



Covid19: the drop in energy consumption in 2020 will be unprecedented

France – Case Study

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TFEIP meeting – 12/05/2020

This presentation is based from an [Enerdata's publication](#) by **Carine Sebi**, Professor and coordinator of the Chair Energy for society at Grenoble Ecole de Management and **Morgan Crénès**, Head of Data and Research

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29 Apr 2020

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A shock higher than the 1975 oil crisis – the French case

In recent days, the coronavirus health crisis has forced companies to operate in slow motion and people to stay home to work, leading to a significant drop in final energy consumption. In this analysis, we take a look at the situation in France.

Based on the first macroeconomic estimates available and the lessons learned from other periods of crisis, we estimate that the impact of two months of containment on final energy consumption in 2020 in France would have an effect higher to that observed during the last financial crisis in 2008 or the 1975 first oil shock.

In this article, we summarize the main scenarios on the evolution of energy consumption in 2020. This analysis has been prepared by Morgan Crenes, head of the Data & Research department at Enerdata, and Carine Sebi, Professor and coordinator of the Chair Energy for society at Grenoble Ecole de Management.

Content

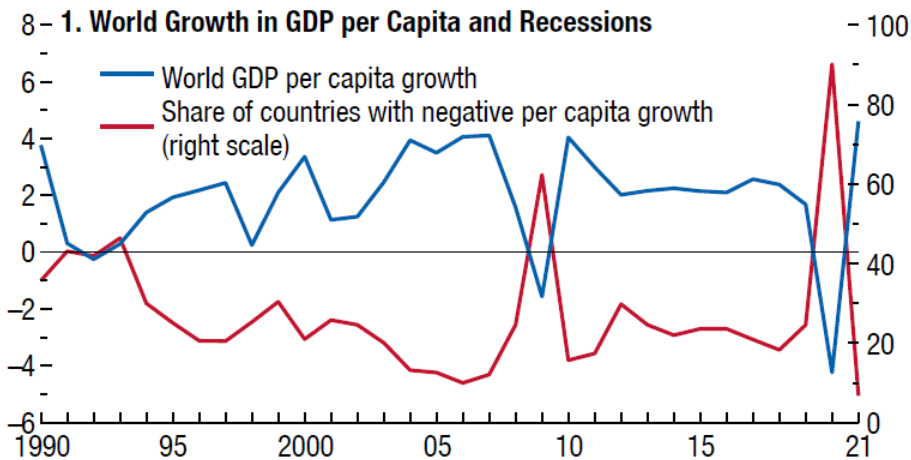
- An idle economy
- Decoupling GDP growth and energy consumption?
- Methodology : lockdown and recovery
- Main results : highest drop in energy consumption in France since WWII
- Stay tuned



