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**END-USE SECTORS: ACCELERATING ENERGY EFFICIENCY IMPROVEMENTS  
IN THE CONTEXT OF HIGH ENERGY PRICES**

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# ENERGY EFFICIENCY IN THE CURRENT ENERGY CRISIS

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## International context (soaring energy prices)

- Wholesale energy prices for gas, oil and coal have risen to multi-year highs in the second half of 2021 and early 2022, taking electricity prices with them.
- Prices rebounded strongly from the COVID-19 pandemic, driven by a rapid economic recovery and a surge in global demand (notably in Asia), a longer heating season in the Northern Hemisphere and a weaker-than-expected increase in energy supplies.
- To a lesser extent, rising carbon costs on the EU ETS contributed to the adverse market situation.
- Tensions were further exacerbated by Russia's invasion of Ukraine (24<sup>th</sup> February 2022).

## Accelerating energy efficiency measures

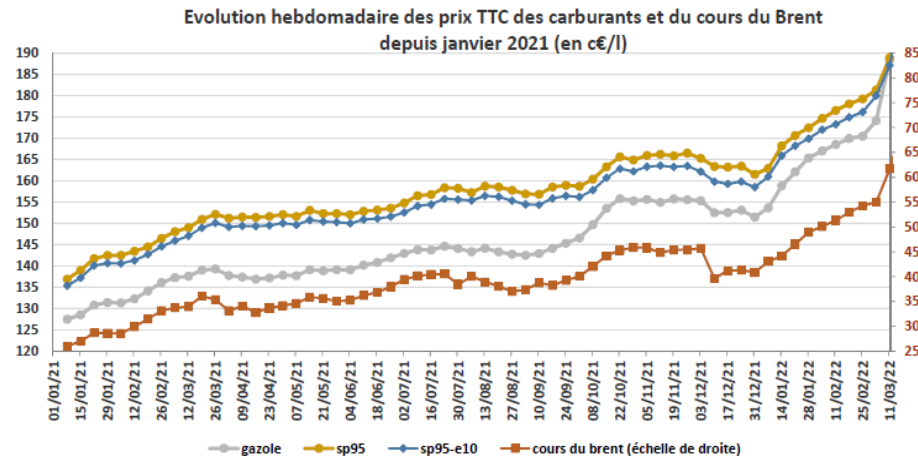
- Energy efficiency is a pre-requisite for the clean energy transition. Progress towards net-zero emissions in the EU energy system by 2050 will bring down gas imports.
- Energy systems must foster a secure, sustainable and affordable energy supply.
- In the current crisis, energy efficiency measures help mitigate the socio-economic impacts of high wholesale energy prices and reduce EU reliance on energy imports.
- Energy efficiency measures contribute to sheltering vulnerable consumers from high prices and strengthening the resilience of the EU energy system.

## HIGH ENERGY PRICES (1/3) - CRUDE OIL AND FUEL

### International context (oil supply concerns)

- Oil demand defied expectations after the 2020 COVID-19 crisis and led to a tight supply-demand situation.
- ICE Brent oil prices jumped following geopolitical tensions (Middle East, Kazakhstan, Ukraine) as supply concerns mounted. Production constraints emerged due to low investment, infrastructure/maintenance challenges (Libya, Nigeria, Angola) and slow US shale recovery.
- Rising natural gas prices intensified oil demand for electricity production (heavy fuel oil & FOD).
- OPEC+ decided to stick to their production adjustment plan, a monthly increase of 0.4 mbd of oil production, despite calls to pump more oil (India, US and Japan).
- Russia is the largest oil exporter and 3<sup>rd</sup> largest producer. An extended period of market volatility appears likely.

- Weekly ICE Brent crude oil prices and French retail pump prices inclusive of tax (€/l):



- In France, daily retail diesel and gasoline prices have increased by 87€/l and 71 €/l, respectively, between 1<sup>st</sup> January 2021 and 11<sup>th</sup> March 2022.

## HIGH ENERGY PRICES (1/3) - CRUDE OIL AND FUEL

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### Exceptional measures in France

- Inflation compensation in late 2021 and early 2022 (EUR 100) to cushion the impact of the fuel price crisis on low- and medium-income households (around 38 million individuals earning less than EUR 2,000 per month).
- Increase in the mileage allowance scale (+10%) for around 2.5 million households (the mileage scale is used by employees using a personal vehicle for professional purposes who opt for the deduction of actual travel expenses in their income tax declaration).
- Short-term pump discount (15 €/l) for households and businesses from 1<sup>st</sup> April to 31<sup>st</sup> July 2022.

