

Regulating and moving forward

to tackle the energy crisis



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Message from the **Chairman**



Jean-François Carencio
Chairman of the French
Energy Regulatory
Commission (CRE)

2021 harboured the energy price crisis like a cloud announcing the storm. In 2020, the Covid-19 pandemic put the world under lock and key, and froze production, investment and economic activity. Energy infrastructure maintenance programmes, particularly those of nuclear plants in France, were totally disrupted. Electricity and gas prices fell to incredibly low levels.

The global economic recovery, driven by the arrival of vaccines at the end of 2020, led to a spectacular rise in commodity prices. The surge in global energy demand, exacerbated by a long, cold winter in Europe and Asia in 2020-2021, depleted European gas stocks. While demand was strong, gas supply remained low due to disrupted supplies arriving from Norway and Russia. Soaring gas prices as of summer 2021 naturally led to a rise in electricity prices, as gas-fired power facilities are vital for ensuring the balance of the electricity system.

Just like a storm that forms in an unstable atmosphere when cold, dry air meets warm, damp air, the overloaded gas demand and frozen supply set the scene for turbulence.

Against this background, the CRE became the alert body from summer 2021. Pursuant to law in effect and based on transparent, rigorous methodology, it calculated the consequences of this crisis on the monthly changes in regulated gas sales tariffs.

As such, the French Government announced exceptional measures in autumn 2021 to protect residential consumers from this surge, announcing a "pricing cap", which resulted in a freeze on gas prices via a decree, followed by a contained increase in electricity prices via a finance law. These measures have since been extended until the end of 2022.

Most experts anticipated that things would rapidly return to normal during spring 2022. However, during the 4th quarter of 2021, two independent events accelerated the storm: the worsening of geopolitical tensions with Russia, at a time when Gazprom was no longer acting as a commercial player, as well as the announcement on 15 December 2021 of corrosion issues on some systems in French nuclear facilities. Markets cannot respond in a calm and measured way to such uncertainties. The rise in wholesale prices would go on to express, not speculations or manipulations, but real fears that shortages would threaten the energy supply of the whole society.

When the pricing cap was announced, it appeared that the rise in prices could be contained, yet the reality was much more violent. The CRE calculated that regulated tariffs for the sale (TRV) for electricity should have increased by almost 35% incl. tax on 1st February 2022 and those for gas by 78,3% incl. tax between 1st October 2021 and 1st May 2022.

Regulating during crisis periods means limiting the side effects of emergency measures as much as possible and adjusting the scope of support mechanisms to ensure they are effective. Massive public intervention on prices risked placing suppliers in difficulty, as they would be trapped between rising wholesale prices and capped retail prices, as such deteriorating price balances for suppliers and producers. The CRE accompanied public authorities to ensure that the decisions taken were implemented under technical, economic and financial conditions that would be optimal for the whole community. This support took the form of continuous discussions with the Government and Parliament teams, as well as increased communication with players and the general public to explain the causes of the consequences of this rise in wholesale prices and ways to remedy this. The regulator was,

above all, responsible for supervising the conditions for compensating gas and electricity suppliers, the terms for allocating ARENH, the impacts of price increases on renewable energy support mechanisms as well as the conditions for appointing fallback suppliers.

As the eye of the storm arrived, European solidarity was greatly felt, ensuring the system remained resilient: France had a greater need than ever before for importing electricity from neighbouring countries to cope with the winter peak, in particular at the end of 2021, when the country was a net importer for two months in a row. Thanks to this solidarity, unprecedented in the world on a continental scale, the free circulation of gas and electricity means that energy can be supplied to each member State with costs smoothed and shared, as such optimizing the use of infrastructure for the benefit of consumers.

"Regulating during crisis periods means limiting the side effects of emergency measures as much as possible and adjusting the scope of support mechanisms to ensure they are effective."

As such, the CRE stepped up its cooperation with its European counterparts, through the European Agency for the Cooperation of Energy Regulators (ACER) and the Council of European Energy Regulators (CEER), to analyse the consequences of the crisis, ramp up wholesale market surveillance and consider possible changes to market rules. The CRE believes it is essential to encourage investment over the long term, to give players more visibility. The extremely risky behaviour of some suppliers, who proposed fixed prices to their customers without hedging against a price surge, led to bankruptcies or major financial losses for their customers. As such, the supply business must be secured by applying prudential hedging rules.

This price turmoil actually confirmed the focus on energy transition. Because, contrary to what some people have suggested, it is not the European market or renewable energy that is to blame, but Europe's over-dependence on gas and the delay in low-carbon investments in France.

It is therefore urgent to move forward with a firm grip on decarbonizing the energy mix. The issues concerning gas supplies had the unwelcome effect of increasing the use of coal in Europe, despite the price of CO₂ quotas being at its highest. In France, the issues encountered as regards nuclear facilities also mean having to use thermal power facilities fully and even postponing the closure of the last two coal-fired plants. Even though the

diversification of gas sources is underway, in particular by maximizing liquefied natural gas (LNG) imports, economizing energy and reducing unnecessary consumption over the short term remain the surest ways to ensure our security of supply whilst limiting our emissions. In this respect, the industrial success of installing Linky meters means that everyone can monitor their consumption real-time. Being aware of the energy costs related to your uses (heating, Internet box, hot water heater, household appliances) is the first step towards better controlling your consumption.

Accelerating the deployment of renewable energy (RE) as much as possible was an objective. It is now becoming an imperative, for decarbonizing the economy while reindustrializing the country. All the more so as rising market prices make it easier to make RE more profitable. And, better still, in some cases, facilities under the purchase obligation are currently reimbursing the French State for their gains on the wholesale markets. This context is conducive to developing renewable energy purchase agreements without public support, the Power Purchase Agreement (PPA), which the CRE wishes to encourage. Moreover, in its opinion as regards the new specifications for the next calls for tender (2021-2026) for electric RE, the CRE recommends that public authorities withdraw unnecessary constraints that hinder the emergence of new renewable energy projects.

To accompany this rapid energy sector change, infrastructure has to adapt and be consolidated. **Networks must not hinder the system's agility in any way but, on the contrary, must facilitate the carbon neutrality goal.**

In this respect, to connect new biomethane facilities as best as possible, the CRE has been defining the most relevant network in each region to host new facilities, since the French EGalim Act was introduced. At the end of 2021, it had validated around 300 zones that could eventually host 1,300 methanization plants.

The intermittence of wind turbines and solar panels is changing electricity network sizing and management methods. As such, the CRE promotes the search for all sorts of options to avoid wasteful investment and to manage the system effectively. To encourage innovation in this area, the CRE may grant exemptions to network use rules to test new technology as part of the "regulatory sandbox". During the first window in March 2021, 41 applications were filed and 11 exemptions were granted, showing players' interest. A second window was opened in September 2021.

Overseas territories and non-interconnected areas (zones non interconnectées – ZNI) are laboratories for energy transition in constrained systems. Their small size, their exposure to highly-specific geographical and weather conditions, their difficult access, their production costs three to five times higher than in mainland France and their 70% carbon-based energy mix, make them territories where

the transition is the most urgent and most demanding. The CRE accompanies non-interconnected areas in drawing up their multi-annual energy programme (programmation pluriannuelle de l'énergie – PPE), promoting local renewable energy development, demand management and energy efficiency, whilst ensuring that public expenditure is optimized and consumers' interests are met.

It is hard to see clearly when you are in the middle of a storm, but nonetheless we can assess the key strengths and limits of our energy system, though ensuring we always keep energy transition as our compass. This crisis must be a wake-up call for us: where we are able to invent solutions that will continue to provide all consumers with safe, affordable, carbon-free energy.

Members of the Collegial Board



Jean-François Carencio
CRE Chairman

Jean-François Carencio, a former student of ENA, in 1979, (Michel de l'Hospital class), began his career at the administrative court in Marseille. He was then appointed General Director of the Montpellier District between 1985 and 1988, before becoming Deputy Secretary General for Economic Affairs (1988-1990) and then Secretary General of New Caledonia (1990-1991). He was Sub-prefect in 1991 and Secretary General of the Yvelines Prefecture (1991-1996). He was appointed Prefect of Saint-Pierre and Miquelon in 1996, then successively held the position of Prefect of Tarn-et-Garonne (1997-1999), Prefect of the Guadeloupe region (1999-2002) and Prefect of Haute-Savoie (2002-2004). He then directed Mr Jean-Louis Borloo's cabinet at the French Ministry for Employment, Labour, Social Cohesion and

Housing (June 2005-July 2006), before being appointed Prefect of the Haute-Normandie region, Prefect of Seine-Maritime (July 2006-May 2007) and then Prefect of the Midi-Pyrénées region, Prefect of Haute-Garonne (2007-2008). In 2008, he directed the cabinet of Mr Jean-Louis Borloo, French Minister of State for Ecology, Energy, Sustainable Development and Regional Planning. In 2010, he was appointed Prefect of the Rhône-Alpes region, Prefect of the Rhône. At the same time, in October 2013, he was entrusted by the French Minister in charge of Urban Affairs with the Second Chance Pack mission to tackle delinquency. He was appointed Prefect of the Île-de-France region, Prefect of Paris in 2015. He was appointed Chairman of the CRE by a decree of the President of the French Republic for a period of six years, on 16 February 2017.



Valérie Plagnol
Member of the CRE
Collegial Board

Valérie Plagnol, a graduate of Sciences Po Paris, Keio University (Japan) and HEC, has spent her whole career in the economic sector as Director of Economic Research at major financial institutions in France, Japan and the UK. She was previously a member of the French Prime Minister's Conseil d'analyse économique (Economic Analysis Council) and served on the Haut Conseil des finances publiques (French High Council for Public Finance) from 2015 to 2020, and also chaired the Société d'économie politique (French Political Economy Society) from 2012 to 2016. As an independent consultant, she founded the Vision & Perspectives macroeconomics consultancy firm in 2015. On a proposal from the President of the French Senate, Valérie Plagnol joined the CRE Collegial Board on 2 November 2021 for a five-year term and was appointed for her legal, economic and technical qualifications in the fields of local energy utilities and regional planning.



Catherine Edwige Member of the CRE Collegial Board

Catherine Edwige, an engineer, graduate of INSA Lyon, has spent her whole professional career in the energy distribution sector. In 1983, she started out in the production field in EDF, in Martinique, where she held several technical and management positions, before joining distribution (DEGS) in Normandy. In 1998, she was appointed Head of the Production Department for EDF Guadeloupe. From 2000 to 2004, she was Director of GDF-EDF Services Centre in Cannes. Then, in 2004, she became Director for the Mediterranean Region for the same group. In 2008, she became a member of GRDF's Executive Committee and was Director of Business Processes until 2011. She was promoted Director of the Rhône-Alpes, Burgundy and Mediterranean Regions for GRDF (2011-2014). On a proposal from the French Minister for Overseas Territories, she became a member of the CRE Collegial Board on 28 March 2014.



Jean-Laurent Lastelle Member of the CRE Collegial Board

Jean-Laurent Lastelle, a Sciences Po Paris graduate and former student of ENA, in 2007, (République class), began his career as Head of the Bioethics Office at the French Ministry for Health. Then, he was entrusted with the mission of implementing an internal audit plan at the Directorate General for Health (2011), for the same Ministry. He went on to become Chief of Staff to the Director of Banking Services of the French Caisse des dépôts et consignations for two years (2011-2013). In 2013, he joined the third chamber of the Court of Auditors (teaching, education, culture and communication) as an external rapporteur. He became Adviser in charge of finance, State reform, education and culture (2013-2017) and then Deputy Chief of Staff (2017) in the cabinet of the President of the National Assembly, Claude Bartolone. On a proposal from the President of the French National Assembly, he became a member of the CRE Collegial Board on 16 June 2017.



Ivan Faucheux Member of the CRE Collegial Board

Ivan Faucheux, general engineer of the Corps des Mines, a graduate of the École normale supérieure and Associate Professor of Mathematics, began his career in 2000, at the Prefecture of the Île-de-France region, as a project manager, responsible for the budgetary monitoring of the State-Region Plan Agreement and for investment support. In 2002, he joined the French Ministry for the Economy, Finance and Industry as Head of the Microelectronics Office. In 2006, in the same Ministry, he was appointed Deputy Director of the transport equipment, energy and eco-industries sectors in the Directorate-General for Competitiveness, Industry and Services. He then worked for the French Prime Minister's office at the Commissariat général de l'investissement (General Commission for Investment) as Director of the Energy and Circular Economy Programme (2010-2018). In 2018, he joined the Conseil général de l'économie (General Economic Council) where he undertook expert and consultancy missions. By a decree of the President of the French Republic, he became a member of the CRE Collegial Board on 5 August 2019 for a period of six years.

3 MINUTES

To understand the CRE

Principles

Independence
with respect to the French Government for the implementation of missions defined by legislation.

Transparency
as regards work and procedures for decision-making and opinions.

Impartiality
to ensure decision and opinion neutrality, fairness and objectivity.

Aims

To ensure
network operator independence.

To establish
harmonized rules for the operation of networks and markets so that energy circulates freely between the countries of the European Union Member States.

To ensure
competition between energy suppliers for the benefit of consumers.

To ensure
that consumers obtain the best service and pay a fair price.

Missions

To promote
the smooth functioning of the electricity and natural gas markets for the benefit of end consumers.

To play a role
in developing the European domestic energy market.

To implement
specific support mechanisms for renewable energy by appraising calls for tender.

To regulate networks
for gas and electricity, which are monopolies: set their tariffs and ensure their service quality.

To ensure
that consumers are well informed.

STATUS

Independent administrative authority

 **View the general presentation of the CRE**

€25,3BN

Regulated operator authorized income set for electricity transmission and distribution, and gas infrastructure.



156

AGENTS

(excluding the Collegial Board) at 31 December 2021

386



deliberations in 2021

13

CoRDiS decisions

53

Commission sessions

20

CoRDiS referrals

14

public-consultations

77

market players heard by the Collegial Board

15

hearings of the Chairman, the Director General and CRE departments before the French Parliament

2 independent bodies



The Collegial Board

Five members, where the difference between the number of women and men may not be greater than one, appointed on the basis of their legal, economic and technical qualifications, define the main guidelines and adopt decisions and opinions based on the expertise of the directorates, placed under the authority of the Chairman and the Director General.

The CoRDiS

Four full members and four associate members comprise the Dispute Settlement and Sanctions Committee, with the same number of State councillors and counsellors of the Court of Cassation. They are responsible for resolving disputes over access to public electricity and gas networks and over their use between operators and users, as well as for sanctioning breaches of the French Energy Code and the REMIT Regulation.

€21,338M

Budget

The credit required for the CRE to operate is provided for in the French Finance Act. The CRE is subject to audit by the French Court of Auditors.

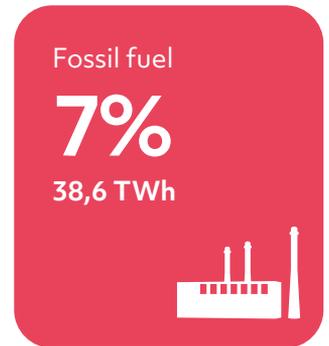
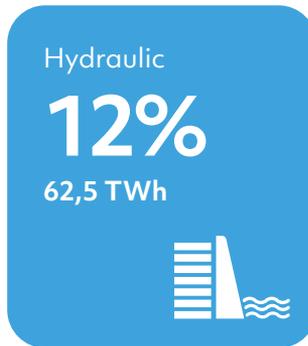
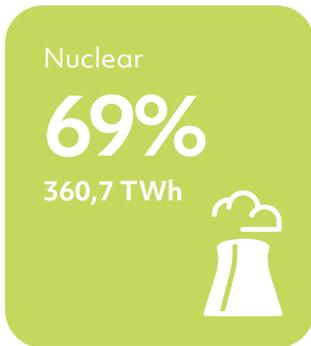
Overview of ener

Energy mix

2021 electricity production

TOTAL PRODUCTION

523 TWh



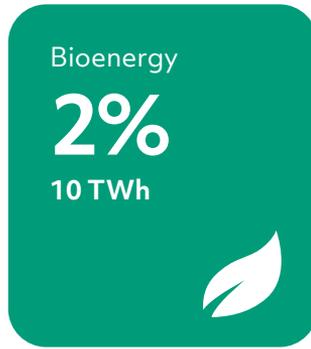
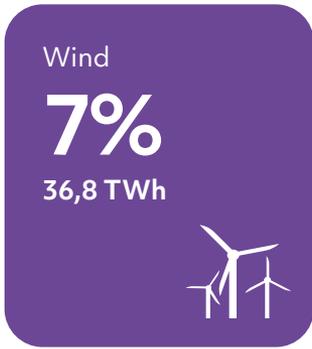
Production capacity

