by system operators with interested suppliers may begin as early as 2012.

The implementation of the ARENH mechanism provides system operators with a further opportunity to buy the cheaper electricity required for compensation of losses.

- **The CRE calculates an ARENH right for each system operator from its forecast losses**

To take advantage of the ARENH mechanism, each system operator must submit to the CRE its forecast load loss curve which will be used to calculate its ARENH right for the year in question. The CRE's decision of 22 December 2011 defines the procedures for exchange of information between system operators and the CRE for the calculation and reporting of this amount of ARENH rights.

Any subsequent change to the framework agreement model requires an amending order issued as a result of a proposal from the CRE.

- **The system operators organise dedicated public consultations**

The system operators organise dedicated public consultations in which they conclude the specific ARENH qualification contracts to enable interested suppliers to obtain ARENH rights.

The CRE's decision of 22 December 2011 defines the features of the specific ARENH qualification contracts through which providers can obtain volumes of ARENH products from EDF.

These contracts between the system operators and interested suppliers cover flat products delivered between 1 January and 31 December of the same year. To account for ARENH qualification in mid-2013, a flat product involving delivery over the period from 1 July 2013 and December 31, 2014 has been defined.

The volume of ARENH products obtained by each supplier for supply of losses is calculated on the basis of the average capacity contracted with the system operators in the context of specific ARENH qualification contracts. These contracts ensure entitlement to ARENH and to the share of historic nuclear production in total French consumption. ARENH products sold to the supplier for supply of losses are flat products.

- **ARENH rights for compensation of losses are adapted to 2013 and 2014**

System operators have already bought, on the market, part of the energy needed to compensate for the losses for the years 2013 and 2014.

Article L336-3 of the Energy Code also provides that the supplier's ARENH rights should be increased gradually from 1 August 2013 *"to reflect the amount of electricity they supply to system operators for their losses"*.

The forecast loss load curve taken into account in calculating the rights of system operators in these years has been adapted to conform to the order of 25 November 2011.

### 2.2. Practical and contractual organisation

ARENH is implemented through a regulated contractual mechanism. Article L336-5 of the Energy Code provides that suppliers must, within one month of their application to the CRE, enter into a framework agreement with EDF. Article L336-5 specifies that this framework agreement *"ensures the terms under which the supplier may, upon request, exercise the right of regulated access to historic nuclear power during the transitional period by means of transfers over a period of one year"*.

The terms of sale under which the ARENH mechanism is implemented and the content of the framework agreement that links EDF and ARENH buyer-suppliers is the subject of a CRE order proposed to the Energy Minister. Any subsequent change to the framework agreement model requires an amending order issued as a result of a proposal from the CRE.

***Development of the order defining the provisions of the framework agreement***

A first draft order was prepared by the CRE after consultation with the participants who contributed the most. The CRE sought to ensure contractual balance to protect the interests of both suppliers and vendors. The order was adopted by the Energy Minister on 28 April 2011.

This first order was followed, at the request of several suppliers, by two amending orders: the aim was to facilitate the establishment of the financial guarantees that ARENH buyers are required to provide to cover potential payment defaults.

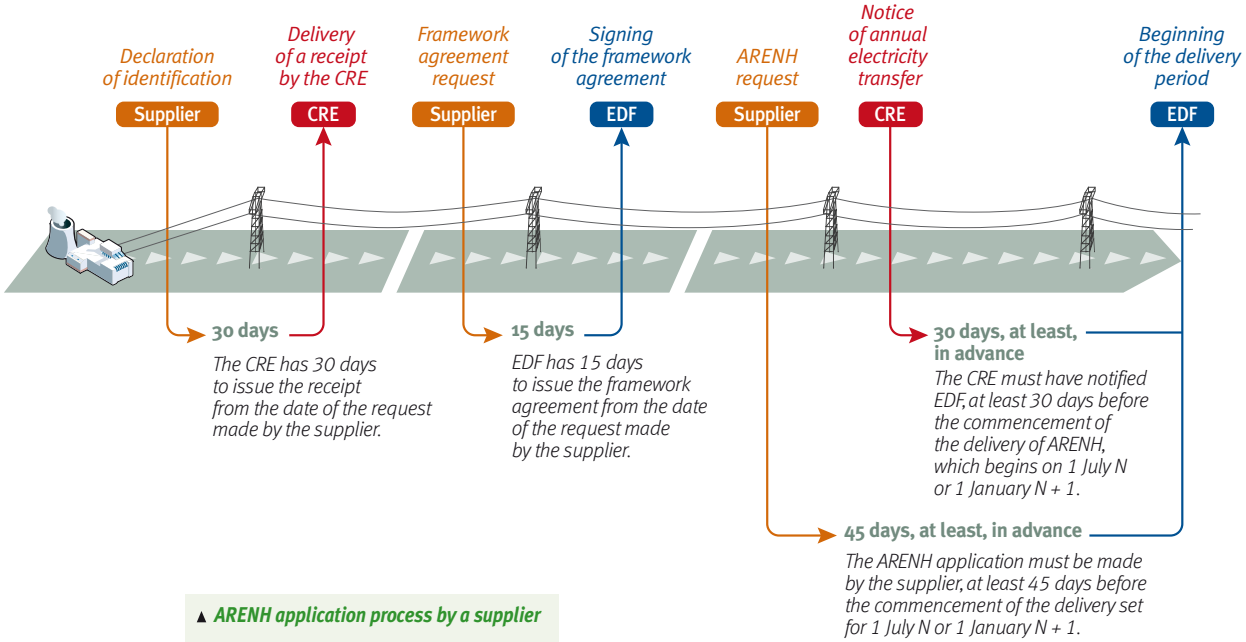
An order, issued on 4 July 2011, introduced a first amendment. Suppliers, therefore, were given the ability to choose between several types of guarantees (guarantee registered at the headquarters of the Caisse des dépôts et consignations (Deposit and Consignment Office), approved guarantee, guarantee of affiliation or any combination of two of these).

Despite the flexibility introduced by the amendment text, the suppliers reported, to the CRE, persistent difficulties in the establishment of the guarantees required under the ARENH mechanism.

The CRE therefore proposed a new amending order to the Minister on 10 November 2011, which was published in the Official Journal of the French Republic on 1 December 2011. It specifies, firstly, that the guarantee must now be understood net of taxes. Secondly, the amount must be set at one and a half times the average monthly volume of electricity valued at the ARENH price, against twice the previous highest monthly volume.

***Declaration of identification, signature and content of the framework agreement***

An electricity supplier wishing to benefit from regulated access to historic nuclear energy is required to report to the CRE, with copies to the Energy Minister. Within 30 days, the CRE issues the supplier with a receipt.




▲ *ARENH application process by a supplier*

Pursuant to article 2 of decree nº. 2011-466, within 15 days of the request made by a supplier holding a receipt, EDF signs the framework agreement with this supplier. The supplier sends the CRE a copy of the signed framework agreement.

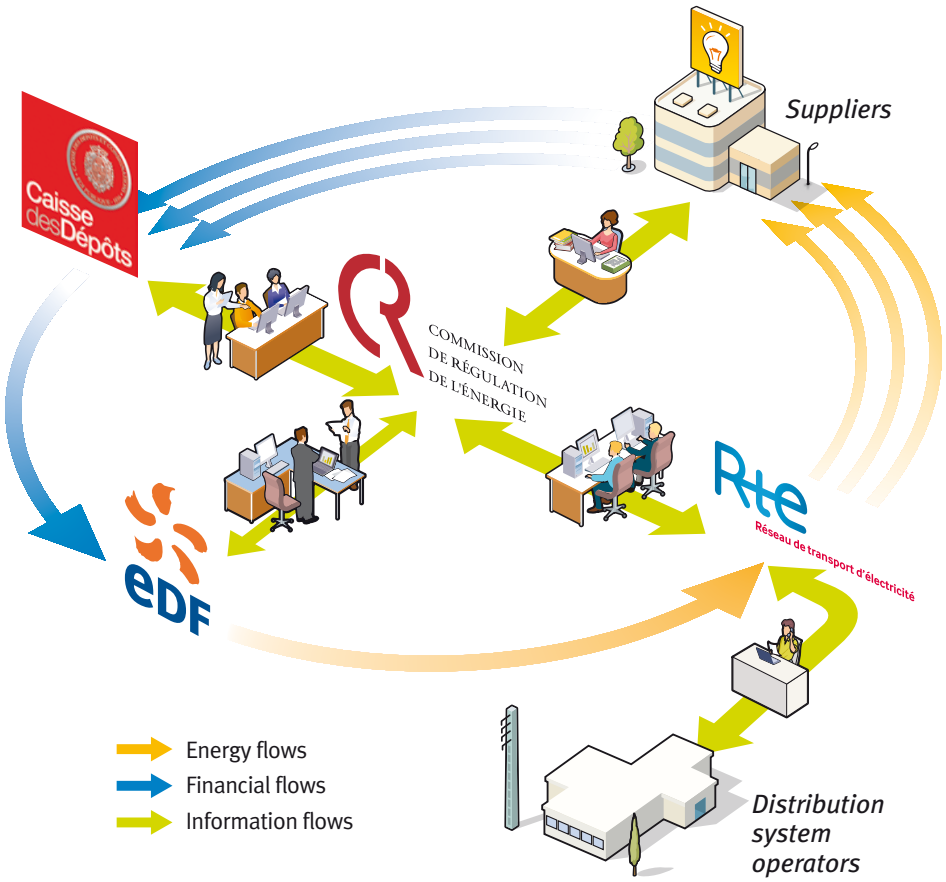
The framework agreement defines, under the applicable laws and regulations, the procedures for exercising the ARENH right, the electricity delivery methods, the price of the electricity and the guarantees that the supplier must provide.

### 2.3. Feedback from the first application period

*An operational success*

- **As a result of the specific rules relating to the first application period**

Given the tight implementation schedule of the mechanism, it was impossible to meet the time limits in the implementing decree for the first ARENH application period. In accordance with the provisions of that decree, the CRE established, by its decision of 3 May 2011, suitable time periods for the first delivery, with a reduction from 45 days to 30 days for the deadline for the supplier's submission of the ARENH request to the CRE and from 30 to 15 days for the CRE to notify the suppliers of the ARENH rights.




► ***The ARENH application procedure: an organisation that maintains confidentiality of exchanges***
*To maintain the confidentiality of supplier portfolios, the mechanism has been constructed so that EDF sees only aggregate data, with RTE and the Caisse des dépôts et consignations (Deposit and Consignment Office) acting as intermediaries. The CRE exchanges information with suppliers to calculate their rights and then sends them the information necessary to manage physical and financial flows. The CRE reports to EDF the total ARENH volume to be provided. Finally, RTE sends ex post the actual consumption to the CRE.*

- **As a result of the flexibility and responsiveness of the participants**

All participants showed the responsiveness and flexibility necessary to enable the implementation of the mechanism in the shortest time possible: the Direction générale de l'énergie et du climat (DGEC - French General Directorate for Energy and Climate), the system operators, including RTE, the alternative electricity suppliers, the local distribution companies, the Caisse des dépôts et consignations (Deposit and Consignment Office), EDF and the CRE itself. Between the enactment of the NOME law on 7 December 2010 and the start of ARENH deliveries on 1 July 2011, numerous regulations were adopted and many decisions were taken by the CRE. Finally, 33 framework agreements were signed between EDF and alternative electricity suppliers. A list of these agreements is available on the CRE website.

***The results of the first counters***

The first ARENH delivery period began on 1 July 2011. The application and rights allocation process was conducted on time as a result of the specific provisions applying to the first application period: an increased margin of tolerance for the calculation of the price supplement to reduce supplier risk, shorter processing times to enable applications to be submitted later, etc.

61.3 TWh of ARENH were to be delivered during the first delivery period. During the second period, which started on 1 January 2012, 60.7 TWh of ARENH were to be delivered.

The ARENH mechanism had a significant impact on large electricity consumers who are particularly attentive to energy prices. The market share of alternative suppliers in this sector increased from 25.5% to 29.6% in volume between late May and late September 2011, an increase of 16% (+7.2 TWh). Meanwhile the impact of ARENH on the residential customers and small business market was not significant at this stage, although the pace at which this market is being opened up increased slightly.

**61.3 TWh and 60.7 TWh**

**ARENH volumes reserved by alternative suppliers from EDF at the first and second application periods. Small consumers (C2) reserved 9.3 TWh at the first application period and 10.3 TWh at the second.**

## 3. THE CREATION OF A CAPACITY REQUIREMENT

### 3.1. Objectives of the mechanism

In its first analysis forecasts, RTE identified a capacity shortfall in the national territory, by 2015-2016 [3], jeopardising compliance with the security of supply criterion of the electrical system, set by the government at 3 hours failure per year. The specific nature of French energy consumption, including high thermal sensitivity, partly due to electric heating, and significant growth in demand at peak times during periods of extreme cold, raises the question of the ability of the French power system to ensure it can cope successfully with peak load in the coming years.

This issue of peak load was studied by a working group chaired by the members of Parliament

*3 – Capacity is the electricity generation capacity of a producer or the capacity to remove a consumer from consumption. A capacity deficit is a mismatch in terms of power between supply and demand in the national territory.*

Serge Poignant and Bruno Sido [4]. The group found that a capacity mechanism needed to be organised to create an economic space for the investment incentives required in terms of capacity production or removal. This recommendation was adopted in the NOME law, which provides that a mechanism imposing a capacity requirement on suppliers must be set up.

*4 – The Poignant-Sido report, Working Group on control of peak energy load, April 2010.*

The development of the structure of this mechanism was the subject of a consultation under the aegis of RTE in a dedicated working group in which the CRE was involved. In its summary report [5], RTE recommends the establishment of a decentralised mechanism, reasonably close to the energy market's current mechanism but with dynamic inclusion of the requirement and progressive coverage by suppliers of their capacity needs.

At the plenary meeting of 16 November 2011, the DGEC selected the model proposed by RTE as a basis for the mechanism to be developed in the regulatory texts.

*5 – Report to the Minister for Industry, Energy and the Digital Economy on the establishment of the capacity requirement mechanism provided by the NOME law, 1 October 2011.*

▼ *The project to create a mechanism for supplier contribution to the security of electricity supply and the establishment of a capacity mechanism is currently under development. This mechanism seeks, in particular, to ensure, at peak consumption times, a level of electricity generation sufficient to meet demand without too much dependence on imports.*

*Bugey nuclear power plant located in Saint-Vulbas (Ain). Left: partial exterior view of the plant installations, cooling tower and start lines.*
*© EDF, Jean-Luc Petit*

### 3.2. General principles envisaged

This section presents the general procedures adopted by the government in accordance with the analysis as of 31 December 2011.

As provided in the NOME law, the mechanism will set up a capacity requirement mechanism: suppliers subject to a capacity requirement must hold a certificate of capacity for the coverage of consumption of their portfolio at peak load. Capacity certificates will be derived from certification carried out by the RTE TSO, of the power generation or consumption cut-off resources (called capacity providers). Suppliers can meet their capacity requirement through certificates of their own means of production or cut-off or by means of certificates obtained for payments during a period proceeding the year of consumption.

Upstream, in order to ensure that the mechanism ultimately meets the objective of guaranteeing security of supply for the electrical system, all existing capacities must participate in the mechanism. Indeed, the law provides that all capacities must be certified. The capacity providers, whether of production or cut-off, undertake, upon certification, to be available for a certain number of hours during peak periods. Availability of capacity is monitored by RTE (or the TSOs for resources connected to the grid) during the delivery period, to ensure the validity of the suppliers' commitments. Financial penalties are imposed on capacity providers with a capacity deficit. The amount may be determined based on the overall situation of the French power system.

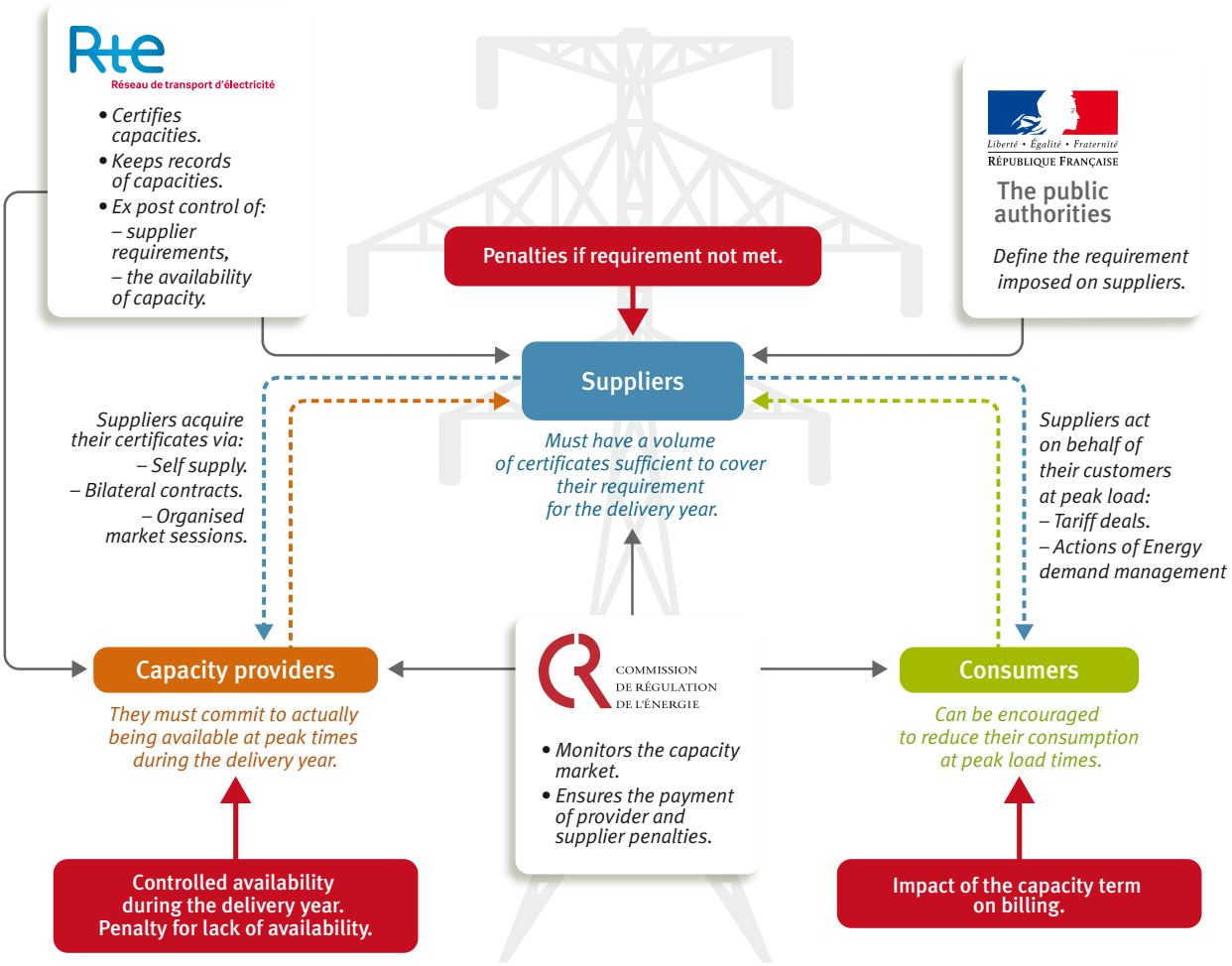
Downstream, the chosen mechanism is decentralised, with dynamic inclusion of the requirement and progressive coverage by suppliers of their requirement. The prescription, i.e. the safety margin level set for the calculation of the capacity requirement imposed on each supplier, is determined by the government as a percentage margin several years before it becomes due. Suppliers then calculate their requirement, based on peak load consumption of their forecast portfolio with addition of the margin. They then have the period until the year of delivery to meet their requirement by developing the necessary capabilities or by purchasing qualification certificates. These can be traded with capacity providers during ad hoc market sessions or as part of a bilateral market (OTC).