### Actions in favour of alternative solutions

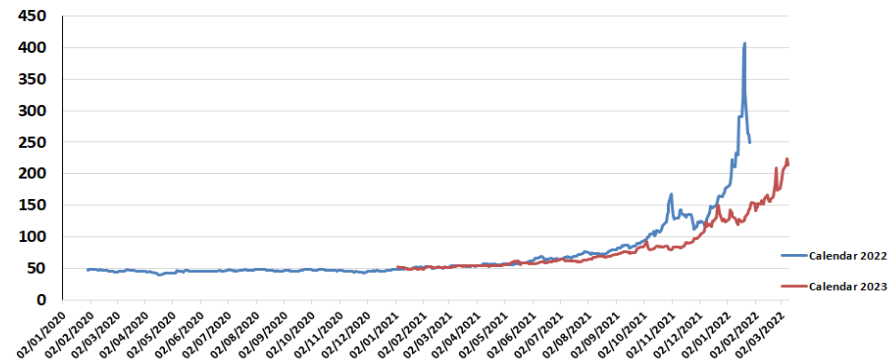
- Conversion premium & environmental bonus: subsidies designed to accelerate the conversion of the vehicle fleet to electric, rechargeable hybrid cars or combustion-powered engines with a Crit'Air 1 certification, with a EUR 1.6 billion budget increase in 2021-2022 (« France Relance » recovery plan).
- Fuels price comparison to increase acceptance of alternative fuels in transport (in accordance with Directive 2014/94/EU).

## HIGH ENERGY PRICES (2/3) - ELECTRICITY

### International context (energy demand rebound)

- Global electricity demand grew by 6% in 2021 (over 1,500 TWh).
- In the EU, higher gas and coal prices as well as emission allowance prices drove up thermal power generation costs and wholesale electricity prices.
- Since the invasion of Ukraine (24<sup>th</sup> February 2022), forward prices (Y+1) have been very volatile, fluctuating between €170/MWh and €200/MWh and reaching a peak of €210/MWh on 9<sup>th</sup> March.
- French spot electricity prices have also been rising sharply (reaching 540 €/MWh on 7<sup>th</sup> March).
- Daily forward electricity prices (€/MWh):

**Prix de marché**  
Evolution journalière du contrat annuel à terme  
en €/MWh



### Tariff shield in France

- Partial freeze of regulated prices of electricity (TRVe) limiting the rise to 4% including tax in average effective since 1<sup>st</sup> February 2022.

## HIGH ENERGY PRICES (3/3) - GAS

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### International context (anxiety on gas markets)

- Demand growth and lower-than-expected gas supply led to a surge in prices late 2021. Milder temperatures and LNG inflows moderated prices in early 2022.
- Since the invasion of Ukraine, prices have soared on European markets. Fears over the consequences of sanctions, disruption of Russian gas supplies and reports that Nord Stream 2 AG had filed for bankruptcy caused unprecedented tension. Uncertainty over gas supply and prices remains high.
- In 2021, the EU imported around 140 bcm of gas by pipeline and 15 bcm in the form of LNG from Russia (45% of EU gas imports, 40% of EU gas consumption).
- The recast EED will allow EU energy savings equivalent to 9 bcm of gas per year.
- Average prices over the 1<sup>st</sup> half of March 2022 (spot 149.5 EUR/MWh, monthly PEG 154.5 EUR/MWh, annual PEG 74 EUR/MWh) are well above the annual 2019 average (spot 13.6 EUR/MWh, monthly PEG 14.6 EUR/MWh, annual PEG 18.3 EUR/MWh)

