

The Rhone near the hydropower plant and lock of Gervans



## BALANCED PUBLIC-PRIVATE SHARE OWNERSHIP

The positive interactions between the public sector and the industrial sector in CNR's Supervisory Board ensure its attachment to the values of public service and the many competences devoted to enhancing the economy of the Rhone valley.

### Sharing

Gross turnover: **€1,157.4 M**  
Fees paid for hydropower: **€141.6 M**  
**€30 M** on average paid annually by virtue of the Missions in the General interest.

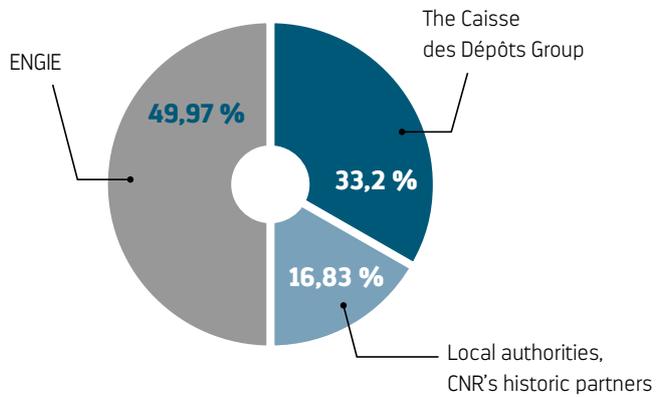
### Human capital

1,370 employees

### Total production

Total production of 15.7 TWh, i.e. more than 3% of French electricity consumption.

## Shareholding



# Evolution

## 1933

CNR was founded (following the Rhone law of 1921) and entrusted with the concession to exploit the river.

## 1935 to 1986

CNR carried out the works to develop the Rhone.

## 2000 to 2004

Following the deregulation of the electricity market, CNR recovered the ownership of its developments and its production. It opened up its share capital and launched its first MGI plan of €120 M aimed at developing the Rhone valley.

## 2006

Its first windfarm was inaugurated.

## 2008

CNR inaugurates its first solar power plant.

The second MGI plan was launched with a budget of €160 M.

## 2012

The Navigation Management Centre, responsible for the remote control and monitoring of the locks on the Lower Rhone, henceforth managed 14 wide gauge locks located along the Rhone from Lyon to the Mediterranean.

## 2014

The 3rd MGI plan was launched with a budget of €160 M.



The machine room of the hydropower plant and lock of Châteauneuf-du-Rhône

CNR is France's No. 1 producer of 100% renewable electricity (water, wind, sun) and the historic concessionary of the Rhone River from the Swiss border to the Mediterranean Sea.

Conceived to develop the Rhone valley, CNR has developed a unique concession model based on the synergy between the different uses of water and the enhancement of the Rhone valley. It stands out from all the other operators thanks to its range of competences maintained and developed in-house, its in-depth knowledge of the territories and the river, and its strong local roots which allow it to carry out its three historic missions successfully on behalf of the community and to develop its Missions in the General Interest (MGI).

Proactive in its territory, due in particular to the local presence of its four regional divisions at Belley, Vienne, Valence and Avignon, CNR is an actor close at hand capable of providing integrated solutions in the Rhone valley. This decentralised organisation allows CNR to offer its partners the reactivity and flexibility of local operation and decision centres that participate in the efficient and diligent management of the concession.

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**A COMPANY IN THE SERVICE  
OF TERRITORIES AND  
ENERGY TRANSITION**



# Preparing territories to respond to major challenges

Elisabeth AYRAULT *Chairwoman and CEO*

**“Our ambition: that of contributing to reaching European and national objectives by engaging ourselves in a model of decentralised development in the service of territories.”**



Since it was founded, CNR has produced **100% renewable green electricity and allocated a large share of its profits to territorial development.**

Its industrial model based on the general interest comprises **three missions for the community:** the sale of hydroelectricity produced along the Rhone permits financing the development of the navigable waterway, the development of port sites and the irrigation of the valley's agricultural land.