Suppliers, of course, will have the opportunity to reassess their requirement by refining their consumption and customer portfolio forecasts. They can therefore rebalance on the capacity market. If they fail to meet their requirement, suppliers in deficit are subject to a financial penalty to incentivise compliance. The mechanism thus presents strong similarities with the energy

market, with suppliers playing the role of "capacity balancing managers" in this mechanism.

On a transitional basis, until the market matures, the DGEC envisages the implementation of a last resort centralised auction system to provide clear price signals to investors and to ensure the development of sufficient capacity to launch the mechanism. The procedures of this centralised auction have not yet been decided.

▼ ***The capacity mechanism***
*The capacity market organises capacity requirement exchanges:*
*– The capacity vendors (or providers) are the power generation site owners. Ownership of a generation site entails the assignment of a certain number of capacity certificates, depending on the plant's installed capacity;*
*– The capacity buyers (or applicants) are suppliers, depending on the size of their customer portfolio. All suppliers are required to cover the peak demand of their customers either by buying from generation sites, or by buying capacity requirements.*



## 4. THE DEVELOPMENT OF COMPETITION AND THE ROLE OF THE CRE IN MONITORING THE RETAIL MARKETS

### 4.1. Contestability of regulated sales tariffs

Article L 337-6 of the Energy Code provides that *"within a period ending no later than 31 December 2015, regulated sales tariffs for electricity will be gradually set by taking account of the addition of the price of regulated access to historic nuclear power, the cost supplement to electricity supply, which includes the capacity guarantee, the cost of routing electricity and marketing, plus a normal return"*.

In principle, an alternative supplier will be able to compete with all regulated sales tariffs provided that these are set by adding the costs.

The law provides that regulated sales tariffs should be devised so that the alternative electricity suppliers are able, no later than 31 December 2015, to make a market offer that is competitive with regulated sales tariffs, based partly on ARENH and wholesale market prices. This is what is known as the contestability of regulated tariffs.

In its opinion of 28 June 2011 on the draft order providing for an increase in regulated sales tariffs on 1 July 2011, the CRE evaluated the tariff increase that should have been applied to these tariffs to ensure that they were contestable, on average, by alternative suppliers, in accordance with the ARENH and wholesale market price. The table below shows the increases based on different assumptions.

| | | Baseload market price (€/MWh) | | | |
|---|---|---|---|---|---|
| | The ARENH price | 54 | 56 | 58 | 60 |
| Blue residential [1] | 40 € / MWh on 1 July 2011 | 3.5% | 3.8% | 4.1% | 4.4% |
| | 42 € / MWh on 1 January 2012 | 5.4% | 5.7% | 6.0% | 6.3% |
| Blue Business [2] | 40 € / MWh on 1 July 2011 | 3.4% | 3.8% | 4.4% | 5.2% |
| | 42 € / MWh on 1 January 2012 | 5.0% | 5.4% | 6.0% | 6.8% |
| Yellow [3] | 40 € / MWh on 1 July 2011 | 4.9% | 5.5% | 6.2% | 6.8% |
| | 42 € / MWh on 1 January 2012 | 6.8% | 7.4% | 8.1% | 8.8% |
| Green | 40 € / MWh on 1 July 2011 | 4.5% | 5.3% | 6.0% | 6.7% |
| | 42 € / MWh on 1 January 2012 | 7.1% | 7.9% | 8.5% | 9.2% |

*1 – On basic tariffs and peak/off peak*
*2 – On basic tariffs and peak/off peak*
*3 – On basic tariffs*

▲ ***Contestability of regulated sales tariffs***

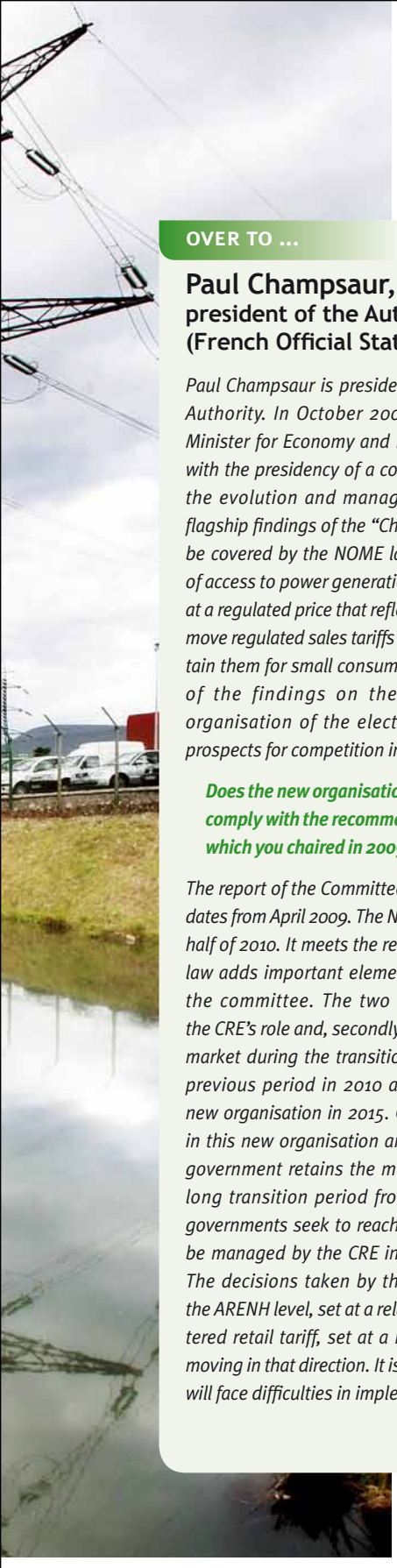
► *The CRE monitors the electricity and natural gas retail markets. It has access to information allowing it, among other things, to ensure that alternative suppliers pass on the ARENH economic conditions to their customers and enable them to benefit from competitive offers compared with those of EDF.*

*Cruas nuclear power plant (Ardèche).*
*© EDF, William Beaucardet*

### 4.2. Changes to the CRE's supervisory role

The Energy Code, which incorporates the provisions introduced by the NOME law, assigns the CRE with the role of monitoring the retail markets for electricity and natural gas (art. L131-2): *"The Commission for the Regulation of Energy monitors, for electricity and natural gas, transactions between suppliers, traders and producers, transactions on organised markets and cross-border trading. It monitors the consistency of offers, including guarantees of capacity, made by producers, dealers and suppliers, especially to end consumers, with their economic and technical constraints and, if necessary, their terms of supply by regulated access to the historic nuclear power mentioned in the same article. The CRE may also issue an opinion and propose measures to promote correct operation and transparency, particularly of prices, in the retail market. "*

With access to retail offers made by suppliers in all customer sectors, the CRE will also be able to identify any downstream barriers to the development of effective competition and, where necessary, propose solutions to be implemented to remedy them. It will be able to check that the ARENH economic conditions are passed on to end customers, to allow offers that are truly competitive with those of EDF. ●



OVER TO ...

## Paul Champsaur,
### president of the Autorité de la statistique publique (French Official Statistics Authority)

*Paul Champsaur is president of the French Official Statistics Authority. In October 2008, the Energy Minister and the Minister for Economy and Industry entrusted M. Champsaur with the presidency of a commission charged with assessing the evolution and management of electricity prices. The flagship findings of the "Champsaur Commission" will mostly be covered by the NOME law: provide suppliers with a right of access to power generation from EDF's historic nuclear fleet at a regulated price that reflects the full costs of production; remove regulated sales tariffs for industrial consumers and maintain them for small consumers. Paul Champsaur explains one of the findings on the implementation of the new organisation of the electricity market in France and the prospects for competition in the electricity supply market.*

***Does the new organisation of the electricity market comply with the recommendations of the committee which you chaired in 2009?***

*The report of the Committee that I had the honour of chairing dates from April 2009. The NOME law was passed in the second half of 2010. It meets the recommendations of the report. The law adds important elements which were not dealt with by the committee. The two main elements concern, firstly, the CRE's role and, secondly, the organisation of the electricity market during the transition period between the end of the previous period in 2010 and the full establishment of the new organisation in 2015. Consistent and significant powers in this new organisation are given to the CRE. However, the government retains the most important powers during the long transition period from 2010 to 2015. Will successive governments seek to reach a situation in 2014 that can later be managed by the CRE in accordance with the NOME law? The decisions taken by the government in 2011 regarding the ARENH level, set at a relatively high level, and the administered retail tariff, set at a relatively low level, are not really moving in that direction. It is therefore not unlikely that the CRE will face difficulties in implementing the NOME law in 2015.*

***What do you think of the level at which the ARENH was set?***

*I also had the honour of chairing another committee whose members were Bruno Durieux, Inspecteur général des Finances (Inspector General of Finance) and Jacques Percebois, University professor. This commission was appointed to advise on the cost of energy generated by the historic nuclear plants and on the ARENH level. The work was completed before the Fukushima nuclear accident. The consequences of this accident are not included in the report, which was released in March 2011. However, they are included in the report of the Cour des comptes (Court of Auditors) of January 2012 on the costs of the nuclear power industry. Remember that the ARENH level defines the basic price at which EDF's competitors can acquire electricity generated almost exclusively in France by EDF nuclear power plants, rather than by other much more expensive means (thermal power plants, the European market). Normal competition on the energy supply market means that the ARENH level matches the generation costs of EDF's nuclear power fleet. In the domestic market, the managed tariff applied to small consumers must also match the ARENH level - i.e. it must be equal to the sum of all the service costs contributing to the supply of electricity including that of basic electricity. The accounting cost of nuclear energy in the EDF accounts is 33 to 34 euros per megawatt hour. This cost is used to calculate the current retail price of the managed tariff. It is calculated under the assumption that nuclear power plants will be shut down after 40 years of generation and that no significant work to improve their safety will be undertaken. Our committee worked on another hypothesis. The French Nuclear Safety Authority (ASN) would agree to an extension of at least 10 years of the life of plants on the condition that measures are taken and work is carried out to improve their safety. This represents an addition of about 5 euros per megawatt hour to the accounting cost of nuclear power in the coming years. Finally, the government set the ARENH level at 42 euros per megawatt hour from January 2012. According to the Court of Auditors' report, the difference between this level and that recommended by the Committee, 3 to 4 euros per megawatt hour, can only be explained in part by the additional security measures envisaged following Fukushima.* ●

# 26%

**Share indexed to wholesale gas market prices, included in the formula used to calculate the GDF SUEZ regulated gas sale tariff.**


*Compressor station, Saint-Martin-de-Crau (Bouches-du-Rhône)*

# The CRE is taking the initiative on the gas tariff and is working to open markets

In accordance with the law relating to the opening up of energy markets, regulated tariffs must cover the costs incurred by the incumbents, i.e. the costs of gas shipping and supply.

The CRE highlighted this key principle in its report to the government following its work on the regulated tariff setting method for gas sales.
The CRE recommends reform of the calculation method used for GDF SUEZ supply costs.

It also advocates removing regulated tariffs for industrial customers, most of whom are already receiving market supplies.

## KEY WORDS

- ***GDF SUEZ supply portfolio***
- ***Long-term contract***
- ***Principle of cost coverage***

## 1. REGULATED GAS TARIFFS HAVE A VERY PRECISE LEGISLATIVE AND REGULATORY FRAMEWORK

Since 2007, the natural gas retail market has been completely opened up. Consumers can choose their supply at the market price from their supplier of choice. Over 59% of gas consumed in France is provided as part of a market offer. However, this openness to competition mainly involves business customers, (58%), while 86% of residential customers have kept a regulated tariff contract with an incumbent - GDF SUEZ or a local distribution company (LDC).

### 1.1. The regulated sales tariffs and market offers coexist in a competitive environment

Alternative suppliers offer contracts for natural gas with prices fixed freely without any government intervention. Incumbent suppliers may, in turn, offer supplies both at the regulated price and at freely fixed prices. Since the law of 7 December 2010 on the reorganisation of the electricity market (NOME law), competition in the retail gas market has been strengthened by providing consumers with the opportunity to choose between the regulated tariff and market supply, at any time.

Price-setting for market supply is based on the same costs as the regulated tariffs. It takes account of supply costs, transmission and distribution system operating costs, storage costs and marketing costs. The regulated tariffs must therefore reflect the actual costs of the operator so that there can be full competition between participants. The CRE ensures that for each tariff change the regulated price fully covers all of these costs (see section 3.2, p. 100).

▼ *In 2011, France consumed 520 TWh of natural gas. 30% of consumption was provided by imports of LNG.*

*The GDF SUEZ Global Energy LNG tanker. © GDF SUEZ, Gilles Leimdorfer, Interlinks Image*

In accordance with article L452-3 of the Energy Code, the natural gas transmission and distribution operating costs set by the CRE are applied under the same terms to all natural gas suppliers. Price competition applies mainly to the costs of marketing and supply.

The inclusion of these costs in the regulated tariffs is subject to a mathematical formula. This formula is based on the prices of long-term contracts for the purchase of gas imported into France, entered into between GDF SUEZ and its suppliers.

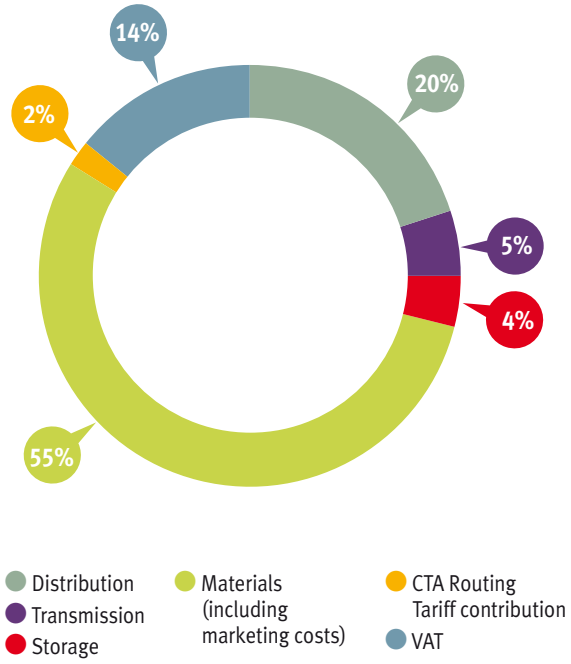
### 1.2. The decree of 18 December 2009 manages the establishment of regulated tariffs

The procedure defined by the decree is as follows: the Energy and Finance Ministers issue an order, at least once a year, setting the regulated sales tariffs. Between each ministerial order, each incumbent supplier may appeal directly to the CRE for a tariff change on the basis of changes in supply costs, based on the results of a formula determined by order.

At the heart of the tariff system, the calculation of these costs reflects the public service obligation of the incumbent supplier, mentioned in its binding contract with the State. Indeed, GDF SUEZ must ensure security of gas supply in France.

### 1.3. The GDF SUEZ public service contract formalises the evolution of regulated prices

France only produces about 2% of its gas consumption. The country therefore depends on imports to meet its needs. Under the public service contract signed on 23 December 2009 with the State, GDF SUEZ undertakes to maintain and develop a diversified portfolio: long-term contracts, purchases on the short-term wholesale markets, its own resources. In addition, this contract provides that the tariff formula to define the supply costs takes account of the cost of natural gas imported into France by GDF SUEZ. The contracts in question are therefore long-term contracts lasting more than three years, with prices that are largely indexed to oil prices.




▲ ***Cost items on the bill of a customer using gas heating in 2011***
*A natural gas consumer pays, in his bill, all the costs relating to gas supply. These are, in addition to VAT (and TICGN Taxe intérieure sur le gaz naturel – domestic natural gas consumption tax for non-residential customers):*

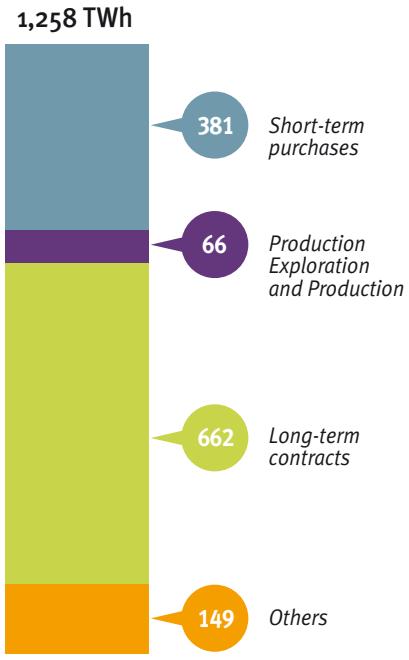
- *The Contribution tarifaire d'acheminement (Routing Tariff Contribution), which ensures the financing of the pension regime of electricity and gas sector workers); -*
- *distribution, which enables gas to be routed from the transmission system to the consumption site;*
- *transmission, which enables gas to be routed from the entry points through which gas is imported;*
- *storage, which allows the extraction or injection of gas into the networks based on consumption patterns which are seasonal by nature;*
- *cost of materials, which includes the cost of the gas itself and the internal charges incumbent on the supplier so that it can supply the gas.*

## 2. THE CRE PRESENTED THE GOVERNMENT WITH ITS EXPERT'S REPORT ON GDF SUEZ SUPPLY COSTS

### 2.1. Over a number of years, the CRE has acquired expertise on GDF SUEZ's supply costs

Since 2006, the CRE has regularly audited GDF SUEZ's supply contracts to check the adequacy of its supply costs with the tariff formula. Recurring checks are imposed because GDF SUEZ may change the structure of its supply portfolio over time in an environment of constant changes in gas prices.