An idle economy

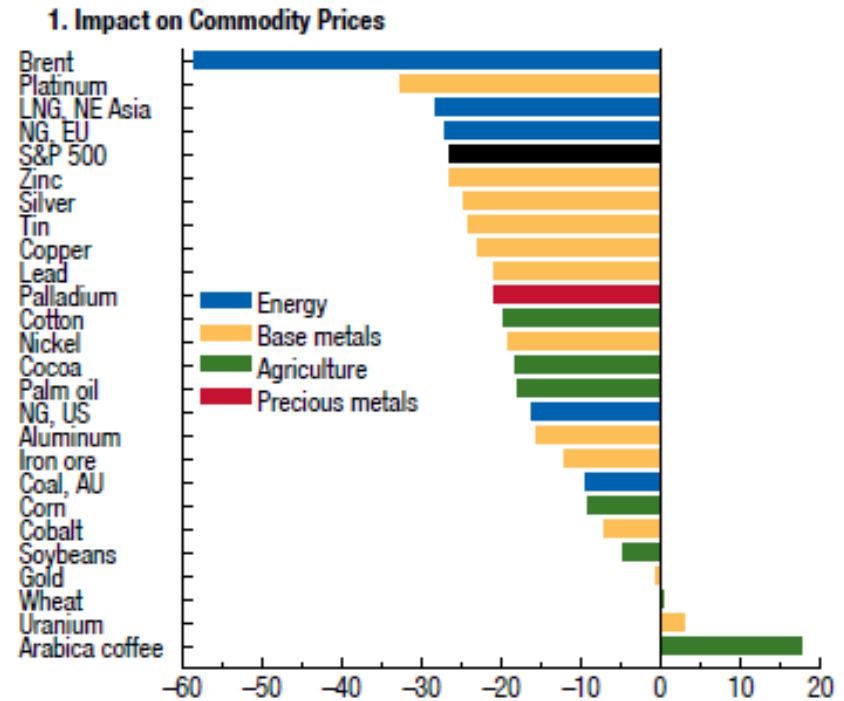
Covid 19 has stopped global economy

Figure 1.5. World Growth in GDP per Capita and Recessions
(Percent)



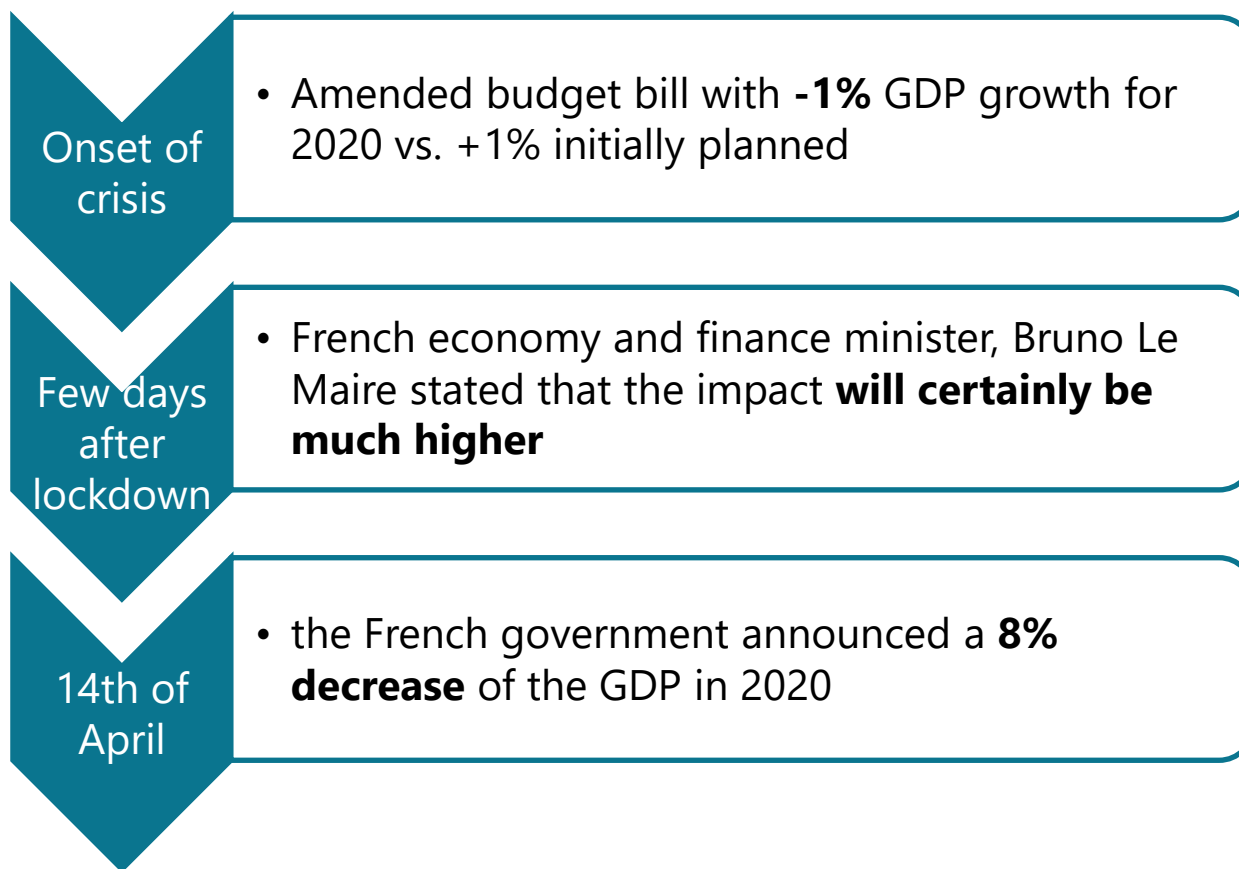
Source: IMF, April 2020

Figure 1.SF.1. Impact of the COVID-19 Outbreak
(Percent)