Installed capacity in 2021



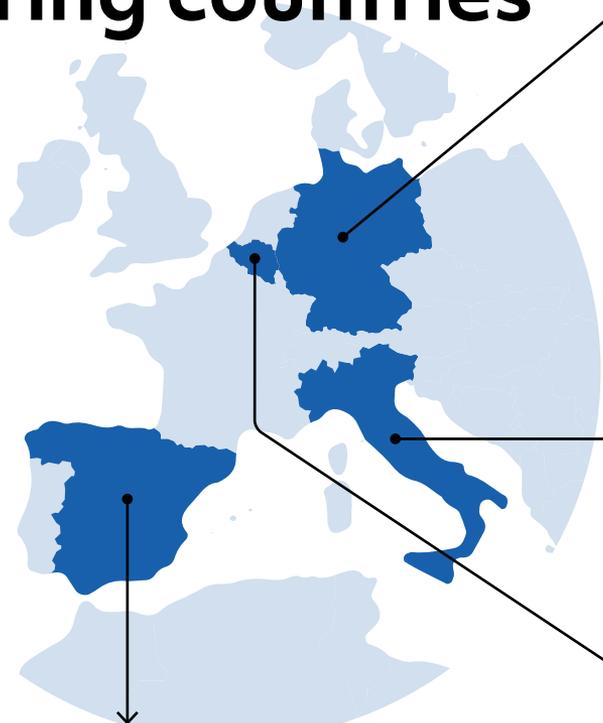
Source: 2021 electricity report

gy in France



Overview

of energy in France's neighbouring countries



Sources: RTE, REE, BnetzA, Terna and Elia
2021 electricity report

Spain | Total production 260 TWh

Nuclear
20,79%
54,04 TWh

Hydraulic
12,41%
32,24 TWh

Fossil fuel
20,6%
53,54 TWh

Wind
23,29%
60,52 TWh

Solar
9,87%
25,66 TWh

Bioenergy
13,05%
33,91 TWh

Germany | Total production 505 TWh

Nuclear
12,94%
65,41 TWh

Hydraulic
4,65%
23,51 TWh

Fossil fuel
42,66%
215,76 TWh

Wind
22,47%
113,63 TWh

Solar
9,22%
46,61 TWh

Bioenergy
8,06%
40,75 TWh

Italy | Total production 250 TWh

Nuclear
0%
0,00 TWh

Hydraulic
18,34%
45,89 TWh

Fossil fuel
53,61%
134,15 TWh

Wind
8,24%
20,61 TWh

Solar
8,09%
20,25 TWh

Bioenergy
11,72%
29,33 TWh

Belgium | Total production 92 TWh

Nuclear
52,34%
48,10 TWh

Hydraulic
1,31%
1,20 TWh

Fossil fuel
24,85%
22,84 TWh

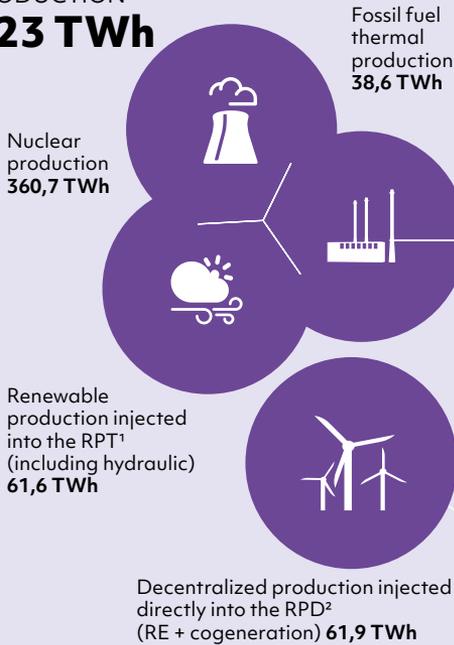
Wind
11,64%
10,70 TWh

Solar
5,11%
4,70 TWh

Bioenergy
4,74%
4,36 TWh

Electricity

PRODUCTION
523 TWh



DELIVERY

Transmission loss **11,2 TWh**

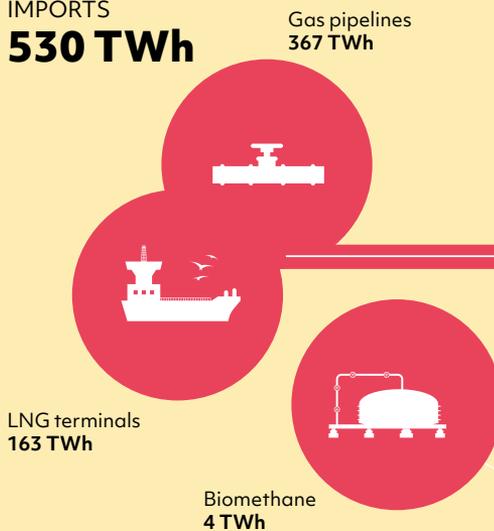
Direct extractions from the RPT¹ (including STEP) **65,9 TWh**



TRANSMISSION NETWORK (RTE)

Gas

IMPORTS
530 TWh



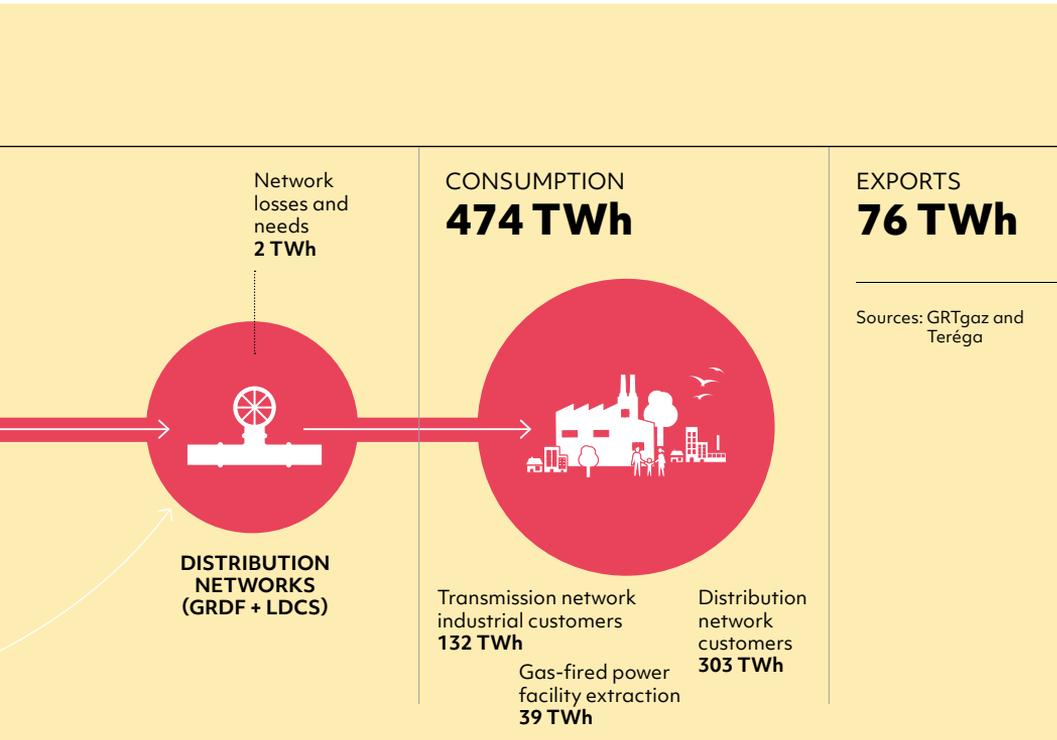
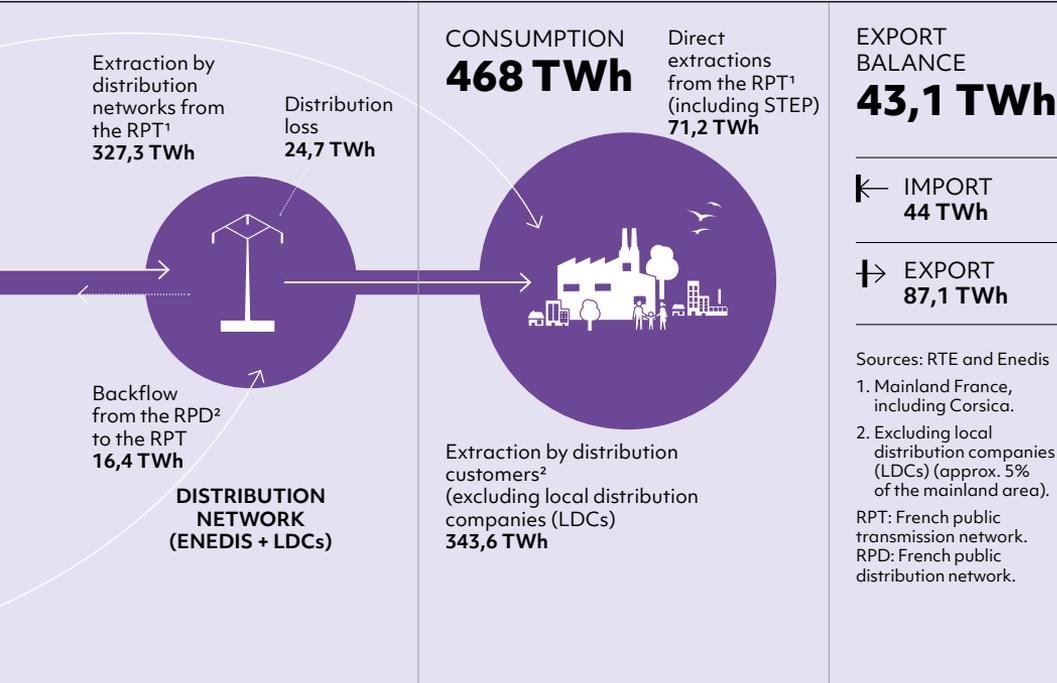
DELIVERY AND STORAGE

Extraction from storage **155 TWh**



Injection into storage **137 TWh**

TRANSMISSION NETWORKS (GRTGAZ AND TERÉGA)



A **regulator** for the benefit of consumers

Since the CRE was created in March 2000, it has been regulating electricity and gas networks and markets. It ensures electricity and gas markets operate smoothly for the benefit of all consumers, private citizens and professionals alike. It undertakes its audit, surveillance and price setting missions and, at the same time, ensures the supply quality and security.

By relying on the impartial expertise of its Collegial Board and its departments, it helps guide decisions made by public authorities in charge of energy policies and is involved in seeking the best energy mix.

It also works with its European counterparts to promote the integration of energy markets in Europe and cooperates with neighbouring countries of the Union to further regulation culture.



CHAPTER 1 —————>

EDITORIAL



Jean-Laurent Lastelle
Member of the CRE
Collegial Board

A consumer is to energy what a citizen is to the Republic of France: a pillar, a subject, an object, a cornerstone in a system that only makes sense if it delivers performance, service and tranquillity. Energy is not a luxury product: although consumers may be proud of an expensive product they have, in order to stand out, energy must be available to everyone, all the time. Energy is not a privilege: although consumers may be proud to have deserved certain possessions through personal taste, luck, resources and even their industry, energy, on the contrary, must be delivered to those who are modest in the same way it is delivered to those who are fortunate.

The French Energy Regulatory Commission must, as such, make the natural operation of a market, which is constantly absorbed by concentrations, effectiveness, winners and losers, capitalistic risks and conquests, and the principles of our country (France), which apply to consumers and as such protect them, compatible: regional and local equality, the right to have stable, powerful networks, the right to have moderate supply.

Twenty years of experience have shown the Commission that it is not easy to attain balance, that it comes from unwavering determination to find the right path between innovation and protection, industry prosperity and price moderation, ecological transition and consumer tranquillity.

Protecting consumers may seem like an automatically-formulated expression that has obvious meaning and validity. Yet, a period of innovation, sectoral investment and industrial creativity can tend to create divisions between

those who enjoy success and the others, by heightening temptation, in the case of a system that neglects its populations, for exclusivities. These exclusivities, already present in real estate, education and cultural fields (and correcting this will bring about profound upheaval in the future), should not enter the energy world.

2021, the year of the pandemic, of hospital strains, of soaring prices, of international fear, could have called into question our ambitions for energy equality, for steadfast progression towards the energy transition, towards building a Europe that is more inclusive and more eco-friendly. Yet, it did not happen. This is because the Commission's compass continues to point to consumers' interests as the destination that we have managed not to give in to what could have divided us. Our great efforts, work, our workshops and minds working together here on our premises and wherever we go must live on! The Commission works with operators, network operators, consumer associations, European institutions, French public institutions, its correspondents throughout Europe, its friends throughout the world, those who produce, those who distribute, those who transport, those who consume, those who imagine, and even those who dream and remember. We have always believed, around our Foresight Committee, around our European work, in every encounter that punctuates the sometimes-too-ordinary course of our administrative life, that the onset of an idea could change the course of overly-accepted inevitabilities in every encounter we make.

In a nutshell, Europe. Between 1st January and 30 June 2022, France holds the Presidency of the Council of the European Union. During this time, France sets the agenda, strives to develop compromises for the meetings where the 27 countries of our continental political adventure come together. During each Presidency, State departments and public authorities concentrate their energy, mobilize willingness to offer Europe the image of a France that is sure of its choices, of its community attachment and of its influence. Forever true to its European destiny, the CRE has played an enthusiastic role in this French Presidency adventure, in its own way, yet with its great spirit. At the beginning of April, regulator chairs, members of the Council of European Energy Regulators, CEER and of the Agency for the Cooperation of Energy Regulators, ACER, met in Paris, at the premises of the CRE and at the French Ministry for Foreign Affairs on the Quai d'Orsay. All the work undertaken in 2021 became meaningful, where our ideas could be asserted, our efforts shared and modernity and equality could be reconciled. With one obsession in mind, like an echo, a repeated refrain: consumers' interests.

The Collegial Board and departments

Since it was created on 24 March 2000, the CRE ensures electricity and gas markets in France operate smoothly for the benefit of all end consumers, in coherence with energy policy objectives.

Its Collegial Board, that comprises five members, including the Chairman, makes its decisions based on the expertise CRE departments. The Collegial Board members are appointed on the basis of their specific skills related to the energy sector for a non-renewable, six-year term.

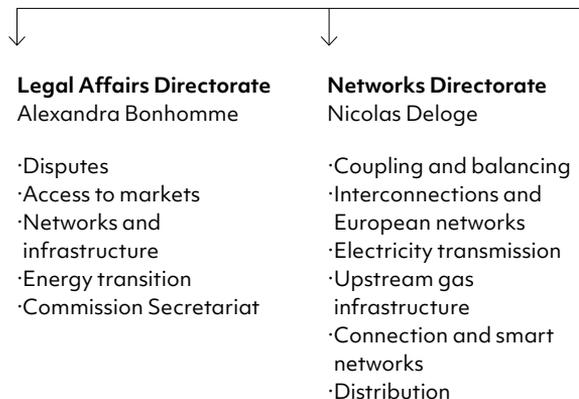
CoRDIS

CHAIRMAN
Thierry Tuot

CoRDIS has the support of the CRE departments for undertaking the missions it is entrusted with (Article L.133-5 of the French Energy Code).

MEMBERS
Henriette Chaubon
Henri de Larosière de Champfeu
Hélène Vestur

ASSOCIATE MEMBERS
Marie-Christine Daubigney
Nicolas Maziau
Laurent-Xavier Simonel



Cabinet

Secretariat General

Rachid Bouabane-Schmitt

Communication and Institutional Relations Directorate
Olivia Fritzingher

- Information and Press Division
- Digital Division
- Institutional Relations Division

Human resources Directorate
Alexis Vialle

- Recruitment and training
- Labour relations
- Professional development
- Payroll
- Internal communication

Resources Division

- Site management
Carlos Vidé
- IT and risks
Olivier Nony
- Finance
Nadine Redon

Transformation and Projects Department
Antoine Chaleat

- Mass disputes management
- Internal advice and guidance

CRE Collegial Board

CHAIRMAN
Jean-Francois Carenco

MEMBERS
Catherine Edwige
Ivan Faucheux
Jean-Laurent Lastelle
Valérie Plagnol

Deontologist
Gilles Clavreul

Directorate General of Services

Foresight and Innovation Department
Didier Laffaille

Dominique Jamme

Market Development and Energy Transition Directorate
Emeline Spire

- Retail markets
- Regulated tariffs
- Upstream electricity regulating systems (ARENH, Capacity mechanism)
- Renewable energy
- Non-interconnected areas

Wholesale Markets Surveillance Directorate
Kseniya Khromova

- Market analysis and surveillance tools
- In-depth surveillance and investigations

Economic and Financial Affairs Directorate
Laurent Ménard

- Financial analysis
- Operator costs auditing
- Expertise on the cost of capital
- Economic analysis
- Revision of photovoltaic tariffs

European and International Affairs and Cooperation Directorate
Claire Hellich-Praquin

