



# IFP Energies nouvelles at a glance

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## Mission

IFP Energies nouvelles (IFPEN) is a public-sector research, innovation and training center active in the fields of energy, transport and the environment.

Its mission is to provide public players and industry with efficient, economical, clean and sustainable technologies to take up the challenges facing society in terms of climate change, energy diversification and water resource management. It boasts world-class expertise.



## Paving the way for a smooth energy transition

Growing world energy demand, the gradual peaking of oil and gas production, environmental imperatives and the difficulty of achieving any rapid large-scale substitution of hydrocarbons in the fields of transport and petrochemicals: these are the factors that will shape the energy landscape of tomorrow.

In such a context, it is essential to develop new solutions to gradually take over from these energy sources without delay, while simultaneously inventing technologies to optimize oil and gas use.

To fulfill its mission, IFPEN has 5 complementary strategic priorities.



## Funding

IFPEN has proven expertise across the entire value chain, from fundamental research to applied research and innovation. It is funded both

by a state budget and by resources provided by French and foreign international partners.

## Key figures

**1,686** employees

A budget of € **305** million  
of which € **244** million  
for R&D

**2** sites at Rueil-Malmaison  
and Solaize, near Lyon

A total portfolio of  
**12,600** active patents

Ranked amongst the top  
**11** patent filers in France  
and the **11<sup>th</sup>** largest french  
patent filer in the United States

**A major force**

in the French and European  
research landscape (ANR,  
competitiveness hubs,  
Framework Programmes, etc.)

**Over 50** fields of expertise

**More than 200**

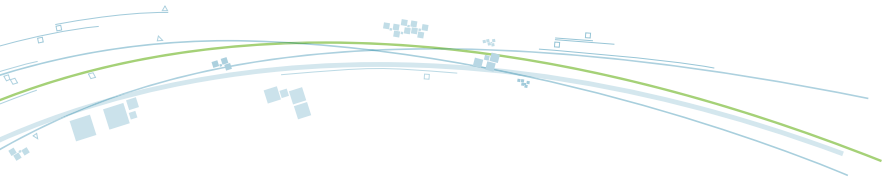
scientific papers published  
every year and reference  
books in IFPEN recognized  
fields of expertise

**More than 300**

partnerships with French  
and international academic  
communities

# 5 complementary strategic priorities for a smooth transition to the energies of tomorrow

IFPEN has hinged its research around 5 priorities that form the foundations upon which its research programs are defined and organized.



## Producing fuels, chemical intermediates and energy from renewable sources

In order to tackle the greenhouse effect causing climate change

and alleviate the transport sector's reliance on oil, IFPEN works on the production of biofuels, chemical intermediates and energy via the transformation of biomass. It also designs the technological solutions required to harness marine resources.



## Producing energy while mitigating the environmental footprint

Since industrial activities generate CO<sub>2</sub> emissions and use water resources, IFPEN develops CO<sub>2</sub> capture, transport

and geological storage processes to combat global warming. It also works on technologies aimed at optimizing industry's use of water.



### **Developing fuel-efficient, environmentally-friendly transport**

Drawing on its experience in the field of powertrains, acquired in partnership with the world's major automobile manufacturers,

IFPEN designs and perfects technological solutions aimed at further reducing fuel consumption and minimizing the environmental impact of vehicles. It also works on the development of low CO<sub>2</sub>-emitting engines for the aviation industry.



### **Producing environmentally-friendly fuels and chemical intermediates from fossil resources**

In order to meet ever-increasing demand while mitigating the environmental footprint, IFPEN develops eco-efficient processes and products with a view to transforming a variety of fossil resources (technological oils, coal, gas) into fuels and chemical intermediates.



### **Providing environmentally-friendly technologies and pushing back the current boundaries of oil and gas reserves**

In order to secure long-term energy supplies, the exploitation of oil and gas resources remains crucial. While working to develop oil substitutes, IFPEN perfects advanced simulation tools geared towards gaining an insight into the underground environment as well as environmentally-friendly technologies with a view to pushing back the current boundaries of oil and gas exploration and production.



# Training

**I**FP School and IFP Training provide industry with the highly-qualified personnel they require. IFP School operates within an international environment and provides young graduate engineers with advanced post-graduate programs in the fields of energy, motor vehicles and the environment. Over 600 students from throughout the world graduate from IFP School each year. IFP Training, an IFPEN subsidiary, offers training programs to almost 15,000 employees from industry every year, securing their competitiveness.



## ■ Key figures

**More than 97%**  
the percentage of the IFP School  
graduates moving straight  
into employment

**50%**  
foreign students in each year

**More than 80%**  
of students sponsored  
by industry

# Technology transfer

**T**hrough its research and resulting innovations, IFPEN fosters the economic development of fields related to the energy, transport and eco-industry sectors. In so doing, it also contributes to creating wealth and jobs. IFPEN's innovations are transferred directly to the market place through close partnerships with industrial players and IFPEN Group subsidiaries. In both emerging and mature markets, IFPEN creates companies or acquires stakeholdings in companies of significant potential, either directly or via capital funds. In addition, IFPEN supports the development of SMEs and SMIs as part of collaboration agreements, contributing its technical and legal expertise.



## ■ Key figures

**More than 30**

companies created  
by IFPEN

**More than 2,000**

refining and petrochemical  
units in operation worldwide  
as a result of IFPEN R&D

**Some 30 SMEs**

benefit from partnerships  
with IFPEN every year



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