Due to our **many activities**, we reason in terms of **sharing water resources** and reconciling uses. Almost from the outset, we integrated a network of different actors to take all their interests into account and forge consistent dynamism in the Rhone valley.

It is in this vision of **joint-construction** that CNR has developed and continues to act. Every day our teams make the **innovations** that this original model has allowed us to develop work in the service of the territory.

We are convinced that taking up the current challenges of **energy transition, the combat against climatic warming, and the preservation of biodiversity**, as well as those of economic growth and employment, will be met by building a **decentralised and participatory model. Our ambition: that of contributing to reaching European and national objectives by engaging ourselves in a model of decentralised development in the service of territories.**



# Enhancing the territories

## ACTING LOCALLY TO MEET MAJOR CHALLENGES

Close to the territories in which it operates, CNR is committed to furthering their development. Through its Missions in the General Interest (MGI), its investment in them exceeds the stipulations of its concession specifications. Since 2003, it has financed projects to develop the Rhone valley in collaboration with the territories.

### 3<sup>RD</sup> MGI PLAN: 2014-2018

- €160 million
- including €40 million devoted to innovative operations
- A threefold objective:
  - Support development and employment in the Rhone Valley
  - Hand down an enhanced river and territories to future generations
  - Gather people around the Rhone, a heritage to be shared and a fountain of life.



CNR electricity charging point at Bourg-lès-Valence

## PRESERVING BIODIVERSITY

Faced by the danger of eroding biodiversity, **CNR acts with its partners to preserve the ecological wealth of the Rhone and hand down an enhanced river and territory to future generations.** By conducting joint actions with environmental organisations, by working to preserve biological continuity for animal and plant species, and by restoring oxbows to improve the quality of the water and the proper ecological functioning of the natural areas concerned, **we perceive the Rhone as a dynamic ecosystem to be enhanced.**