- Europe
- International
- Cooperation

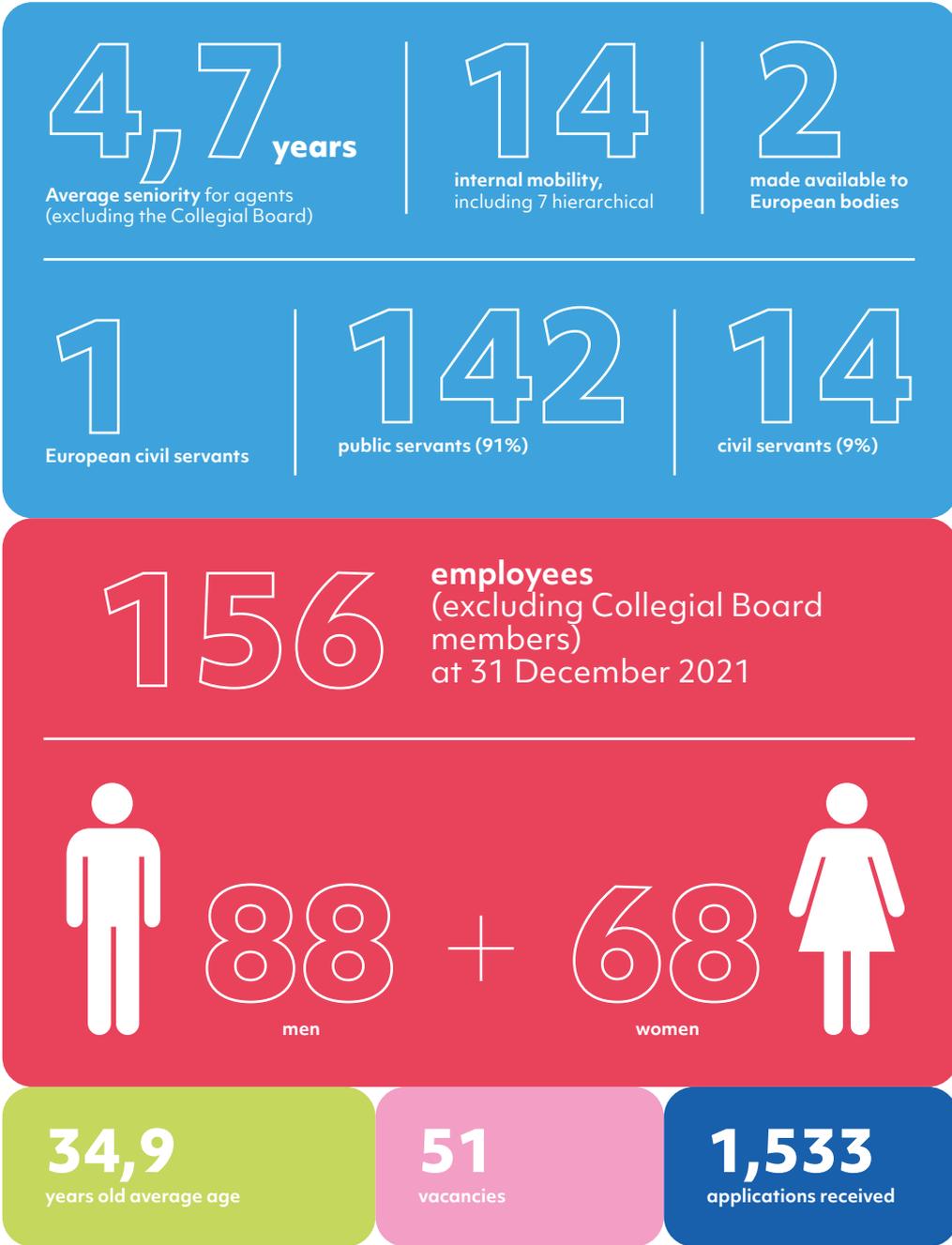
Human Resources

Since 1st January 2017, the CRE has been connected with the French Programme 217 "Conduct and management of ecology, sustainable development and mobility policies". The French Ministry for Ecological Transition leads this, taking into account the particularity of the CRE missions and the overriding need to preserve its independence, pursuant to European directives 2019/944 and 2009/73 of 13 July 2009 and to Article L.133-5 of the French Energy Code. The jobs and the credits required for the CRE to operate as such fall under Action 27 "Regulation and surveillance of energy markets", an operational programme budget and an operational unit that highlight the establishment's autonomy principle.

In 2020, the job cap stood at 154 FTEW (full-time equivalents worked), the CRE benefited from an additional job position to undertake its missions. Moreover, in order to deal with the mass disputes related to the contribution to the public electricity service (CSPE), four employees were temporarily hired. At 31 December 2021, the CRE totalled 156 employees (excluding Collegial Board members) including 68 women and 88 men.

To address the development of its missions, the CRE is pursuing its efforts to recruit the best technical-economic skills in the energy sector. In 2021, it received 1,533 applications for its 51 vacancies. The health crisis did not slow down the pace of recruitment and did not impact the demanding standards required as regards the profiles sought, who have high levels of qualifications.

Its employees and public servants (91% of the workforce) are mainly recruited in companies. Their average age is 34,9 years old.





Regulating

The CRE, an independent administrative authority, is supported by two separate bodies: the CRE Collegial Board and the Dispute Settlement and Sanctions Committee. The CRE, which was created when French electricity and gas markets opened up to competition, ensures that this benefits all electricity and gas consumers, private citizens and businesses alike, in particular as regards energy prices, service quality, supply security and energy transition effectiveness.

Missions focusing on consumer protection...



In its mission to regulate the electricity and natural gas networks, the CRE guarantees consumers, producers, businesses and communities non-discriminatory access to transmission, distribution and storage infrastructure, whilst ensuring security of supply. It ensures network operators comply with their obligations and sets tariffs for the use of networks that remunerate them.

It also regulates the French electricity and natural gas markets and in particular ensures that free, fair competition is developed for the benefit of consumers. It also coordinates the regulated access to historical nuclear electricity (ARENH) window, which enables all French citizens to benefit from the already amortized nuclear facilities. As an invaluable complement to effective regulation, it plays a market surveillance role, with powers to investigate in the event of suspected abuse and to sanction in the event of non-compliance.



... and on the effectiveness of public action

The CRE accompanies the French Government in implementing the energy transition: in particular, it gives an opinion on the terms and conditions for procuring renewable energy (RE) and appraises calls for tender to support its development.

As such, in 2021, it formulated opinions on the specifications projects for seven calls for tender, validated Enedis and RTE calculation methods as part of the regional schemas for connecting RE to electricity networks, as well as zoning for the development of biomethane facilities, which are key elements for developing these sectors.

Its action is instrumental to the efficiency of public spending and aims, on the one hand, to strengthen budgetary control in order to achieve the ambitious targets set by the multi-annual energy programme (PPE) and, on the other hand, to ensure that the energy transition is achieved at a fair cost for each citizen.



Settling disputes and sanctions

The Dispute Settlement and Sanctions Committee (CoRDIS) is in particular responsible for resolving disputes over access to public electricity and natural gas networks and over their use between network operators and users, as well as for sanctioning breaches of the French Energy Code.

Its four full members and four associate members examine dispute settlement cases, ensuring solid decisions are rendered within now-shorter timeframes to address users' concerns.

In 2021, for all cases filed, CoRDIS registered 20 referrals and 13 decisions, including 2 sanctions. It is worth noting that the dissuasive effect of Committee referral has enabled network users to settle their disputes with the operators concerned before any decision is taken, which explains the increasing number of withdrawals.

The challenge in terms of sanctions is to shorten the processing times once the matter has been referred to CoRDIS, in order to render sanction decisions, on complex cases, that are coherent for the players and correlated with a highly-evolving regulatory framework. The use of sanctions is not one of the purposes of regulation, but a means of reminding people, at the right time, of the rules that apply to everyone. ●

20

CoRDIS referrals
and 13 decisions,
including 2 sanctions

Sharing knowledge and expertise

The surge in energy prices, achieving carbon neutrality by 2050 and France's future energy mix and climate strategy have put energy back at the centre of political, economic, social and environmental concerns.

The CRE fuels the reflections and decision-making of all the players concerned, in particular by strengthening its information and communication initiatives with the public. It is in constant discussion with public authorities and is active in European bodies. To this end, it builds on its values of independence, transparency and impartiality, as well as its commitment to the European Union, the fight against climate change and consumer protection.

Through communication that is more tailored to the general public



Energy is a complex, technical subject that is often only accessible to sector experts and players. The law entrusts the CRE, which ensures the smooth operation of the electricity and natural gas markets, with the task of regularly informing consumers and the energy sector. As such, it regularly publishes information on the retail electricity and gas markets, regulated sales tariffs and legal developments in the sector.



Moreover, the CRE considers that explaining its work to the general public is a mission in its own right and it does this on a daily basis. In November 2021, it launched its external newsletter *Parlons énergie* (Let's talk about energy). Aim: to communicate information in an enlightening, comprehensive and accessible way about its work and activities of the sector and to give a voice to a personality from the sector. To reach a wider audience, it has also boosted its presence on social media (Twitter and LinkedIn). Finally, the CRE appeared in the general public media – press, radio and television – to explain its opinions and decisions in the midst of an unprecedented energy price crisis.

-  Stay up to date on CRE news on www.cre.fr/en
-  www.twitter.com/CRE_energie
-  www.linkedin.com/company/1320916/



Through support for the work of Members of Parliament

The CRE is regularly heard and called on by Members of the French Parliament to help draft legislation and reports and, more generally, to inform parliamentarians and parliamentary officials of developments in the sector. It attaches great importance to this dialogue, which it deems vital for a representative democracy to function properly.

In 2021, it was heard fifteen times by Members of the French National Assembly and Senate. At the beginning of 2021, it as such presented a progress report on the implementation of the French Act of 8 November 2019 on energy and the climate, as well as on its new missions resulting from this text. In the summer of 2021, the French Senate and National Assembly wished to hear the CRE on the revision of Agreements, regulated by decrees from 2006 and 2010, relating to the obligation to purchase the photovoltaic production of facilities with a capacity of over 250 kWp, provided for in the French Finance Act for 2021.

The CRE also collaborated on the French Senate's work on methanization and agrivoltaics, and on the National Assembly's work on the resilience of the country's energy system and the proposed reform of the EDF Group.

It was heard, as is the case every year, during the examination of the French Finance Act for the coming year on its budget, its missions and on the support for renewable energy and the public service costs for energy directly attached to the State's general budget.

During the second half of 2021, the CRE also helped enlighten parliamentarians on the energy price crisis, price developments and consequences for all consumers, in particular following the measures announced by the Government.



Through regular inter-IAA dialogue

As provided for in the 2017 French Act on the status of independent administrative authorities (IAAs) and independent public authorities (IPAs), the CRE regularly collaborates with these entities.

A host of joint working groups have been set up to share practical skills and thoughts on the role and tools of regulation in France, from the Chair level of these authorities through to department level.

As part of its wholesale market surveillance missions, the CRE regularly shares its information and expertise with the French Financial Markets Authority (AMF - Autorité des marchés financiers). Pursuant to the REMIT regulation on wholesale energy market integrity and transparency, national regulatory authorities and competent financial authorities of Member States "*cooperate to ensure a coordinated approach*".

Pursuant to Article L. 134-16, the CRE Collegial Board may be called upon to issue opinions on questions from the French Competition Authority (ADLC - Autorité de la concurrence) as regards electricity and natural gas sectors, and the Chairman may also refer matters to the ADLC when he identifies abuses. After 2021, it issued an opinion on the subject of a request for protective measures made by the French National Association of Energy Retail Operators (A.N.O.D.E.) against EDF. ●

🌐 [View the latest hearings on videos.assemblee-nationale.fr](https://www.assemblee-nationale.fr)



IAA and IPA event, 20 April 2022

FOCUS

Partial refund of the French contribution to the public electricity service (CSPE): the CRE platform is operational to put an end to the mass dispute concerning the CSPE collected between 2009 and 2015

The partial refund programme for the contribution to the public service of electricity (CSPE) aims to put an end to over 55,000 claims.

For over two years, the CRE worked hand-in-hand with its partners to create a system for collecting and examining requests that would enable tens of thousands of taxpayers to be fairly and securely refunded.

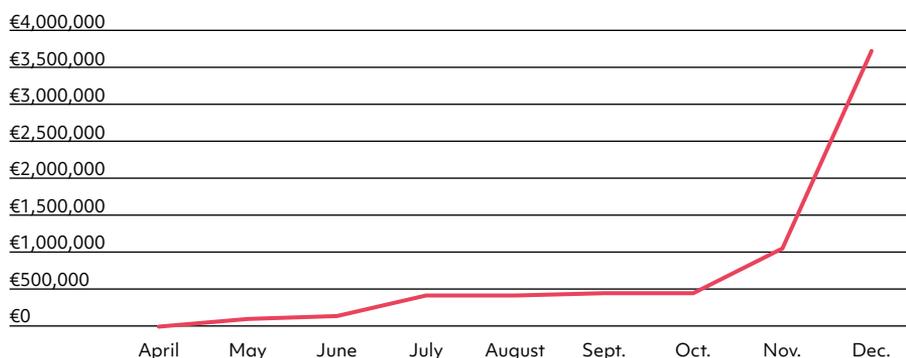
Since February 2021, the transaction-cspe.cre.fr portal has become the interface between claimants and the French authorities. Claimants can submit their case and, subject to their eligibility, be offered a refund through a compromise procedure. Procedures are 100% digital and dematerialized, from submitting the request

to signing the compromise and archiving the documents.

At 31 December 2021, the platform had recorded over 2,000 separate cases with a frequency of around 300 cases submitted every month. At the same date, almost 200 compromise procedures had been concluded for a total amount of around €4m. On the basis of the proposals made, no refusal to reach a compromise was expressed by the claimants, who seem to approve the compromise arrangements implemented by the CRE.

Structural changes to the portal are expected in 2022 in particular to accelerate the pace of examining cases and to facilitate the management of very large cases.

Amounts refunded in 2021



Playing an active role in European work

European legislative activity was particularly intense in 2021 with the negotiation of the new regulation for the Trans-European Networks for Energy (TEN-E) and the European Commission's publication of two major packages. The CRE played an active role in this work, in particular within European regulatory bodies.

Alongside European institutions



The CRE maintains regular exchanges with European institutions, from European Parliament departments and elected representatives to the Commission departments responsible for energy issues.

The "Fit for 55" package comprises 12 texts aimed at tailoring the European Union's (EU) climate-energy policy framework, for the period 2021-2030, to the new target of a 55% reduction in greenhouse gas emissions by 2030.

On 15 December 2021, the European Commission adopted its "Decarbonization" package, which aims to decarbonize the European gas market by facilitating the development of renewable, low-carbon gases, including hydrogen.

In this respect, the CRE, together with its regulatory counterparts, was directly involved in the negotiations of the TEN-E Regulation (EU) No. 347/2013, which concerns the guidelines for trans-European energy infrastructure, by playing an active role in the exchanges with the French authorities and MEPs.

Alongside European regulatory bodies

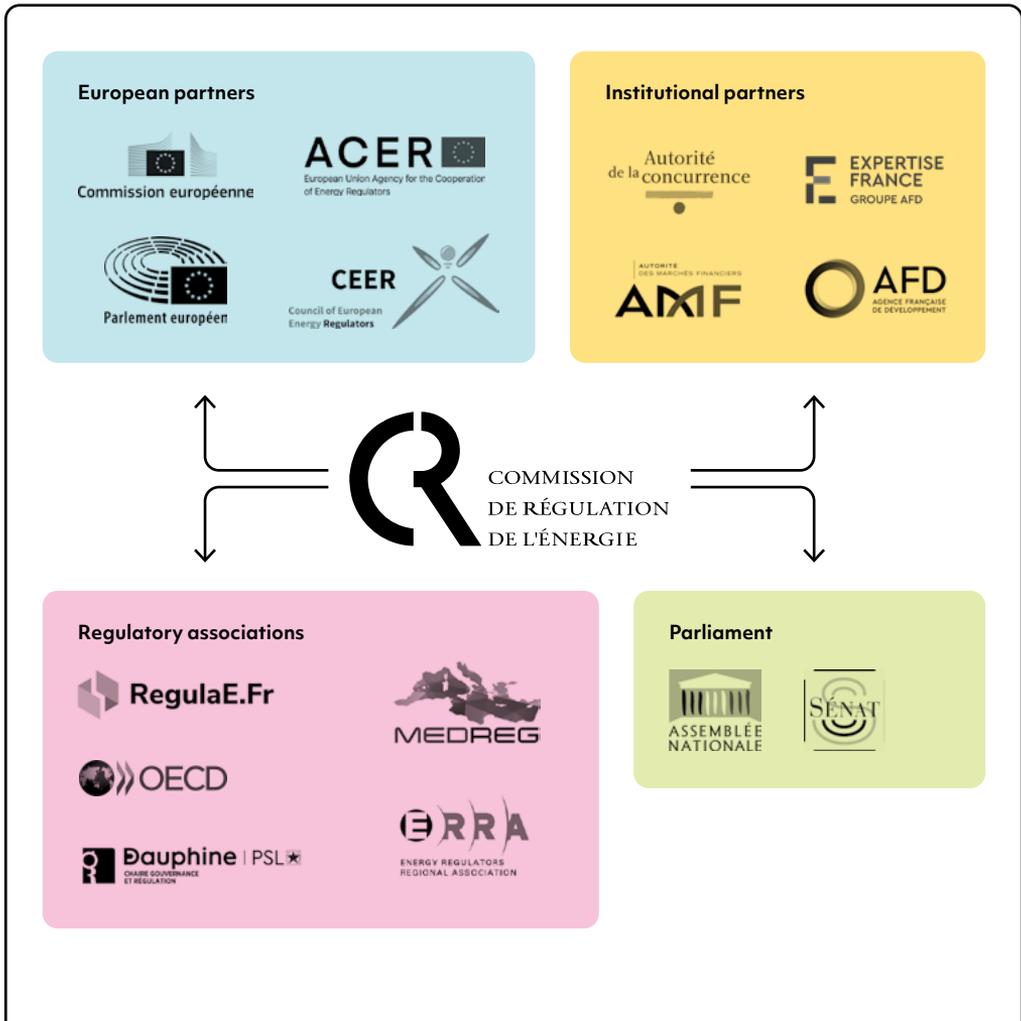
The CRE is actively involved in European regulatory bodies such as the Council of European Energy Regulators (CEER), where it holds a vice-presidential position, as well as the Agency for the Cooperation of Energy Regulators (ACER). During the second half of 2021, the energy price crisis dominated the discussions of these two bodies, leading in particular to the ACER adopting its preliminary assessment of the price crisis and market conception.