In February 2006, the CRE found that the tariff formula in force provided a correct approximation of supply costs within the scope of the public service contract, i.e. for the gas imported into France under long-term contracts. The CRE reiterated this finding in December 2008 and August 2010, following audits it conducted. In its latest decision, it recommends expanding the scope of the supply costs to be considered in the tariff formula.




◂ ***Distribution of the GDF SUEZ supply portfolio by source***
*Out of a total supply of 1,258 TWh for the whole GDF SUEZ group in 2011, supply under long-term contracts represents about 53%. The remainder consists primarily of short-term purchases (30%) and the group's own resources (exploration and production, 5%).*
*The share of short-term purchases in GDF SUEZ's European supply portfolio at the end of December 2010 (695 TWh) was approximately 21%.*
*Source: GDF SUEZ, Publication of annual results, 2011*

***The CRE's recommendations led to successive changes in the tariff formula***

In its decision of 31 August 2010, the CRE had noted that renegotiations were under way between GDF SUEZ and its key suppliers. The CRE also stressed the inclusion in the long-term contracts of an increasing share of wholesale market price indexing. The CRE recommended that the formula be revised to better reflect the cost of GDF SUEZ's long-term contracts for imported gas at the conclusion of the renegotiations. In accordance with this recommendation, the ministers, by order of 9 December 2010, set a new formula that introduced the market price (TTF index - Netherlands) among the indexes to be considered for indexing, with a weighting of 9.5%.

In its decision of 30 March 2011, the CRE recalled that GDF SUEZ's diversified supply portfolio provided it with significant potential for optimisation and arbitrage: between long-term contracts, or short-term purchases or market purchases, or within the long-term contract portfolio. The CRE proposed that the tariff no longer be limited to the costs of the gas imported into France as part of long-term contracts, but take account of a scope representing GDF SUEZ's European supply portfolio. The CRE also judged that the share indexed to the market price could be increased above the current threshold set out in the long-term contracts (up to 30%).

**74%**

Share of consumption of non-residential sites with market offers.

### 2.2. The CRE has formulated recommendations for the procedures for setting regulated tariffs in its expert's report

CRE recommended that a broader supply scope be included in calculation of the costs covered by the regulated tariffs

The Finance and Energy Ministers, in a letter dated 8 June 2011, requested that the CRE assess the method used to fix the regulated sales tariffs for gas and make proposals for change before the end of 2011. The CRE submitted its report to the Ministers on 28 September 2011 and published it on 24 October 2011.

▼ *GDF SUEZ's natural gas is supplied primarily through a portfolio of long-term contracts from more than a dozen countries. The top three long-term suppliers are Norway (21%), Russia (13%) and Algeria (12%). About 16% of the GDF SUEZ portfolio consists of LNG.*

*Gjoa offshore oil and gas platform in Gjoa in the North Sea in Norway. © GDF SUEZ, Jan Inge Haga*

The CRE found that at European level GDF SUEZ was being supplied mainly through a diversified portfolio of long-term contracts, and was also active in short-term markets to adjust its supply and purchases. Optimisation potential increased during 2011 in a context of unbundling of gas prices indexed to oil and market prices. In this context, GDF SUEZ is also involved in further renegotiations of its long-term contracts in order to adapt them to market conditions.

To take account of all these developments, the CRE recommended that the Ministers adopt a new pricing structure including the following:

– widening the supply scope taken into account in the calculation of the costs covered by the regulated tariffs, including, in particular, sources of LNG for which the French or European market is a natural outlet;

– an increase in the market-indexed supply share. An increase to 30% in the weighting of the market price of gas in the tariff formula would provide a more representative formula for GDF SUEZ's supply portfolio;
– sharing among operators and consumers of significant discrepancies observed retrospectively, but subject to the principle of cost coverage.

These recommendations were fully adopted by the Ministers who, after the judge of the Conseil d'Etat referrals suspended the order freezing sales tariffs for private consumers on 29 September 2011, issued an order fixing a new tariff formula on 22 December 2011:

– widening the selected supply scope to include sources of LNG;
– taking account of the European supply contracts (previously excluded from the formula's calculation scope), indexed to 100% on the market and for which the French market can be an outlet;
– changing the market indexation level to 26% (compared to the previous 9.5%).

***The CRE suggested the removal of regulated tariffs for industrial customers***

To inform its work on the method for setting regulated tariffs, the CRE also considered the regulated tariff situation in other European countries.

Several countries such as Great Britain, Germany, Austria, Belgium and the Netherlands have no regulated price system for gas sales. In the Netherlands, supplier offers are free, but the regulator monitors the retail market. Moreover, the existence of regulated gas tariffs for energy-intensive industrial consumers is an exception in Europe.

The Eurostat survey published in June 2011 on household gas prices in the 27 member states of the European Union in 2010 shows that maintaining regulated prices does not mean lower prices for households. In France, the price of the gas without tax is in the upper range of European countries.

In the light of these results, the CRE judged that removing regulated gas tariffs was desirable for industrial customers (non-residential sites connected to the transmission system) and that it was appropriate to reflect this in its expansion beyond this sector, for which market offers represent over 95% of volumes. For households, this goal

**FOCUS**

## Determinants of gas prices

*The price of imported gas under long-term contracts still relies largely on oil product prices. A market price indexing part can also be negotiated in these long-term contracts. Historically, the indexing of gas prices to petroleum products was mainly due to the "netback" principle which deducts the gas price from the average price of competing energy sources in the final market, and therefore primarily from the price of petroleum products.*

*Gas prices on the market were unlinked from the reference prices of long-term contracts indexed to oil from 2009, under the combined effect of lower demand for gas due to the economic slowdown and abundant supply. The latter is related to the arrival of large volumes of LNG and non-conventional gas, particularly in the United States. The American situation has become very unusual, since the United States has now become self-sufficient having previously been an importer. This resulted in market price levels (called the Henry Hub American listing) that were very low and below market prices in Europe. The latter are themselves significantly lower than contract prices indexed to oil, with the discrepancy having exceeded 10 € /MWh in 2010. This disconnect continued throughout 2011 (with a gap of 5 to 6 euros per megawatt hour, and a larger gap in early 2012).*

*In this context, the main gas suppliers and buyers undertook renegotiations that may result in an increase in the market-indexed share in long-term contracts.*

should be reflected in the development of social mechanisms (see Focus), given the problem of the cost of energy supply and also to support the control of energy consumption.

## 3. RECENT TARIFF SETTING DECISIONS ARE CRUCIAL FOR FURTHER MARKET OPENING

### 3.1. The opening up of the gas market remained stable in 2011

The opening of the retail gas market was generally quite stable, with measured and steady growth in the number of customers opting for market supply. 2011 was marked by different trends depending on customer sectors, in a context of rising global gas prices and the freeze on regulated tariffs for residential customers from 1 April 2011.

It was also evident that the opening up of the residential sector grew at 10.1% annually in 2010 and 13.6% annually in 2011. However, there was a slowdown in the second half of 2011 - the freezing of tariffs for residential customers made the offers of alternative suppliers less attractive, and there was drop in their promotional activity.

In the non-residential sector, the market is more mature because customers are more sensitive to energy prices, and the customers most likely to abandon regulated tariffs had, for the most part, already done so in previous years. Thus, there was an annual rate of opening of 9.4% in 2010 compared to 5.8% in 2011.

This difference must be put into perspective with the current penetration rates of market offers in the various sectors in late 2011: 14% of residential sites receive a market supply compared to 42% for non-residential sites, most of which are large consumers.

FOCUS

### The social tariff for gas

*In its report on GDF SUEZ's gas supply costs, published in October, the CRE recommended that a study be undertaken on the evolution of social instruments to address the problem of the cost of energy supply. The CRE issued a favourable opinion (December 2011) on the draft order for a 10% revaluation of the special solidarity tariff, a social instrument governed by decree nº. 2008-778.*

*This tariff setting is applicable by all natural gas suppliers and distinguishes (i) consumers with a private gas supply contract where the TSS is applied as an annual flat-rate reduction based on the number of household members and the consumption range, and (ii) consumers residing in an apartment building heated by a communal gas boiler with the annual reduction paid directly by cheque. Additionally, beneficiaries who have an individual supply contract enjoy the free setting up and registration of their contract, and a reduction of 80% on any call-out fee required due to supply interruption as a result of payment arrears.*

*At the end of 2010, only 307,000 out of 800,000 eligible households had benefited from the special solidarity tariff. Although the eligible households are clearly defined (people with incomes below the ceiling of the universal health insurance), it is more difficult to identify them, particularly for consumers with communal gas heating.*

*The partial automisation of the social tariff allocation procedure came into force in early 2012 and is expected to significantly increase the number of beneficiaries.*

*All losses of revenue and additional charges incurred by suppliers due to the special solidarity tariff have been compensated for as public service expenses.* ●

In its various pricing decisions, the CRE has sought to guarantee the principle of cost coverage to allow contestability of regulated tariffs regulated by market offers.

### 3.2. The CRE places the criterion of cost coverage at the centre of its tariff decision-making

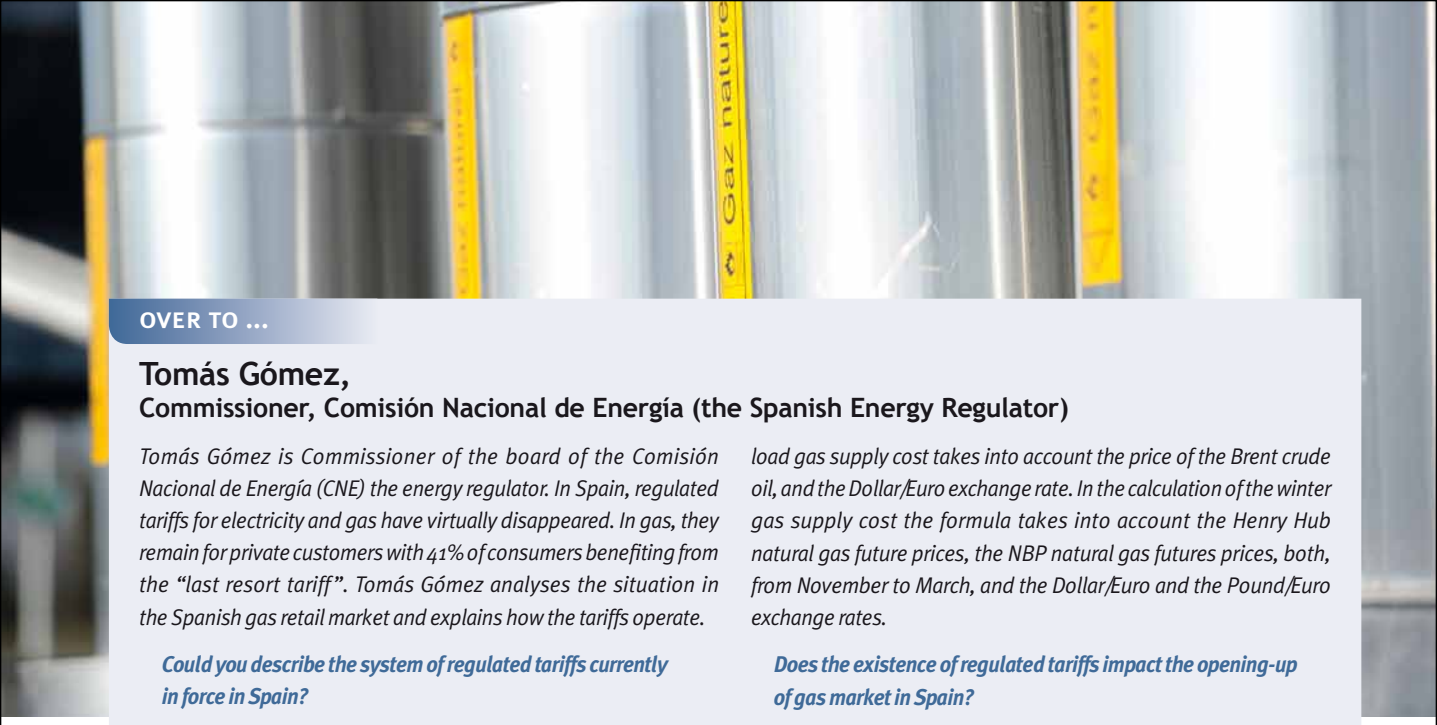
In its decision of 29 September 2011 the CRE issued an unfavourable opinion on the draft order of 1 October 2011 freezing GDF SUEZ's regulated gas sales tariffs for private customers. It held that the proposed increase of 4.9% applicable to industrial customers is insufficient to cover supply and delivery costs.

The CRE noted that a prolonged freeze of regulated sales tariffs is inconsistent with the rules of a market open to competition. These tariffs are an expected benchmark for market participants. As such, they must cover GDF SUEZ's costs. Suppliers must be able to make competitive offers compared to the regulated sales tariffs so that consumers are able to choose those that suit them best. The CRE held that the proposed change was completely insufficient and illegal.

On 28 November, the judge of the Conseil d'Etat referrals, following appeal by GDF SUEZ's competitors, suspended the ministerial order with particular reference to the unfavourable opinion issued by the CRE.

Having received an application in relation to the new tariff order, the CRE, in its decision of 20 December 2011, reiterated once again this cost coverage criterion. It specified that it intended to enable the contestability of regulated tariffs by market supplies. It stated that several gas suppliers make offers more attractive than the regulated rates. It also recalled that any residential customer who opts for a market offer retains the right to return to regulated tariffs at any time.

Accordingly, the CRE sought, in its various pricing decisions, to ensure compliance with these principles. As a result of these decisions it will continue to be vigilant on this point during the next tariff changes, in order to ensure normal competition between suppliers for the benefit the end consumer. ●




OVER TO ...

## Tomás Gómez,
### Commissioner, Comisión Nacional de Energía (the Spanish Energy Regulator)

*Tomás Gómez is Commissioner of the board of the Comisión Nacional de Energía (CNE) the energy regulator. In Spain, regulated tariffs for electricity and gas have virtually disappeared. In gas, they remain for private customers with 41% of consumers benefiting from the "last resort tariff". Tomás Gómez analyses the situation in the Spanish gas retail market and explains how the tariffs operate.*

***Could you describe the system of regulated tariffs currently in force in Spain?***

*The Spanish gas market achieved full liberalization by 1 January 2003. Since then, the price of gas for final customers is composed of a regulated access tariff plus the natural gas cost that can be freely negotiated with suppliers. Residential and commercial consumers still can choose to remain under a full service regulated tariff known as "the last resort tariff".*

*The Spanish Government is responsible for setting the access tariffs after a compulsory report from the CNE. These regulated tariffs are intended to cover the costs of gas infrastructures. There are different regulated tariffs for natural gas infrastructures: LNG regasification, underground storage, and transmission and distribution. Each regulated tariff is independently set for each type of infrastructure. Users pay depending on the use they do of the infrastructure. All access tariffs in Spain are postal (that is, no geographical distinction is made), but the ship unloading toll at LNG regasification plants, where different charges are applied depending on the plant.*

***The formula to define the level of the last resort tariffs is public. What are the main indexes and how are they balanced in the formula?***

*The Ministerial Order ITC/1660/2009 of 22 June defined the current formula that calculates the last resort tariffs quarterly. The formula includes the corresponding access tariff which is composed of the LNG tariff, the underground gas storage fee, and the transmission and distribution tariff, plus the cost of natural gas.*

*The cost of gas has two components: the winter gas supply cost and the base load gas supply cost. Both costs are calculated taking into account the results of an auction, supervised by the CNE, where the last resort suppliers buy the natural gas for their customers, and the international price of several products. The formula of the base load gas supply cost takes into account the price of the Brent crude oil, and the Dollar/Euro exchange rate. In the calculation of the winter gas supply cost the formula takes into account the Henry Hub natural gas future prices, the NBP natural gas futures prices, both, from November to March, and the Dollar/Euro and the Pound/Euro exchange rates.*

***Does the existence of regulated tariffs impact the opening-up of gas market in Spain?***

*In the Spanish gas market from a total number of 7.3 million customers at the end of 2010, 4.3 million (59%) were supplied by a retailer at freely negotiated prices, while the remaining 3.0 million (41%) were supplied by one of the five existing suppliers of last resort. At present, there are about 20 supplying companies operating in the Spanish gas market and new entrants supply more than 60% of the market share in terms of energy, which reveals a fair level of competition.*

*The share of customers supplied at freely negotiated prices shows an upward trend since 2003, with a remarkable increase in the last years. In 2010, 0.87 million customers changed of supplying company (11.6% of total gas customers); 66% of these customers switched between supplying companies, while the remaining 34% switched from a supplier of last resort to a supplying company.*
*In term of volume of gas sales, consumers under regulated last resort tariffs represent only a 5% of the total gas consumption in Spain.*

*In addition, in April 2011, CNE launched a web price comparison tool for gas and electricity offers.[1] This tool enables residential and commercial consumers to find and compare all available offers from different suppliers. As of February 2012, the comparison tool includes 643 active offers from 30 different companies, including 212 electricity offers, 139 gas offers, and 292 dual (gas + electricity) offers. In its first ten months of functioning, the CNE price comparison tool web site has already received 145.000 visits (single web users), and has facilitated several millions of consultations.*

*All the above suggests that the current design of last resort tariffs do not generally prevent gas consumers from choosing their supplier in the market at freely negotiated prices when they find better offers.* ●

*1 – This tool is available under the following link: www.comparador.cne.es*


**35 million**

Linky smart meters will be installed in France. They will gradually replace older models.

*Presentation of the smart meter model in Paris La Défense (June 2008).*

7

# CRE regulates the extension of Linky - a step towards open markets

2011 was an eventful year for advanced metering in electricity.

The ERDF Linky meter experiment ended on 31 March 2011 and the CRE issued a favourable opinion for the deployment of this next generation meter in France.

The publication of the order on 10 January 2012 confirmed the widespread use of Linky.

**KEY WORDS**

***Consultation***

***Grid upgrades***

***Smart meter***

## 1. LINKY IS AN AMBITIOUS PROJECT...

The Linky project is an ambitious one both for its advanced features and because of the number of meters to be deployed in France (35 million). With the development of associated services for consumers, smart metering paves the way for new methods of grid use and energy consumption. It is the first step in the development of the smart grids of the future.

The upgrading of electricity meters is part of the opening up of markets to competition and seeks to improve the operation of electricity markets. Article IV-4 of the law of 10 February 2000 stipulates that system operators must implement metering devices that allow suppliers *"to offer their customers different prices depending on time of year or day and which encourage network users to limit their consumption during periods when overall consumption is at its peak."*

On the CRE's initiative, in 2007, the ERDF electricity distribution system operator launched the ERDF AMM project (Automated Meter Management). This project will replace electricity meters in France by 2016, by implementing smart metering systems - the Linky meters.