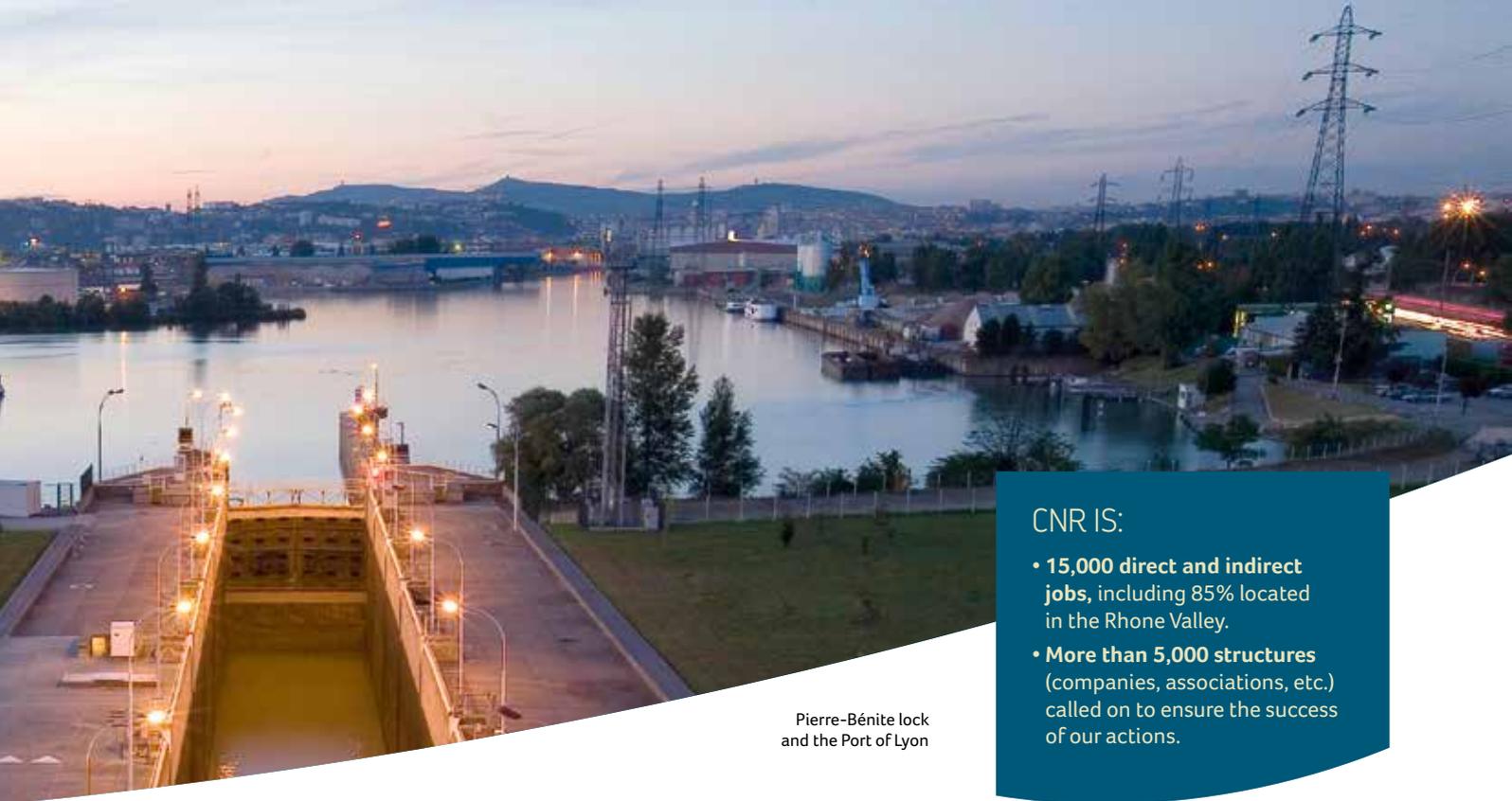
## DEVELOPING CLEAN TRANSPORT

### Navigation

CNR works to develop sustainable behaviours through its actions to promote **navigation**. In the framework of our historic missions we invest to **create attractive infrastructures** because river transport is a solution of the future, an alternative to road transport, and it is ecological and economic. In line with the same logic, we use the MGI to finance innovative services for **skippers**.

### Electric mobility

We develop numerous innovative partnerships in view to integrating renewables energies in modes of consumption. Thus we collaborate with Renault and the Bolloré Group to provide **smart charging of electric vehicles with 100% renewable energy**. We are also working to set up an electric corridor to provide a coherent grid with 300 charging points along the Rhone River. Lastly, through our **projects to develop green hydrogen**, we are investing in the electric mobility of tomorrow: more autonomy and better optimisation.



Pierre-Bénite lock and the Port of Lyon

### CNR IS:

- **15,000 direct and indirect jobs**, including 85% located in the Rhone Valley.
- **More than 5,000 structures** (companies, associations, etc.) called on to ensure the success of our actions.

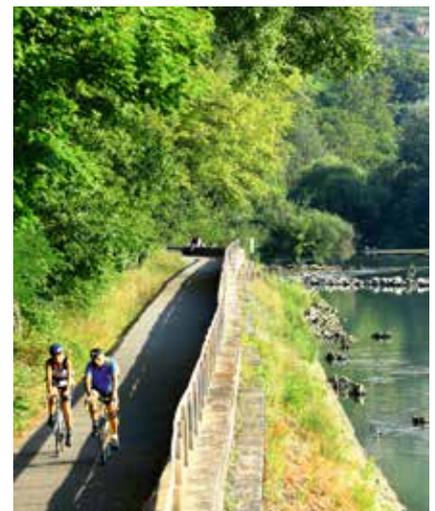
## PROMOTING SUSTAINABLE AGRICULTURE

CNR develops partnerships with farmers to balance the sharing of water for different uses and guarantee the optimised management of this resource. We work to develop **sustainable agriculture** of high economic and environmental value in the Rhone valley. We also work to develop agro-ecological innovations such as the ABT (Alternative and Biological Techniques) platform: a farm dedicated to experimentation and to the demonstration of innovative multi-crop systems.