Discover:

- CEER's work on www.ceer.eu and ACER's work on www.acer.europa.eu
- the European Commission's annual report on ra2021.cre.fr

At the end of 2021, following the publication of the European Commission's proposal to decarbonize the EU gas market, ACER and CEER adopted a joint position on the "Decarbonization" package for gas and hydrogen markets. In 2022, this document will guide the joint efforts of CRE and the regulators during the negotiation of these key texts for the European energy transition.

The CRE also chaired the CEER working group dedicated to the consequences of the health crisis on energy systems, with the final report being adopted in December 2021. ●



Promoting regulation culture internationally

The CRE is active beyond European borders, where it disseminates its expertise and contributes to the development of regulators' skills, the development of markets and France's international influence. It has been stepping up its international cooperation activities, in particular as regards bilateral cooperation, with the financial support of donors such as the European Commission, the French Development Agency and Expertise France.

In 2021, the African region was showcased with the conclusion of two two-year technical support agreements: one with the Mauritian regulator, the other with the Nigerian regulator. Interesting prospects have also opened up in the Balkans, with shorter expertise missions. This was in particular the case, in November 2021, when the CRE undertook a mission on wholesale markets in Tirana the Albanian regulator (ERE) within the framework of a partnership with Expertise France.

RegulaE.Fr holds its General Assembly in Paris



The CRE is involved in multilateral cooperation bodies with regulatory authorities outside the EU. It plays an active role in RegulaE.Fr, the French-speaking network of energy regulators, which it chaired from 2020 to 2021, and hosted the network's 4th General Assembly as well as its workshop organized hand-in-hand with the European Commission's Directorate General for International Partnerships in Paris, in December 2021. In 2021, RegulaE.Fr welcomed its 31st member, Rwanda's regulator.

The General Assembly appointed Mr Claude Gbedonougo Gbahuidi, Chairman of the Beninese regulator, to head RegulaE.Fr, taking over from Mrs Catherine Edwige. Mr Simon

Turmel, regulator of the Régie du Québec, was appointed First Vice-chairman of the network, which ensures a perfect rotation of continents at the head of RegulaE.Fr.

Another highlight was the workshop on the role of the sector regulator in the emergence and promotion of renewable energy. This online-accessible workshop was a great success and an opportunity to bring French energy players together, in particular the Ministry for Ecological Transition, the transmission system operator RTE and the SER, the French Renewable Energy Syndicate, along with the European Commission and the International Energy Agency. ●

Missions **ramped up** due to soaring energy prices

The unprecedented rise in global wholesale gas prices, which began in March 2021 before accelerating during the second half of the year, led to an increase in wholesale electricity prices in its wake, causing an energy price crisis never seen before in Europe.

Against this backdrop, the CRE ramped up its surveillance of wholesale markets, in the interests of consumers.



CHAPTER 2 

EDITORIAL



Valérie Plagnol
Member of the CRE
Collegial Board

In 2021, the surge in energy and commodity prices stemmed from the convergence of various circumstances. They all had the common thread of reiterating the importance of reconciling wholesale market organization and regulation, on the one hand, and the necessary security of supply, on the other hand, and, further to this, the need to complete the energy transition on the European continent. Throughout the year, as part of its regulation missions and in coordination with French authorities and its European partners, the CRE stepped up its initiatives for consumer protection whilst continuing to ensure the market operated smoothly.

Russia's invasion of Ukraine in February 2022 led energy and commodity prices to rise dramatically. This increase, which began in 2021, had already peaked in December the same year. Gas and electricity prices began their climb in summer 2021. The sharp upturn in final demand was not met by overall supply, which was struggling, as a result of the decline in production capacity (due to a lack of investment after the drop in prices during the pandemic), strain on the gas and electricity provisioning systems and occasional shortages in hydroelectric (drought in Norway), wind (lack of wind in Germany) and nuclear (French reactors shut down) production.

The abnormally-low level of gas stocks at the end of a long winter and the low levels of replenishment in some countries intensified the strain on markets even more. This was supplemented by an increase in competition, triggered by the demand from China in particular, which was keen to replace its coal

by gas. As such, the European Union (EU) was given a harsh reminder of its dependence on imported fossil energy and the urgency to implement an energy transition that was still difficult to plan on the scale of the continent's overall demand.

Europe's wholesale electricity market ensures solidarity between EU Member States by optimizing the use of the electrical facilities in the area. This organization, unprecedented on a continental scale – it is worth remembering that in the United States, some states are not connected to the national network –, backed up by a monitoring, management and intervention system in the event of incident, ensures that European consumers are supplied with electricity at all times and at the best price. This market is likely to remain under significant strain in the coming years, due to pressure to replace supply sources, technical contingencies impacting the facilities installed, but also because of more frequent weather risks and increasing use of intermittent energy. All these factors will further weigh on the network's resilience as well as on determining wholesale prices. The inclusion of the EU member countries in an interconnected and efficient system, enabling the supply-demand balance to be ensured anytime and anywhere, will prove increasingly vital and relevant.

The dramatic, historic rise in electricity prices has re-launched the debate on price-setting mechanisms, questioning the relevance of the price signal as an indicator of the optimal allocation of resources. As pointed out in this chapter, wholesale electricity price-setting is based on the marginal cost pricing rule, which

ensures that production resources are called on in "merit" order, meaning supplies can be secured on the one hand, and the energy transition can be supported on the other, by reducing the use of fossil fuels - penalized by the cost of carbon.

Nevertheless, from the wholesale market to households, the issue of protecting the purchasing power of consumers most threatened by these price surges must be considered. Admittedly, this falls under the retail market. Nonetheless, the current crisis reminds us of the difficulty for States to arbitrate between "prices reflecting costs" and protecting the most vulnerable, a dilemma and an urgency at the very centre of the ecological transition.

More than 6

number by which average wholesale gas prices over the month were multiplied from March to December 2021

More than 3

number by which average wholesale spot electricity prices were multiplied between 2020 and 2021 (day-ahead contract France)

More than 2

number by which average futures electricity prices were multiplied between 2020 and 2021 (one-year French calendar contract)

-24,4%

decrease in exports of Russian gas to continental Europe in 2021 compared to the average of the previous three years

-22,2%

decrease in the average replenishment level of the European aggregate storage level at the beginning of the winter compared to the average of the previous three years



**18 June
2021**

confirmation by the French Council of State of the legality of the first sanction pronounced by the CRE's CoRDIS for manipulation of the wholesale market

**21
December
2021**

date where wholesale gas prices reached €184,00/MWh (day-ahead contract)

**End
December
2021**

less than 45 GW of France's 61 GW of nuclear production capacity was available, the lowest level ever reached at this time of the year

An unprecedented wholesale energy price crisis

In 2021, the rise in wholesale gas price significantly impacted European countries, beginning with France, which imports all it consumes. This surge was reflected in almost all wholesale electricity prices, which were also marked by high volatility and extreme sensitivity to events that particularly hit this sector. The CRE deciphers this.

An unprecedented surge in wholesale gas prices



Following particularly low levels in 2020 (up to €3,3/MWh for the June product and less than €10/MWh for over six months) due to the health crisis and the partial standstill of economic activity, prices on the wholesale gas markets experienced an unprecedented rise from March to mid-December 2021. In December, at the gas exchange point (GEP) in France, gas traded at an average of €114,3/MWh, a price level never seen before, up to more than six times higher than in March (€17,4/MWh on average).

On 21 December 2021, European prices reached an all-time high of €180,6/MWh for the January product, before decelerating and closing the year at €72,9/MWh, driven in particular by an inflow of LNG to Europe. Nonetheless, they remained well above historical levels.

The reason: increased demand for gas, linked to economic recovery and supply difficulties

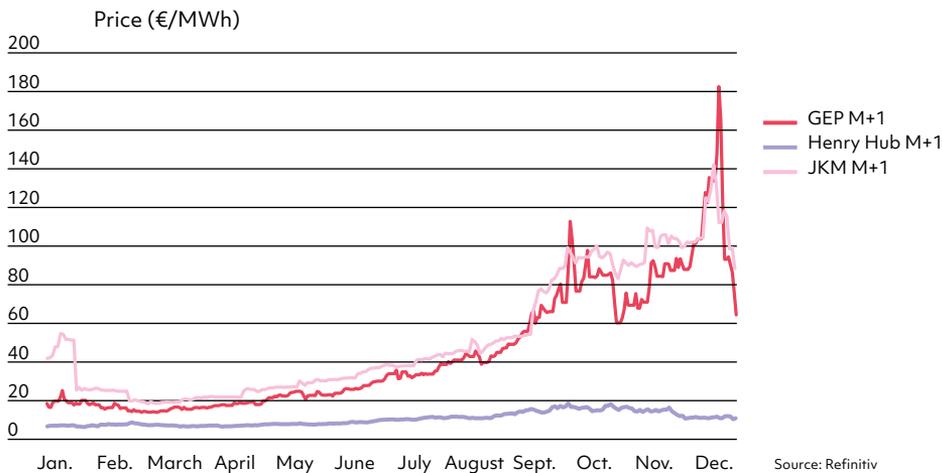


In the wake of the economic recovery from the health crisis, global gas demand soared, driven by the industrial sector, in particular in Asia, and even at a time when China was seeking to reduce its greenhouse gas emissions, by cutting back on the use of coal. In 2021, the situation worsened due to a convergence of particular cyclical and technical factors: a reduction in available production capacity, a particularly long 2020-2021 winter in Europe, which lowered stocks and increased competition in LNG demand from Asia, where shipments were diverted to the highest bidders. As such, LNG flows to Europe decreased by 5,6% in 2021 compared to the average of the previous three years.

Moreover, deliveries from the two main exporters to continental Europe, Russia and Norway were disrupted in the first half of the year by unforeseen events and maintenance work on pipelines. During the second half of the year, Russian gas deliveries continued to slow down. For example, Gazprom left the major storage facilities it owns empty, in particular in Germany, the Netherlands and Austria. Compared to the average of the previous three years, flows from Russia fell by 24,4% in 2021, a trend that was particularly noticeable at the end of the year. The incidentally-constrained increase (+1,7%) in flows from Norwegian fields was not enough to offset these reductions in supply. As a result, European stocks were only partially replenished at the beginning of winter, which fuelled the already upward trend in a strained market.



Change in M+1 futures gas prices in France (GEP), the United States (Henry Hub) and Asia (JKM), in 2021



€50/MWh

average electricity spot prices
in France, from 2008 to 2021



Wholesale electricity market: European interdependence, a guarantee of security and competitiveness

The wholesale electricity market organizes European-level electricity exchanges between producers, intermediaries (brokers, traders), suppliers and major consumers and ensures energy resources are pooled. Like gas and CO₂ markets, it issues a price signal that is instantly transmitted to all players, as such optimizing the coordinated management of capacity and stock.

Under this system, continental power facilities are started up in ascending order of variable cost, until all European demand is covered, within the technical limits of the interconnection capacities.

This solidarity, unprecedented on a continental scale, ensures each Member State is supplied at a lower cost and with a high level of security, as such optimizing the use of European electricity facilities for the benefit of consumers.



Marginal cost, the most effective method for setting electricity prices

Marginal cost sets the prices for all major commodity markets. This method is based on the following economic principle: for a given time, any MWh included in the supply-demand balance must be remunerated at the same price, irrespective of its source.

On the electricity spot market, the price is set during a daily bid at the short-term marginal cost, i.e. the variable cost of the last power facility required to ensure the supply-demand balance, which is the most expensive, but which as such is incited to produce. This marginal cost pricing means that the fixed costs of plants with lower variable costs can be paid whilst ensuring that the network is permanently balanced.

France, the number one electricity exporter in Europe (over 85 TWh in 2021) and a major importer during peak consumption in winter (78 days in 2021 with more imports than exports), benefits from this system that ensures the electricity system runs efficiently.

In the long run, the market price set at marginal cost reflects the average cost of production. In France, from 2008 to 2021, the average electricity spot price was €50/MWh, a price close to the full cost of a basic power facility (nuclear, run-of-river hydraulic). Setting the price is therefore not out of touch with the full cost reality of the underlying facilities.

[View the report on how wholesale electricity and gas markets work on ra2021.cre.fr](https://ra2021.cre.fr)

FOCUS

Full, fixed, variable and marginal costs

The *full cost* is broken down into *fixed cost*, which covers the costs incurred by making capacity available (investment, maintenance, permanent workforce), and *variable cost*, which covers the costs incurred by fixed-capacity production. As regards electricity: fuel, wear and tear and the labour required for production.

The *short-term marginal cost of the facilities* is the cost incurred by additional demand, for fixed facilities. In an efficient merit order system, it corresponds to the variable cost of the last means of production called on, the most expensive among those required to balance supply-demand.

The *long-term marginal cost of the facilities* is the cost incurred by additional demand

assuming that production capacity can vary. It corresponds to the full cost of the means to meet the additional demand at the lowest cost.

Equivalence of short-term marginal cost and long-term marginal cost: Marcel Boiteux established that the short-term marginal cost of an electricity system is equal over a medium period to its long-term marginal cost, irrespective of whether it is organized as a monopoly or a competitive market. The marginal cost pricing principle was already used by EDF in a monopoly situation in France. The creation of the European electricity market and its opening up to competition have not changed the underlying principles of electricity pricing.



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European Parliament

The surge in wholesale electricity prices, a consequence of the gas crisis



Around 20% of European electricity production comes from its gas-fired power facilities, which are vital for ensuring the balance of the electric system. When the last means called on to cover the demand is a gas-fired power facility, which is the case to cope with consumption peaks and, more generally, during winter, the price of electricity evolves in a correlated way with that of gas. The surge in gas prices in 2021 as such naturally resulted in a surge in electricity prices.

In 2021, the increase in the operating costs of gas-fired power facilities and, even more so, of coal-fired ones, related to the surge in the quota prices of the CO₂ required to offset their greenhouse gas emissions was added to this. In view of stepping up climate targets, they rose from around €30/tCO₂ at the end of 2020 to over €80/t CO₂.

The short- and long-term electricity prices increased throughout the year, with unprecedented increases from October onwards.

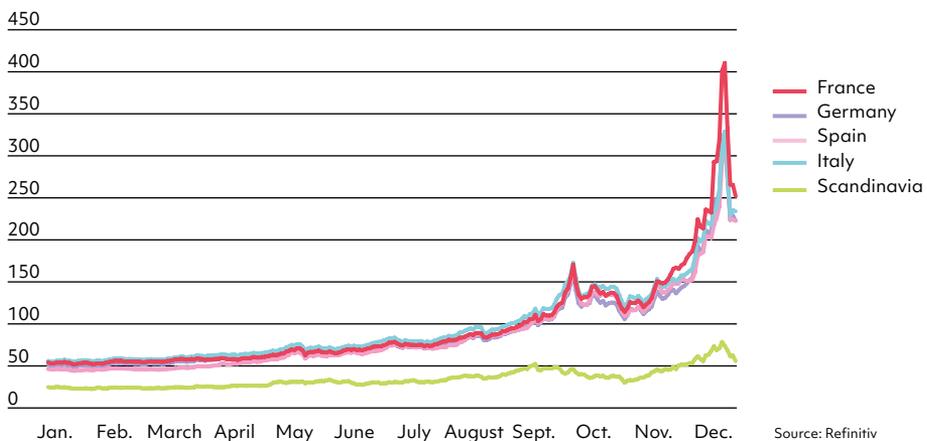
On the day-ahead spot market, the average price reached €110/MWh over 2021, more than threefold that of 2020 (€32/MWh), with a peak of €450/MWh in December.

On the futures markets, the average 2021 price for the French one-year calendar product stood at €94,7/MWh, more than twofold that of 2020 (€45/MWh). The increase became particularly pronounced at the end of the year with a first peak at €168,4/MWh on 5 October, followed by a second, exceptional peak at €407/MWh on 22 December, following in particular EDF's announcements on 15 December 2021 of unavailability of French nuclear facilities for winter 2021-2022.



Change in one-year calendar prices in Europe

Price (€/MWh)





Particularities of the French electricity market

Given the limited number of gas-fired power facilities (less than 10% of all installed facilities), it is surprising that gas has such an influence on electricity prices in France, where most of the production (69% in 2021) is provided by nuclear facilities.

Nonetheless, the fact that a gas-fired facility is required to cover demand is enough to set the price of electricity at that specific moment in time, even if a large part of consumption is covered by nuclear power facilities, with lower variable costs.

Unavailability for maintenance work as well as unforeseen events disrupted the production of French nuclear power facilities at the end of 2021 and even more so over the first quarter of 2022. At the end of December 2021, 12 reactors out of 56 were at a standstill. As such, 45 GW of 61 GW was available, the lowest level ever reached for nuclear facilities at this time of the year.

As a result, over this period, France imported much more electricity than in previous years, given that neighbouring countries generally have a significant proportion of gas-fired power facilities in their electricity mix.