### 1.1. By its advanced features

Unlike "old generation" meters, the smart meter is a communicator - i.e. it is able to receive and send information. For operators (TSOs, suppliers), this new meter is a major modernisation tool.

Linky will have ten supplier indexes and four distributor indexes spread over eleven time slots.

FOCUS

### The electricity consumption index

*An index measures the amount of energy consumed in order to determine the customer bill. The customer pays for both the energy supply (regulated sales tariff or market supply) and the use by his supplier of the electricity carrying grids (charge for use of public electricity grids). The indexes are read by the operators of the public distribution systems and then sent to suppliers.*

*The price of the energy consumed may vary depending on the tariff periods: the time-seasonal term calendar is used, i.e. a tariff schedule set according to the time, day and month of consumption. Each index therefore represents a tariff period. There is already, for example, an index for peak periods and off-peak periods. However, thanks to smart metering systems, new tariff structures are possible, adapted to the customer's consumption profile.*

*Two major types of indexes can be distinguished: the distributor index and the supplier index. The energy supplier will have ten indexes and the distributor four. The supplier may choose its own supply tariff schedules, regardless of the timing of the tariff schedule for use of the public electricity grids.*

*The mobile peak is an index that has no fixed time slot. This is the case for customers on the Tempo supply, for example. That means there are prices that vary depending on days and times of use. Accordingly, the supplier offers its customers a price which includes an additional cost on days of high demand (peak) and is cheaper at other times. With Linky, the time slot over which the index will apply will be determined up to a maximum of eight hours before the beginning of this time slot.*

**Standard Features**

- *Recording of multiple consumption indexes.*
- *Recording of maximum power consumption (enabling the contracted power to be defined).*
- *Local communication (customer and remote reading).*
- *Configurable contact.*
- *Management of the mobile peak.*

**New features**

- *Recording of multiple consumption indexes for the supplier.*
- *Remote reading of consumption.*
- *Load curve with configurable steps.*
- *Switch for power supply failure (at subscribed power).*
- *Remote cut-off and authorisation of restoration.*
- *Advanced display.*
- *Smart local communication.*
- *Management of seven additional external contacts.*
- *Fraud detection.*


**Other features**

- *Recording of generation.*
- *Remote reading of generation.*
- *Measurement of deviations from the regulated voltage slot.*
- *Measurement of the duration of outages.*

► ***Linky meter features***
*Smart metering systems store data (index, load curve, etc.), and they record information (cuts, maximum power, etc.) and can be set and queried remotely. These features will benefit everyone involved in the electricity market.*

The load curve (change in capacity consumed over time) will be recorded in configurable time steps of ten, thirty and sixty minutes. A mobile peak can be activated eight hours in advance (see Focus p. 104). The meter will also record the maximum power drawn off daily and quality metrics data.

The system allows all meter data to be counted back every day via Power Line Carrier (PLC) technology located between the meter and the concentrator, then by using traditional telecommunications grids between the latter and the ERDF information systems. The system must be fully interoperable, i.e. any meter must be able to interact with any concentrator - which is a real technological challenge.

### 1.2. For the benefit of the consumer...

***Improving service quality***

Widespread deployment of the Linky meter will benefit consumers.

It will improve service quality, particularly at low voltage, through widespread application of remote meter reading, by tightening the link between power charged and power used, by encouraging diversification of supplier tariff offers to meet specific consumer needs and, in particular, by promoting demand management in peak periods.

***Selecting the power level best suited to electricity consumption***

The Linky meter enables measurement of the maximum power used the day before. With this information, consumers will be able accurately to assess their real power needs and choose the most suitable supply contract. The Linky meter also enables power to be set in exact kilovolt-amperes (kVA), rather than the current 3 kVA steps.

Specifically, if a consumer requires power of 7 kVA, he will no longer be obliged to purchase 9 kVA of supply. And with more frequent information, he may even be able to limit the power to 6 kVA.

***Invoicing based on real consumption***

The smart meter will record better. Currently, actual consumption is known only twice a year when the half-yearly reading is performed by system operators. Intermediate bills are based on consumption estimates. They are also used for contract set-up or when switching suppliers. These estimated consumptions are the source of numerous billing disputes and are a brake on competition. With the smart metering system it is the actual consumption that will be used. A precise knowledge of consumption will empower the consumer to act in response to his energy bill.

***Taking advantage of competition to reduce energy bills***

On the supplier side, the new meter will allow the emergence of new offers or the extension of offers reserved for incumbent suppliers (Tempo Offer) to all suppliers. Suppliers will be able to develop offers tailored to the consumption patterns of their customers. These will be encouraged to limit consumption during peak periods. They can also subscribe to cut-off offers, i.e. deals in which they can commit themselves, if the grid is subject to stress, to foregoing part of their consumption.

Suppliers can develop offers tailored to the consumption profiles of their customers who will, for example, be encouraged to limit their consumption during peak hours.

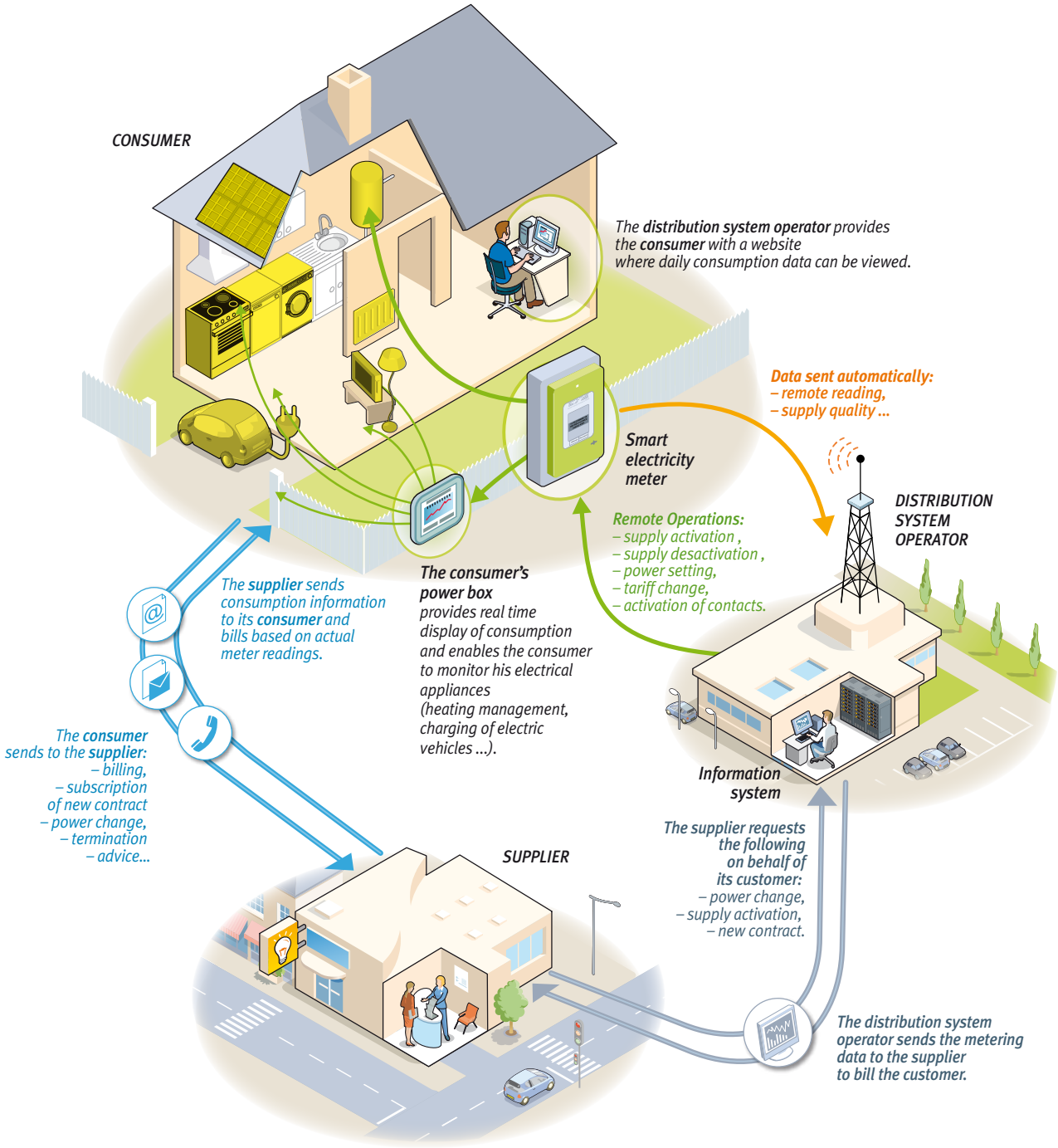
Electricity consumers will become true "consumer-participants" capable of making suppliers compete to choose the offer that best suits their needs.

By combining a better understanding of consumption data and sale prices to provide a genuine indicator, the smart meter becomes an essential instrument for improving the development of the energy market and competition.

### 1.3. Meeting the challenges of grid changes

The smart meter will improve knowledge of congestion points, which will facilitate the targeting of investment and the inclusion of significant variations in levels of extraction or injection of electricity due to new uses (electric cars, micro-generation).

This will also enable remote operations to be carried out. This will result in enhanced quality of power supply, with reduced down time and optimisation




▲ **The operation of the smart electricity meter**
The smart electricity meter is the communication interface between the electric grid and the consumer's installation. This diagram shows the relationships between consumer, supplier and system operator.

of the operation of the electrical system. Indeed, faults will be automatically located and can therefore be repaired more quickly.

The gradual spread of smart electricity meters is now necessary to allow the development of renewable energy on distribution grids. The development of these intermittent and decentralised power sources makes it more difficult to balance the demand and supply of electricity at all times. Consequently, much more precise real-time tracking of changes in demand is required. In this sense the smart meter is an important element in the development of smart electricity grids (smart grids), which seek, in particular, to provide instant detailed data on consumption and electricity generation.

▼ *The electrical system is addressing the development of new uses, such as electric vehicles, which increase consumption and subject the grid to high voltage. In 2020, it is expected that there will be about 2 million electric vehicles, which will entail extra consumption of 4 to 5 TWh of electrical energy. For example, one million rechargeable hybrid or slow simultaneous recharge electric vehicles extract between 3,000 and 6,000 MW, i.e. the power of 2 to 4 EPR reactors. The grid will require modernisation and must be able to communicate in order to ensure a balance between supply and demand at all times, especially during peak consumption periods.*

## 2. EXPERIMENTS WITH LINKY...

The Linky meter was tested by ERDF for over a year with approximately 250,000 customers in Touraine and in the Lyons region, based on features and specifications set by the CRE.

### 2.1. ...Evaluated by the CRE

Using the test results provided by ERDF, the CRE checked that the Linky system met the objectives set out in its communique of 6 June 2007 and in its guidance of 10 September 2007.

OVER TO ...

## Yvonne Fredriksson,
### Director General, Energy Markets Inspectorate (Swedish energy regulator)

*Yvonne Fredriksson is Director General of the Swedish energy regulator, the Energy Markets Inspectorate. Sweden was the first European Union country to complete the deployment of smart electricity meters, and now has over 8 million meters installed. The particularity of this extension is explained by the absence of specific legislation for smart metering: it is an obligation that monthly bills be based on actual consumption data from 1 July 2009 which has driven the process. Yvonne Fredriksson looks back on this major project designed to increase competition for the benefit of consumers.*

***How would you assess the roll-out of smart meters in Sweden?***

*In 2003, Sweden announced the decision to require monthly readings of all electricity meters by 2009. The purpose with the new meter stipulations was to give the customers a better understanding of their invoice based on real meter values instead of estimated. As a result of this decision, Vattenfall, Fortum and E.ON decided to deploy AMM, as the leading industry players in the country. In 2007, almost all of the DSOs in Sweden had signed contracts for AMM solutions and in July 2009, Sweden became the first European country to achieve 100% smart meter rollout. Many of the AMM systems that was installed includes many more functions and technology than required by the regulator, such as power outage reporting, power quality reporting and alarms and remote switching.*

*It was a successful roll-out for several reasons: very high customer acceptance of installation; high level of smartness in meters and accompanying systems; finally a long discussion with the DSOs during the development of the regulatory framework made the acceptance for new rules easier when implementation began.*

***Did you notice major obstacles during the implementation?***

*Basically the acceptance level was high among customers. However there was a group of customers that suffer from sensitivity against radiation and this group had rather frequent talks with us and the DSOs to find good solutions in these specific cases. Also, the DSOs expressed that it would in the end have been better if the regulator would have stated specific functionality demands from the get go. But the tradition in Sweden is to avoid specifying certain requirement that could disturb the markets choice for technical solutions.*

***What are the advantages of monthly billings? To whose benefit?***

*The introduction of monthly billing was a success from a customer point of view. The level of customer satisfaction has risen and the number of complaints from customers have dropped significantly as a result of monthly billing. The main advantage is that the bills are now based on actual consumption instead of estimated consumption data. Preliminary bills based on estimated consumption was a source to much confusion and dissatisfaction among customers before the introduction of monthly metering and billing.*

*Do you observe the development of new supply offers based on the potentialities of smart meters such as the actual time of consumption?*

*Yes. There is a small group of suppliers that on a trial basis are offering variable price contracts on an hourly basis. This kind of contracts are expected to become more common when hourly metering is introduced during 2012.* ●

▲ *Smart meters will make electrical systems more efficient and will promote information exchange between different participants in the system.*

*Deployment of Linky meters in Chinon (Indre-et-Loire), 18 July 2011: customer assistance provided by ERDF technical officer.*
*© ERDF, Alexandre Sargos, PWP.*

ERDF's Linky smart metering system tested during the experiment complies with the features required by the CRE. The features relating to prepayment, registration of excess power and load shedding by power demand limitation were not considered essential.

During the test period, 8.5 meters per day were installed on average. The outage time associated with installation is about 15 minutes, the time spent at the meter (including the outage) is about 30 minutes and the total installation time per meter (including travel to and from the user and the mid-day break) is 50 minutes and 30 seconds. These times comply with ERDF's initial forecasts.

On 31 March 2011, ERDF had received almost 2,400 complaints following the installation of the Linky meter, i.e. nearly 1% of customers who had changed meter.

46.6% of complaints involved the hot water tank which had stopped working - about 0.5% of installed meters. The recovery of the dry contact wiring that controls the channelling of hot water caused problems during installation. These problems were resolved through appropriate training of the meter installers. Complaints for this reason were therefore reduced by half, during deployment.

Meter replacement also led to power cuts due to surges, perceived by the users as a result of the installation of the Linky meter. The main causes of the cuts were rooted in the setting of a control panel circuit breaker higher than the contracted power.

These, therefore, were users whose purchased power was different from that set on the circuit breaker. They were therefore incorrectly receiving a switching capacity higher than that in their supply contract. The choice made by ERDF, and shared in consultation with the participants, was to reset the users to their contracted power contract, without penalty to the user.

### 2.2. ...Discussed in focus groups

The Linky project was monitored by all the participants in two focus groups (see Focus) under the aegis of the CRE: the Metering Working Group and the Energy Demand Control Working Group. These two focus groups complemented the features of the metering system and prepared the experiment that they monitored.

The project evaluation carried out by the CRE and published in its decision of 7 July 2011 was informed by the feedback collected by ERDF in the focus groups and the reactions and suggestions of the participants. The CRE also relied on the working group's work on controlling energy demand.

The working group on control of energy demand monitored, from April 2010, the deployment of the Linky experiment, in areas specific to residential and small business consumers. Its second focus was to determine consumer expectations regarding billing and service for control of energy demand.

The working group recommended that future commercial offers be subject to clear, understandable information that is adaptable to consumers and that gross indices of consumption, consumption valued in euros and the maximum power value measured by the meter during the previous month be made available every month to consumers. There was no agreement, however, on how to access such data.

The recommendations of the working group were presented to the ERDF Smart Meter Experiment Monitoring Committee, established on 4 May 2011 by the Energy Minister.

The work of the working group on smart metering helped to prepare the ERDF Linky meter experiment and to monitor its deployment.

Accordingly, the evaluation grid for the Linky experiment published by the CRE in the appendix to its decision of 11 February 2010 relating to the evaluation procedures for this project was the result of collaborative work with the participants. In addition, ERDF regularly reported on the progress of the installation of Linky meters in the regions of Tours and Lyons as well as on the difficulties encountered.

FOCUS

#### The CRE focus groups

*The Consumers Working Group [1], the Electricity Working Group and the Gas Working Group were set up in 2005 by the CRE to define the practical procedures for the operation of the electricity and gas retail markets. They bring together all participants in a forum where they can express themselves on all the energy subjects discussed: consumer representatives, suppliers, system operators and public authorities.*

*Since they were set up, these groups, under the aegis of the CRE, have worked on defining the operational procedures shared by all professionals in the industry.*

*Two working groups in particular monitored smart metering issues: the working group on control of energy demand, which reports to the Consumer Working Group, and the smart metering working group, which reports to the Electricity Working Group.*

*1 – The Consumer Working Group was disbanded on 22 March 2012. The consumer associations are now members of the Electricity and Gas Working Groups. They will participate, in particular, in operational working groups on procedures and new services and in working groups on smart metering.*

► *Consumers will be able to view changes in their daily consumption of electricity on a dedicated website. This site, managed by the distributor, will be free for consumers.*

## 3. LINKY MUST BE DEPLOYED AS QUICKLY AS POSSIBLE

### 3.1. A financially balanced project

The technical-economic study carried out for the CRE by a consulting firm showed that the cost of the Linky project will be offset by gains (over 20 years) in the operating expenses (readings, technical operations and losses) and investment expenses (eventual renewal of existing meters) that the new meter will engender. This means that, over twenty years, the consumer will pay the same with or without Linky. It should not be forgotten that consumers are already paying, in grid tariffs, a metering component, but for meters that provide limited information, unlike Linky.

The current net value of the project in the distribution scope would be, depending on the hypotheses adopted, slightly positive, i.e. the project would be profitable. It has been estimated at about 0.1 billion euros (euros 2010) for an initial investment of nearly 4 billion euros (euros 2010) through future savings in operating costs and investments associated with the meter installation.

This study was conducted for the period 2011 to 2038, the latter being the end of life of the last smart meters installed during the mass deployment phase.

The current net value of the Linky project is evaluated by the difference between the costs and profits associated with this project and those associated with its non-implementation (called business as usual). The estimated gains are investment or operating costs that are avoided, while the additional costs are overheads incurred by the project.

Over twenty years, the consumer will pay the same with or without Linky. Consumers are already paying a metering component in grid tariffs, but for meters that provide limited information, unlike Linky.