Source: IMF, April 2020

GDP forecast for french economy going from bad to worse as sanitary crisis expand

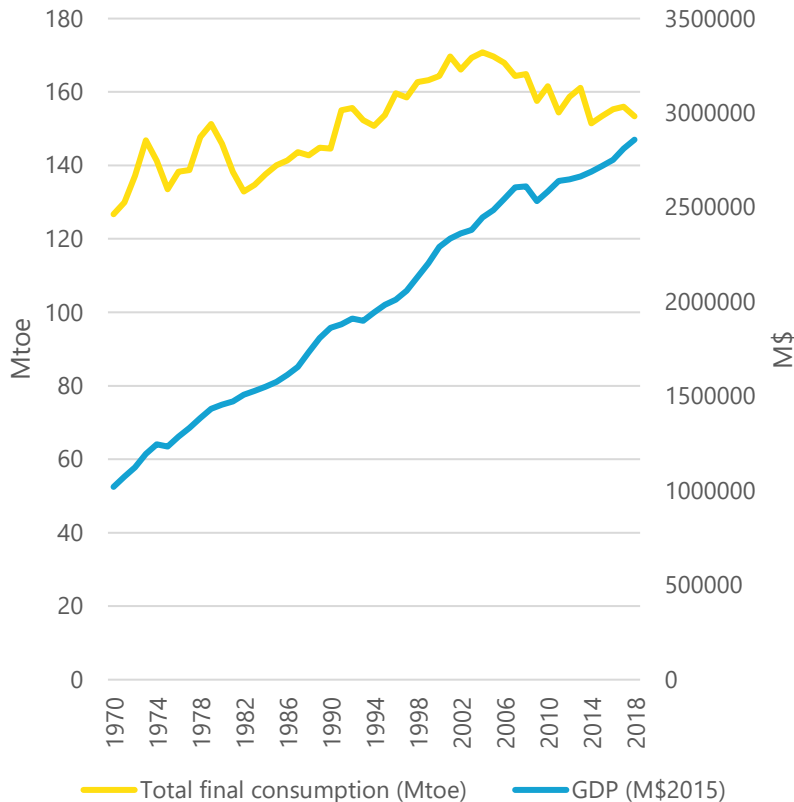


- Mid April IMF has planned a -3% growth globally (-6% for advanced economy)
- Emerging Asia the only region with a positive growth rate (+1%)

