Energy and Climate challenges

Closing 2020 and looking at 2021 key challenges

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Part 1
Introduction

Christian Mollard & *Pascal Charriau, Enerdata*

A Global Energy Expert

- **Independent** energy research company since 1991
- Spin-off of a **research centre**
- Expert in **analysis and forecasting** of **global energy & climate** issues
- In-house and globally recognized **databases** and forecasting **models**
- Headquartered in Grenoble (French Alps)
- Subsidiary in Singapore
- **Global reach**:
  - A wide network of partners across the globe
  - Clients and projects in Europe, Asia, Americas, Middle East, Africa

Some Enerdata Clients

ABOUT CLIMATE TRANSPARENCY AND THIS REPORT

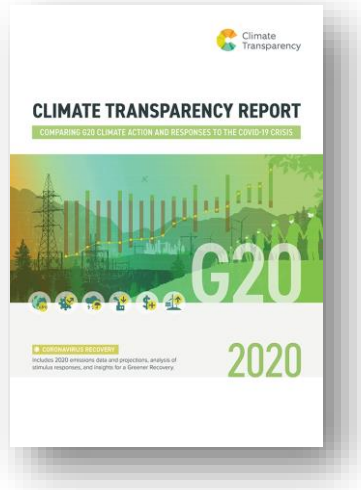
COMPARING G20 CLIMATE ACTION & RESPONSES TO THE COVID-19 CRISIS

Our **global partnership** brings together experts from research organisations and NGOs in the majority of the G20 countries.

Our mission is to **encourage ambitious climate action in the G20 countries**: we inform policy makers and stimulate national debate.

The Climate Transparency Report is **the world's most comprehensive annual review of G20 climate action**: we provide concise and comparable information on mitigation, finance and vulnerability.

The Climate Transparency Report | 2020 consists of this summary report and an in-depth country profile for each of the G20 countries.



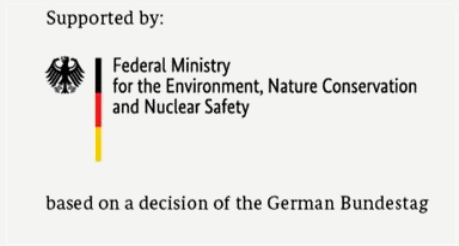
Summary Report

Country Profiles

PARTNERS

DATA PARTNERS

FUNDERS



Where do we stand at the end of 2020 ?
What is at stake in 2021?