The price of electricity is an important parameter of the analysis, so two price scenarios were formulated:

– Scenario 1: average annual increase of 2.3% (nominal) from 2010 to 2020, 1.8% thereafter;
– Scenario 2: average annual increase of 5.75 % from 2010 to 2020, 1.8% thereafter;

Based on the hypotheses selected, the current net value [1] of the Linky project for distribution activity is close to balance in Scenario 1 (+ € 0.1 billion) and positive in Scenario 2 (+€ 0.7 billion).

*1 – In 2010 value updated to weighted average cost of equity for third tariffs for use of public electricity grids (TURPE 3) or 7.25% of pre-tax nominal*

▼ *Linky project cost-benefit elements (euros 2010)*

| | Current net value 2011-2038 (in billion €) | |
|---|---|---|
| | Scenario 1 | Scenario 2 |
| Gross investments [1] | -3.8 | -3.8 |
| Meters (hardware and installation) | -3.0 | -3.0 |
| Concentrators (hardware and installation) | -0.5 | -0.5 |
| Information systems (IS) [2] | -0.3 | -0.3 |
| Returns on capital expenditures related to existing meter upgrades | +1.5 | +1.5 |
| Returns on "grid" investment spending | +0.1 | +0.1 |
| Returns on operating expenses related to losses | +1.2 | +1.8 |
| Returns on operating expenses related to technical work | +1.0 | +1.0 |
| Returns on operating expenses related to meter reading | +0.7 | +0.7 |
| Other returns on operating expenses | +0.1 | +0.1 |
| Operating overheads costs for the smart metering system | -0.7 | -0.7 |
| **Total** | **+0.1** | **+0.7** |

*1 – Using slightly different hypotheses from ERDF (updated rate, evolution of wages), the amount of gross investment is estimated at 3.8 billion. ERDF estimates this amount at 4.3 billion*
*2 – Linky IS and IS share in management of exchanges with suppliers and billing*

The above table shows the composition of these current net values

### 3.2. The CRE's recommendations on the generalised deployment of the Linky meter

In its decision of 7 July 2011 on the results of the ERDF experiment on the Linky smart metering mechanism, the CRE made a number of recommendations.

An early decision to extend the Linky meter would be very favourable to the French electricity industry. In the developed countries, France currently has a competitive advantage in terms of advanced meters. The experiment carried out by ERDF is unmatched abroad in its breadth and in the depth of the lessons learned. An early decision to extend Linky in France would also favour the adoption of French standards and regulations at international level.

The CRE holds that the deployment of the Linky meter should be started with what is called the Power Line Carrier "PLC G1" technology. This technology is mature, robust, already used by ERDF and sufficient for implementation of the Linky features. Because of industrial issues, the CRE, nevertheless, stresses the importance of announcing, at the start of deployment, that the "PLC G3" technology, which is currently under development, is the long-term target technology. It will bring significant improvements to the electricity system operators but without the need for additional features for consumers.

# 7 July 2011

**The CRE issued a favourable opinion on the Linky meter extension on 7 July 2011. It drew attention to several points:**

- **development of smart electricity meters is needed in order to continue to guarantee the stability of power grids;**
- **widespread deployment of the Linky meter will benefit consumers;**
- **technical and economic analysis suggests that extension of the Linky meter would be broadly neutral in financial terms;**
- **an early decision to extend the Linky meter would be very favourable to the French electricity industry;**
- **the deployment of the Linky meter should be started with the "PLC G1" technology.**

Faced with the increasing amount of information that the metering system will provide, the question of data access has become more important.

On this subject, the CRE asks the system operators to make their daily consumption data available to consumers on a free website. The CRE also requested that suppliers provide, each month, at no cost, the monthly consumption in kilowatt hours and euros on a medium of the consumer's choice and, at least once a year, an analysis of the power consumption with comparisons with the previous year and a standard profile of the consumer's situation.

The CRE also addressed the question of remote display. This display should enable consumption to be consulted in real time when the meter itself is installed in an inaccessible area - outside for example. The CRE has called for an experiment to be carried out in France to measure the energy savings that consumers can make with real-time information.

Indeed, while there are international studies on this subject, none is applicable to the French situation. This does not enable conclusions to be drawn on the gains in terms of energy demand management potentially available via remote display. Nevertheless, this issue was addressed in a techno-economic study commissioned by the CRE. This study showed that a remote display that merely repeats the meter display would be inefficient and that it would be necessary to rely also on media already available (computer or television screens, smartphones ...). For the CRE, the provision of these tools is the role of suppliers or third party players rather than system operators, especially since it will have to ensure a convergence of media between different types of energy and possibly water also.

ERDF must ensure that information systems enable all Linky features to be operational from the start of deployment. The template mode of the experiment [2], which is still open, allowing providers to prepare their new offers, will enable the inclusion of projects selected through calls for expressions of interest from the Agence de l'environnement et de la maîtrise de l'énergie (ADEME – the Environment and Energy Management Agency) after 1 January 2012.

*2 – To enable assessment of the compliance of all the features of the Linky project with those required in the CRE communication of 6 June 2007, ERDF has developed four operating modes for the experiment period: a "production" mode, a "template" mode, a "demo" mode and a "dossier" mode. The "template" mode allows the supplier to take advantage of certain Linky features: the provision of load curves at 30 minute time steps, the availability of an index at a selected frequency and date, the management of tariff schedules available to suppliers on two time-seasonal stations (index) and the management of mobile peak available to suppliers on two time-seasonal stations.*

### 3.3. Announcement of the extension and issuance of the order

The decree of 31 August 2010 provides that the CRE will submit an order to the Energy Minister defining the features and specifications of the metering system.

Based on the evaluation of the experiments and focus group work, the CRE submitted this order in its decision of 7 July 2011, amended 10 November 2011 to incorporate several amendments of the Conseil supérieur de l'énergie (Supreme Council of Energy), including one relating to a security framework for data protection (see Focus).

The Energy Minister announced on 28 September that he had decided to extend the Linky meter. The order was published on 10 January 2012.

The publication of the order completes the legal framework for smart electricity metering in France

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## Data security and confidentiality

*The issue of data security and confidentiality is essential for the acceptance of new metering systems by consumers.*

*With regard to security, smart metering systems are subject to protection guarding against attempts at intrusion into the information system and in the meter to the interfaces with suppliers. Metering data, for example, will be encrypted before transmission.*

*With regard to confidentiality, it must not be forgotten that the data is owned by the consumers. Their agreement is required for any use of such data outside the scope of the supply contract. It will not be possible for example for a third party to access a load curve without the permission of the consumer. The consumer must also be informed of the use of meter data as part of a contract to supply electricity or gas.*

*Since the opening of the markets, system operators have been subject to compliance with codes of conduct in the area of commercially sensitive information, to ensure that information about one supplier should not be passed to another. The CRE checks annual compliance with these rules by the system operators. The latter rely on this organisation to ensure the confidentiality of metering data. The CRE, in conjunction with the Data Protection Commission will pay particular attention to compliance with these rules.*

and will enable the launch of calls for tender in order to meet its European commitments (80% of meters deployed in 2020).

### 3.4. The CRE consultation bodies will monitor the deployment

In accordance with its recommendation inviting ERDF to prepare the deployment phase in consultation with all stakeholders, the CRE will set up a consultation. This consultation will prepare for the deployment of Linky and for the organisation of the electricity market of tomorrow.

The consultation will be an opportunity to prepare targeted communication set up in partnership with the licensing authorities, local communities, suppliers and consumer groups and relayed by the installers. This communication will include educational information on the use of the Linky meter. ●

The CRE will establish a consultative body to prepare the communication accompanying the extension of the Linky meter.

FOCUS

## The Nice Grid experiment: an example of a project for the development of smart grids

*As part of its work programme on smart grids, the CRE has been following with interest smart grid projects in France and worldwide. There are many such projects which pave the way for various possibilities for network optimisation enabled by smart grids. The experiment named Nice Grid is a full-scale smart neighbourhood solar demonstration project.*

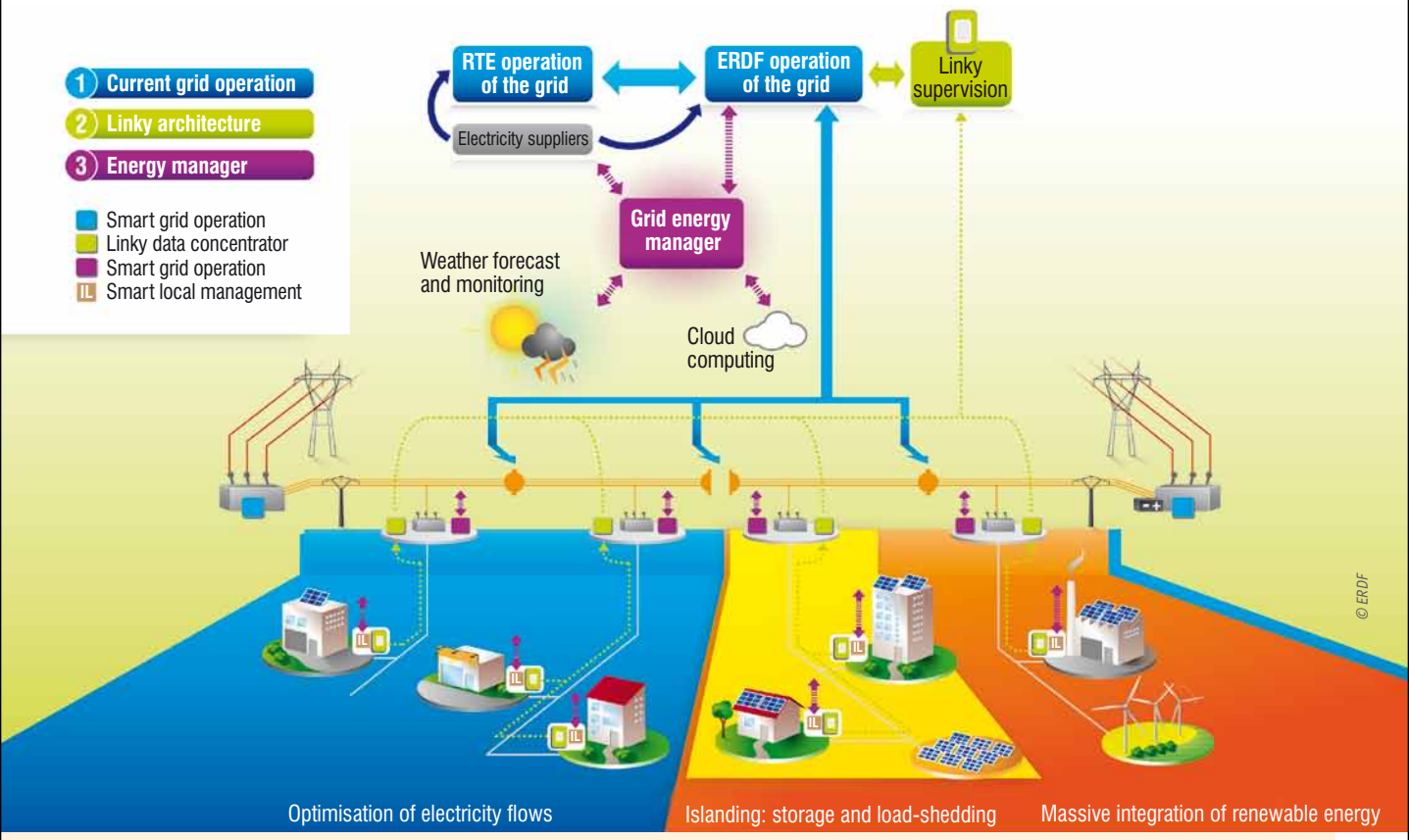
### *The French building block of the GRID4EU project*

*Launched on 22 November 2011, the GRID4EU project is the largest European operational project on smart grids. It brings together six major European distributors (ERDF, ENEL, IBERDROLA, RWE, VATTENFALL and CEZ) who pool the results of the demonstration projects that they are developing. These demonstration projects cover multiple topics increased automation of networks, integration of renewable energy generation (photovoltaic and wind), active management of demand and development of cut-off, provision for electric vehicles and integration of storage resources. All these topics are included in the Nice Grid project, the French building block in the GRID4EU programme.*

### *Establishing a benchmark for demonstration of smart grids in France*

*The Nice Grid is located in Carros, in the urban community of Nice-Côte d'Azur and is the first smart solar neighbourhood demonstrator. This area is an "electric peninsula", highly exposed to power cut risks. However, it has significant resources in renewable energy, particularly solar. The demonstrator will enable testing of the security of the electricity supply in the area, thanks to smart grids. The area currently depends on a single 400 kV power line. It consists of the following:*

– *connection to the network of a large number of decentralised and intermittent photovoltaic generation facilities and installation of batteries to store electricity on three levels of the distribution system (the HV/MV substation, the MV/LV distribution substation*




*and the user site equipped with photovoltaic panels) in order to explore different levels of control of distributed resources and also to study the operation of a network section of 100 users isolated from the main network but equipped with their own photovoltaic generation and electricity storage resources;*

– *transformation of the consumer into a "consumer-player": within the constraints of the network and with better knowledge and control of their electricity use, users will adapt their generation and/or consumption. The sample group will consist of 1,500 users (residential, tertiary and industrial), all equipped with a networked Linky meter. This will provide them with access to their consumption data. The involvement and active participation of the tested users will be essential in order to model their behaviour;*

– *demonstration of the impact of coordinated actions on the reduction of electricity demand and reduction of $CO_2$ emissions, while maintaining a high level of network quality and security;*

– *definition of the business model describing the remuneration of the various participants offering new services such as consumption management or electricity storage.*

### *Work on R & D and coordination of participant cooperation*

*Out of a total of 30 million euros, the project will have 4 million euros of French public subsidy under ADEME's first call for expressions of interest and a 7 million euro subsidy from the European GRID4EU programme. Led by ERDF, the project members are Alstom, EDF, Saft, Armines, EDF R&D, RTE, Ensemble Plaine du Var, Capénergies, Daikin, NetSeenergy, Nice-Cote d'Azur and the town of Carros. On 12 January 2012, all partners signed the consortium agreement paving the way for the launch of the concrete project phase for a period of four years.*

# 3.1 billion euros

**The CRE set GrDF's authorised revenue at 3.1 billion euros for 2012. This revenue must cover its investment and operating costs to ensure efficient distribution of gas.**

*Close-up of polyethylene pipes, on a SERVAL (Supply and Logistics Service) platform*

# The CRE sets the GrDF gas distribution tariff and monitors its smart meter project

With its new powers assigned by the Energy Code, the CRE set a new tariff for use of GrDF's natural gas distribution systems which took effect on 1 July 2012. The CRE extended and completed the existing regulatory framework, which encourages the transmission system operator to improve its efficiency, both in terms of cost control and the quality of the service provided to users of its network.

At the same time, GrDF is pushing ahead with its smart metering plan which will contribute to better control of gas consumption and development of smarter networks. This project will be, if the final deployment decision is taken as planned in 2013, subject to a specific regulatory framework.

**KEY WORDS**

***Fourth tariff for third party access to distribution systems (ATRD4)***

***Incentive regulation***

***Smart meter***

**20%**

**Share of the distribution tariff in the annual gas bill of an average household including taxes.**

## 1. THE NEW TARIFF FOR USE OF GRDF'S PUBLIC DISTRIBUTION SYSTEMS ENTERS INTO FORCE ON 1 JULY 2012

### 1.1. CRE sets the GrDF tariff for four years

Natural gas distribution has the features of a natural monopoly: from an economic perspective, it is preferable to entrust the construction and operation of a gas distribution system for a given area to a single operator. Now, if a distributor with a natural monopoly is not regulated it will tend to set high prices that will include monopoly revenues.

The setting of gas distribution tariffs is entrusted to the CRE, which ensures, in particular, that the gas distribution tariff covers the costs of investment and operation of an "efficient operator" (Articles L452-1, L452 -2 and L452-3 of the Energy Code). The CRE also ensures that the operator carries out its role with a satisfactory level of service.

The tariff for use of the GrDF network (GrDF is a subsidiary of GDF SUEZ, which distributes 96% of natural gas in France), represents about 20% of the annual gas bill, including taxes, of the average connected household.

Feedback on the third distribution tariff (ATRD3) defined by the CRE, which entered into force on 1 July 2008, shows that this tariff met the objectives set in its development:

– greater visibility on the tariff's trajectory was made available to market participants and to GrDF itself;
– a relatively stable tariff was achieved, with annual changes ranging from -1.85% to +1.5%;
– the necessary investments were in place;
– the operator was protected against inflation and the vagaries of the weather;
– the quality of the service provided to users improved.

However, GrDF failed to comply with the planned tariff trajectory for operating expenses.

The CRE's decision of 28 February 2012, issued following public consultation and consultation with the Supreme Council of Energy, set all the procedures for calculating GrDF's gas distribution price (ATRD4) for the next four years. The CRE fixed the operator's authorised revenue at 3.1 billion euros for 2012, i.e. an 8% increase in the tariff on 1 July 2012, which took account of changes in the other parameters that make up the tariff.