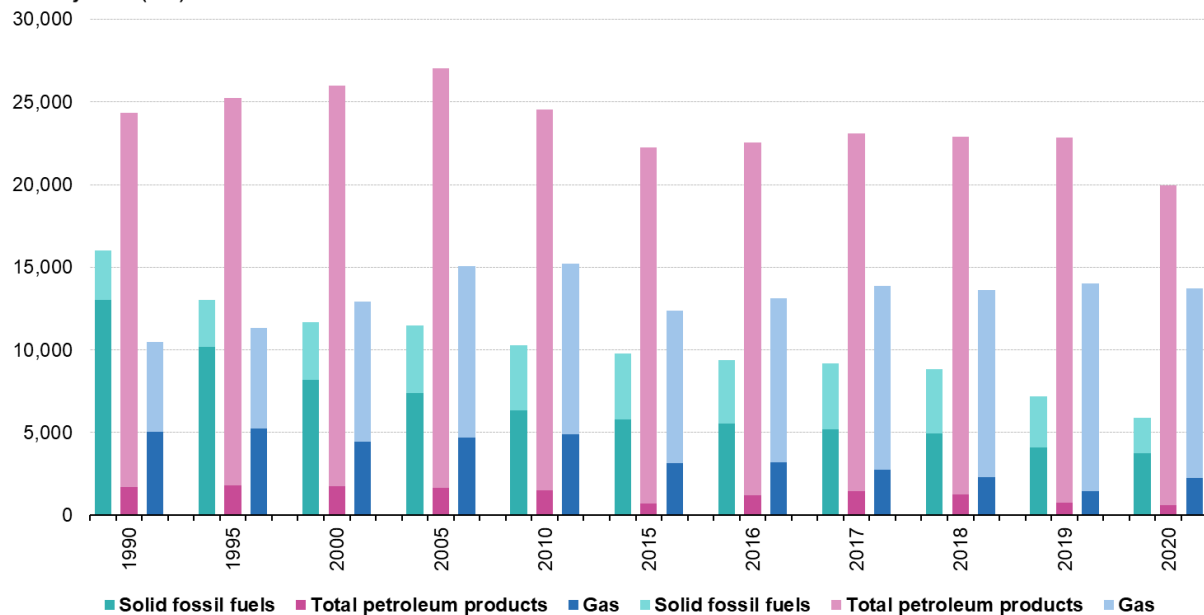
### Tariff shield in France

- Freezing of regulated prices of natural gas (TRVg) at their October 2021 level including tax in 2022.
- Top-up (EUR 100) of energy vouchers (around EUR 150 per year since 2018) for eligible households (around 5.8 million low-income beneficiaries) to cover electricity, gas or mazout/heavy fuel bills.

# ENERGY DEPENDENCY BY FUEL (1990-2020)

## Energy dependency by fuel, EU, in selected years, 1990-2020

Petajoule (PJ)

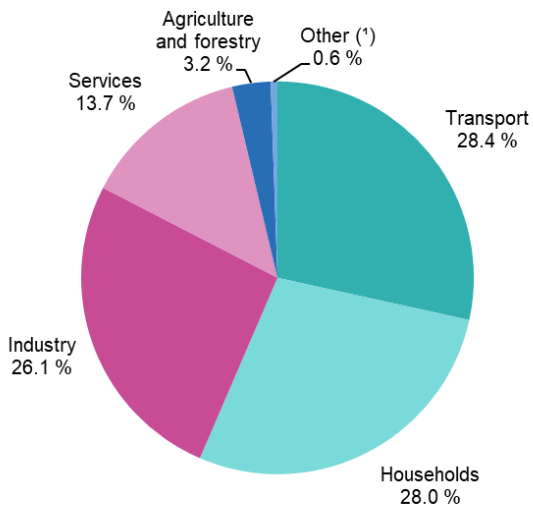


Note: the light coloured proportion of the column shows net imports with respect to gross available energy, which is represented by total column height.

Source: Eurostat (online data code: nrg\_bal\_s)

# EXAMPLES OF ENERGY EFFICIENCY ACTIONS IN END-USE SECTORS

**Final energy consumption by sector, EU, 2020**  
(% of total, based on terajoules)



## Examples

- IEA lists 3 short-term energy efficiency measures in end-use sectors (consistent with EU climate objectives) among its proposals to reduce EU reliance on Russian gas\*:

*speeding up the replacement of gas boilers with heat pumps ;  
accelerating energy efficiency improvements in buildings and industry ;  
encouraging a temporary thermostat adjustment.*

- According to IEA estimates, these energy efficiency measures could reduce gas demand by 14 bcm within a year.

*\*10-Point Plan to reduce the EU's reliance on Russian natural gas (IEA, 18<sup>th</sup> March 2022)*

(\*) International aviation and maritime bunkers are excluded from category Transport.

Source: Eurostat (online data code: nrg\_bal\_s)



# FRANCE: ENERGY EFFICIENCY ACTIONS HELP CURB OIL & GAS DEMAND

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## Oil & gas demand

- Final consumption of oil & petroleum products for energy purposes in France: 630 TWh in 2018.
- Primary consumption of gas in France: 470 TWh in 2018.
- Imports from Russia: nearly 40% of EU gas (20-30% for France) and 30% of EU oil (10-20% for France).

## Current targets (2019-2028)

- The Multiannual Energy Plan (MEP) forecasts a 200 TWh reduction in final consumption of oil & petroleum products and a 100 TWh reduction in gas demand by 2028 through EE improvements and renewable heat & gas deployment.
- Reinforced EU objectives (55% GHG emissions reduction by 2050) entail additional savings by 2028.

## Levers

- EE in the transport sector (moderation of demand for mobility, increased incentives for conversion of the vehicle fleet and increased support for EVs).
- EE in the building sector and in the industry sector (energy renovation grants, tertiary sector decree, industrial decarbonisation fund...).
- Development of renewable heat - biomass, heat pumps, heat networks, solar thermal, geothermal (energy renovation grants, heat fund & industrial decarbonisation fund, biomass heat component of France 2030...).