## EMPLOYMENT AND THE INFLUENCE OF TERRITORIES

Our developments in favour of navigation strengthen the role of the **Rhone-Saone corridor as a trade route between the heart of Europe and the Mediterranean.**

Our contribution **to the influence of the Rhone valley also involves actions to develop tourism.** We promote river and industrial tourism by assisting, through partnerships, local authorities and associations that wish to enhance their territory.



Soft mode itineraries on the *ViaRhôna* near Condrieu



CNR participates in the protection of animal species

## INVOLVING THE POPULATION

CNR is convinced of the need to **democratise environmental dialogue.** Thus it works to involve all the stakeholders and civil society, from the formulation of projects to their construction and beyond.

# 100% Green Energy

## ACTING FOR ENERGY TRANSITION AND THE CLIMATE

CNR wished to diversify its electricity production from the beginning of the 2000s. An acknowledged actor in hydroelectricity, it has developed wind and solar power in parallel. Its 100% renewable energy mix without greenhouse gas emissions **contributes towards reaching national and European energy transition targets and combating climatic warming.**



Beaucaire wind farm

### PRODUCTION TOOLS\*

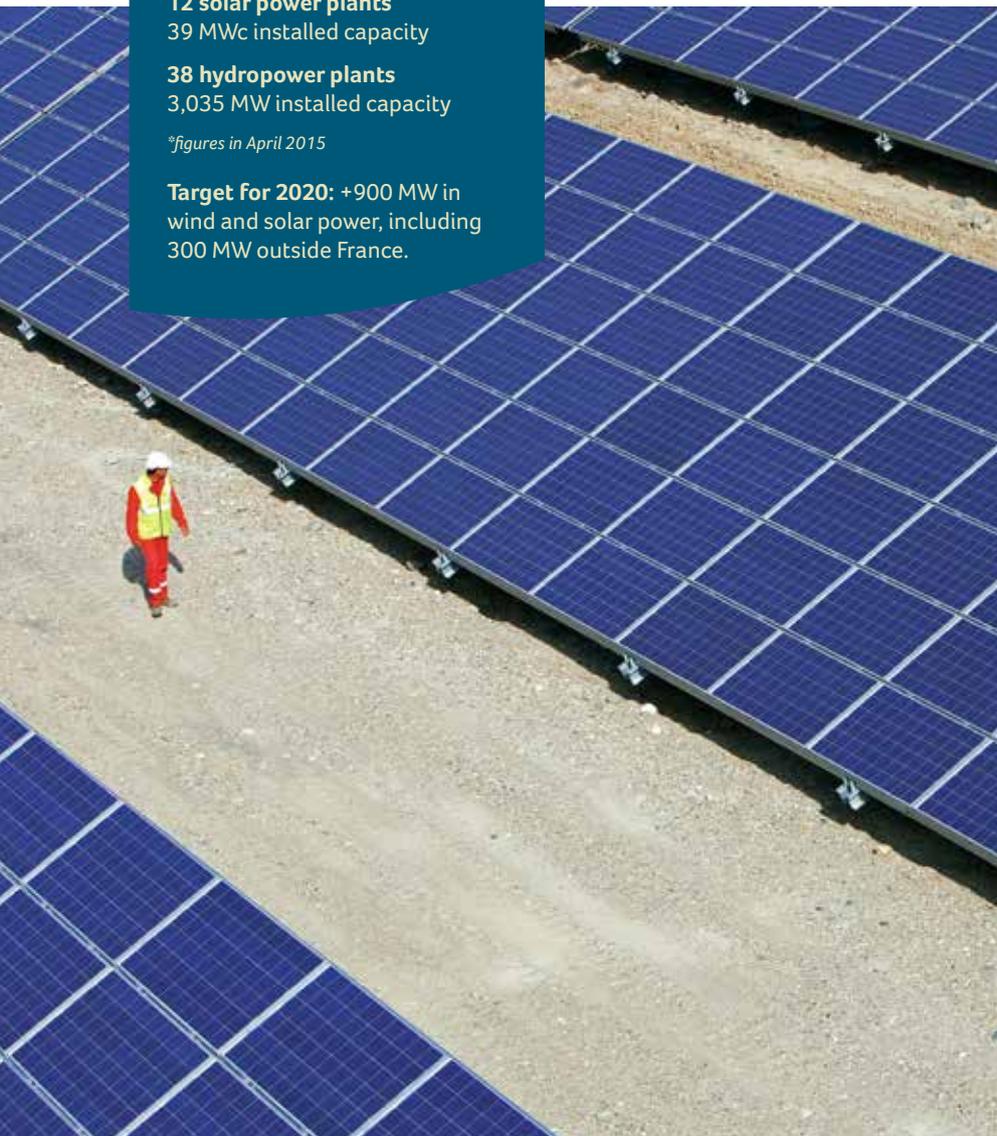
**32 windfarms**  
369 MW installed capacity