**FOCUS**

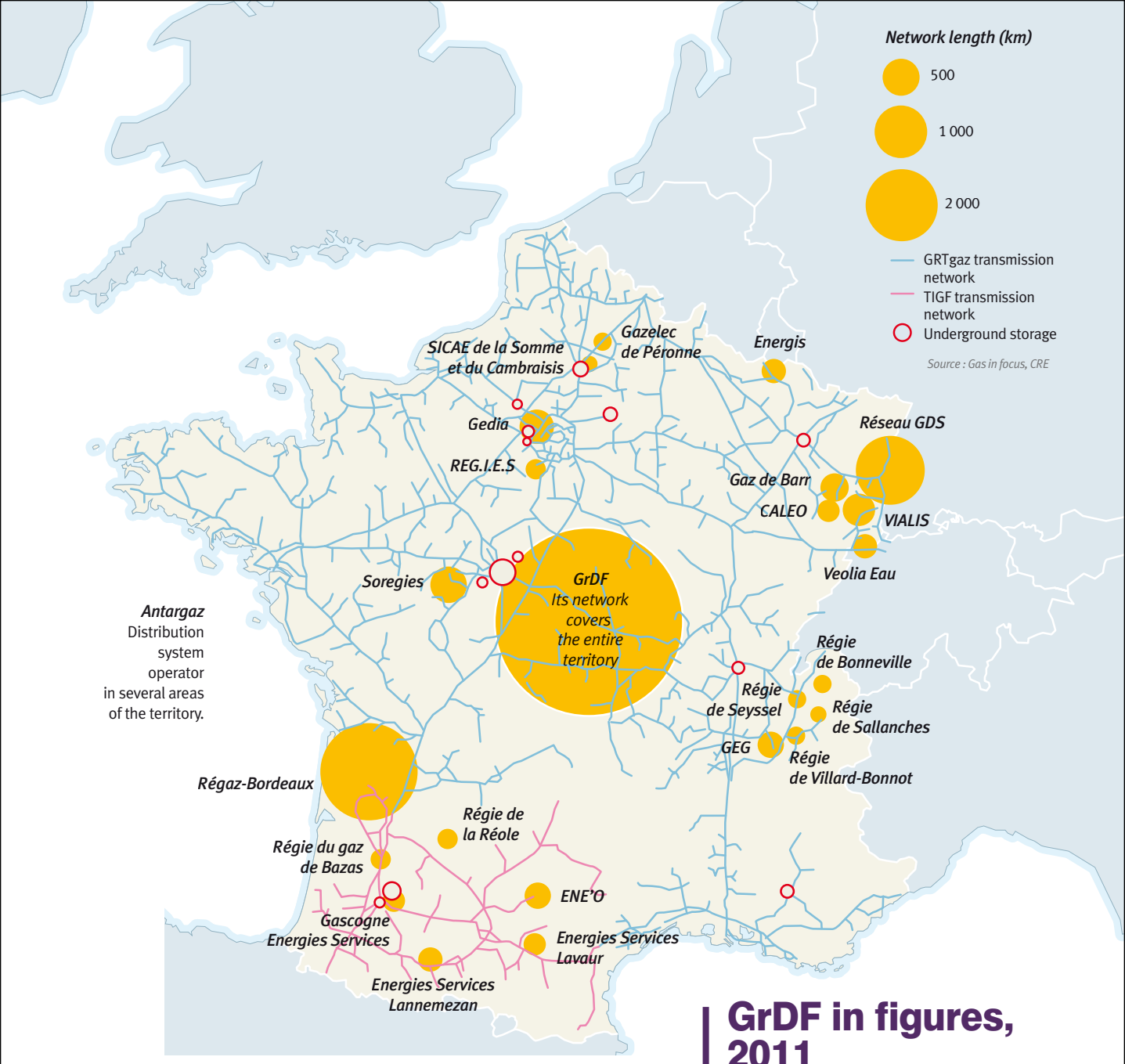
#### Incentive regulation

*Incentive regulation is designed to encourage system operators to control costs and improve the quality of service provided to the users of their networks. It is a component of the electricity and natural gas access tariffs.*

*The CRE defines the projected cost trajectories that operators must comply with, as well as indicators enabling monitoring of operator performance in several areas. Some of these indicators have financial incentives and result in the allocation of bonuses or penalties based on the achievement or non-achievement of targets by the operators.*

*The fourth GrDF distribution tariff (ATRD4) complements the existing incentive regulation by introducing two kinds of incentive mechanisms for operators:*

– *to control the costs of their investment programmes (excluding investments related to security and mapping);*
– *to achieve the expected results of gas use promotion campaigns.* ●




▲ ***Map of gas system operators in France***
*This map locates the main natural gas distribution system operators in France, each with the length of the system concession. For clarity, the GrDF circle size is not proportional to the length of its network.*

*The natural gas distribution systems enable gas to be routed to the consumption sites. In France, GrDF distributes 96% of natural gas, while the rest is managed by local distribution companies.*

*The distributor manages the construction, operation and maintenance of the network. It guarantees free and non-discriminatory access to energy suppliers who, in return, pay a usage tariff.*

*Tariffs for third party access to distribution networks, known as ATRDs, are fixed for a period of about four years.*

# GrDF in figures, 2011

- 193,340 km of natural gas network, the longest natural gas network in Europe
- 11.1 million customers in France
- 9,461 districts served - 77% of the French population
- 279 TWh of natural gas delivered
- 30 suppliers active in the French market, of whom 7 are in the market for energy sold to private customers
- 12,300 employees (gas)
- 2,937 million euros turnover

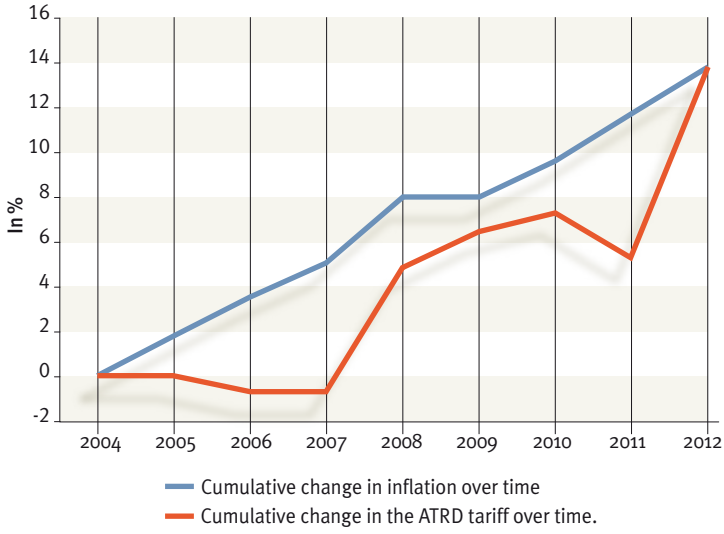
*Source : GrDF*

This increase is related to the following main factors:

– a reduction in transported gas volumes (in fact, the network costs to be covered increased while the tariff that finances them relates to distributed gas volumes and a declining number of connected customers);
– increased security costs imposed by the regulations (including the network "anti-corruption" plan);
– higher taxes and social charges;
– inflation.

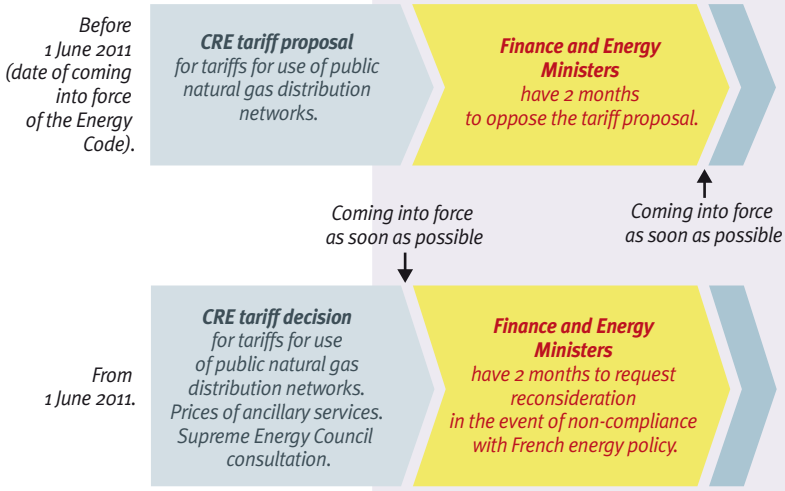
The ATRD4 tariff set by the CRE is such that the cumulative change in the GrDF tariff from 2004 to 2012 included will be virtually identical to inflation over the same period. Between 2013 and 2015, the expected tariff growth will remain close to the inflation rate.

▼ ***Comparative changes in inflation and the distribution tariff in €/MWh***
*The cumulative change in the GrDF tariff from 2004 to 2012 (included) is identical to inflation over the same period. Between 2013 and 2015, the expected tariff change will remain close to inflation (not including unexpected items in the expenses and revenues clawback account) despite the lower volumes delivered on the GrDF networks and investments in network security.*



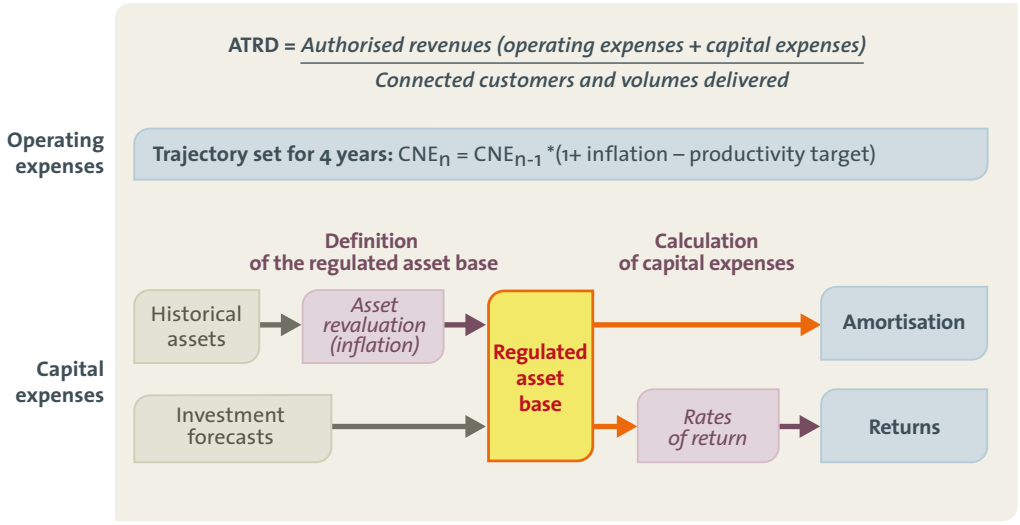

## FOCUS

### The third energy package gave new powers to the CRE in network tariff setting




*The tariffs were previously set by the Finance and Energy Ministers based on a proposal from the CRE. Since the transposition into French law of the third energy package, these tariffs have been set directly by the CRE. GrDF's ATRD4 rate was the first opportunity for the CRE to exercise its new decision-making powers.*

*Article L452-2 of the Energy Code provides that the CRE will establish the methodology used to establish the tariffs for use of natural gas networks. In addition, article L452-3 provides that the* "CRE shall decide on tariff changes as well as those of ancillary services." ●




▲ ***Distribution tariff development procedures***
*The gas distribution tariff covers the expected operating costs (operating expenses) and investment costs (capital expenses) of an "efficient operator", as provided by the Energy Code. The tariff charges billed to network users (annual subscription, term proportional to the amount of gas consumed, capacity and remote subscription term) are calculated by the CRE to cover these costs based on the projected volume of gas delivered and number of customers connected to the network.*

### 1.2. ATRD4 strengthens the existing regulatory framework incentives for cost control and GrDF's service quality

The new ATRD4 network tariff maintains the incentives for control of operating costs introduced by the ATRD3 tariff as well as the price change transparency made available to the market.

A new trajectory of net operating expenses has been set for GrDF for the period 2012-2015. It provides for an annual change in these expenses, from the level assumed for 2012, this level being linked to inflation and an annual productivity target of 1.3%.

GrDF will retain all profits from additional productivity gains.

To define this trajectory, the CRE retained all GrDF's requests concerning the costs of personnel, security and gas use promotion campaigns. The CRE, therefore, made adjustments to certain other items (mostly head office expenses) and included an additional productivity outlay.

To determine the GrDF tariff, the CRE included, in addition to the net operating expenses trajectory, projected change trajectories over the period 2013-2015 in investment, gas consumption and the number of customers connected to the GrDF network. For this period the CRE fixed the annual change in GrDF's tariff schedule as a percentage variation of "inflation + 0.2%".

In addition, an incentive mechanism for cost control of GrDF's investment programmes was introduced. This mechanism covers all GrDF's investments, apart from those related to security and network mapping.

Each year under this mechanism GrDF will receive a bonus or a penalty according to the gaps identified between actual and forecast investment expenditure. This mechanism is complemented by monitoring of quantitative indicators to control the effective implementation of planned investments by the operator.

Finally, the ATRD4 tariff extended the mechanism for monitoring GrDF's service quality. Adjustments were made to the mechanism to extend the financial incentives to indicators for quality of service to end consumers. The mechanism was simplified by reducing the number of indicators. The financial incentive levels and the targets in place were also re-assessed on the basis of results achieved by the operator for these indicators.

### 1.3. A reduction in returns on operator capital consistent with market practices and conditions observed in Europe and the risk level of regulated activities

As for each tariff decision, the CRE re-examined the various parameters involved in the calculation of the weighted average cost of capital (see Focus). The body also commissioned studies by an external agency on electricity and gas infrastructure capital costs. This study aimed to present a comparative analysis of the rates practised by European regulators and to offer a range of values for each of the components of the weighted average cost of capital.

In determining the ATRD4 tariff, the CRE used the value of 6% (real, pre-tax) for the weighted average cost of capital to be used for payment of GrDF's regulated asset base.

The ATRD4 tariff provides GrDF with an incentive to control its investment costs (excluding security).

**FOCUS**

#### Weighted average cost of capital

*The method used to assess the rate of return on assets is based on the weighted average cost of capital, with a normative financial structure. Indeed, the operator's rate of return must, first, allow it to finance the interest charges on its debt and, secondly, to yield a return on its equity comparable the return it could obtain elsewhere for investments with similar risk levels. The cost of equity is estimated on the basis of methodology called "Capital Asset Pricing Model" (CAPM).*

*With regard to the values taken into account when determining the previous ATRD3 tariff, the main amendments to establish ATRD4 cover:*

- *reduction in asset betas. This financial parameter enables the risk of gas distribution activity to be measured over the whole financial market. Its downward adjustment by the CRE is due to the fact that gas distribution remains a low risk activity. Cash flows are predictable and it is largely uncorrelated with the stock market, even though the financial crisis has resulted in high risk on largely unregulated activities representative of the entire market. This is consistent with the decrease in the risk profile of gas distribution activity given the expansion of items eligible for the expenses and revenues clawback account, and the introduction of a mid-term review clause at two years;*
- *a real risk-free rate of 2.2%, which is the ongoing hypothesis of the nominal risk-free rate related to the ATRD3 tariff (4.2%);*
- *the widening gap between the level of debt and the risk-free interest rate and the increase in the market risk premium;*
- *a leverage hypothesis (debts / (debts + equity)) in line with European practice.* ●

### 1.4. Taking into account GrDF's actions to increase the density of its network to limit tariff increases related to the loss of gas customers

From 2008 to 2011, the quantities of gas transported by GrDF and the number of end customers connected to its network were below the forecasts used for the ATRD3 tariff. These discrepancies are explained mainly by improved energy efficiency in the residential sector, competition from other ways of heating and cooking, and greater use of cut-offs by gas suppliers for non-payment.

This situation, which is expected to continue over the period 2012-2015, contributed to a 6% increase in the GrDF tariff on 1 July 2012. Indeed, as the costs incurred by GrDF are essentially fixed costs, the declining number of customers using gas and the gas volumes delivered translate automatically into an increase in the operator's tariff.

Under these conditions, the CRE accepted GrDF's request for an increase from 27 million to 45 million euros in the annual budget covered by the tariff to be used for the promotion of gas use, which will focus on:

- financial assistance for the development and facilitation of career paths, to promote network densification;
- organisation of marketing campaigns and communication to the general public in order to promote the use of gas;
- the establishment of a research and development policy (development of products coupling gas and renewables in the residential sector, expansion of the supply of upgrades to increase the energy performance of existing residential buildings/complexes, launch of products tailored to the tertiary sector).

To this end, the CRE asked GrDF to fully involve all gas suppliers in the definition, implementation and monitoring of these actions.

In addition, to ensure that this policy, as a whole, actually leads to a reduction (or smaller increase) in the GrDF tariff, the CRE introduced a regulatory mechanism encouraging the operator to achieve the expected results. This mechanism provides a financial penalty of up to 30 million euros for GrDF if the tariff targets are not met at end of the tariff period.

► *GrDF will allocate a budget of 45 million euros to promote the use of gas to consumers. Natural gas remains in effect an energy source that is competitive with electricity or oil. The increased number of customers connected to the GrDF network should lead to a reduction in its tariff.*

*View of a wall-mounted boiler and its control panel.*
*© GrDF, Alexis Chezière*

FOCUS

## Natural gas: competitive energy

*The French energy mix is characterised by two historical choices: competitive, carbon-free basic electricity from nuclear power and very extensive natural gas distribution currently serving 77% of the population. Whatever changes take place in base electricity, natural gas will continue to be available as an effective solution, especially for high-power or seasonal uses such as heating.*

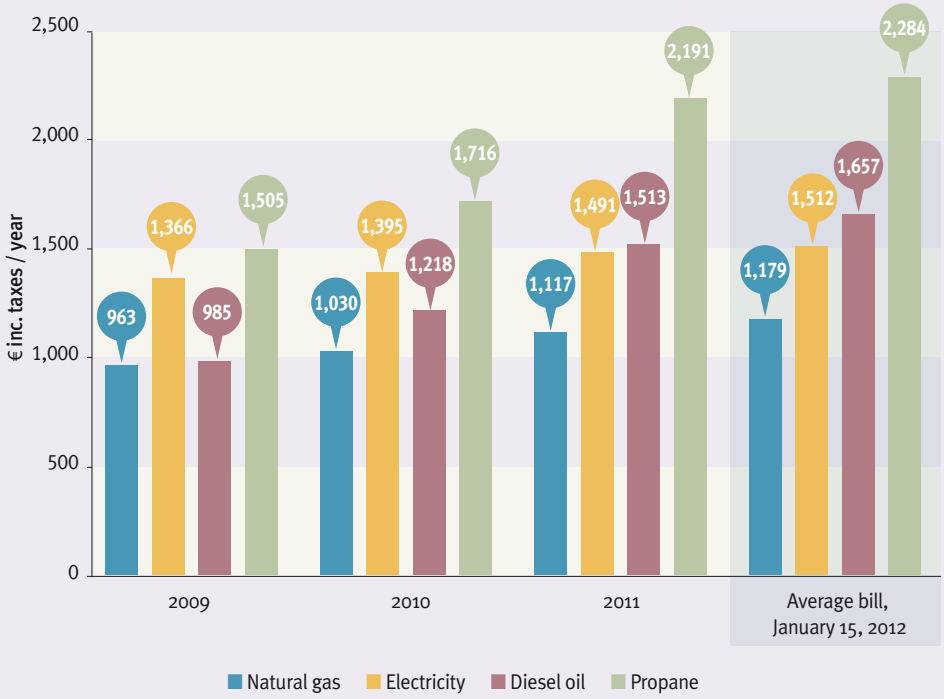
*The performance of natural gas is characterised by three key features:*

*– high energy output due to the overall performance of the gas chain and equipment: a condensing boiler provides primary energy efficiency of 95%;*

*– economical because investment in infrastructure has largely been completed and gas reserves are abundant and well distributed geographically, which means that gas is a conventional competitive energy;*

*– environmental because natural gas is low in greenhouse gas emissions and is easily coupled with renewable energy through gas heat pumps or gas/solar couplings.*

*In the future, gas infrastructure will continue to provide a high-performing solution that complements electricity, with decentralised development of generation by micro-cogeneration, hybrid gas-electric heat pumps, "smart pipes" and biomethane injection.* ●




► ***Changes in annual heating and hot water bills from 2009 to 2011 for given consumption (typical for a moderately insulated 110 m² house in the north) and different energies***
*Despite an increase in regulated prices of about 4.4% on 1 January 2012 to take account of the significant increase oil product prices, natural gas remains competitive compared to other energy sources, for use in "heating and domestic hot water".*
*Source: ATEE, CEREN*

◄ *The CRE gave GrDF the go-ahead in July 2011 for the construction of communicating gas meters. The decision to go ahead with widespread deployment of 11 million meters will be taken by the public authorities in 2013. With these new meters, consumers will be billed based on actual consumption data.*

*Smart gas meter Étampes (Essonne).*
*© GrDF, Raphaël Soret.*

## 2. GRDF IS CONTINUING WITH ITS SMART METERING PROJECT IN PREPARATION FOR THE FINAL DEPLOYMENT DECISION PLANNED FOR 2013

In its decision of 3 September 2009, the CRE set the targets to be met by a smart metering system for natural gas (for private and business customers with six-monthly readings). It asked GrDF to conduct trials to identify the solution to be implemented for the widespread deployment of such a system.