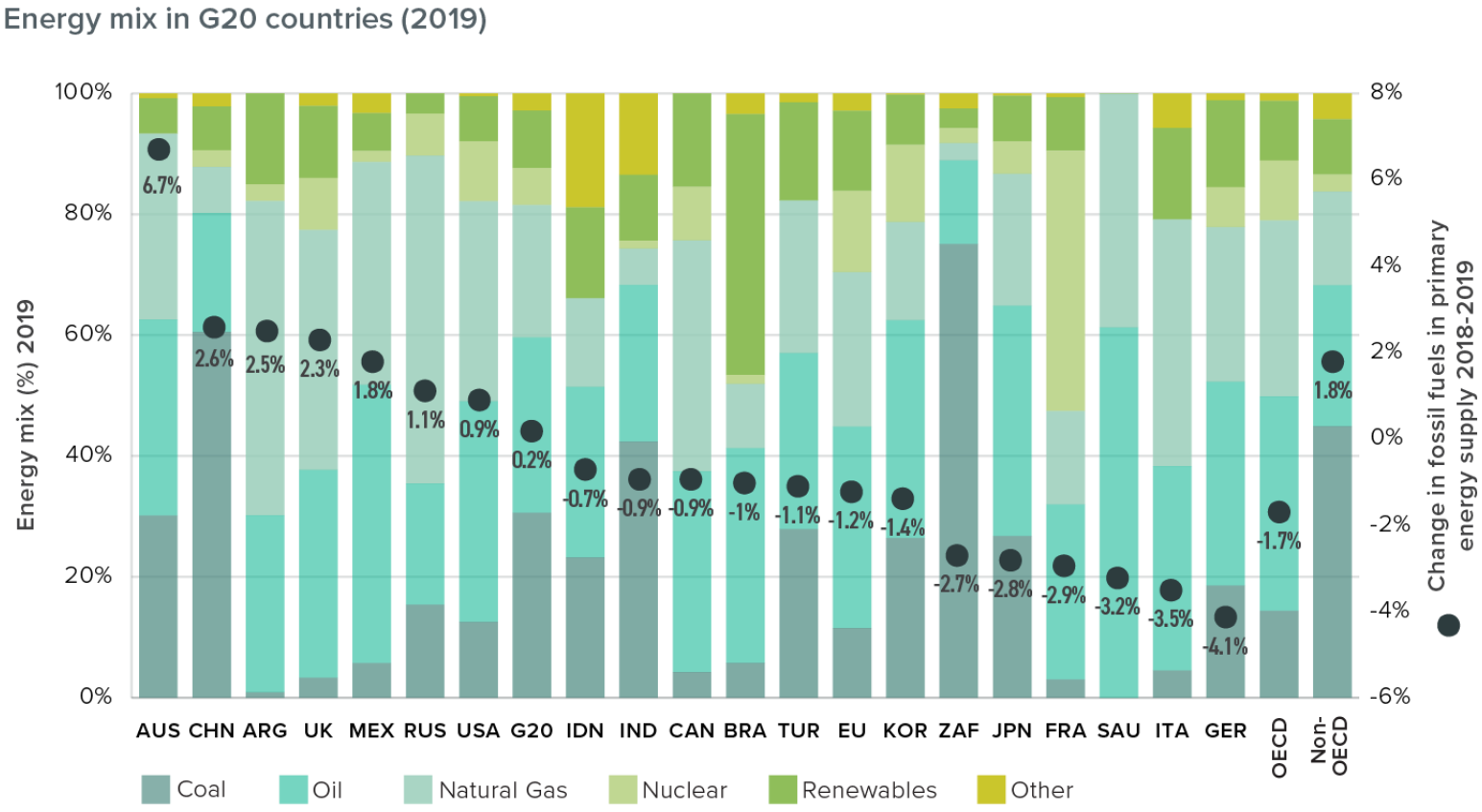
- **Huge sanitary and economic crisis leading to very important drops in the activity**

  → in energy consumption → in CO_2 emissions

- **Many key questions arising**
  - **Is this drop linked with structural changes or only conjunctural ?**
  - **What will be the impact of the recovery plans on the future of the energy systems ?**
  - **Will the crisis enable acceleration on our decarbonisation pathways ?**
- **It is not only about covid & economy. Political changes and societal consciousness increase might also ease the path forward…**
  - **What can we expect from the new NDC & COP26 in 2021 ?**
  - **Where are the main changes in the global picture (finance, youth, local vs global…) ?**

Fossil fuels still 81,5% of G20 primary energy *(2019)*

Coal decreased by 2% in G20 but many countries switching to oil & gas instead of renewables



Source: Enerdata, 2020

Energy mix in G20 countries in 2019

- Fossil fuels decreased by 1.7% in OECD G20 (coal -11%)
- Fossil fuels increased by 1.8% in non-OECD G20 (coal 0%)