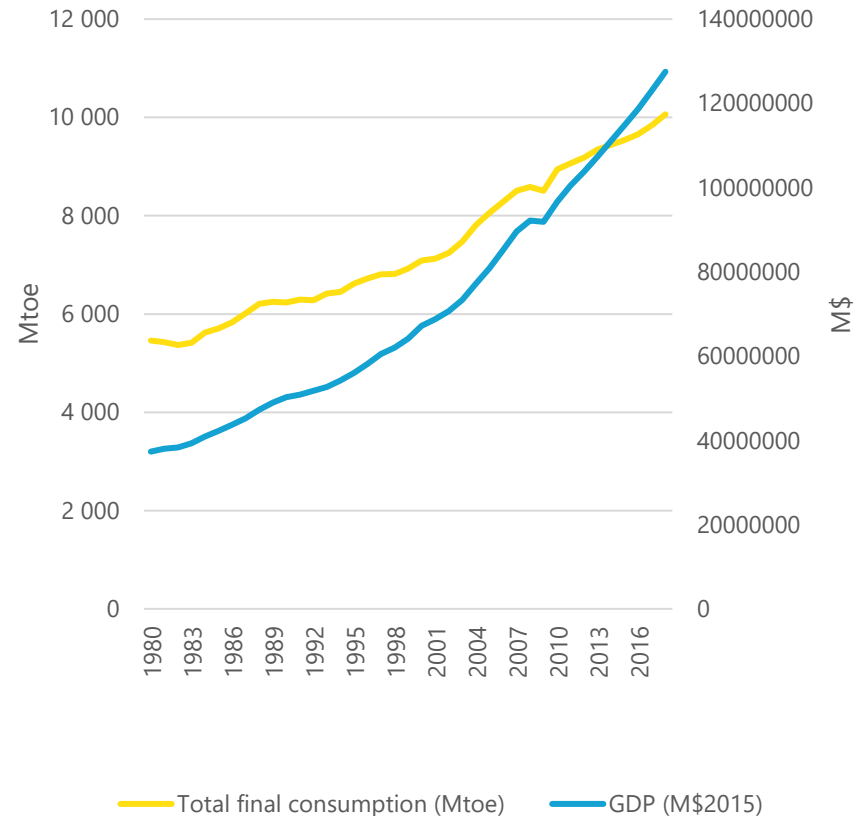
Decoupling GDP growth and energy consumption?

For the past decades growth in energy consumption has supported economic growth at the global level