These trials were completed in 2011. In its decision of 21 July 2011 the CRE proposed continuing the project, given the results of the trial, the responses to the June 2011 public consultation and the findings of the technical-economic study it had commissioned.

### 2.1. The new meter paves the way for new methods of gas network use and consumption

*Improving consumer satisfaction particularly in relation to billing quality*

Currently, actual consumption can only be known twice a year, during the twice yearly readings. Interim bills and contract amendments (tariff changes, switching suppliers, etc.), are based on estimates of consumption.

Smart gas meters will provide greater respect for customer rights through billing based on actual consumption.

Furthermore, the consumer will no longer need to be present if meters are inaccessible to the distributor and the quality of the indexes will reduce the number of claims.

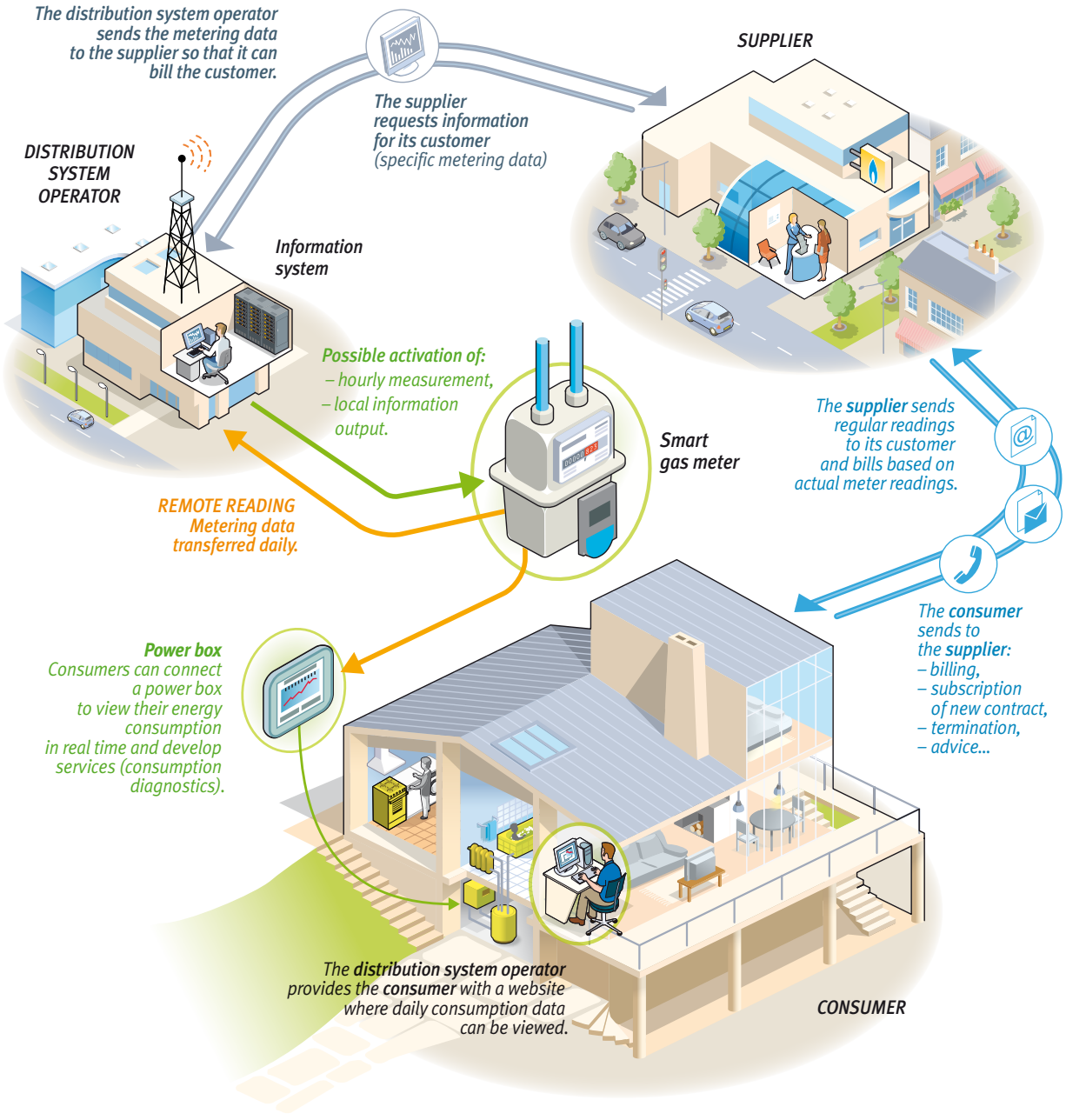
Developing control of gas consumption through information and a new set of related services

The new meters will provide end users with better control of their consumption with more frequent and detailed information. More precise knowledge of consumption will empower customers to take action in response to their bill.

New commercial offers tailored to customer consumption profiles will emerge, together with new services for consumption control, such as consumption diagnostics. Consumers will therefore be able to choose the offer that suits them best, based on their consumption habits.

The technical-economic analysis conducted by the CRE estimated a 1.2% reduction in gas consumption following full deployment of smart metering. The analysis [1], carried out in the UK by the Department of Energy and Climate Change, identified a 2% gain in energy demand management.

*1 – Smart meter rollout for the domestic sector (GB) Impact Assessment DECC 30/03/2011*




▲ ***The operation of the smart gas meter***
*The smart gas meter is the communication interface between the gas distribution network and the consumer's installation.*
*This diagram shows the relationships between consumer, supplier and system operator.*

***Improving network performance in terms of operations and investment***

Smart meters will improve distributor performance. They will reduce the costs of consumption data collection. They will provide more accurate information on the level of customer consumption, for improved calculation of the quantities of gas to be delivered. Moreover, this metering system will simplify and facilitate supplier switching. It will also promote the development of competition. Ultimately, these meters will make the development of smarter networks (smart pipes) feasible and will make it possible for distributors to control the network better.

## 2.2. After the scoping and trial phase, the CRE ruled in favour of continuing the project

***Functions***

The trials carried out by GrDF at the request of the CRE identified the solution to be implemented for widespread deployment of a smart metering system for gas. Its basic functions are as follows:

– for suppliers, indication of actual consumption on a monthly basis and when a contract amendment is introduced (activation and deactivation of supply, change of supplier);
– for consumers, availability of a website managed by GrDF providing raw daily data on volume and energy, with the required security and confidentiality guarantees;
– for suppliers, information enabling them to offer a service for energy demand management.

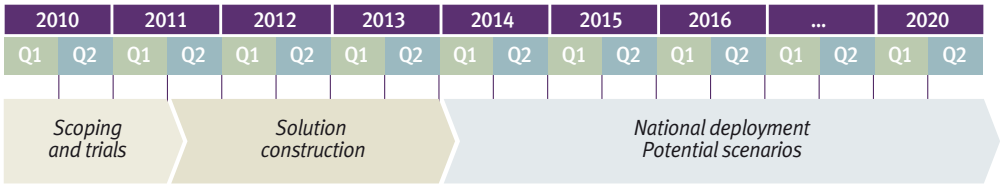
Additional functions, available on request, will also be offered. This involves the choice of a fixed date for monthly readings, change, in the measurement steps (hourly, for example), a service for multi-site clustering of data readings, and the availability, at the request of local public participants for example, of aggregated and anonymised data for territorial areas or by defined habitat type.

***Role and decisions of the CRE***

Under the Energy Code, advanced metering system implementation projects will be approved by the Ministers of Energy and consumption following a proposal from the CRE. The CRE will assess the economic and technical costs and profits to the market and consumers.

▾ ***Deployment schedule for smart gas meter***

*To prepare and implement the widespread deployment of the smart metering system, the GrDF project is structured in two phases:*
*– a first solution construction phase: from mid-2011 to 2014.*
*This will involve the design and implementation of the smart metering system, the development of information systems and the deployment of 1,000 meters.*
*This phase will enable the deployment strategy to be completed and its operational procedures to be identified;*
*– a second widespread deployment phase: from 2014 to 2020, with the go-ahead to be decided in mid-2013.*
*It will allow for the deployment of 11 million meters over six years.*



To issue its recommendations and proposal, the CRE relied on the work of focus groups, the results of the GrDF trials, a public consultation and its technical-economic evaluation of the project.

Based on these elements, on 21 July 2011 the CRE decided on a proposal to approve the implementation of the construction phase of the GrDF smart metering system.

In its decision, the CRE specified the data that GrDF and the suppliers must provide and the envisaged tariff processing procedures.

### 2.3. The smart gas metering will be subject to a specific incentive regulation framework

The smart metering project differs from conventional GrDF projects because of the high level of expected costs and profits and the long delays in construction and deployment. Given the scale of the project, the CRE considers it essential to guard against any slippage in costs and time-scales.

Thus, while the decision approving widespread deployment was taken during the period of application of GrDF's ATRD4 tariff, the CRE will take a tariff amendment decision to reflect the expected costs and profits for the project, effective from the time of the decision and to set the specific regulatory framework for GrDF's smart metering project.

The specific regulatory framework will provide GrDF with the following incentives:

– control of the duration of the expected investment costs and expected operating gains;
– ensuring the expected performance level of the overall system throughout the index processing chain;
– compliance with the deployment schedule.

The numerical parameters of the incentive regulation mechanism, which will apply from the deployment extension phase, will be determined when the decision is taken for widespread deployment of the project during 2013. These parameters will take advantage of initial feedback from the construction phase of the solution and greater transparency on costs and the performance of the new system. ●

FOCUS

#### Smart metering projects in local distribution companies

*In 2011, the CRE organised a first phase of exchange between local distribution companies (LDCs) of natural gas and GrDF in order to define the conditions required for the development of smart gas metering systems throughout France*

*In this context, GrDF presented the LDCs with a detailed technical view of the smart gas metering systems it plans to deploy in the residential and business customer sectors with twice-yearly readings. In particular, GrDF shared its experience with LDCs on the level of modularity of the meters, the pulse output features and the communication protocols.*

*Subsequently, GrDF included the specific needs of the LDCs in its project, to enable them to use the same equipment.*

*Finally, a study was carried out to identify areas of potential pooling between the GrDF and LDC projects. Firstly, this led to the definition of three possible scenarios for pooling the LDC and GrDF information systems. Second, it led to the definition of the first areas of work so that the LDCs could benefit from equipment prices (concentrators and communicating metering devices) similar to those that would have been negotiated by GrDF.*

*In 2012, these exchanges will continue so that the progress of GrDF and the LDCs in implementing and deploying smart metering for natural gas can be monitored.* ●

OVER TO ...

## Eleonora Bettenzoli,
### head of metering for Autorità per l'energia elettrica e il gas (the Italian regulator)

*Eleonora Bettenzoli is head of the metering department in the electricity and gas infrastructure directorate of the Italian energy regulator, the Autorità per l'energia elettrica e il gas (AEEG). Italy was the first country to undertake widespread deployment of smart gas metering systems for residential customers. By 2018, 60% of domestic consumers will be equipped with these smart meters. Eleonora Bettenzoli affirms that the deployment of the Italian meter is going well. She describes the features of this innovative project, the first of its kind in Europe.*

***What is the scheduled program for the roll-out of smart meters in gas and the role of AEEG in this process?***

*The roll-out of smart gas metering in Italy was set out in 2008, based on the well-estabilished domestic experience with electricity smart meters. AEEG had been showing a growing interest on this topic and finally set a mandatory roll out planning, by fixing the essential requirements and the standard functionalities in the smart gas meter. Moreover, the regulator intended to monitor the development of the roll-out and in case to update provisions, according to the needs coming from the sector and tied to the business and technical needs of distribution companies. About updates, AEEG has recently modified the original plan in terms of the obligation of both installed quantities and timelines for the installation of smart meters. In order to stimulate the distribution companies to achieve goals on number of installed smart meters in time, the Italian regulator has fixed, also, a penalty system including a fine of 4 euros per not-installed-in time smart gas meter. Finally, AEEG has recently defined the rules for determination of tariffs for the gas metering service, based on both a standard-cost method and a profit-loss sharing system.*

***What are the main functionalities of the smart gas meters?***

*Italian gas smart metering requirements, even if designed in advance, are compliant with the European Commission Recommendations about the functionalities for gas smart metering, both from the supply side and demand side. The requirements set goes even beyond EC recommendations taking advantage out from the good domestic experience with electricity smart meters.*

*At present, the mandatory smart gas meter roll-out in Italy is based on a choice of mono-service smart metering system. The main functionalities are as follows:*

- *Communication: the meter must have the capability to communicate to a gateway, e.g. electricity meter, concentrator, etc.;*
- *Absolute encoder functionality: the virtual index and the index of the gas meter are identical;*
- *Temperature compensation (TC): the measured volume is converted to the actual temperature (standard temperature);*
- *Built-in valve: the gas meter must have a built-in valve that can be closed or released remotely. To open the valve remotely is not allowed;*
- *Tamper alarms: the smart gas meter will recognize tampering, like opening of the index or putting strong magnets near the electronics;*
- *Measured Data, events and alarms can be logged and remotely read;*
- *Each meter can register consumption on a pre-set time base (hour, day...).*

*Each meter must provide clock and calendar, as well as it must record the gas measured values (for different time periods) and ensure the protection of these data. Furthermore, meters must auto-diagnose (in order to verify the correct functioning) and be able to upgrade its own software remotely received; they have to show the data through a display on demand, also. All these functionalities must be managed into meters by a Central Acquisition System (SAC) in a remote way.*

***What are the main learnings of the cost-benefit analysis?***

*AEEG undertook a quantitative and qualitative analysis of costs and benefits arising from the implementation of remote control/management and remote reading and affecting gas distribution companies. Being responsible for the metering service in Italy, they will in fact make the investments and do the meter reading activities.*

*Quantitative analysis showed the possibility of significant economies of scale. Particularly, remote managing the built-in valve for meters devoted to mass market appeared valuable to commercial purposes. The results of qualitative analysis of achievable benefits underlined that the remote control and reading can generate benefits for the whole gas system, including a more reliable allocation of volumes to shippers and gas selling companies. Such benefits, linked to the reliability of all the functionalities provided by smart metering systems, are often difficult to be quantified in economic terms. Nonetheless the qualitative analysis proved smart metering an essential tool to get a fair charging of costs to different gas value chain actors.*

***What is the public opinion on the roll-out of smart meters in gas?***

*Customers, through the customer's association, have largely showed their consensus about the implementation of gas smart metering along with the roll-out plan set by Authority, mainly thank to the experience with electricity smart meters in our country..* ●

# Summary of the CRE's main decisions in 2011

**Resolutions of 26 January 2012 - the decision on certification of RTE, GRTgaz and TIGF**

In accordance with article L111-9 of the Energy Code, TSOs who, on 3 September 2009 were part of a vertically integrated electricity or gas company must comply with the Independent Transmission Operational Model (known as the ITO model) in compliance with the organisational rules set forth in Articles L111-11 and L111-13 to L111-39 of the Energy Code.

These organisational rules, which are derived from the 3rd energy package directives, are monitored by the regulator through the certification procedure.

The certification procedure was opened on 6 June 2011 by the filing of a certification application dossier and enabled the compliance of the three French TSOs - RTE for electricity, GRTgaz and TIGF for natural gas - with the organisational and independence rules applying to integrated groups to be checked.

The CRE judged RTE, GRTgaz and TIGF's degree of autonomy - particularly with regard to investment decisions - and independence to be satisfactory.

RTE's corporate name has been modified so that all references to the EDF Group are removed. Similarly, the corporate identity of TIGF has to be distinguished from the other companies of the Total group. The statutes of the TSOs have been adapted and now provide, for example, for the TSO supervisory bodies or boards of directors to have the power to determine the amount of dividends distributed to shareholders. The TSO statutes also ensure that the TSO management bodies are fully autonomous in decision-making on the operation, maintenance and development of transmission systems.

The CRE also checked that each TSO had sufficient human, financial, material and in-house technical resources to ensure the exercise of their duties.

Finally, each TSO has a compliance officer who is responsible for ensuring the compliance of the TSO's practices with their obligations of independence.

The CRE will regularly monitor effective compliance of all obligations imposed on the TSO by the certification decision and by the Energy Code.

In accordance with article L111-2 of the Energy Code and as a result of the CRE's certification decisions, RTE, GRTgaz and TIGF will be designated independent TSOs by the administrative authority, thus certifying their compliance with the rules stated above.

**Decision of 22 December 2011 - the decision on the connection conditions of the Dunkirk LNG terminal to the GRTgaz network**

By a decision of 12 July 2011, the CRE approved the investments proposed by GRTgaz for connection of the Dunkirk terminal to the French market, subject

to confirmation by an audit of the financial and technical elements provided by GRTgaz. By the same decision, in view of the findings of this audit, the CRE had reserved the eligibility conditions of the 3% bonus over a period of 10 years, applicable to investments.

The audit confirmed the preliminary analysis presented by the CRE in the context of its previous decision. The audit also revealed that GRTgaz had estimated the costs of this project with rigour and professionalism while stressing the possibility that GRTgaz could optimise the overall project costs.

Given the large sums invested, the CRE sought, in its decision, to define an ad hoc incentive regulation mechanism for the capital expenditures associated with this project in accordance with the principles of article L452-3 of the Energy Code.

This incentive regulation mechanism, through the terms for awarding the premium of 300 basic points for 10 years, provides the operator with incentives to make the investments within the target budget, while also ensuring coverage of GRTgaz's full costs insofar as they represent effective project management.

**Decision of 20 December 2011, giving an opinion on the draft decree on the regulated sales tariff for GDF SUEZ's publicly distributed natural gas**

Under the provisions of article L445-2 of the Energy Code, regulated sales tariffs for natural gas are set by the Finance and Energy Ministers following consultation with the CRE.