However, the rise in wholesale electricity prices had only a limited effect on EDF's profits from nuclear power. In actual fact, the ARENH's regulatory mechanism ensures consumers benefit from the prices of the nuclear stock. This mechanism provides that EDF sells part of its nuclear production at a regulated price of €42/MWh. Due to the replication of the ARENH in its own supply offers in the regulated sales tariffs, EDF as such only partially benefited from the higher remuneration of its nuclear production on the markets.

In 2021, requests from suppliers under the ARENH for 2022 reached 160 TWh at the end of December (146,2 TWh at the end of 2020), well above the cap of 100 TWh/year provided for by the texts. As a result, the CRE had to cap the volumes requested by 37,6%, which obliged suppliers to secure the missing volumes from the wholesale market (31,6% in 2020). This is why the CRE regularly recommends increasing the 100 TWh cap, in conjunction with a reassessment of the ARENH price, which has not budged since 2012. ●

Surveillance

missions ramped up in response to the crisis

Against this backdrop of crisis, the CRE ramped up its surveillance of the practices of wholesale market players, in particular the transactions and orders made. It focused on checking the coherence between electricity prices and fundamentals, in particular the price of commodities and CO₂ emission quotas, and the availability of nuclear production facilities.

Surveillance to protect consumers



The Law entrusts the CRE with wholesale electricity and gas market surveillance missions to ensure that markets, which must reveal prices that reflect the balance between supply and demand, are sound, efficient and transparent for all consumers.

The CRE publishes an annual surveillance report on how these markets operate as well as quarterly observations. In the event of suspected market abuse, it exercises its powers of investigation, which can lead to referral to the Committee for the Settlement of Disputes and Sanctions (CoRDiS), and to financial sanctions.

Since 2011, it has been exercising its mission within the framework of the European REMIT Regulation of 25 October 2011. In particular, it ensures compliance with the prohibition of insider trading (Article 3), with the obligation to publish inside information (Article 4) and with the prohibition of market manipulation (Article 5) for the wholesale electricity and gas markets as well as for the electricity capacity market. The CRE also ensures compliance with the obligations set out under Article 15 for persons professionally arranging transactions (PPAT), relating to detecting and reporting suspected insider dealing and market manipulation.





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Systematically monitoring

To detect potential breaches of the REMIT Regulation, the CRE carries out systematic monitoring based on the transactional and fundamental data it collects from stock exchanges, brokers, market players and network and infrastructure operators, as well as the data collected by ACER, under REMIT.

This monitoring is in particular intended for detecting insider dealing and market manipulation in a climate of high price volatility and particular sensitivity of the market to published information, which is conducive to this type of breach. The monitoring may be followed up by investigations that may result in financial sanctions from the CoRDIS.



Mobilizing experts

As part of its in-depth analyses on the management of inside information by market players under REMIT, the CRE published a study on the sensitivity of the price of short-term electricity markets to publications of the unavailability of production facilities in France on 16 September 2021. The results of the study show in particular that the publication of an additional 100 MW of unavailability does not, on average and over the period considered, have significant influence on French intraday market prices. Notwithstanding, given the methodological choices, these results reflect averages that do not represent extreme market strain scenarios. By focusing in particular on this study, the CRE delivered guidelines to market players concerning the publication of the unavailability of electricity production facilities installed in France, for the purpose of illustrating the applicable framework.

🌐 [View the study on the sensitivity of the wholesale electricity price to the publication of information concerning the unavailability of production facilities in France on 16 September 2021.](https://www.cre.fr)
cre.fr



Working hand-in-hand with European regulators

Given the rise in wholesale prices, the CRE has stepped up its partnership with ACER and national European regulators to make detecting possible abuse easier.

It works closely with ACER, which leads and coordinates several European projects and efforts. These are intended to establish shared principles for the operational implementation and interpretation of REMIT as well as to harmonize surveillance practices and make them more effective. Over the first quarter 2021, the CRE was appointed Vice-chair of the ACER REMIT Committee, as such strengthening its active participation and its strong commitment to REMIT collaborative work.

ACER took action to tackle the rise in energy prices. Following the publication of initial analyses on the price situation in October 2011, ACER published a preliminary report of its assessment of the high energy prices and the structure of the wholesale markets in Europe at the request of the European Commission in November 2021. This report analyses the key factors impacting energy prices, the main characteristics of the markets and their perspectives. ●



Meeting between Christian Zinglensen Director of ACER and Jean-Francois Carencu during the European regulator event as part of the French Presidency of the Council of the European Union in April 2022

FOCUS

Two sanctions for market manipulation validated by the French Council of State

On 18 June 2021, the French Council of State confirmed the legality of the first sanction for market manipulation, pronounced by CoRDiS after the CRE investigation of April 2014, which had found behaviour by Vitol SA likely to infringe the REMIT regulation. In its decision of 5 October 2018, CoRDiS found that Vitol SA had manipulated the gas market by breaching Article 5 of the REMIT Regulation and sanctioned it with €5m.

The French Council of State confirmed the regularity of the procedure undertaken by CoRDiS and admitted, amongst other things, that market manipulation could be established on the basis of a set of concurrent indicators derived from the combination, or reiteration, of behaviour likely to give misleading indications to other market players. According to the French Council of State, it is sufficient to establish that the conduct in question may give misleading signals to the market, without it

being necessary to prove that it has, in each of the cases referred to, actually produced the intended effect.

The French Council of State applied this analysis grid when reviewing an appeal against another financial penalty of €1m, pronounced by CoRDiS on 19 December 2019, against BPGM, which was also for market manipulation. In its decision of 22 February 2022, it confirmed the legality of this second sanction decision.

The surveillance of wholesale markets, one of the CRE's primary missions, is a means for guaranteeing confidence in the setting of prices on these markets, which must reflect the scarcity or, on the contrary, the abundance of energy, to the exclusion of any manipulation. Businesses that play a role on these markets are as such subject to strict integrity and transparency obligations established by the REMIT Regulation.

€5M

of sanction for Vitol SA, which had manipulated the gas market by breaching Article 5 of the REMIT Regulation

€1M

of sanction for BPGM, also for gas market manipulation

Limiting the impact of the crisis on retail markets

The unprecedented rise in gas and electricity prices on the wholesale market in 2021 spread to retail markets. Given this highly-specific context, the CRE provided its support and expertise to public authorities, and carried out its missions by playing a role in protecting consumers and ensuring the markets operated smoothly.



CHAPTER 3 —————>

EDITORIAL



Ivan Faucheux
Member of the CRE
Collegial Board

The crisis that the energy sector is experiencing is unprecedented in terms of magnitude and impact on prices. In addition to stronger-than-expected recovery, which created strain on the gas and, more generally, on the commodity markets from the summer of 2021, the war in Ukraine, which takes us back several decades from a human and a moral point of view, is adding major additional strain. The gas market in Europe is undergoing extreme pressure, which has also spread to the electricity market. Although France has been able to roll out conservative mechanisms, such as gas storage, which has helped moderate this strain, the low availability of nuclear power revealed at the end of 2021 has exacerbated difficulties on the electricity market.

This backdrop led the French Government to initiate a wide range of emergency measures (pricing cap for private consumers, increase in the ARENH ceiling, which the CRE had called for in recent years given the anachronistic rationing maintained to the disadvantage of consumers that the 100 TWh ceiling generated) to protect consumers from these developments. Even though purer economic reasoning would have called for more moderate or more targeted measures, the urgency of the situation meant there was no time for this type of consideration.

The collective challenge is henceforth to learn from this crisis to reform a number of our tools. Firstly, for suppliers, the hedging strategies of some were not up to scratch. Although the number of suppliers in France that we could

qualify at best as unwise is not high, their failure first and foremost impacts consumers, who find themselves suddenly obliged to look for a new supplier, often in the worst market conditions or offers available.

Secondly, and against a backdrop of long-term strain on the electricity market, between a demand that has no objective reasons to fall sharply and a supply that has contracted, the mechanisms that enable us to seek new sources of flexibility, in addition to accelerating the implementation of new means of production, have become even more critical. In particular on the capacity market, its evolution, its adaption to make it an efficient tool to generate new sources of flexibility, which are not only dedicated to the presence of a few sporadic peaks, but to more constant strain on the system, have become urgent.

Lastly, adapting the pricing cap, which is not viable in its current form over the long term, unless very optimistic assumptions are made about the evolution of market prices (which are not excluded, but which are risky to gamble on), will be one of the issues at stake over the coming months. Continuing to protect consumers effectively whilst ensuring the markets operate efficiently will be the contradictory order to be settled over the short term. At the CRE, it led to suspending the secondary reserve market at the end of 2021, in particular as a result of major malfunctioning in terms of the market power of some players. An extremely paradoxical decision for a regulator, yet one that illustrates the extent to

which extreme market conditions must lead to pragmatism and wisdom.

In light of this, two issues will have major consequences: what should be done with the ARENH within the framework of the reform on nuclear regulation? What developments should be considered for market conception? In both these cases, there are a host of advocates for a special something, a revolution rather than an evolution. But both issues touch on the fundamental question of the ability to pass on to consumers the cost structures of decarbonized means, which are inherently stable over the long term. The need for accessible long-term contracts and tools in a liquid market, which are predictable and protect against the sometimes extreme volatility of the markets, will be at the focus of discussions. This crisis requires action and results and, as Churchill said, there is no point in saying: *"we've done our best"*. We must be able to do what is necessary.

Protecting consumers and preserving competition

The energy price crisis required exceptional measures to protect consumers and to preserve competition. The CRE supported public authorities in their efforts ensuring that their decisions would be taken under optimal technical, economic and financial conditions for the community.

A pricing cap to protect consumer purchasing power



To limit the consequences of this highly-specific context on natural gas and electricity consumers' bills, the French Government and the legislator implemented several measures, including a pricing cap. This cap has limited the regulated tariffs for the sale of natural gas (TRVG) from 1st November 2021, all taxes included. In addition, the French Finance Act for 2022 specified, firstly, the terms and conditions for freezing the TRVG for local distribution companies (LDC) across their areas and, secondly, for freezing the regulated tariffs for the sale of electricity (TRVE).

The ceiling on the TRVG consists, from 1st November 2021 to 30 June 2022 (a term that may be modified by joint order of the French Ministries for the Economy and Energy, and set at a date between 30 April and 31 December 2022), of freezing the regulated tariffs proposed by Engie at their level of 1st October 2021 and, for LDC areas, of capping the regulated tariffs at this same level. In its deliberation of 14 October 2021, the CRE issued a favourable opinion on the scheme planned for Engie's TRVG. In its deliberations of 16 December 2021, it also approved the tariff levels applicable on the areas of the LDCs concerned.

€38

/year increase in the electricity bill of a TRVE residential customer

€60

/year increase in the electricity bill of a TRVE business customer

For electricity, and pursuant to the French act adopted within this exceptional framework, the French Government refused the pricing proposal made by the CRE, then set a TRVE scale by decree in January 2022 where their increase was capped at 4% including tax. If this Government decision of 1st February 2022 had not been taken, the TRVE increase would have been 45% excluding tax, before the reduction of the domestic tax on final electricity consumption (TICFE) to its minimum threshold, which would then have limited the increase to 20,12% including tax. This measure concerns all residential and business consumers with a TRVE contract, whether they live in mainland France or in a non-interconnected area. In conclusion, the bill increase will be limited to approximately €38 per year for a residential customer and €60 per year for a business customer. Without the pricing cap, it would have been around €330 per year for a residential customer and €540 per year for a business customer. 22 million residential sites (i.e. 65%) and 1,5 million small businesses now benefit from this measure, which protects consumers' purchasing power. As a reminder, the TRVE increased by 2.1% tax included in 2021 (1,6% on 1st February and 0,48% on 1st August), i.e. an increase lower than the inflation observed.

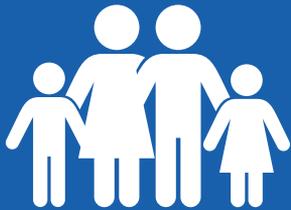


Appointing fallback suppliers

In May 2021, the French Ministry of the Ecological Transition asked the CRE to submit draft specifications for the calls for tenders to appoint electricity and natural gas fallback suppliers. In its deliberation of 14 October 2021, the CRE formulated its proposal and the calls for applications should be launched during 2022 for both types of energy.

The fallback supply system is intended to protect customers whose supplier fails or has its supply authorization withdrawn or suspended. According to the French Energy Code, these customers would then be automatically switched to an offer from the fallback supplier and would be able to leave the offer at any time over a period of one year, without penalty and without notice for domestic consumers and with a fifteen-day notice period for non-domestic customers.

The energy price crisis led the French Government to appoint electricity fallback suppliers (decrees of 3 and 5 November 2021) on a transitional and derogatory basis. These suppliers are EDF on Enedis and RTE areas, and LDCs on their areas, except if they prefer to transfer this mission to EDF. No supplier was appointed on a transitional basis for natural gas.



Public support for disadvantaged consumers

Prior to introducing the pricing cap, the French Government had defined several consumer protection measures, including a one-time €100 energy voucher sent during the month of December to 5,8 million low-income households in France. This is an addition to the existing energy voucher (€150 on average) and those receiving it may use it to pay their energy bills, their heating costs or any expenses related to home energy renovation. Moreover, a €100 inflation allowance for people with an income of less than €2,000 net per month was introduced.



Measures for preserving competition and suppliers...

The control of increases in the regulated tariffs for the sale (TRV) of gas and electricity protects all consumers who benefit from TRV offers as well as consumers whose offers are indexed on the level of the latter.

In its opinion of 14 October 2021 on the freezing of the TRVGs, the CRE considered that the transitional nature of the system and the subsequent catch-up periods, which could see the levels of the TRVs adjusted upwards, help limit the impact of the measures on competition.

Beyond these limitations, the French Government has provided for a mechanism to ensure that the freezing of TRVs does not weigh on the financial health of suppliers. To offset the potential loss of revenue for suppliers on TRVs and market offers, the French Finance Act for 2022 includes a compensation scheme allocated to public service costs for energy.

[View the assessment report on regulated tariffs for the sale of electricity \(TRVE\) from June 2021 on `ra2021.cre.fr`](https://www.cre.fr/fr/rapport-annuel-2021)



... of natural gas...

The French Finance Act provides for the freezing of the TRVGs until 30 June 2022, a term that may be modified by joint order of the French Ministries for the Economy and Energy, and set at a date between 30 April and 31 December 2022. It also provides for a mechanism to offset revenue loss for suppliers of TRVG offers and opens up the possibility for suppliers with less than 300,000 customers to benefit from a down payment in respect of costs recorded in 2021 and forecast for 2022. This system is extended to gas suppliers offering market offers to residential customers *"whose contractual provisions relating to the methods of determining the price of the supply provide that the latter is directly indexed to the TRVG"* under certain terms and conditions specified in the French Finance Act.

In anticipation, and to provide visibility to suppliers, on 23 December 2021, the CRE published the list of elements that the latter had to provide to it to benefit from the down payment. In its deliberation of 27 January 2022, it estimated the total amount to be paid to gas suppliers for the down payment at €80m. This was paid to them before 28 February 2022.



... and of electricity

By virtue of the French Finance Act for 2022, the French Government lowered the TICFE (domestic tax on final electricity consumption) to its minimum rate, and by decree, set a TRVE scale corresponding to an average increase of 4% including tax.

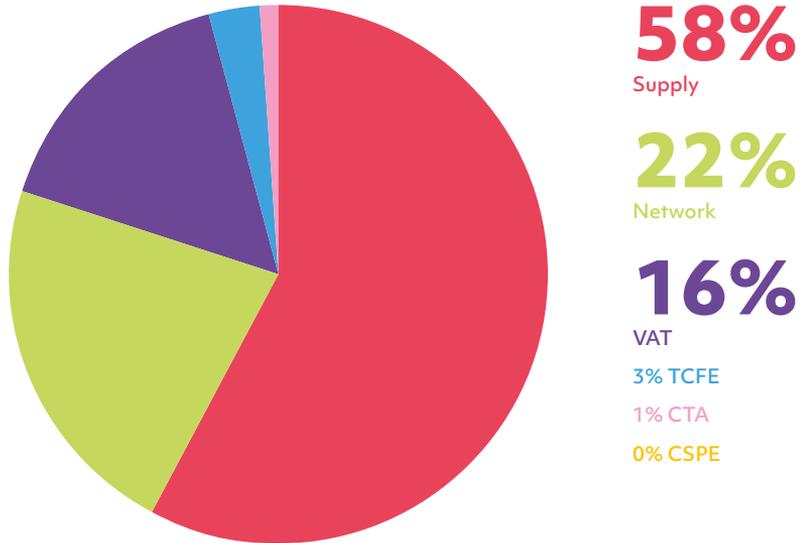
The Act also provides that the loss of revenue borne by electricity suppliers for their market offers to residential customers and by LDCs for their TRVE offers to residential customers constitute costs attributable to public service obligations. In return, these suppliers are liable to the French State for a payment that takes into account the catch-up terms and conditions that will be integrated into the subsequent TRVE and that will generate additional revenue for the suppliers.

As for gas, the Act introduces a derogatory provision that enables electricity suppliers with less than one million residential customers to benefit from a down payment before 1st May 2022. On 14 February 2022, the CRE published the list of elements to provide to it to benefit from this early payment and it deliberated on 31 March 2022. The total amount of down payments made to electricity suppliers with less than one million residential customers amounts to €131m.