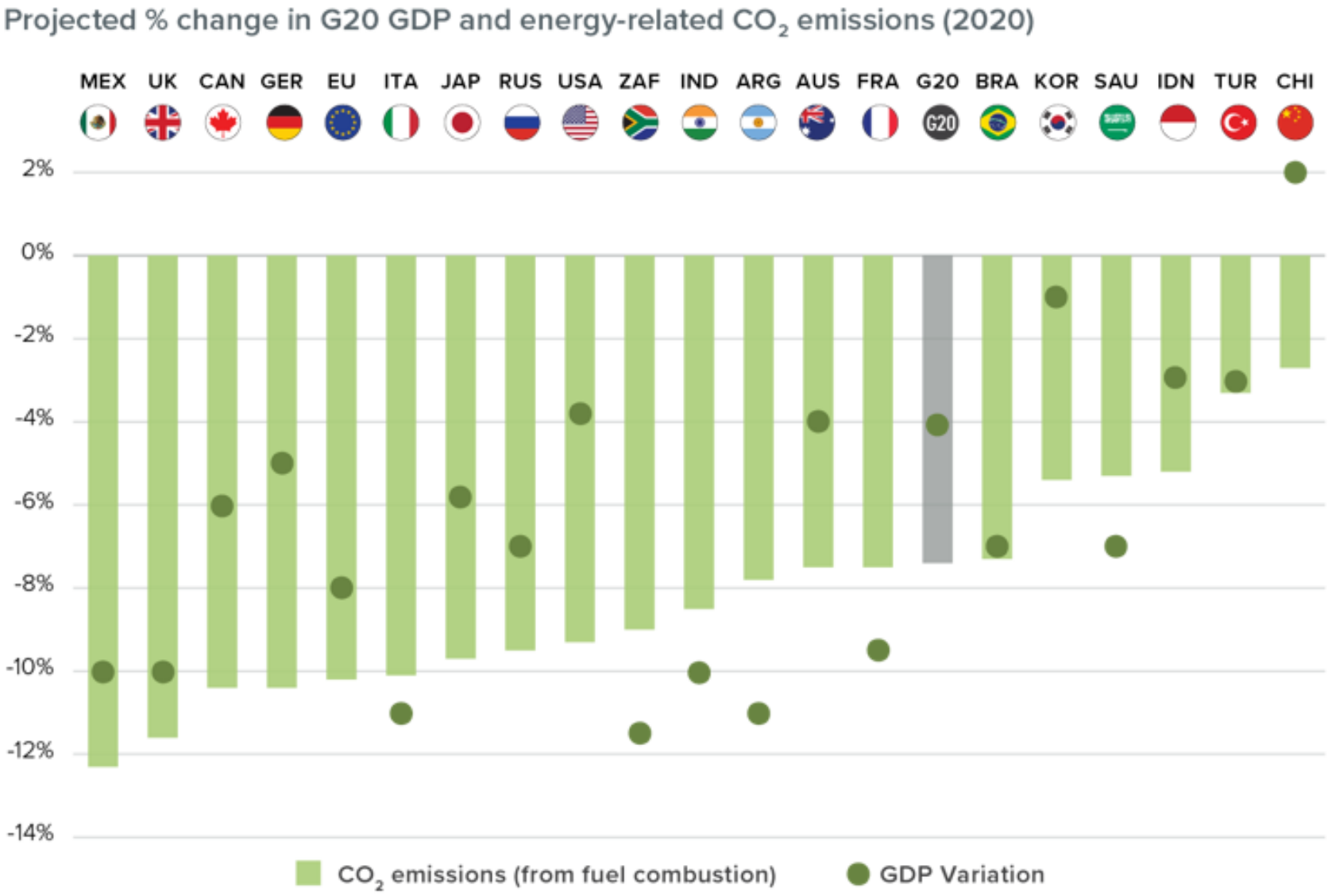
In a 1.5 – 2° scenario, fossil fuels should decrease

- to 60-65% by 2030
- and 30-35% by 2050

❖ *All fossil fuels are not equal!*

❖ *Depends also on the demand*

CO_2 Emissions projected to decrease by 7.5% in 2020



Source: Enerdata, 2020

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Climate Transparency

Part 2

Financing the transition
Recovery plans consistency

Charlene Watson, Overseas Development Institute

MAKING FINANCIAL FLOWS CONSISTENT WITH THE PARIS AGREEMENT

Tools to align financial flows with climate goals

G20 members are making progress in transforming the financial system

FINANCIAL POLICIES & REGULATIONS

Includes: green finance principles, risk disclosure, climate stress tests, enhanced capital liquidity requirements.

FISCAL POLICIES

Includes: ending fossil fuel subsidies, subsidising low-carbon technology, carbon pricing.

PUBLIC FINANCE

Includes: domestic and international public finance and investment, climate finance.

Source: Climate Transparency report, 2020

Fiscal Policies

Carbon Pricing Schemes

18 G20 COUNTRIES are implementing explicit carbon-pricing schemes, such as carbon taxes and emission trading schemes (ETS) – India and Australia are the exceptions.