GDP and Final energy consumption, France

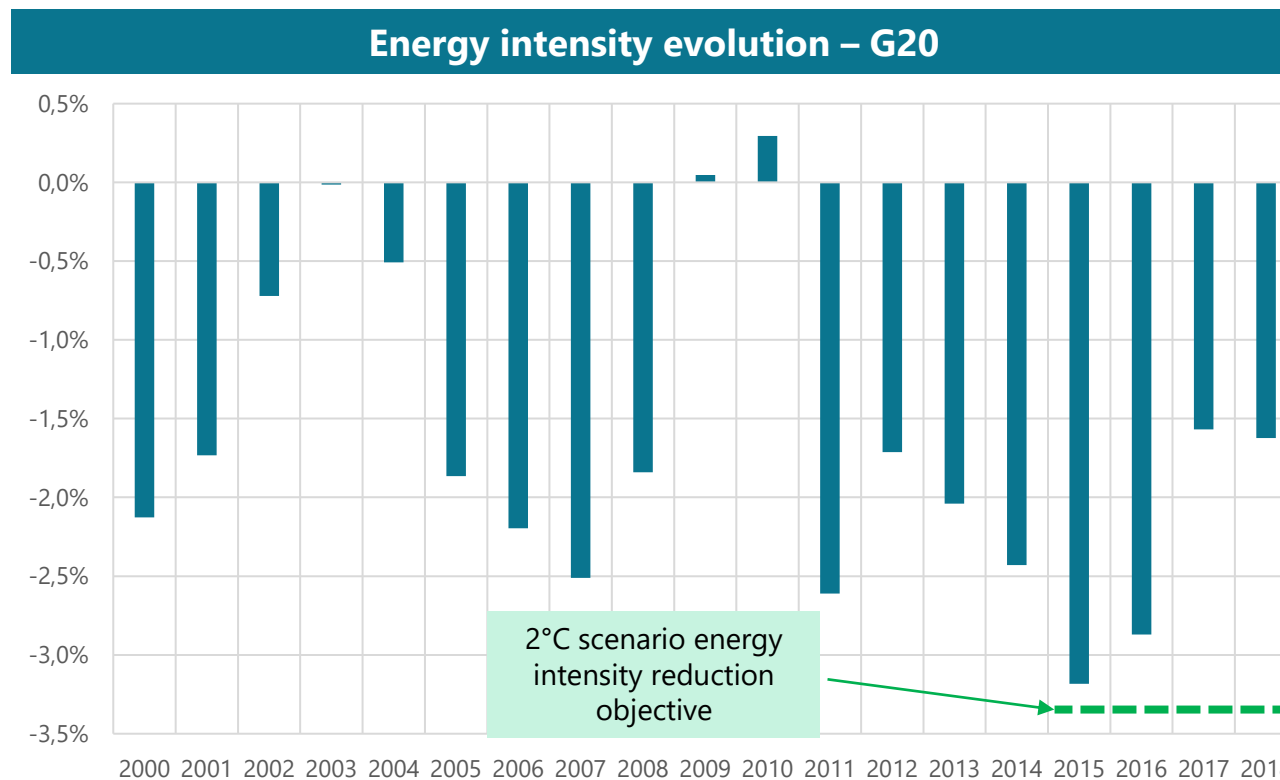


GDP and Final energy consumption, World



Source: Enerdata, [Global Energy and CO2 data](#)

Energy intensity is not decreasing at a sufficient pace to achieve Paris agreement objectives



Source: Enerdata, [Global Energy and CO2 data](#), [EnerFuture](#)

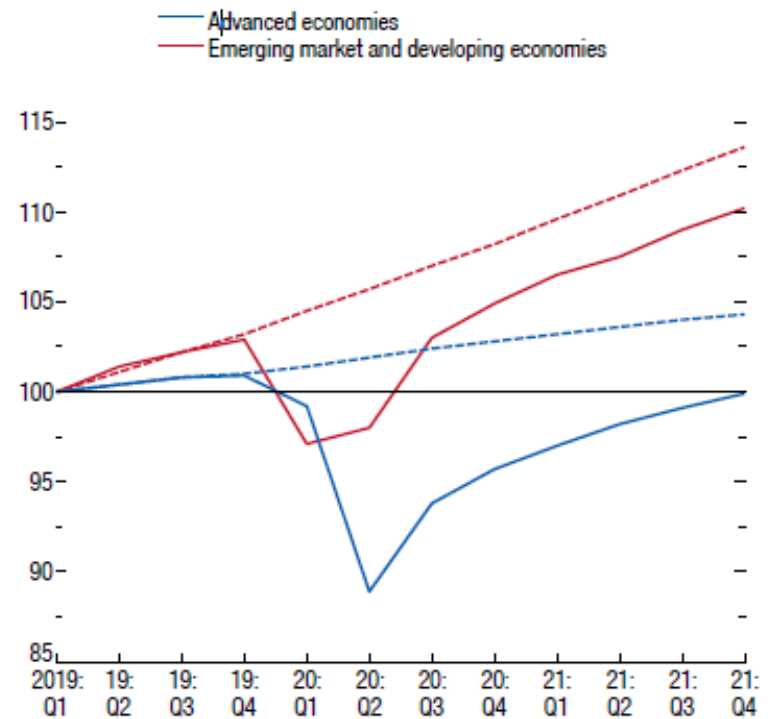
Methodology: lockdown and recovery

Two big uncertainties

- Total lockdown duration in 2020
 - Strict lockdown should last **two months** based on Friday 7th of May government statement
 - But uncertainty around total lockdown phase out
 - And a potential Covid19 second wave that could trigger a second period of lockdown
- Global economy recovery
 - V shape as projected by IMF?

Figure 1.6. Quarterly World GDP

(2019:Q1 = 100; dashed lines indicate estimates from January 2020 World Economic Outlook Update)



Source: IMF staff estimates.

Four scenarios based on the duration of lockdown and the speed of economic recovery

- Central scenario:
 - 2 months lockdown and slow recovery => 8% decrease of GDP in 2020 vs. 2019

		Hypothesis on lockdown duration	
		2 months lockdown	3 months lockdown
Speed of economic recovery	Fast	Scenario 1 (2020 GDP growth = -5%)	Scenario 2 (2020 GDP growth = -8%)
	Slower	Scenario 3 (2020 GDP growth = -8%)	Scénario 4 (2020 GDP growth = -11%)