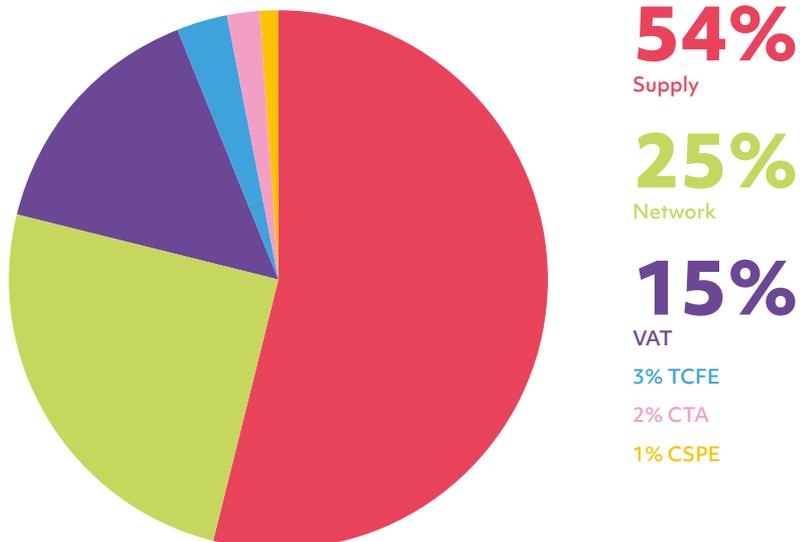
Cost items covered by the TRVE (regulated tariffs for the sale of electricity) invoice for a residential customer

PH/OPH 9 kVA consuming 8,500 kWh/year at 1st May 2022 – case without pricing cap



Cost items covered by the TRVE (regulated tariffs for the sale of electricity) invoice for a residential customer

PH/OPH 9 kVA consuming 8,500 kWh/year at 1st May 2022 – case with pricing cap



DEFINITIONS

Typical customer

A residential 9 kVA peak/off-peak customer consuming 8,500 kWh/year of which 46% is off-peak.

Network

Portion of the regulated sales tariff covering delivery costs. These costs are assessed by the TURPE 6 (tariff for the use of French public electricity networks) in effect since 1st August 2021.

Supply

Portion of the regulated sales tariff intended to cover the costs of producing and marketing electricity.

CTA

The transmission tariff contribution is used to finance specific rights relating to the retirement provision of workers under the electric and gas industry regimes.

TCFE

The taxes on the final consumption of electricity (TCFE) are defined by each municipality. These taxes are paid by all electricity consumers with a maximum contract power of 250 kVA or less.

CSPE (or TICFE)

The contribution to the public energy service (CSPE) – or domestic tax on final electricity consumption (TICFE) – is collected on behalf of customs and integrated, as revenue, into the French State budget. At 1st February, it was reduced from €25,8/MWh to €1/MWh for residential consumers as part of the pricing cap.

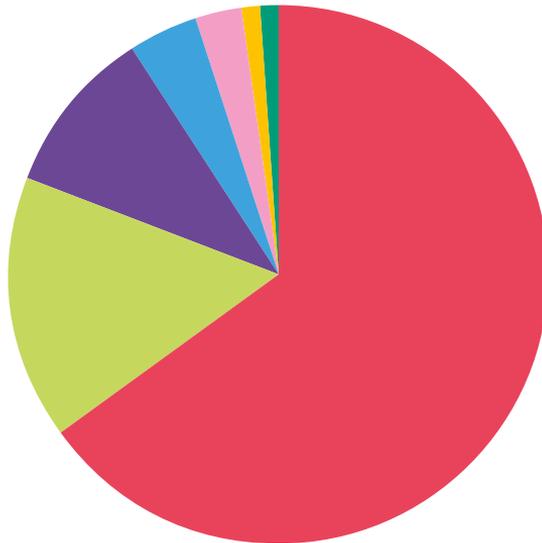
VAT

Value added tax (VAT) is applied at the rate of:

- 5,5% on the fixed part of the bill (including CTA – transmission tariff contribution);
- 20% on the variable part of the bill (including other taxes).



Cost items covered by Engie's TRVG (regulated tariffs for the sale of gas) invoice for a residential customer
at 1st May 2022 – case without pricing cap



65%

Supply

16%

VAT

10%

Distribution

4% TICGN

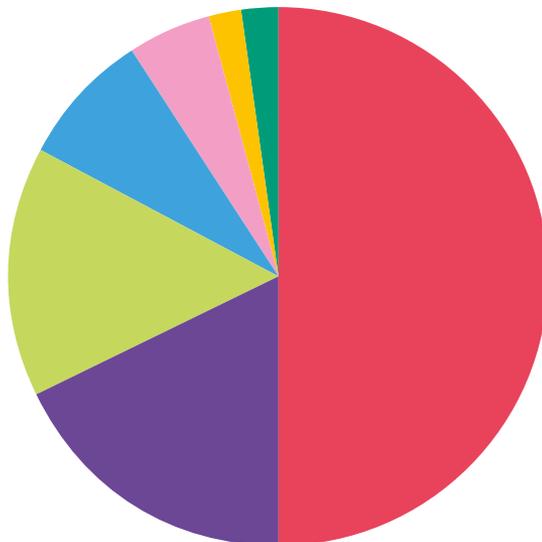
3% Transport

1% CTA

1% Storage



Cost items covered by Engie's TRVG (regulated tariffs for the sale of gas) invoice for a residential customer
at 1st May 2022 – case with pricing cap



50%

Supply

18%

Distribution

15%

VAT

8% TICGN

5% Transport

2% CTA

2% Storage

DEFINITIONS

Transport, storage and distribution

Portion of the regulated sales tariff covering the costs of transport, storage and distribution of natural gas. The costs of transport and distribution are determined by applying the tariff for using gas networks.

Supply

Portion of the regulated sales tariff covering the supply of natural gas and the marketing costs borne by Engie.

CTA

The transmission tariff contribution is used to finance specific rights relating to the retirement provision of workers under the electric and gas industry regimes.

VAT

Value added tax (VAT) is applied at the rate of:

- 5,5% on the fixed part of the bill (including CTA – transmission tariff contribution);
- 20% on the variable part.

TICGN

The domestic tax on natural gas consumption is collected on behalf of customs. Since 1st April 2014, the TICGN has been applied to all natural gas consumers, in particular residential customers (some industrial uses will however continue to benefit from the exemption). The contribution to the special solidarity tariff (CTSS), which is used to finance the special solidarity tariff, as well as the biomethane contribution, which is used to finance public service costs relating to the procurement of biomethane injected into the natural gas networks, have been included in the TICGN since 1st January 2016. Since 1st January 2021, it has stood at €8,43/MWH (it was €5,88/MWH in 2017).

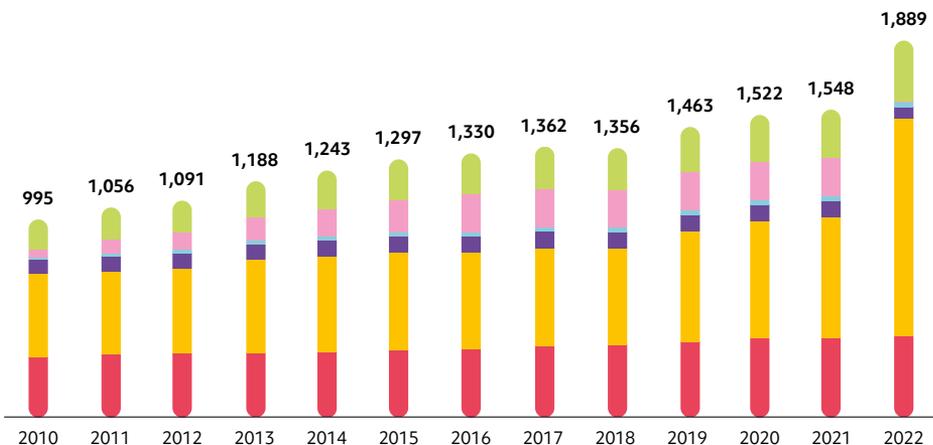
The French Government capped the change in the TRVE (regulated tariffs for the sale of electricity) at +4% including taxes on average for all residential and business sites on 1st February. In spite of this price freeze, the TRVE have not all evolved in the same way as it depends on the TRVE options subscribed to. As such, variations

exist around the average increase of 4% including taxes, which reflect the costs specific to each option, and in particular the costs of energy and capacity supply, as well as the costs of risk coverage, which can be very different depending on the profile of the consumers.



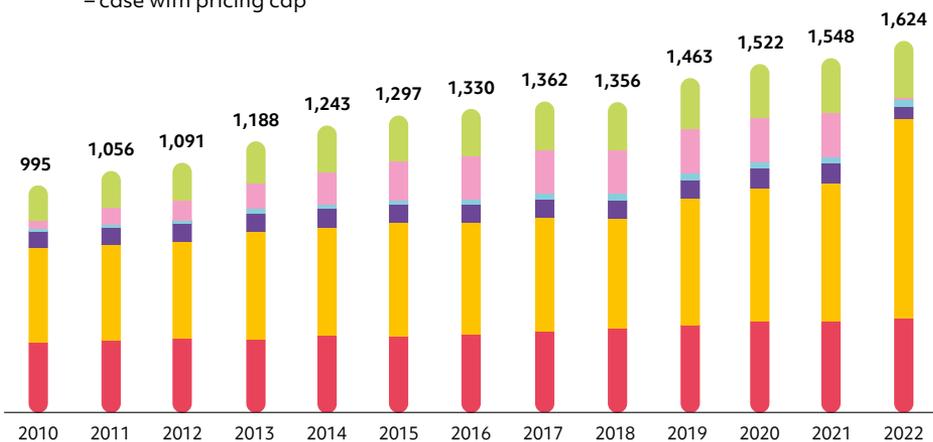
Change in the bill for a TRVE residential customer

PH/OPH 9 kVA consuming 8,500 kWh/year, with 46% in off-peak hours (in €)
 – case without pricing cap



Change in the bill for a TRVE residential customer

PH/OPH 9 kVA consuming 8,500 kWh/year, with 46% in off-peak hours (in €)
 – case with pricing cap



— TURPE — Supply — TCFE — CTA — CSPE — VAT

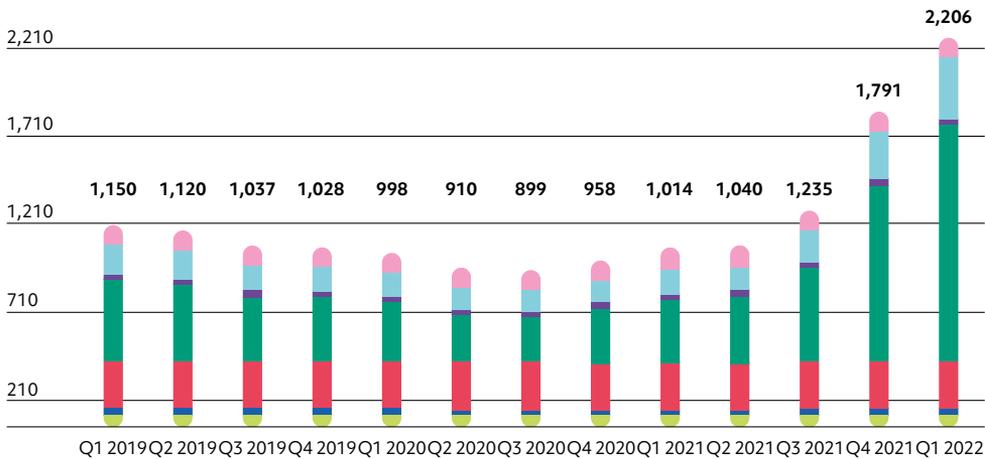
Engie's TRVG were frozen at their 1st October 2021 level. In normal circumstances, they change monthly on the basis of a proposal from the CRE. The CRE continues to publish the price scales that would have resulted from the application of the pricing formula in effect before this freeze on a monthly basis. The application of this pricing formula would have resulted in an average

increase on 1st May 2022 of 34,3% excluding VAT, i.e. 31,8% including VAT, compared to the theoretical scale of April 2022. The average level of regulated sales tariffs at 1st May 2022 would have been 86,8% higher (excluding VAT) or 78,3% higher (including VAT) than the level in effect at 1st October 2021.



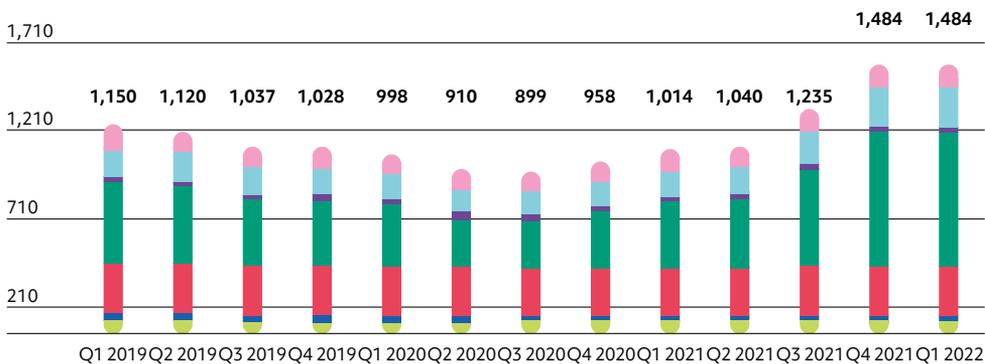
Change in the bill for a TRVG B1 heating type customer

consuming 14,000 kWh/year (in €) – case without pricing cap



Change in the bill for a TRVG B1 heating type customer

consuming 14,000 kWh/year (in €) – case with pricing cap



Transmission Storage Distribution Supply CTA VAT TICGN



The reduction in subsidies for RE following the increase in market prices

The surge in market prices reduced, and even eliminated, the gap between the production cost of renewable energy (RE) facilities and the valuation of that production on the wholesale market. Mechanically-speaking, this leads to a decrease in the amounts of French State support for RE under the compensation for public service costs for energy (CSPE).

In its deliberation of 15 July 2021, the CRE assessed that public service costs for energy (CSPE) to be offset for the 2022 (including regularizations for previous years) would be €3bn lower than those to be offset for 2021. This calculation included market price assumptions. The continuation of the price increase after July 2021 led the CRE to mention in its deliberation of 7 October 2021 that the costs for 2021 and 2022 would be much lower than the July 2021 forecast, with an additional estimated decrease of €1,5bn in costs for 2021 and €2,7bn for 2022. ●

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Temporary suspension of the secondary reserve capacity calls for tender

In the event of imbalance in the electricity system, RTE can call on the secondary reserve to restore the balance in France. Operators of production groups of over 120 MW in France must make reserve capacity available to RTE over a given period, in return for a regulated price remuneration.

In its deliberation of 17 June 2021, and after several years of preparation, the CRE validated RTE's proposal to switch from a regulated price to a competitive tendering system. This system will ensure that the most efficient means of supplying the secondary reserve to RTE are selected. It was launched on 3 November 2021 based on a schedule planned several months in advance.

However, after a few days, and against a backdrop of unprecedented crisis in the energy sector, the CRE noticed on the first results, firstly, very high tender prices, whose costs are directly borne by the tariff for the use of French public electricity networks (TURPE), and as such by the end consumer and, secondly, an abnormally low number of real participants in the calls for tenders. Pursuant to its overall consumer protection mission, on 10 November 2021, the CRE asked RTE to suspend the call for tenders so as to temporarily revert to the old contracted price procedure via a prescription for mandatory participants. The call for tender was therefore suspended on 23 November 2021 and work has since been initiated with all players to create conditions conducive to reopening it.

French particularities

The energy price crisis disrupted retail markets and led the CRE to ramp up its surveillance of the use of the ARENH and to recommend the temporary appointment of fallback suppliers.

The ARENH system in 2021



A record demand for ARENH was recorded at the November 2021 window: 160,33 TWh excluding the supply of system operator losses and excluding EDF subsidiaries.

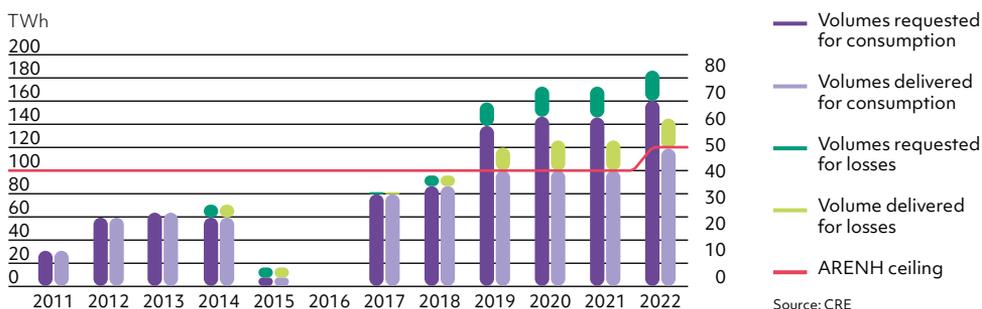
The CRE, which observed a market situation that risked putting certain suppliers in difficulty, consulted the players and decided to redistribute the ARENH volumes that would have been allocated to suppliers who ceased their activity between the notification of the volumes on 1st December and the start of deliveries on 1st January. Its intention was to ensure that the 100 TWh provided for under the regulatory framework were made fully available to suppliers in order to limit the subsequent increase in electricity prices on the retail market. In December, the CRE reduced the level of demands slightly to 160,05 TWh, as the number of non-performing suppliers was low.