HIGHEST CARBON TAX (USD/tCO_2e)

France (48.6), South Korea (31.2), and the EU (27.9)

HIGHEST % OF EMISSIONS COVERED BY CARBON TAX

South Africa (80%), South Korea (70%), and Japan (68%)

TOP CARBON REVENUES IN 2019 (USD)

EU 17.5bn, France 10.1bn, Canada 5.6bn, Germany 3.6bn, USA 3.1bn, Japan 2.4bn, Italy 1.5bn, UK 1.2bn

Source: Climate Transparency report, 2020

Financial Policies & Regulations

G20 economies can lead in greening their financial systems

Principles to align prudential and climate change objectives

17 G20 COUNTRIES initiated discussions or are already implementing some form of green finance principles (India, Saudi Arabia, and South Korea are the exceptions).

Disclosing climate-related risks to financial institutions

13 G20 COUNTRIES have implemented or are discussing climate risk disclosure requirements. In Brazil, China and France such disclosures are already mandatory.

Evaluating the resilience of the finance system to climate shocks

7 G20 COUNTRIES introduced climate-related risk assessment and climate stress-test, only in Indonesia are these mandatory.

Limiting commercial banks' exposure to climate-related risks and incentivising low-carbon lending

5 G20 COUNTRIES use some form of enhanced capital and liquidity requirements (China, India, Indonesia, Japan, and South Korea).

GREEN FINANCIAL PRINCIPLES

G20 countries have acknowledged the need to adjust national financial system architectures.