Article 5 of decree nº. 2009-1603 of 18 December 2009 provides that regulated sales tariffs for natural gas representing the supply costs and possible changes in non-supply costs are fixed by order of the Finance and Energy Ministers, at least once a year after consultation with the CRE.

The order of 29 September 2011 fixing the regulated sales tariffs for GDF SUEZ's natural gas, in force on 1 October 2011, had frozen some of these tariffs. By ordinance of 20 November 2011, issued at the request of ANODE (National Association of Energy Retailers), the judge of the Conseil d'Etat suspended the implementation of this tariff freeze and urged the Ministers to issue a new order within a month.

The Minister for Economy, Finance and Industry and the Minister for Energy and the Digital Economy therefore sent a new draft order to the CRE for opinion. The order established a new formula for translating the changes in GDF SUEZ's supply costs, from which regulated natural gas sales tariffs were fixed on 1 January 2012.

This draft order also provided for a tariff change on 1 January 2012 under the new formula as well as the suspension of the application of article 6 of the decree of 18 December 2009, which provides that, unless otherwise stipulated in the order referred to in article 5 of the decree, the supplier is authorised to change, as a precautionary measure until the introduction of a new tariff order, its regulated tariff scales by passing on the natural gas supply cost changes, as they result from the application of its tariff formula.

The CRE found that, compared to the existing formula, the proposed formula would better reflect GDF SUEZ's European supply costs. Having been required to issue its decision quickly, it also asked GDF SUEZ to submit the elements necessary to assess the impact of changes in supply contracts on the operator's supply costs.

Finally, the CRE held that article 4 of the draft order, suspending the application of article 6 of the decree of 18 December 2009, carried the risk of a scheduled freezing of tariffs until 1 July 2012. This would mean disruption to the correct operation of the natural gas markets and distortion of decision-making by economic participants.

The CRE issued a favourable opinion on the draft order submitted to it, subject to article 4 of the same order.

**Decision of 17 November 2011 approving the procedure for processing applications for connection of power plants to the public electricity transmission system**

Article 13 of the public electricity transmission system concession specifications provides that the CRE will approve the procedures for processing applications for connection to the public transmission system, by users and public distribution networks. The CRE, in a decision dated 11 June 2009, specified the approval conditions and the minimum content of these procedures.

On 24 January 2011, RTE submitted to the CRE a new draft procedure for processing applications for the connection of power plants, including a special procedure for power plants falling under the scope of the call for tenders launched by the Energy Minister, under the provisions of article 8 of the law of 10 February 10, 2000 (article L311-10 of the Energy Code).

By a decision of 27 January 2011, the CRE asked RTE to notify it of a new connection procedure incorporating the following elements in order to improve legal security:

– a precise definition of the date considered for the capacity reservation;
– a precise definition of the date of award of the hosting capacity to the successful bidder(s);
– the conditions of insertion of the successful bids in the normal process of connection after the call for tender;
– the type of calls for tender covered by the specific provisions;
– consideration of regional network connection plans for renewable energies.

RTE submitted this new procedure to the CRE for approval on 27 July 2011.

The CRE held that the adaptation of the procedure for processing applications for connection of producers proposed by RTE provides sufficient answers to the requests it formulated in its decision of 27 January 2011.

However, the CRE also expressed reservations concerning article 5.1.1.b of the new procedure, which provides a three-month period between the award decision by the decision-making authority and the request to RTE for a technical and financial proposal by the successful bidder. This delay is incompatible with the specifications of the calls for tender already launched.

The CRE therefore approved the procedure for processing applications for connection of power plants to the public electricity transmission system subject to amendment of those provisions.

Finally, given the decision of the CRE's Standing committee for disputes and sanctions (CoRDiS) of 12 July 2010, confirmed by a judgement of the Paris Court of Appeal of 30 June 2011, the CRE recommended that RTE expand the scope of the procedure for processing connection applications to include the case of users who are not consumers, producers or TSOs and to whom producers are indirectly connected.

**Decision of 17 November 2011 approving the rules for allocation of interconnection capacity for Switzerland and the Centre-West and Centre-South regions and the capacity allocation rules for the France-United Kingdom interconnection**

Based on article 30 of the specifications appended

to the Convention of 27 November 1958 granting a concession to RTE for the public electricity transmission system, as amended pursuant to decree nº. 2006-1731 of 23 December 2006, the CRE reviewed the proposed rules submitted to it by RTE.
These rules cover the allocation of interconnection capacity for Switzerland and the Centre-West and Centre-South regions (including the borders between France and Germany, France and Belgium, France and Italy and France and Switzerland) and the interconnection between France and England. They define interconnection access terms and the criteria for allocation to the different time periods.

With regard to the rules for allocating annual, monthly and daily interconnection capacity for Switzerland and the Centre-West and Centre-South regions, RTE has proposed harmonisation based on the following elements: a simplification of the purchase and resale of long-term allocation products, an financial security system which is identical for all borders covered, use of the non-nominated long-term capacity on the borders between Switzerland and Germany and Switzerland and Austria based on the price determined by the explicit daily time period, and finally a common definition of "force majeure".

Some changes specific to the Centre-West region, whose borders are controlled by a coupling through the price at the daily time period, were also considered, such as compensation at the market price differential on all borders of the region with a ceiling on the amount available for compensation in the event of reduction of interconnection capacities or confirmation of non-discrimination between nominated capacity and resale capacity.

Regarding the FUI region (France, UK and Ireland), RTE has also proposed harmonisation of the interconnection capacity allocation rules and the matching of these rules with the framework-guideline on capacity allocation and congestion management.

In both cases, the CRE approved the rules proposed by RTE subject to approval by the other national regulators concerned. It also recommends that RTE continue improving and harmonising congestion management mechanisms to improve the procedures for capacity allocation in the case of a future revision of the rules, and the extension of the capacity allocation platform - CASC (Capacity Allocation Service Company) in the South-West region (France, Spain and Portugal).

**Decision of 10 November 2011 - proposal for amendment of the order of 28 April 2011 taken pursuant to paragraph II of article 4-1 of law nº. 2000-108 of 10 February 2000**

Suppliers indicated to the CRE that there were persistent difficulties in the establishment of the guarantees to be set up as part of the regulated access to historic nuclear power (ARENH) despite the flexibility introduced by a first amending order.

After consultation with the participants the CRE developed a proposal for an order amending the order of 28 April 2011, defining the sale conditions for regulated access for suppliers to historic nuclear power from EDF.

This order specified that the guarantee should no longer include taxes and its amount should be set at one and a half times the average monthly volume of electricity as opposed to twice the highest monthly volume previously valued at the ARENH price.

**Decision of 10 November 2011 - order proposal taken under article 4 of decree nº. 2010-1022 of 31 August 2010 relating to metering devices on public electricity networks**

After several phases of consultation, testing and evaluation, the CRE proposed the extension of the smart metering device known as Linky, while stressing that the proposed features should remain open enough to allow consideration of the

technological changes that would inevitably occur given the typical time-scale of this type of project.

In a decision of 7 July 2011, the CRE approved a proposal for an order pursuant to article 4 of decree nº. 2010-1022 of 31 August 2010. This proposed order, sent to the Energy Minister, concerned the features and specifications of the metering devices mentioned in article 1 of decree nº. 2010-1022 of 31 August 2010.

By a decision of 10 November 2011, the CRE established a new order proposal to take account of security-related factors for information systems formulated in the opinion of the Supreme Council of Energy which had been consulted by the Energy Minister.

The order was adopted by the Minister on 4 January 2012 and published in the Official Journal of the French Republic on 10 January 2012.

**Decision of 13 October 2011 - proposal on public electricity service costs and unit contribution for 2012**

Each year the Energy Minister, acting on a proposal from the CRE, determines the amount of public electricity service costs and the amount of the unit contribution necessary to cover these charges, the national energy ombudsman's budget and the management fees incurred by the Deposit and Consignment Office.

Pursuant to decree nº. 2004-90 of 28 January 2004, public service charges for electricity projected for 2012 are the same as the projected costs attributable to public service missions for the year 2012, plus the equalisation of 2010.

For 2012, the CRE has assessed the projected public service charges at 5,207.6 million euros - an increase of 60% over the charges recorded for 2010. This increase in charges is mainly due to the very strong development of photovoltaic and wind installations, and by an increase in charges in non-interconnected areas due to tariff equalisation.

Regarding the unit subsidy, in accordance with article L121-13 of the Energy Code, the CRE proposes the amount due for any given year before 31 December of the previous year, and this amount comes into force on 1 January with an increase limit, however, of 0.003 3/kWh compared to the amount applicable before that date.

For 2012, the CRE found that the unit contribution needed to cover the forecast public service costs of electricity and the ombudsman's budget in 2012 amounted to 13.73/MWh.

However, in accordance with article 56 of law nº. 2011-900 on the supplementary budget for 2011, the subsidy amount is set at 9.3/MWh until 30 June 2012, then at 10.53/MWh until 31 December 2012.

**Decision of 29 September 2011 - opinion on the draft order on regulated sales tariffs for GDF SUEZ's publicly distributed natural gas**

Pursuant to article 5 of decree no. 2009-1603 of 18 December 2009, the CRE was asked for its opinion on 27 September 2011 on a draft order setting the regulated sales tariffs for GDF SUEZ's publicly distributed natural gas.

The draft order provided that on 1 October 2011 the tariffs be kept the same for residential and small business customers with a private contract and for residential customers with, for the most part, communal heating, while the tariffs for other consumers would increase by an average of 4.9%.

Article L445-3 of the Energy Code provides that *"regulated natural gas sales tariffs are defined based on the intrinsic characteristics of supplies and the costs related to these supplies. They cover all these costs excluding any subsidy for customers who have exercised their right under article L441-1"*.

Articles 3 and 4 of the decree of 18 December 2009 provide that tariffs will cover the supply and non-supply costs of suppliers and that the supply

costs will be evaluated by a formula defined by an order of the Finance and Energy Ministers.

The CRE found that the proposed increase was insufficient to allow recovery of the costs of supply resulting from the application of the formula.

The CRE insisted that a prolonged freeze in regulated gas sales tariffs was not compatible with a gas market open to competition. The regulated tariffs must, in fact, be a predictable reference for market participants. This requires that they cover GDF SUEZ's costs and that they change according to the defined regulatory framework. They will therefore make it possible for:

– alternative suppliers to be able to bid more competitively compared to the regulated sales tariffs;
– consumers to compare market offers with a point of reference and to choose a more competitive offer from an alternative supplier, with the possibility of returning at any time to the regulated sales tariffs.

The CRE issued a negative opinion on the draft order submitted to it, because it considered that the proposed changes in tariffs were insufficient to cover GDF SUEZ's supply and non-supply costs as of 1 October 2011.

**Decision of 26 July 2011 - decision on the rules for devising a procedure for processing applications for the connection of new interconnections to the electricity transmission system**

By this decision, the CRE specified, pursuant to article L134-1 8 of the Energy Code, the conditions for the preparation by the TSO (TSO) of the procedure for processing requests for connection to the new infrastructure mentioned in article 17 of regulation (EC) No 714/2009, i.e. interconnections with the transmission systems of neighbouring countries.

The network connection of all the facilities mentioned in article L.342-5 of the Energy Code, in particular new interconnections, must comply with the principles of objectivity, non-discrimination and transparency.

To ensure compliance with these principles, the CRE defined the conditions for devising the procedure for processing applications for connection of new interconnections as well as its minimum content.

This procedure will be published by the TSO and will enter into force no later than 29 January 2012. Prior to publication, the TSO will consult with the representatives of different types of system user and notify the CRE of this procedure and the results of the consultation. The procedure must describe and define the steps in the analysis of an application for connection of a new interconnection, from any preliminary study of the connection of an interconnection project until the implementation of this connection (nature of the studies required, TSO processing times, costs, etc.).

Finally, each year as part of the annual review, the TSO must send the CRE the data and analysis elements required to monitor the implementation of the procedure for processing applications for connection of new interconnections to the public electricity transmission system.

The procedure for processing applications for connection to the public electricity transmission system of new interconnections requesting a dispensation under article 17 of regulation (EC) no. 714/2009 was published by the public electricity TSO on 3 May 2012 in its technical reference documentation.

**Decision of 12 July 2011 - decision on the connection conditions of the Dunkirk LNG terminal to the GRTgaz network and the development of a new interconnection with Belgium in Veurne**

The final investment decision for the construction of an LNG terminal in Dunkirk was taken by the shareholders of the Dunkerque LNG company in June 2011. Under an order of 18 February 2010, the terminal is totally exempt from regulated third party access and tariff regulation for a period of 20 years.

At the request of GRTgaz and in accordance with the Energy Code, the CRE approved an investment scheme for connection of the Dunkirk terminal to the French market. This approval was granted subject to the results of an audit on the technical and financial services provided by GRTgaz.

The CRE also reserved the definition of the additional conditions for the application of a possible 3% premium to remunerate the capital committed by GRTgaz for 10 years based on the findings of this audit.

The CRE also validated the marketing scheme proposed by GRTgaz for the creation of a new interconnection with Belgium in Veurne.

Finally, the CRE approved the general rules for allocation of firm gas export capacity from France to Belgium.

**Decision of 28 June 2011 - opinion on the draft order on regulated sales tariffs for electricity**

On 7 June 2011, the CRE was consulted by the Finance and Energy Ministers in relation to a draft order on regulated sales tariffs for electricity. The draft order provides for an increase in regulated sales tariffs for electricity, excluding taxes, applicable by EDF and non-national distributors.

Article L337-5 of the Energy Code provides that: *"Regulated sales tariffs for electricity are defined according to categories based on the intrinsic characteristics of the supplies in accordance with the costs related to these supplies"*.

In its opinion, the CRE emphasised that *"while the principle of cost coverage associated with the supply of regulated tariffs is not included in the Energy Code, the principle remains, however, explicitly stipulated by decree no. 2009-75 of 12 August 2009 on regulated sales tariffs for electricity"*.

Indeed, article 3 of decree no. 2009-75 of 12 August 2009 on sales tariffs for electricity, provides that regulated tariffs are set to cover the generation costs, supply costs, costs for the use of public transmission and distribution systems and marketing costs borne by EDF and the non-national distributors to supply their customers, plus a reasonable margin.

The CRE adds that *"the adoption of the NOME law of 7 December 2010 and the codification of laws based on the Energy Code as it stands have not had either the purpose or effect of challenging the legality of the decree of 12 August 2009 cited above, which remains in force on the date on which the CRE was consulted on this draft tariff order"*.

As a result, the tariffs under the draft tariff order must be assessed on the basis of the above-mentioned cost coverage principle, and must at least cover the accountable production costs of the incumbent operators.

It also recalls that, as noted by the Competition Council in connection with its opinion nº. 09-A-43, of 27 July 2009, failure to observe such a principle would result, in a market fully open to competition, in distortion of competition by creating a barrier to the entrance of new operators.

In this instance, the CRE held that the envisaged regulated sales tariffs for electricity actually cover EDF's carrying costs for each tariff segment (blue, yellow and green) and it therefore issued a favourable opinion.

**Decision of 14 April 2011 relating to the proposed order issued pursuant to section II of article 4-1 of law nº. 2000-108 of 10 February 2000 establishing the sale conditions and provisions of the framework agreement for regulated access to historic nuclear power**

Law nº. 2010-1488 of 7 December 2010 on the reorganisation of the electricity market (the NOME

law) provided for temporary regulated access to electricity produced by the EDF nuclear power plants.

Under the provisions derived from this law and following consultation with participants the CRE developed an order proposal defining the sale conditions for regulated access by suppliers to EDF's historic nuclear power (ARENH) particularly by providing a model framework agreement.

The CRE proposed that the model framework agreement should provide, in particular, that the buyer undertake to submit to the Cour des Comptes, acting on behalf of EDF, a warranty valid for the delivery period in the guarantee amount of twice the highest monthly volume of electricity in the annual electricity sale notification.

The order was adopted on 28 April 2011. On a proposal from the CRE it was, however, made subject to two amending orders which introduced more flexibility in the establishment of the guarantees and mitigated ongoing difficulties of the buyer in establishing the guarantees.

**Decision of 30 March 2011 - communication on the development of regulated gas tariffs (GDF SUEZ supply and tariff formula)**

The CRE has regularly noted that successive tariff formulas of the public service contract between the state and GDF SUEZ of 23 December 2009, do not take account of the long-term contracts not imported into France. The CRE therefore concludes that "*this is a situation that does not always benefit the end consumer*" as the GDF SUEZ portfolio has significant potential for arbitrage and optimisation.

The CRE's conclusion is based on the decisions of 17 December 2008 and 31 August 2010, emphasising that the method of calculating the GDF SUEZ tariff formula *"leads mechanically to discrepancies between the formula and the costs actually borne by GDF SUEZ*".

The CRE argues for a change in the public service contract binding the state and GDF SUEZ: it recommends first of all a change in the supply scope included in the formula, i.e. consideration of the supply sources in Europe other than the gas imported into France by long-term contracts. It believes that setting aside certain sources in the tariff setting formula would result in adverse consequences for consumers.

The CRE also recommends consideration of any differences noted a posteriori between the formula and the supply costs for the selected scope. These differences should now be shared between GDF SUEZ and end consumers.

The CRE also considers that the application of these two conditions should make is possible to strike a balance between the interests of society and the consumer.

In a conservative approach to the next tariff change the CRE suggests that *"tariffs should be fixed to cover the final average cost of the gas purchase actually recorded in GDF SUEZ's accounts at the date of the change, derived from a supply perimeter representative of the entire supply of GDF SUEZ's European portfolio, rather than being limited merely to long-term contracts for imports into France*".

**Decision of 24 March 2011 - decision on the operational procedures of the intraday flexibility service for strongly modulated sites**

The order of 6 October 2008, as amended by the order of 3 March 2011, sets the tariffs for the use of gas transmission applicable at 1 April 2011. Under this amended order, GRTgaz will propose for the CRE's approval, following consultation with market participants, the terms of the competition between sources of intraday flexibility.

With this decision the CRE approves the operational arrangements that were submitted to it by GRTgaz.

However, the CRE also asked GRTgaz to make certain improvements in next day scheduling, in the establishment of sourcing times and in the implementation of semi-quantitative indicators to present twice-yearly feedback as part of the Concertation Gaz Consultation.

The CRE also asked GRTgaz and RTE *"to work on optimising the process of transmission of the hourly scheduling from strongly modulated sites by analysing all the room for manoeuvre that can be freed up in their respective scheduling cycle"*.

Finally, the CRE asked GRTgaz to submit a proposal by the end of 2011 on conditions for competition between sources of intraday flexibility.

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