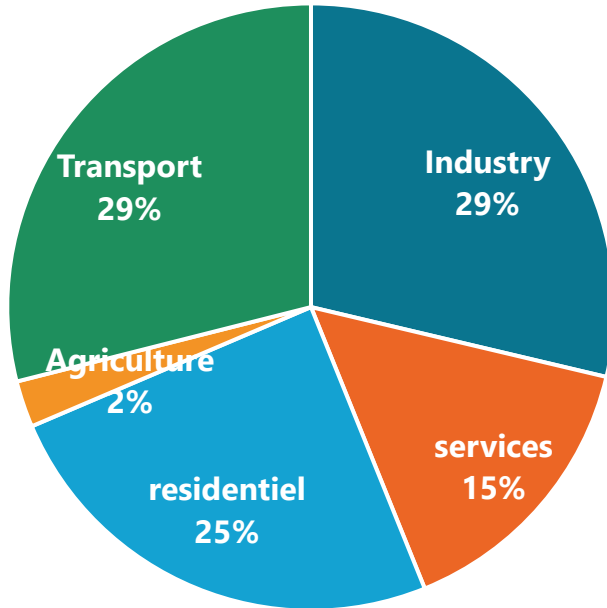
Source: Enerdata from INSEE

Energy consumption impacted by both lockdown and progressive economic recovery

- **Lockdown:**
 - **Impact on energy consumption:**
 - Large impact on passenger transportation
 - Industry and tertiary buildings significantly impacted
 - But some energy consumption transfer from tertiary to residential buildings
 - **Methodology:**
 - Simple assumption: energy consumption decrease in line with activity reduction
 - Observation/expertise for transport
 - Industry and buildings energy consumption decrease estimated from electricity consumption (real time data from RTE, the French TSO)
- **Post lockdown progressive economic recovery**
 - **Impact on energy consumption:**
 - Less structural changes than for lockdown
 - Gradual return to « normal » lifestyle
 - **Methodology**
 - Based on Energy consumption/GDP elasticity
 - Estimated from last economic crisis: 2009

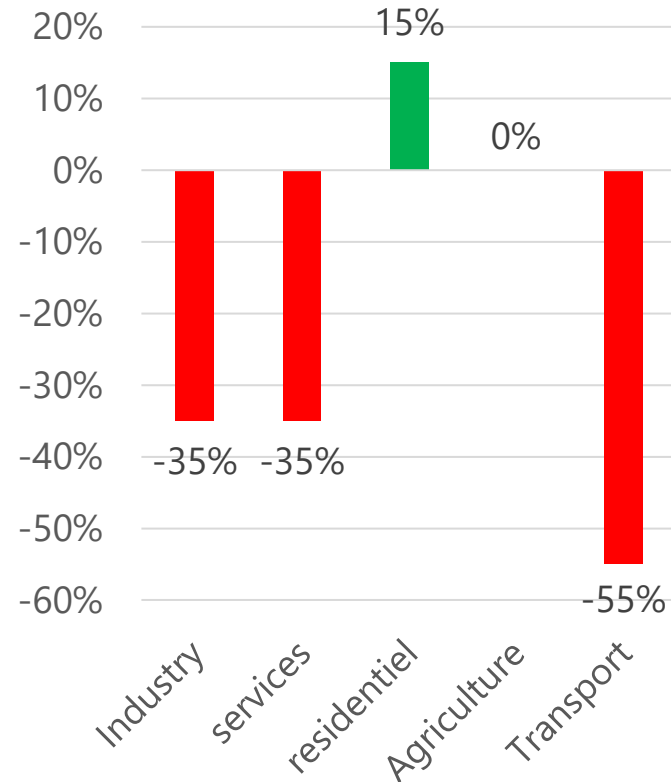
Transportation significantly impacted

Share of final consumption, France



Source: Enerdata, [Global Energy and CO2 data](#)