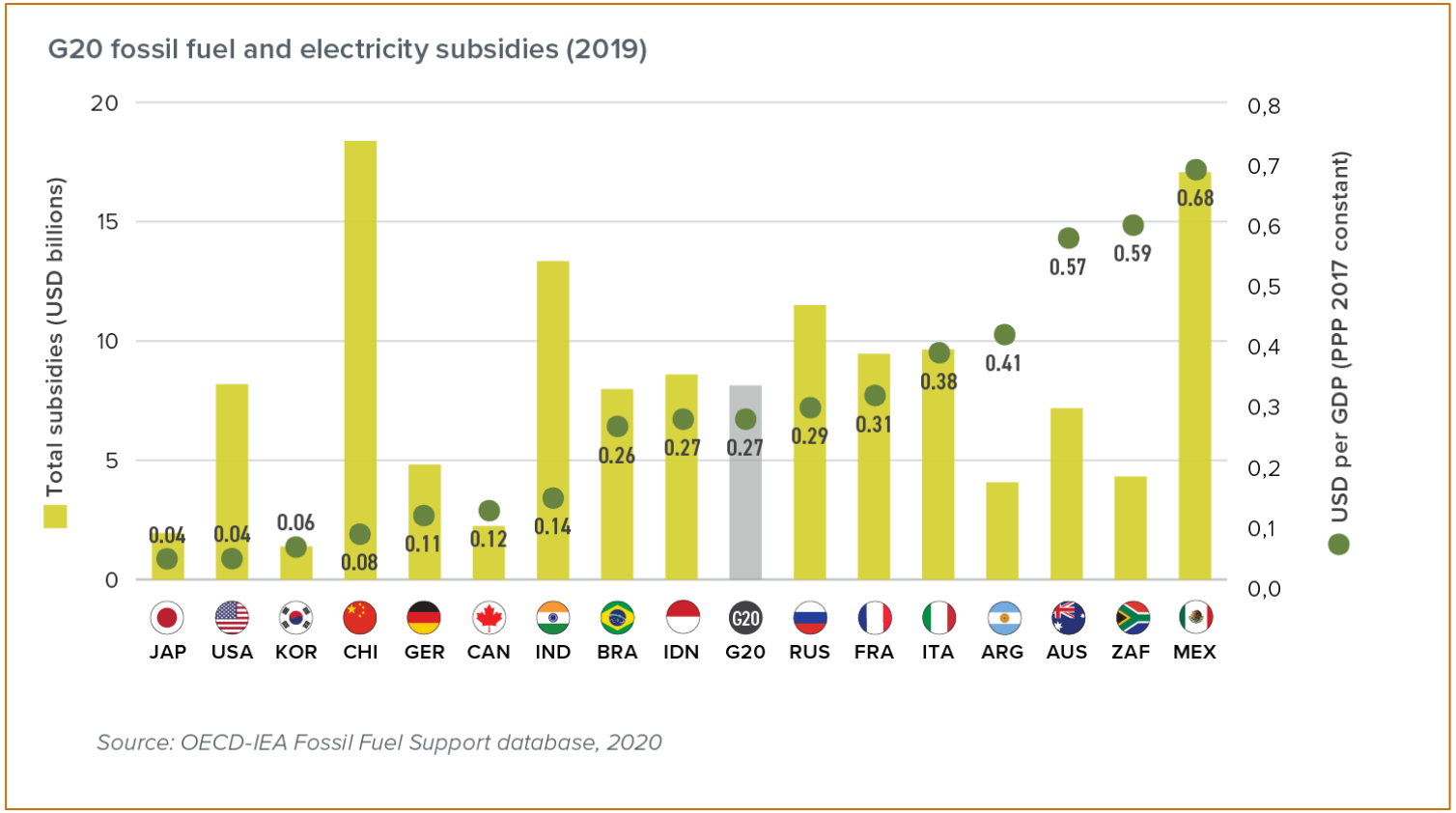
MACRO-PRUDENTIAL POLICIES

G20 countries are making steady progress on advancing macro-prudential policies aimed at reducing and managing the risks that climate change poses to the financial system

Source: Climate Transparency report, 2020

Fiscal Policies

G20 Fossil Fuel subsidies in 2019



Absolute fossil fuel subsidies:

China, Mexico, India, Russia, Italy, France, Indonesia, and the USA were all above the G20 average in 2019.

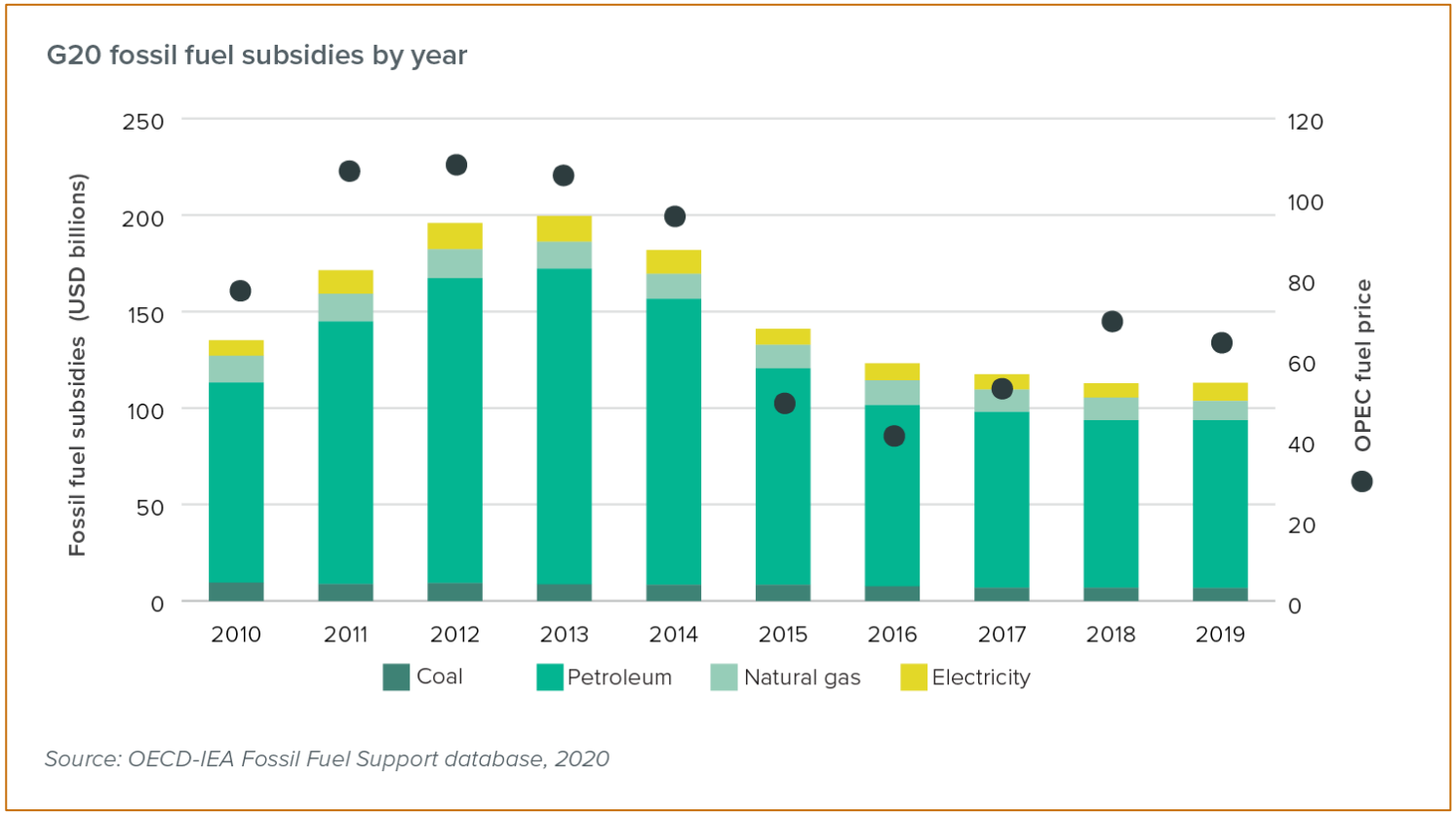
Per unit of GDP :

