



**DECARBONIZATION OF THE FRENCH ECONOMY
ONE OF THE THREE PRIMARY OBJECTIVES OF THE
ECOLOGICAL TRANSITION**



DECARBONIZATION OF INDUSTRY AN AMBITIOUS PROJECT WITH MAIN OBJECTIVES

Reduce CO2 emissions by 81% by 2050 compared to 2015

Reduction in the primary consumption of fossil fuels (-20% in 2023 and -35% in 2028 compared to 2012), and a reduction in overall energy consumption.

The aim for renewable heating to amount to 38% of heating consumption by 2030

Support for energy efficiency and process adaptation to significantly reduce greenhouse gas emissions.

Support for low-carbon heat for industrial companies (replacement of more energy-efficient industrial heaters, heat pumps for industrial processes)

The aim for renewable and low-carbon hydrogen to amount to 20% to 40% of hydrogen consumption by 2030.





DECARBONIZATION OF INDUSTRY : MAIN MEASURES

Support investment projects in energy efficiency

Support the transition to low-carbon industrial heat and the use of biomass boilers

Support large-scale process transformation projects

Creation of a small scale support for investment in energy efficiency

1,2BN€ BY 2022 DEDICATED TO IMPROVE ENERGY EFFICIENCY AND DEVELOP MANUFACTURING

France is welcoming all companies committed to addressing environmental impacts !





1.2BN€ BY 2022 DEDICATED TO IMPROVE ENERGY EFFICIENCY AND DEVELOP MANUFACTURING

Support investment projects in energy efficiency via the call for projects entitled "Energy efficiency of processes and utilities in industry". This will support investment projects worth more than €3 million.

Support the transition to low-carbon industrial heat and the use of biomass boilers rather than coal, fuel oil or gas via the call for projects entitled "Investment and operating aid to support the decarbonization of industry"

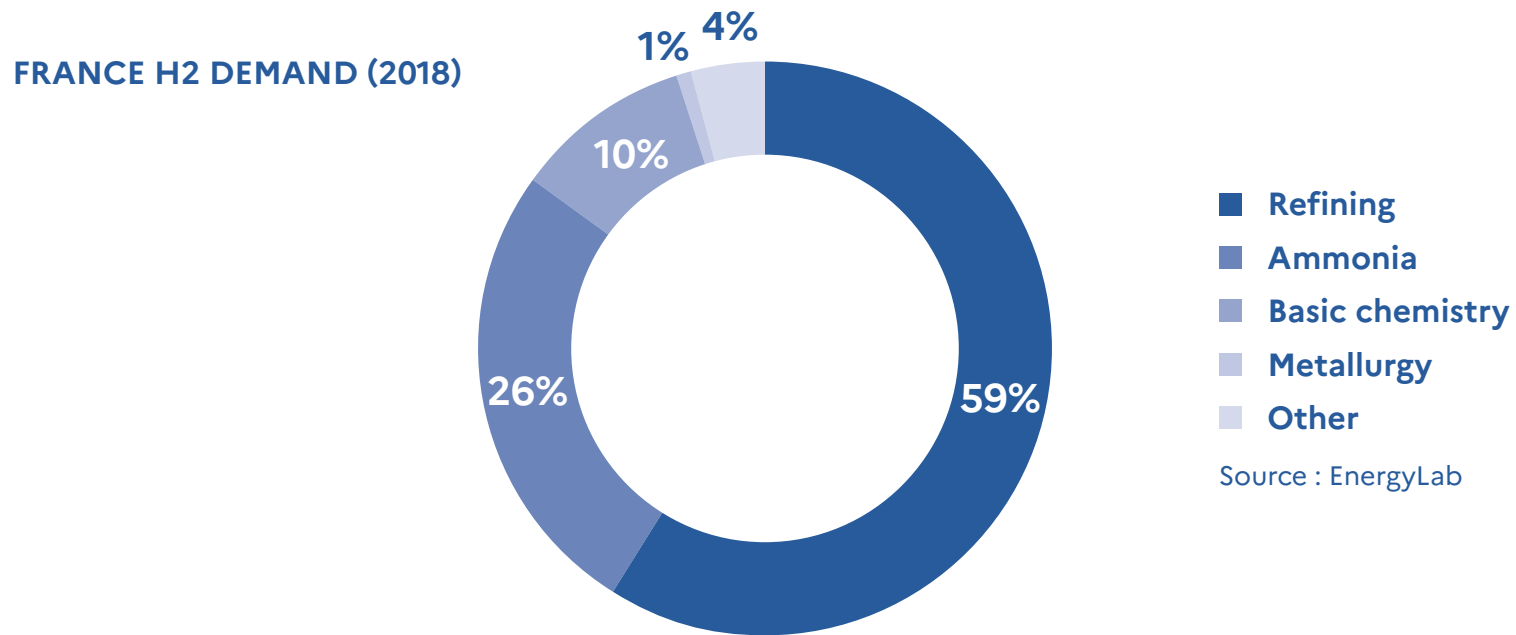
Support large-scale process transformation projects contributing to their decarbonization through the call for expressions of interest entitled "Process development and decarbonizing industry".