Activity change, lockdown, France

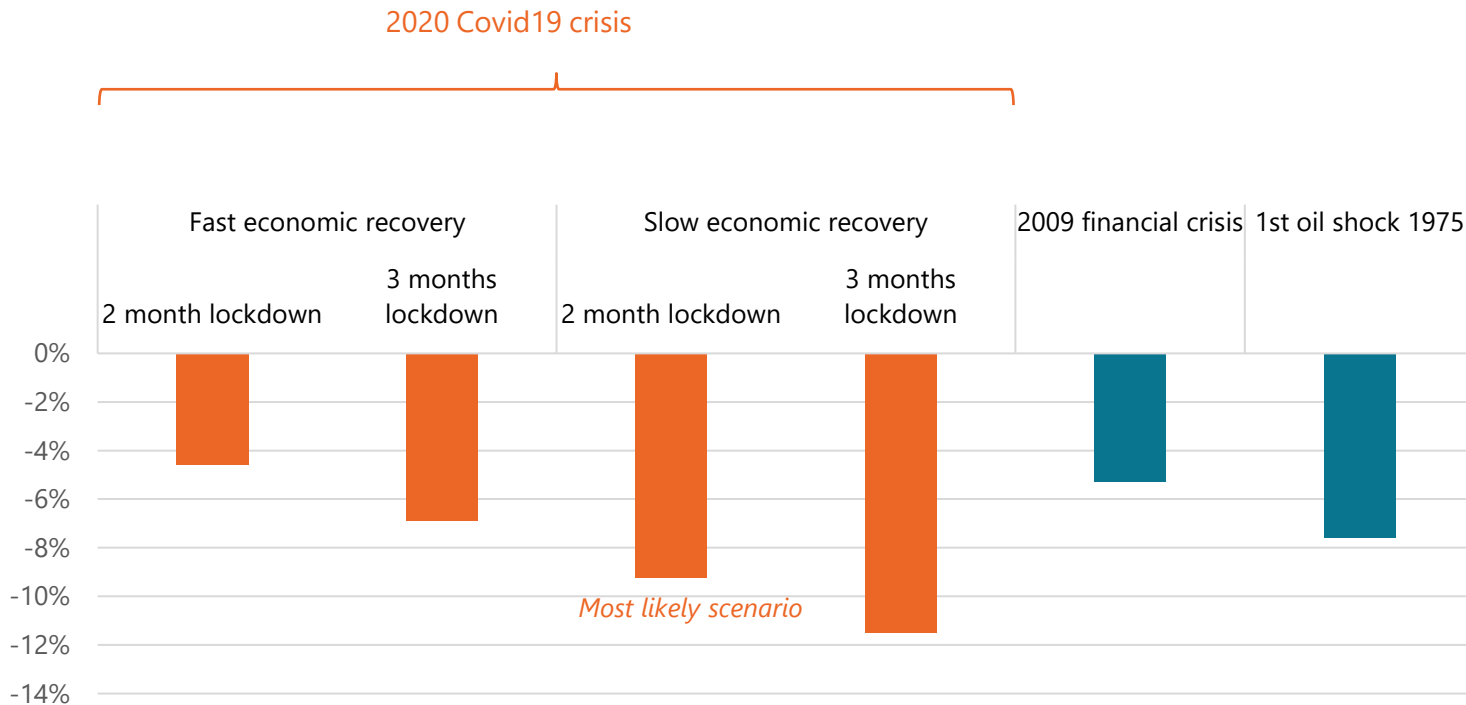


Source: Enerdata, [Global Energy and CO2 data](#), own calculations

Highest drop in energy consumption in France since WWII

An unprecedented drop in energy consumption

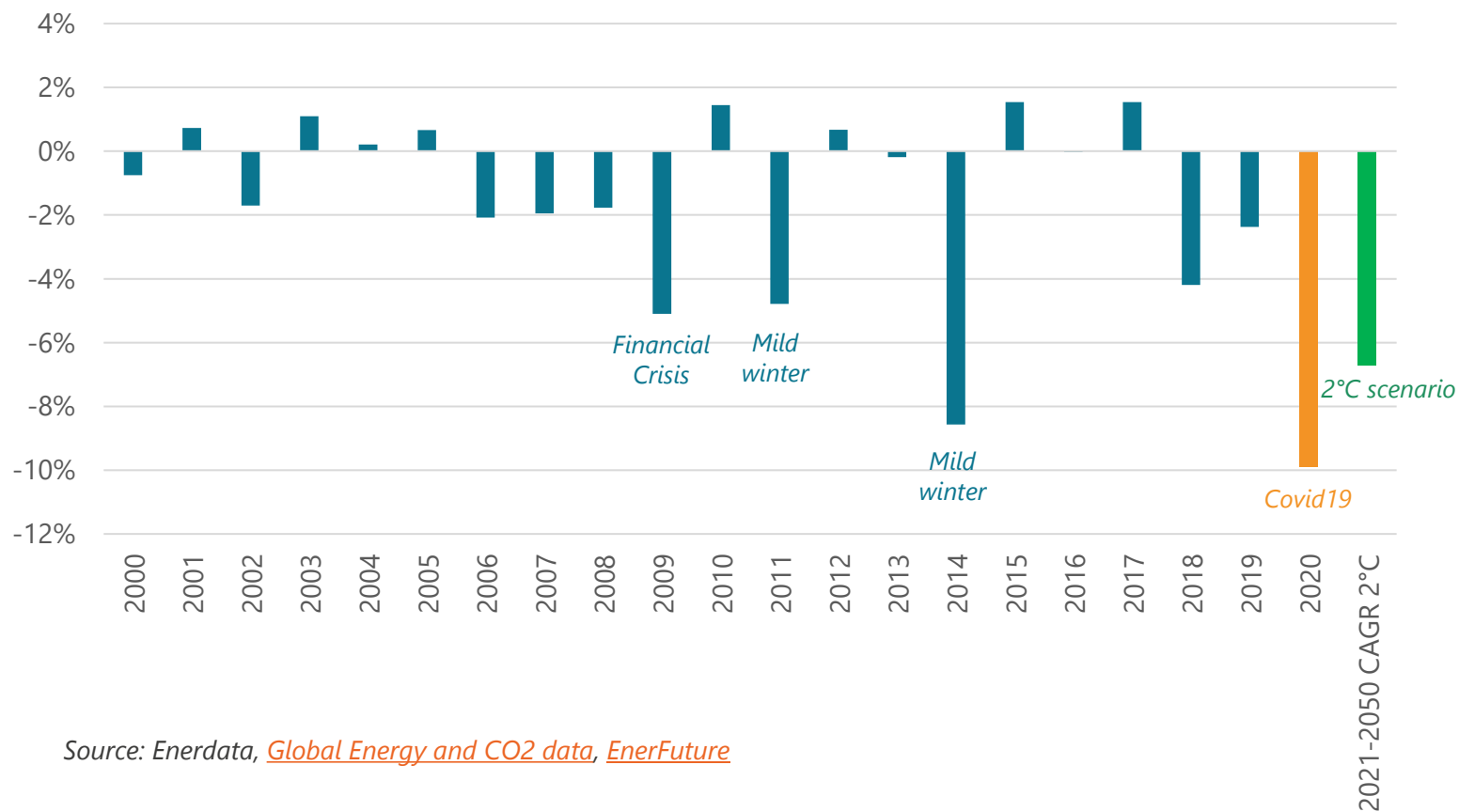
Impact on final energy consumption compared to a scenario without a health crisis, France, 2020



Source: Enerdata, [Global Energy and CO2 data](#), own calculations

Annual French CO₂ emissions reductions required for a 2°C scenario = 2/3 of Covid19 impact on 2020 CO₂ emissions

CO₂ energy related emissions growth, France, 2020



Source: Enerdata, [Global Energy and CO2 data](#), [EnerFuture](#)

Stay tuned

- Enerdata will release its annual Global Energy Trend publication and webinar at the end of May:
 - 2019 consolidated energy key figures
 - 2019 energy related CO₂ emissions
 - 2020 estimation at global level + focus on several countries
 - Mid term scenarios prospective analysis : energy transition & a post Covid world
- More publications and key data already available
 - [Global Energy Statistical Yearbook](#)
 - [EnerOutlook](#)
 - [Executive briefs](#)

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About Enerdata:

Enerdata is an energy intelligence and consulting company established in 1991.

Our experts will help you tackle key energy and climate issues and make sound strategic and business decisions.

We provide research, solutions, consulting and training to key energy players worldwide.

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