Furthermore, the rise in electricity market prices led the CRE to adapt several terms and conditions of the ARENH system. Some players pointed out the potentially disproportionate effect of wholesale gas prices observed on the penalty term of the ARENH price supplement (CP2). In its deliberation on 7 October 2021, the CRE decided to cap the CP2 term at €20/MWh as of the calculation of the price supplements covering 2021.

Finally, the CRE stated that it was ramping up its surveillance of suppliers' use of the ARENH to ensure its value was transferred to consumers.



Change in ARENH volumes requested and delivered





Changes in the capacity mechanism

The capacity mechanism, initiated in 2017, aims to ensure the valorization of the availability of production and load-shedding resources required for national security of supply and their mobilization in periods of strain for the electricity system. In August 2021, RTE published feedback highlighting the benefit of this mechanism for the security of supply, but also its high cost for the community, by proposing areas for improvement.

Public authorities and RTE as such initiated a reform of the capacity mechanism. Mechanism rules were modified in 2021 to take into account areas of technical improvement and simplification identified by the feedback as having positive short-term effects. These new rules, in effect since 21 December 2021, following consultation with the players and a favourable opinion from the CRE, will reduce the uncertainties borne by the players and simplify how the mechanism works.

From 2022, the CRE will participate in the work on the structural redesign of the capacity mechanism, which is intended to apply from 2025.



12th report on compliance with the codes of conduct and network operator independence

Complying with the codes of conduct and electricity and natural gas network operator independence rules is key to ensuring the smooth running of the market, for which the CRE is the guarantor. Every two years, it reports on the actions and progress made by the operators and makes recommendations to them.

Its 12th report, published in May 2021, covers the 2019-2020 period and reveals a positive record of network operator independence and good conduct. It analyses, firstly, the individual situation of the nine distribution system operators serving over 100,000 customers and of the three transmission system operators, and, secondly, five specific themes including the human resources management policy of the system operators and the development of competition over the area of local distribution companies. ●

🌐 [View the 2019-2020 report on complying with the codes of conduct and electricity and natural gas network operator independence on ra2021.cre.fr](https://ra2021.cre.fr)



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FOCUS

The CRE's report on electro-intensive consumers

The French Ministry for the Economy, Finance and Recovery and the French Ministry in charge of Industry entrusted the CRE with the mission of *"identifying price levels accessible through long-term contracts to electricity-intensive consumers"*.

In its report submitted to the French Government at the end of 2021, the CRE stresses that the ARENH and the support measures (compensation for the cost of indirect emissions, reduction of the TURPE, reduction or even exemption from the TICFE, etc.) had until recently enabled these consumers to be partially protected from variations in market prices. But the end of the ARENH in 2025 and a context of sustainably high wholesale prices heighten the challenge for these consumers to seek visibility regarding their supply terms and conditions, for example by entering into

long-term contracts with producers. The report explores several avenues relating to the arrangements that could be implemented: calls for tender, creation of a consortium, industrial partnerships with possible risk sharing, etc.

It also deals with EDF's nuclear facilities, which will naturally be part of the offers in response to the initiatives of electro-intensive industries, which public authorities could support. It addresses in particular the price fixing principles to which EDF could adhere, whilst preserving its social interest and respecting competition law.

In a pending 2022 report and pursuant to its mission statement, the CRE will explore the possibilities of concluding agreements based on renewable production, including EDF's hydropower facilities.



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Learning from the crisis

Changes required in the ARENH system



The ARENH plays a stabilizing role in a retail market by enabling consumers to benefit directly from the competitiveness of French nuclear facilities: part of the supply invoiced to consumers is as such uncorrelated from fluctuations in wholesale market prices. However, this benefit is reduced due to the fact that the 100 TWh cap has been reached since 2019, which tends to reduce this beneficial effect of the ARENH.

For the last three years, the CRE has been recommending that the ARENH cap, which has been set at 100 TWh since 2011, be increased together with the reassessment of its selling price, which has remained unchanged since 2012. The wholesale electricity price crisis illustrated the relevance of this position and, in January 2022, led the French Government to decide to increase the cap of the ARENH to 120 TWh for 2022.

For 2023, 2024 and 2025, the years remaining before the end of the NHRA, it is necessary to stabilize this system and to give visibility to all the players. The CRE will make proposals in this respect in the first half of 2022.

Furthermore, the unprecedented gas and electricity price crisis, the continuous rise in ARENH volumes requested as well as the departure of some suppliers from the market have shown the need to adapt the ARENH system to increase its resilience to this type of situation. As such, the CRE will consult the players in 2022 on adaptations to the terms and conditions of the ARENH system from 2023 onwards, in particular concerning the methodology for calculating rights and the calculation of price supplements.



Hedging of suppliers with fixed price offers

On wholesale markets, prices are determined by the convergence of supply and demand at any given time, with timeframes ranging from a few hours (intraday market) to several years. As such, prices change continuously. To protect themselves from these variations, consumers can subscribe to fixed price offers, which give them visibility on their bills for up to three or four years. Those who did so, for example in 2020 or early 2021, benefit as such from sustainable electricity prices, provided their supplier has not defaulted.

As for the suppliers, to limit their exposure to spot price fluctuations, they can buy futures products on the wholesale markets, via firm price purchase agreements negotiated on the conclusion date. Such hedging is necessary when the supplier proposes fixed price offers on the retail market. Unfortunately, the price crisis means it is now possible to detect very risky behaviour with potentially disastrous financial consequences for their consumers, particularly through the insolvency of some suppliers.

The CRE considers it relevant to further control the risks taken by suppliers by requiring them, by means of a prudential strategy, to secure a proportion of their fixed price offers with products covering the same maturities on the wholesale markets. ●

FOCUS

1st meeting of the Group of Southern Regulators

The Informal Group of Southern Regulators held its first meeting in Athens on 20 October 2021. This initiative, launched by the Chairman of the CRE and his Greek counterpart Mr Athanas Dagoumas, brought together, around the Franco-Hellenic tandem, representatives of regulatory authorities from Italy, Spain, Portugal, Slovenia and Cyprus (Croatia and Malta were unable to participate).

The Chairmen of the southern regulators, aware that they share common values and interests in the Mediterranean area, acknowledged the importance of exchanging informally and regularly and of coordinating more on the European stage. In particular, the issue of the representativeness of regulators from the South on the Council of European Energy Regulators and the Agency for the Cooperation of Energy Regulators was clearly addressed.

This meeting, organized in the midst of the energy crisis, was also an opportunity to share the nations' various actions to contain the crisis. The discussions revealed real convergence between Southern regulators, in particular as regards the need to take measures to mitigate the effects of price volatility on consumers' bills.

Innovation **and regulation, leveraging the energy transition**

The CRE is fully committed to tackling climate change and accelerating the transition to a low-carbon energy system that is less dependent on fossil fuels and more inclusive at European level.

The CRE's role is to support innovation through a tailored regulatory framework and to ensure the transition develops under optimal technical, economic and financial conditions for the community and all consumers.



CHAPTER 4 —————>

EDITORIAL



Catherine Edwige
Member of the CRE
Collegial Board

The energy transition is inevitable. Not for the sake of fashion or ideology. But because it is the only option, free from regret, that enables us to tackle global warming and its catastrophic consequences. However, this energy transition must also be an opportunity to strengthen our energy independence whilst generating new sources of growth and employment, in mainland France and in non-interconnected areas (zones non interconnectées – ZNI).

In mainland France, the gas crisis and the low availability of nuclear power have emphasised the blatant delay that France has accumulated in rolling out renewable energy (RE). We must all rally together to accelerate projects, remove administrative hurdles, build, experiment and innovate. This mobilization is, first and foremost, the responsibility of public authorities, so as to remove unnecessary constraints that hinder the development of RE. Afterwards, it concerns private players, which need to commit more to Power Purchase Agreements, without public support or subsidies. It also concerns network operators, so that new facilities may be connected as quickly as possible at controlled costs, irrespective of whether they are wind, PV, biomethane, hydrogen or storage. Finally, it also concerns consumers who must take responsibility for their energy consumption using smart meters so as to become more efficient, more economical and more in control of their bills without having to compromise their needs or their comfort.

As a regulator, it is our role to identify the stumbling blocks and to support industry, consumers and administrations by opening up spaces for discussion – as the CRE has already done with the Foresight Committee and the regulatory sandbox – to find solutions that will shed light on the future.

Non-interconnected areas (ZNI), these island and overseas territories of which I have been the ambassador since my arrival at the CRE, hold a special place in our Republic. Their geographical situation, their isolation, their economic constraints, their dependence on an energy mix that is still overly carbon-intensive and their vulnerability to extreme climatic events, justify national solidarity. As such, with production costing on average five times more than in mainland France, the price of electricity is the same for everyone thanks to tariff equalization. Notwithstanding, this solidarity should not be seen as synonymous with uniformity. Specific solutions are required for each territory, and these are set out in multiannual energy programming (PPE), which are still taking time to be put into practice.

The island situation of these non-interconnected areas (ZNI) may be an opportunity to renew the idea of energy autonomy, as provided for under the French act relative to the energy transition for green growth (LTECV) by 2030. We need to take advantage of the assets specific to these territories, such as wind, sun, volcanic geothermal energy, rainfall, biomass resources

and waste, in order to produce local electricity, independent of imports and meteorological, economic and political hazards that this involves. This energy autonomy also requires ethics of individual and collective responsibility, to take control of one's energy destiny, in terms of production and consumption. Against this backdrop, self-consumption, on a small island territory that depends on national solidarity, is not the expression of individualism, as it may be seen in mainland France, but rather the contribution of each individual to the collective effort to build a more resilient and sustainable system. In non-interconnected areas (ZNI), every shopping centre, every hospital, every school and administrative building, and even every citizen, could be encouraged to produce and store electricity. The same holds true for consumption. Energy demand management (EDM) initiatives, launched by local authorities, the French State, EDF and the CRE in these island territories, are effective tools for reducing CO₂ emissions and the additional costs of the system. We now need to go further, by working on a sales tariff structure that maintains equalization yet sends the right signals as regards consumption. Finally, I am convinced that the energy transition in non-interconnected areas (ZNI) will involve streamlining policies as regards waste management, agriculture, the environment, water, fisheries, industry and energy, so that they all contribute to the prosperity, employment and vitality of these territories.

Building a new world

Making the energy transition a success means, on the one hand, developing renewable energy, including tomorrow's energy, by controlling the costs for the community and, on the other hand, improving energy efficiency by facilitating consumption management. The CRE is fully involved in this collective effort, with a strong focus on consumer interests.

Developing RE: towards cost-effective solutions



The costs related to the ecological transition must be optimized. Allowing annuities to develop and persist may challenge public confidence and jeopardize resources that are scarce under the ambitious objectives of the multi-annual energy programme (PPE). Within this framework, the 2021 French Finance Act planned to review the support for specific historical photovoltaic facilities and to reduce the feed-in tariff for their production to ensure reasonable, yet not excessive, remuneration. The CRE is as such working actively to ensure this reform will be a success and, at the same time, making sure producers' economic viability is preserved. The CRE will pay particular attention to the situation of players who have recently acquired the power facilities whose tariffs are being reviewed and players whose overall economic balance may depend on the income from the operation of these power facilities (such as farmers).

In 2021, the sharp rise in wholesale energy market prices and the continued increase in CO₂ prices sent favourable investment signals for energy mix decarbonization and made RE more economically-attractive. In so far as less

public support is required for renewable energy production, the French State benefits directly and some facilities even pay money to the State. This situation is an opportunity to boost the development of renewable energy without public support.

To support this development in France, the CRE has stepped up its expertise in the European Power Purchase Agreement (PPA) market, where agreements are long-term and over-the-counter between a buyer and an electricity producer. PPAs are an effective leverage to give consumers, especially industrial ones, better visibility and stability on their electricity supply costs and to involve them more in the energy transition. These agreements, which are booming in Europe, could complement public support mechanisms in France much more than they do today.

In its deliberation of 17 June 2021, the CRE gave a favourable opinion on the specifications of the new calls for tender (2021-2026), which it will review, for reinforced and effective support for the production of electricity from renewable sources (onshore wind, solar and hydro). Nevertheless, it repeatedly notices that the



level of applications is too low in relation to the volumes called for in the calls for tenders. All the while acknowledging the improvements made to restore real competition between offers. The CRE calls on public authorities to abolish the non-financial constraints that hinder the development of renewable energy in France (availability of land and slowness of administrative permissions in particular). The lack of projects and the delay in implementing them are the main obstacles to achieving the PPE objectives. Moreover, new energy sources or vectors were the focus of two of the CRE Foresight Committee working groups in 2021. The Marine Energy working group worked to identify means for strengthening scheduling, simplifying procedures and improving the acceptability of offshore wind facilities in order to accelerate their roll-out. As for the Hydrogen Vector group, it assessed the development potential of decarbonized hydrogen for directing public support towards the most mature uses and contributing to structuring a French hydrogen industrial sector.



Managing consumption: gains for consumers and the energy system

Controlling consumption and the environmental footprint, reducing energy bills, as well as comfort, are among the benefits that consumers can enjoy from managing their energy consumption. This also has important advantages for the energy system, in terms of making it more resilient to consumption peaks and avoiding over-investment, as well as in terms of encouraging RE integration in regions.

In 2021, these challenges were the subject of numerous discussions for the CRE's Foresight Committee New Cities, New Networks and Downstream Meter working groups. The first group studied the issue of coupling energy infrastructures in an urban environment, for example a wastewater treatment facility and a gas network, to highlight flexibilities and contribute to the development of urban RE.

The second group identified technical and economic leverage to accelerate the development of consumption management services based on the use of data transmitted by the advanced French Linky meters for electricity and Gazpar for gas. Pursuant to the objectives set by the CRE, over 9 million Gazpar meters (out of 11 million) have been installed by GRDF, with satisfactory quality of service. The rollout is expected to be completed by April 2023.

🌐 Visit the Foresight Committee site on www.eclairerlavenir.fr/english/



Visit to Brest focusing on marine energy (here, a tidal turbine) for the Foresight Committee, July 2021



Linky: an industrial success, intending to develop its full potential

The French Linky project consists of replacing the stock of mass market meters (LV \leq 36 kVA) with smart meters, by 2024. The massive rollout by Enedis, started at the end of 2015, was completed by the end of 2021, with the installation of 34,3 million Linky meters, i.e. over 90% of Enedis' service area.

In November 2021, the CRE presented the results of this rollout. Respecting the schedule despite the health crisis, the smart metering system performance and the final cost of the project (€4 billion), which was almost €700 million less than the initial budget: the promises in terms of rollout were kept. The CRE also drew up an initial positive assessment of the gains for Enedis activity: they are in particular linked to the decrease in the cost of meter reading and small procedures that can now be carried out remotely. Around €1bn will be saved over the TURPE 6 period (2021/2025) and refunded to consumers. Finally, additional community-level gains, which are tangible but difficult to quantify, are also emerging, with, for example, the development of remote operation, which enables the consumer to be away from home when services are delivered.

In 2022, Linky enters its operational phase. To prepare this, in 2021, the CRE changed the incentive regulation of Enedis for the Linky project, which must meet two main challenges: ensure a high level of remote-reading performance and facilitate community-level gains, particularly as regards managing energy demand. At the end of the year, the CRE met with the electricity system players to discuss their expectations regarding the services offered by Linky, in particular its advanced features. The new regulatory framework for the operating phase until 31 December 2024 was published by the CRE in March 2022.

Enedis will continue to roll out the latest Linky meters, with the aim of covering all customers by the end of 2024. The challenge will then be for Linky to be used, on a large scale, as a platform for developing offers and services for the benefit of consumers and as such to make a decisive contribution to the management of energy consumption over time. ●

FOCUS

Nuclear, RE and flexibility needs: RTE's *Energy Pathways to 2050* report

In its forward-looking *Energy Pathways to 2050* study, published on 25 October 2021, RTE presented energy mix scenarios with and without the construction of new nuclear reactors that would lead to carbon neutrality by 2050. RTE's central scenario forecasts a -40% decrease in overall consumption but a +35% increase in electricity consumption between 2020 and 2050, due to the electrification of uses.

This work highlights several insights into the development of renewable energy and the need for flexibility. This study is the result of a collective effort. In addition to RTE teams, several working groups, comprising industrial players from the sector, associations, NGOs, economists and French State representatives, were set up and almost 4,000 written contributions were received. The CRE was involved in the work in its fields of expertise.

In all the energy mix scenarios, including those providing for new nuclear reactors, substantial development of renewable energy is required to achieve carbon neutrality by 2050. This must be backed by massive investment in transmission and distribution networks. It leads to significant management (or flexibility) resource needs to ensure the security of supply: interconnections, consumption flexibility, batteries, hydro storage, etc. The scenarios that include a high level of renewable energy development may experience long periods of low electricity production in the area, with no wind or sun. In such cases, flexibility needs spread over several weeks could be covered by decarbonized thermal power facilities.

-40%

of overall consumption
between 2020 and 2050

+35%

of electricity consumption
between 2020 and 2050

Accompanying network **changes**

To address energy transition challenges, network infrastructure has to adapt and be consolidated. The CRE is accompanying these developments which include support for innovative experimental projects, validation of the connection zoning system for biogas and new tariffs for LDCs.