Mexico, South Africa, Australia, Argentina, Italy, France, and Russia are all above the G20 average.

Source: Climate Transparency report, 2020

Fiscal Policies

G20 Fossil Fuel subsidies by year



Source: OECD-IEA Fossil Fuel Support database, 2020

G20 countries

(excluding Saudi Arabia, Turkey, and the UK)

provided USD 130bn in subsidies to coal, oil, and gas in 2019.

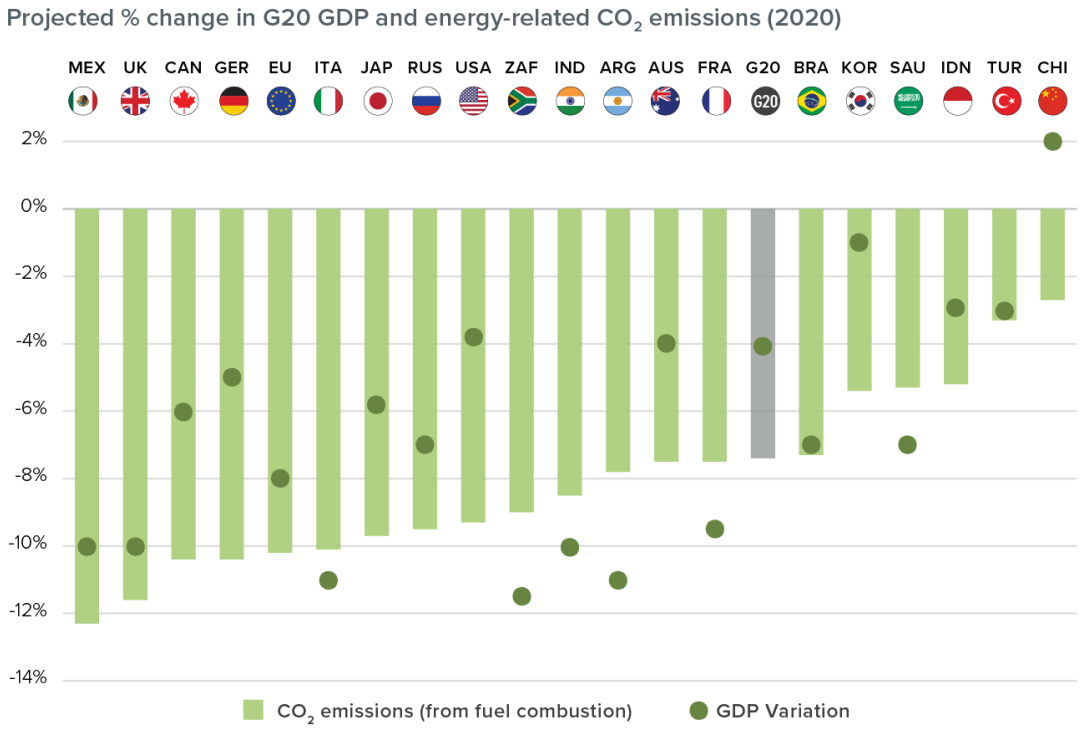
This represents an increase on USD 117bn in 2018.