A small scale support for investment in energy efficiency in industry : for projects below €3 millions, particularly for SMEs and micro-enterprises.





HYDROGEN FOCUS : DEMAND FOR HYDROGEN DRIVEN BY INDUSTRY IN FRANCE



3 SECTORS RESPONSIBLE FOR 2/3 OF INDUSTRIAL EMISSIONS

18.2 Mt of CO₂ come from chemicals,
17.2 Mt of CO₂ from the manufacture of non-metallic minerals and construction materials (cement, glass, plaster, etc.)
and 15.8 Mt of CO₂ from the metallurgy of ferrous metals (steel industry, foundry, etc.)

TARGET SECTORS

Refining, which boasts a growing market for the desulfurization of fuels
Chemicals, in particular the production of ammonia and methanol.
Electronics and the food industry





A GROWING INTEREST FROM MANUFACTURERS AND INVESTORS



April 2019, EDF launches its Hynamics subsidiary intended to offer a low-carbon hydrogen product.



April 2019, Michelin and Faurecia announce the creation of a joint venture surrounding Symbio, bringing together their activities dedicated to fuel cells.



January 2019, Air Liquide acquires an 18% stake in the capital of hydrogen production equipment manufacturer Hydrogenics Corporation.



October 2019, Total, already a Sunfire shareholder since 2014, partners with the German company to produce renewable methanol and hydrogen.

February - September 2019, The Kouros investment fund announces several investments in the hydrogen sector, including in green hydrogen production companies Haffner Energy and Ergosup.





SUPPORT INVESTMENT PROJECTS IN ENERGY EFFICIENCY BUSINESS COMMITMENTS

Faced with regulatory constraints and societal pressure, large CO₂-emitting manufacturers have drawn up roadmaps to reduce their emissions.

TO ACHIEVE CARBON NEUTRALITY BY 2050

In December 2019, ArcelorMittal set an ambitious target for its activities in Europe, in line with its desire to reduce up to 30% its CO₂ emissions by 2030 and achieve carbon neutrality by 2050.

In July 2019, the German steelmaker and engineer ThyssenKrupp was on the same course.

In November 2018, Air Liquide decided to reduce its carbon intensity by up to 30% by 2025.

Solvay aims to reduce its carbon intensity by up to 40% by 2025.

PROJECTS OF THE ARCELOR MITTAL SITE IN DUNKERQUE

A green blast furnace based on the recycling of iron and steel gases (reduction in CO₂ emissions by 17%),

A pilot project carried out with Total and Ifpen for capturing and storing CO₂ (8% reduction),

Steel recycling with the integration of twice as much recycled steel in its production (up to two million tonnes per year, generating a 8% reduction in CO₂ emissions).





ENERGY RENOVATION, A PILLAR FOR THE ECOLOGICAL TRANSITION

AN AMBITIOUS ENERGY RENOVATION PROGRAM (6.7 BILLION EUROS)

Energy renovation of public buildings (4BN€)

Directed towards craftsmen and companies in the building and public works sector in order to revitalize the local SMEs and VSEs network.

Energy renovation and rehabilitation of social housing (500M€)

A national call for projects aims to financially support significant renovation of social housing (target: 40 000 underperforming housing units). A part of this envelope (40 M€) will intend to deploy innovative and integrated industrial solutions for energy renovation by massifying the process (according to the dutch "EnergieSprong" concept).

Energy renovation of the premises of VSEs and SMEs (200M€)

For VSEs and SMEs : improve the energy efficiency of their buildings and thus the work conditions and public facilities (offices, shops, warehouses, etc.).

FRANCE, AN INNOVATIVE LEADER IN THERMAL RENOVATION

Energy-efficient building materials, renovation techniques, energy management tools, heat pumps and other heating and cooling systems.





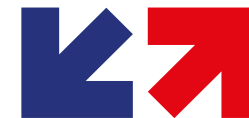
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