Fostering innovation: the regulatory sandbox



To accompany rapid energy sector changes, the regulatory framework needs to adapt quickly. As provided for in the 2019 French Energy and Climate Act, the regulatory sandbox authorizes the CRE to grant exemptions to the terms and conditions of network access and use so that innovative technologies and services can be rolled out on an experimental basis to support the energy transition.

During the first window for the system, 41 cases were submitted, illustrating the players' great interest. On 11 March 2021, the CRE granted exemptions to 9 of the 10 projects eligible that fell within its area of expertise. 21 cases were

ineligible and 10 others fell under the exclusive competence of the French Directorate-General for Energy and Climate, which granted exemptions to 2 cases. These 11 cases, focusing on storage, on local flexibilities, on optimizing connections and on injecting synthetic methane into the networks, are currently being rolled out and are subject to monitoring and feedback that will clarify the decision regarding possible sustainable change to the regulatory framework.

A second window was opened in September 2021.

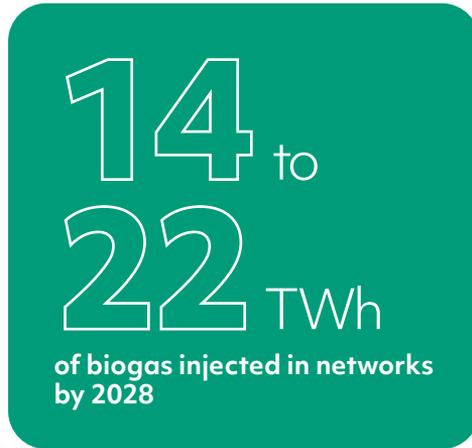


Promoting biomethane: validating the connection zoning system

When biomethane, produced from the fermentation of organic matter, is purified, it boasts properties similar to those of natural gas. The 2019 multi-annual energy programme (PPE) has set a target of 6 TWh of biogas injected into networks by 2023, and 14 to 22 TWh by 2028. This means natural gas transmission and distribution networks need to be adapted.

The French EGAlim Act entrusts the CRE with the responsibility of validating the connection zoning system: in each area, this defines the most relevant network for connecting biogas production facilities as well as the terms and conditions for injecting the gas into them.

The CRE defined the preparation and validation framework for this zoning system in 2020. At the end of 2021, the CRE had already validated around 300 zones proposed by network operators, here two thirds of the French national biomethane potential is concentrated. As a result of this zoning system, nearly 1,300 projects representing annual production of around 33 TWh of biomethane could be connected to gas networks in these areas, with just over €1bn of investment required for the networks.



Using flexibilities to reduce work and investment

Enedis studies highlight the fact that using flexibilities or, as a last resort, capping HVA-connected producers would avoid 7,4 GW of reinforcement work on source stations and would result in a cumulative collective gain of €250m of investment for creating and modifying source stations by 2035.

Using flexibilities leads to new methods for sizing electricity network facilities by increasing the capacity of intake more quickly and at lower cost, i.e. without additional work on the network.

Within the regulatory sandbox framework, an exemption was granted to Enedis in July 2021 to carry out experimental work on using these flexibilities in particular for the Reflex Project.



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The new tariff for using gas LDC networks



The CRE has drawn up the tariffs for the use of local distribution company (LDC) natural gas networks. This process, initiated in spring 2021, comprised an external audit of LDC pricing demands, a public consultation open to all market players and numerous exchanges with LDC representatives.

The new ATRD6 tariffs, set by a CRE deliberation on 27 January 2022, will take effect on 1st July 2022 for around four years. They address the key challenges identified for the coming years, in particular accompanying the energy transition and taking into account the downward trend in consumption, maintaining the high level of security of the distribution network and managing investments whilst introducing biomethane. More

specifically, the CRE created a regulatory framework to encourage LDCs to promote the development of competition and give consumers a real choice as regards their supply contract.

LDC pricing changes remain well managed overall, with ATRD6 tariffs trending downwards for the majority of LDC consumers. In some regions, a decline in gas consumption has been noticed, which has resulted in an increase in tariffs. In light of this, the CRE initiated an experimental mechanism for a LDC for managing investment expenditure, as such laying the first brick for long-term reflection on the future of gas distribution tariffs from an energy-transition stance. ●

FOCUS

European dispute on sharing costs

European regulators, committed to developing the domestic energy market, are involved in drafting principles and rules to maximize cross-border exchanges.

As the capacity of electricity interconnection lines is limited, maximizing these exchanges could occasionally cause electrical congestion which transmission system operators (TSOs) resolve by taking measures to rebalance the electrical flows. This involves costs, however. The principles for TSOs sharing these costs are laid out in European texts; this involves specifying a number of technical criteria and leads to highly complex methodology.

In the Core region, which covers most of continental Europe, fundamental disagreements between regulators led to transferring the appraisal of the methodology proposed by the TSOs to the Agency for the Cooperation of Energy Regulators (ACER) in 2020. This was not enough, however, to settle the disagreements.

The CRE believes in particular that the decision taken by ACER leads, firstly, to disproportionate costs for French consumers and, secondly, is not the most efficient one from the point of view of general European interest. Moreover, some European regulatory provisions have not been complied with. With other regional regulators and TSOs, it challenged ACER's decision, firstly before ACER's Board of Appeal (BoA), then before the European courts. The case is currently pending before the General Court of the European Union.



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Visit to Enedis Lab by CRE departments, February 2022



Non-interconnected areas

The CRE supports non-interconnected areas (ZNI) in developing their local renewable resources. It is very mindful of the safety and security of the electricity system, the management of public expenditure and the interests of consumers and, as such, accompanies the regions in preparing multi-annual energy programmes and plays a key role in the development of the most mature types of renewable energy, energy efficiency and demand management.

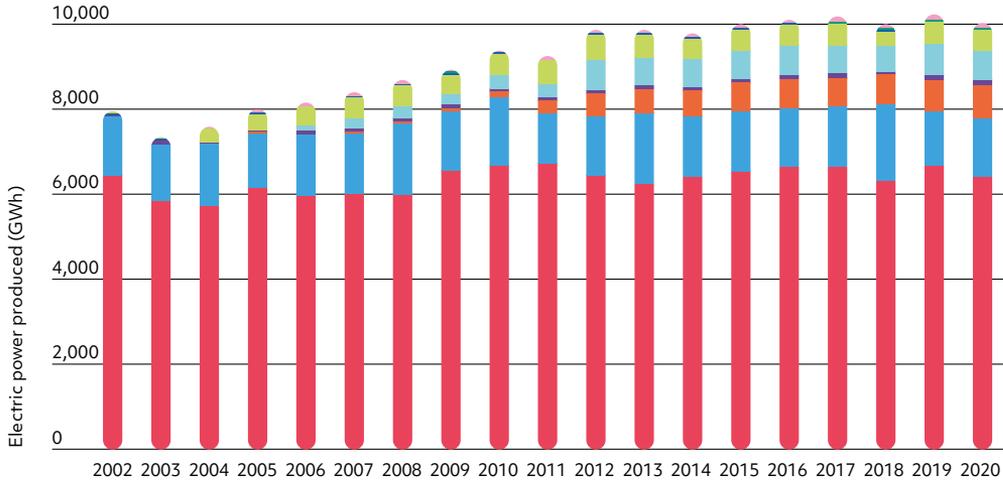
Non-interconnected areas (ZNI)

Corsica, Martinique, Guadeloupe, Réunion, French Guyana, Mayotte, Wallis and Futuna, Saint-Pierre and Miquelon, Saint-Martin, Saint-Barthélemy, the Breton islands of Molène, Ouessant, Sein and the Channel Island of Chausey are not connected to the mainland electricity network (or to a limited extent in the case of Corsica).



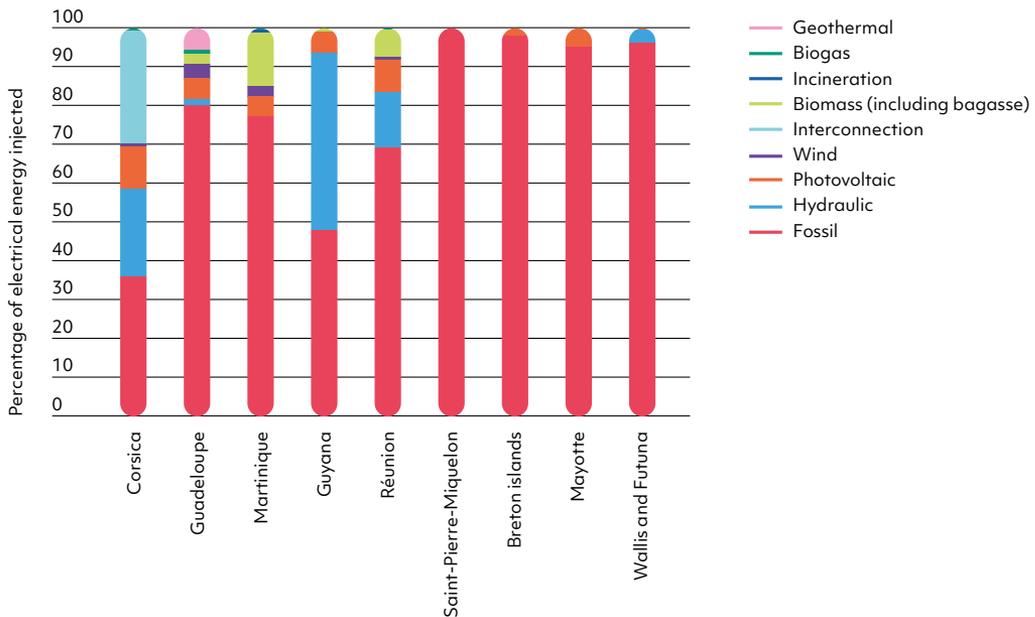
Change in the electricity mix for the ZNI 2002-2021

(excluding Saint-Pierre and Miquelon, the Breton islands and Wallis and Futuna)



Considerable disparities between regions

(2020 figures)



Renewable energy covered 29% of non-interconnected areas' (ZNI) electricity mix in 2020 (25% in 2019). Their rate of growth is insufficient to meet the ambitious targets set by law. Realities differ from one area to another and in particular reflect varying topographical and climatic characteristics. For example, French Guyana, Corsica and, to a lesser extent, Réunion limit the share of fossil fuels in their electricity production mix thanks to their extensive hydro capacity, whilst the other ZNIs are struggling to reduce the share of fossil fuels to below 80%.



Reviewing PPE, levers for effective energy transition

Multi-annual energy programmes (PPE) specify energy policy objectives and identify the challenges and risks to guide the work of the various players in non-interconnected areas (ZNI). In particular, they set out the development pathways for renewable energy sectors over different timeframes. The CRE accompanies non-interconnected areas in drawing up their multi-annual energy programmes and analyses in particular projects that have direct impact on public service costs for energy.

The PPE relating to the 2023 objectives have virtually all been adopted. However, at 1st January 2022, no reviewed PPE were published, where 2018-2023 objectives were adjusted or additional 2023-2028 programming periods were added, even though the French Energy Code requires them to be reviewed at least every five years to cover the next decade.

Ambitious, realistic renewable energy development objectives are, however, vital to align with the objectives laid down by the French act on the energy transition for green growth and to ensure these types of energy are correctly integrated as regards security of supply, optimized production and network costs, and use of resources. The CRE invites public authorities to move forward as quickly as possible on these PPE and is at their disposal to help them in their work.



The first results of the EDM plan

In regions with a high carbon mix, electricity demand management (EDM) is an effective leverage for reducing the use of the most carbon-intensive means of production, limiting future investments and avoiding CO₂ emissions. This is why the CRE approved a massive plan (€534m) of investment aid over five years in January 2019. As such, over €172m was mobilized in 2019 and 2020, leading to saving 330 GWh each year and eliminating the release of 216,000 tons of CO₂. Over the next thirty years, €831m in savings should therefore be made on public service costs for energy. The involvement of local players (local communities, prefectures, Ademe, etc.) which run this system, greatly contributed to achieving these ambitious objectives, despite the health crisis.





ZNI, open-air laboratory for smart grids

In ZNI, the inclusion of non-controllable renewable generation in the electricity system and the development of electric mobility require networks to adapt and to be innovative.

EDF SEI has as such been developing numerous demonstrators focusing on managing refuelling, electricity storage and consumption flexibility.

🌐 Visit the site dedicated to smart grids on smartgrids-cre.fr



Reassessing public service costs

Pursuant to the French Energy Code, the CRE assesses the compensation of operators bearing public service costs for energy to ensure tariff equalization in these areas where the cost of electricity production is high.

In ZNI, this compensation concerns the historic suppliers and the additional costs they incur from producing and purchasing electricity from third parties, from implementing storage systems and from managing the energy demand, as well as from electricity production project studies.

For 2022, the forecast costs in the ZNI amount to €2,164m, including €670m for energy transition. They have increased by €27m compared to 2021 (€2,137m), as such showing relative stability.

In 2020, costs related to supporting renewable energy marked a halt in their growth, which had been continual over ten years, due to the health crisis that delayed commissioning facilities.

€2,164m

of forecast costs to offset in the ZNI for 2022





Forecast public service costs for energy (SPE) for 2022

(calculated in 2021 but forecast for 2022)

17%

Other costs €1,493m

8,1% Biomethane injection

7,3% Cogeneration and other thermal resources

0,8% Load-shedding and social devices

0,7% Management costs

24,5%

ZNI €2,164m

7,5% Energy transition

17% Solidarity mechanisms

58,5%

RE electricity €5,154m

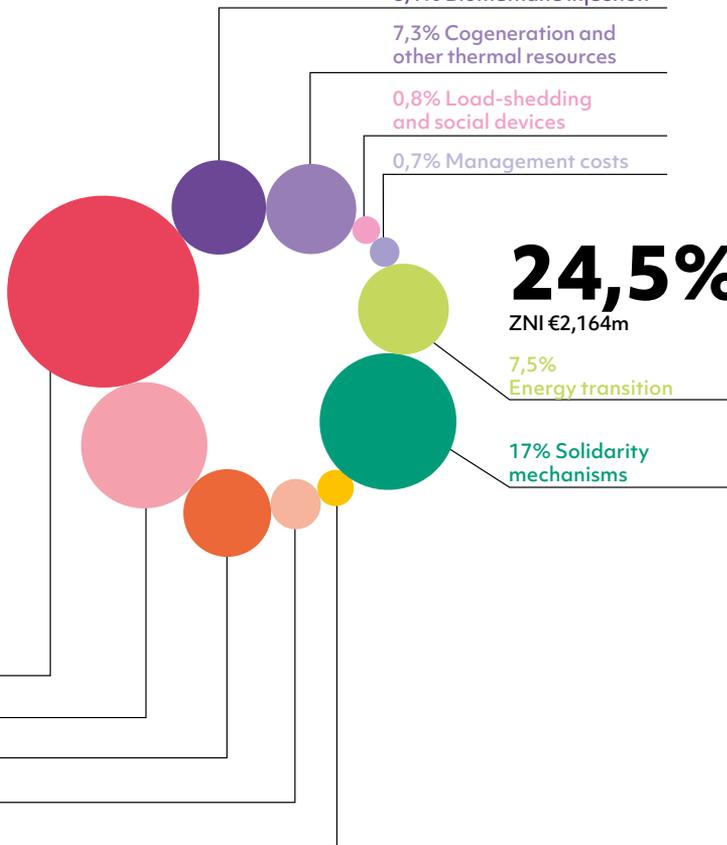
33,6% Photovoltaic

14,5% Onshore wind energy

7,1% Bioenergy

2,4% Other energy

0,9% Offshore wind energy





Partnership renewed with French Polynesia

Since 2018, the CRE has been accompanying French Polynesia and sharing its expertise with it on issues related to the energy transition. It received its Polynesian partners to exchange on the support for RE, determining tariffs, ZNI, etc. and concluded a new agreement for a successful energy transition in French Polynesia, on 2 February 2022. It provides for the CRE to assist in developing the electricity system and to provide its expertise on electricity pricing. The Agreement also includes technical support for energy transition fund allocation (€60m over four years) decided by the French Government for French Polynesia. This renewed collaboration enabled the CRE to accompany French Polynesia at the end of 2021 in launching its first call for tender for photovoltaic electricity production facilities (30 MW in total).



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Mission with the French SGMer

In June 2021, the CRE and the French Secretariat General of the Sea (SGMer) initiated a mission aiming to identify levers for accelerating the development of marine renewable energy (MRE) in overseas territories with a view to achieving their objectives of energy self-sufficiency, decarbonization, employment and economic development. Over twenty consultations were held with private and public players.

Despite the lack of maturity of MRE and overseas territory constraints, the mission observed the opportunity to develop this energy, in particular due to the fact that

electricity production costs are on average five times higher than in mainland France, which makes MRE relatively more competitive in these areas.

Proposals were presented to the French Prime Minister during the Interministerial Committee for the Sea (CIMer), at the beginning of 2022, in particular the creation of a prefectural steering and consultation unit for MRE projects, and the more systematic inclusion of potential studies, financed by public service costs, in multi-annual energy programming. These proposals should be rolled out from 2022.

CRE reports



Direct links to CRE reports can be found on ra2021.cre.fr





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