Source: Climate Transparency report, 2020

Comparing G20 Responses to the COVID-19 Crisis

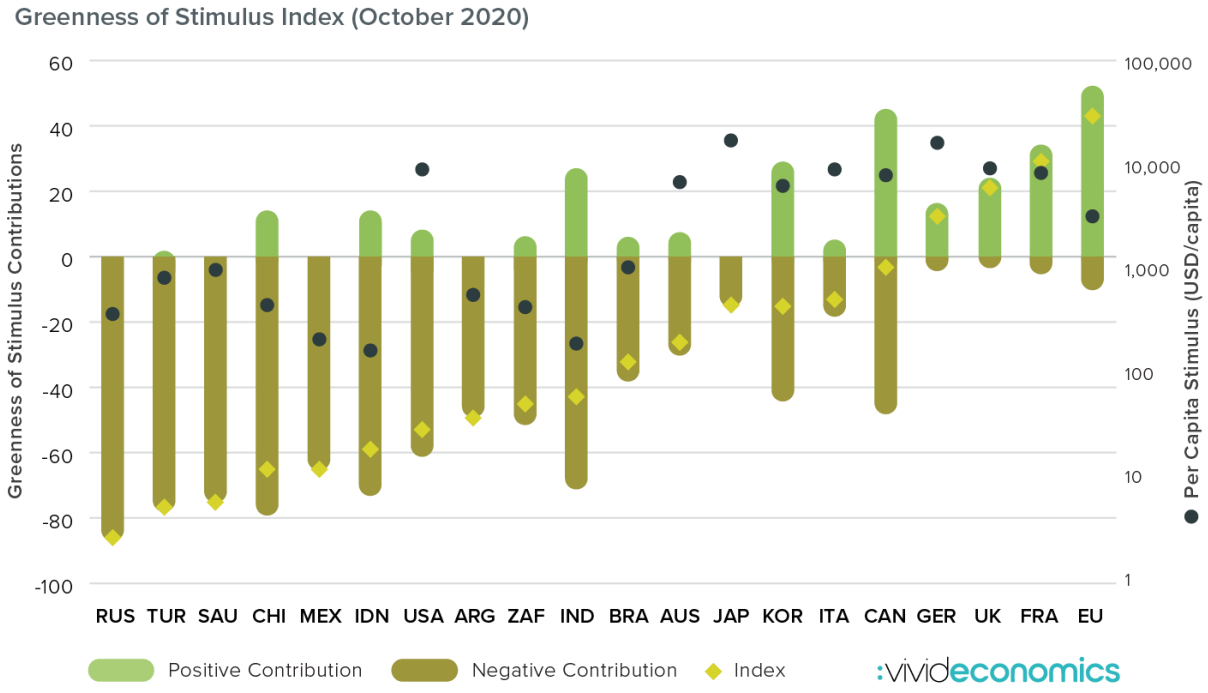
COVID-19 has had a dramatic effect on Emissions, but recovery packages risk rebound

G20 GDP & emissions projected to decrease in 2020



Source: Enerdata, 2020

G20 responses reinforcing negative climate trends



Source: Climate Transparency report, 2020

Insights for a Green Recovery

Greening COVID-19 responses can be used to align recovery with long-term goals

1. Invest in sustainable physical infrastructure
2. Invest in nature-based solutions & the environments
3. Invest in education, research & development
4. Introduce conditionality for greener bailouts
5. Reinforce police, regulations, and incentives for a sustainable future