## FRANCE: ENERGY-RELATED ACTIONS IN END-USE SECTORS (1/4)

### The energy renovation grant (*MaPrimeRénov'*)

- Grant distributed by the National Housing Agency to finance thermal insulation, heating, ventilation or energy auditing work in existing dwellings.
- The scheme was launched in 2020 and initially targeted low-income homeowners. It was extended to all homeowners as well as landlords in 2021 and now fully replaces the Energy Transition Tax Credit (“Crédit d’impôt transition énergétique”, a 30% tax credit on income).
- In 2021, around 644,000 energy renovation grants were offered to homeowners and landlords.



MaPrimeRénov'

- The scheme benefits from a EUR 2 billion budget in 2022.
- In January and February 2022, around 95,000 grant applications have been submitted to the National Housing Agency over a two-month period.
- To further encourage low- & medium-income households to replace their gas boiler, grants for the installation of heating systems using renewable energy sources will be reinforced in April 2022 (+ EUR 1,000).
- The end of subsidies for energy-efficient gas boilers was announced on 16<sup>th</sup> March 2022 as part of the French recovery and resiliency plan.

## FRANCE: ENERGY-RELATED ACTIONS IN END-USE SECTORS (2/4)

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### Energy Savings Certificates (*Certificats d'Économies d'Énergie*)

- Obligation scheme launched in 2006 entering its 5<sup>th</sup> phase (2022-2025).
- Energy suppliers are required to achieve energy-saving actions to reach a pluriannual target (2,500 TWh cumac\* in the 5<sup>th</sup> phase) according to their share of supply.
- To fulfill their obligation, suppliers assist final users to take energy-efficiency measures in all sectors (residential, tertiary, industrial, agricultural, transport):

*attic or roof insulation, wall insulation, floor insulation, air/water or water/water heat pump, hydraulic heating or hot water system insulation, individual high energy performance boiler, individual biomass boiler, etc.*

- A reinforcement of subsidies for households from 2019 onwards with the heating boost (“Coup de pouce chauffage”) enabled 1 million heating replacement works in 3 years, allowing households to save EUR 600 million on their energy bills and avoiding the emission of nearly 3 tonnes of CO<sub>2</sub> every year.
- Between 2019 and 2021, around 375,000 subsidies were offered through the heating boost and MaPrimeRénov’ for replacing fossil fuel heating with heat pumps. Heat pumps typically divide energy bills by 2 when they replace gas heaters and by 3 when they replace oil heaters.

\* *accumulated discounted*

## FRANCE: ENERGY-RELATED ACTIONS IN END-USE SECTORS (3/4)

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### The Heat Fund (*Fonds Chaleur*)

- Support for investment in the production of heat from renewable or recovered energy and the deployment of heat networks.

*biomass (forestry, agriculture, production and thermal recovery of biogas), geothermal energy, heat pumps, solar thermal projects, etc.*

- Combination of national and regional calls for projects.
- Targets the residential sector (collective housing), the tertiary and industrial sectors, local authorities in a cost-efficient way.
- In 2021, the Heat Fund supported 560 projects (EUR 350 million). Since 2009, it helped 6,500 projects (EUR 10.8 billion investments) through public support (EUR 2.9 billion).

- Funding for this cost-efficient scheme (5 EUR/MWh on average) has been increased from EUR 259 million in 2018 to EUR 370 million in 2021.
- As part of the French recovery and resilience plan, extra funding (EUR 150 million) will be used to accelerate the decarbonisation of heating networks.

## FRANCE: ENERGY-RELATED ACTIONS IN END-USE SECTORS (4/4)

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### **The Industrial decarbonisation Fund (*Fonds Décarbonation de l'industrie*)**

- Nearly 20% of GHG emissions come from industrial activities.
- In 2020-2021, this fund incentivized the reduction of GHG emission in the industrial sector through calls for biomass heat projects (investment aid, operating aid) and large-scale energy efficiency projects.
- « France Relance » supported 99 projects (EUR 982 million of industrial investment) in the decarbonisation of French industry through public support (EUR 484 million). These projects will allow a reduction of about 1.3 million tons of CO<sub>2</sub>e per year in industry emissions.

### **Tax and loans**

- A VAT reduction scheme (5.5%) for energy-saving works and renewable heating systems in new/existing dwellings.
- Interest-free loans help to finance renovation works.

### **Energy efficiency plan in state-owned buildings**

- Plan to reduce energy consumption in state-owned buildings involving a temperature reduction of 1° C.
- Planned investment (EUR 50 million) in fast energy-saving operations to reduce energy consumption in state-owned buildings and operator-owned buildings by the end of 2022, with a focus on gas consumption.

### **Communication**

- Large-scale communication campaign on energy savings & thermal renovation.

Thank you for your attention