**12 solar power plants**  
39 MWe installed capacity

**38 hydropower plants**  
3,035 MW installed capacity

*\*figures in April 2015*

**Target for 2020: +900 MW in wind and solar power, including 300 MW outside France.**



Saulce-sur-Rhône solar power plant

## A LABORATORY FOR THE ENERGIES OF THE FUTURE

Convinced of the synergy between hydro-, wind and solar power, we stand out from other energy producers due to our ambitious development of exclusively renewable energy sources: **water, wind and sun.**

In order to contribute to the **development of the energies of tomorrow**, CNR ensures that all its employees are always in a situation to anticipate future needs and technologies. Our ambition is to be recognised as a **laboratory for the energies of the future.**

To this end, we are currently employing our knowhow in experimenting with **marine energy** (the marine hydrokinetic project at Raz Blanchard); we contribute to research on **new generation solar power** and we consider the development of **green hydrogen** as an opportunity for improving techniques for storage, linking to gas and electricity grids, and optimising sustainable mobility (HyWay project).

Aware that innovation can advance at any time and that many technologies remain to be discovered, we are constantly monitoring research on energy sources for the future.



Study using a physical model to understand erosion phenomena downstream of Donzère dam

## EFFICIENCY

CNR has opted for an **integrated industrial model**. We control all the competences required to ensure our performance and lasting success.

This is why we have been able to develop **unique expertise in managing intermittent energies, allowing us to market our production**.

We are equipped with an Intermittent Production Operations and Optimisation Centre (**COCPIT**) and a fully integrated industrial environment capable of:

- anticipating production conditions thanks to meteorological forecasts;
- optimising the placement of production in relation with the front office;
- real-time control of our production tools and the reduction of variances;
- trading on the energy market 24/7.

## Sharing knowledge

This expertise in managing and optimising intermittent energies means that we can offer it to other producers to manage their energy. Thus we work with fifty small producers and plan to intensify these offers as soon as EnR enters the wholesale market for electricity.

CNR is also a specialist in hydroelectric and river engineering and we have a Hydraulic Structure Behaviour Analysis Centre (CACOH) coupled with an internationally reputed experimental and measurement laboratory. This capacity to **provide solutions to other river managers has naturally led us to exploit the exchange of best practices at the international scale**. Thus we modelled the new locks of the Panama Canal.

## INITIATIVES FOR THE FUTURE OF LARGE RIVERS, AN INTERNATIONAL OBSERVATORY

An arena of exchange between the managers of the world's large rivers, representatives of institutions and experts, this observatory permits the expression of different opinions and fuels debate on energy transition and the establishment of a sustainable world.

The exchange of good practices and innovation form the core of this approach instigated by CNR and chaired by Erik Orsenna, economist, author and Member of the French Academy.



France's leading producer of 100% renewable electricity

Donzère dam