Source: Climate Transparency report, 2020

Part 3

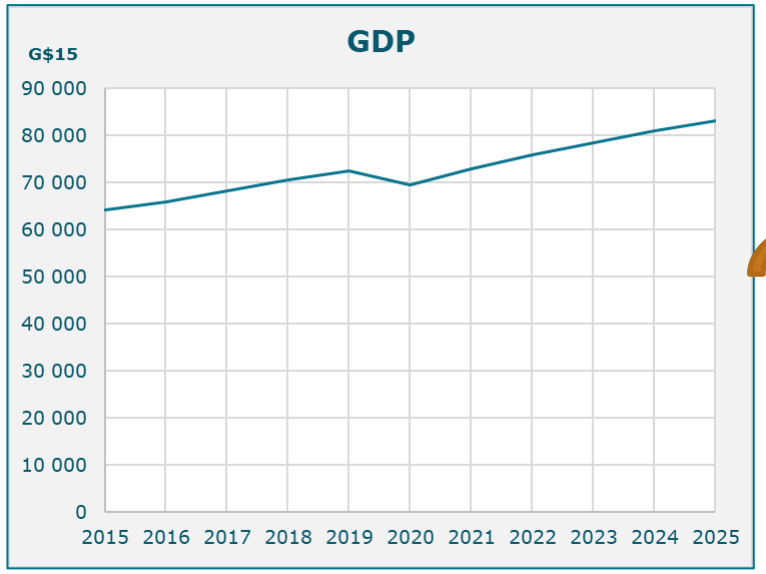
Climate policies & negotiations
Key learnings from 2020 ?
What is at stake in 2021 (new NDCs, COP26) ?

Gerd Leipold, Climate Transparency

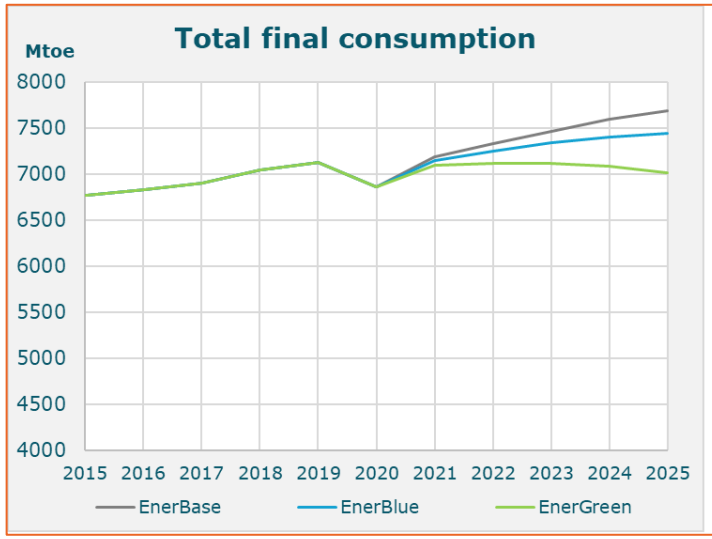
Part 4

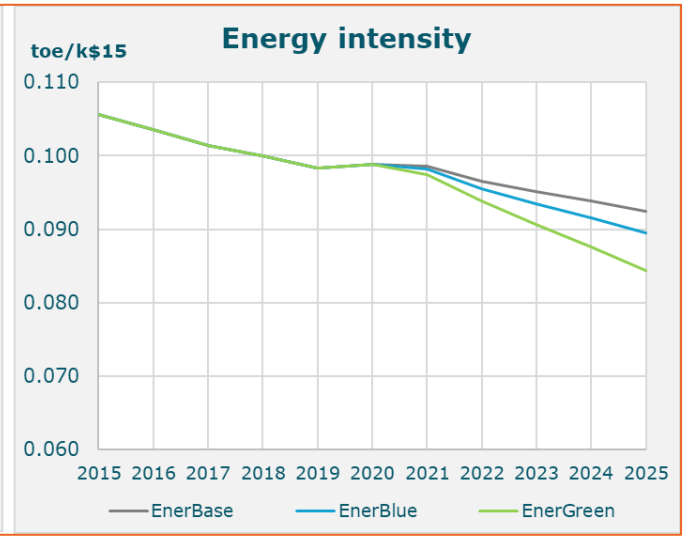
2020 to 2025 - Key years to come…
What should we monitor in 2021 ?

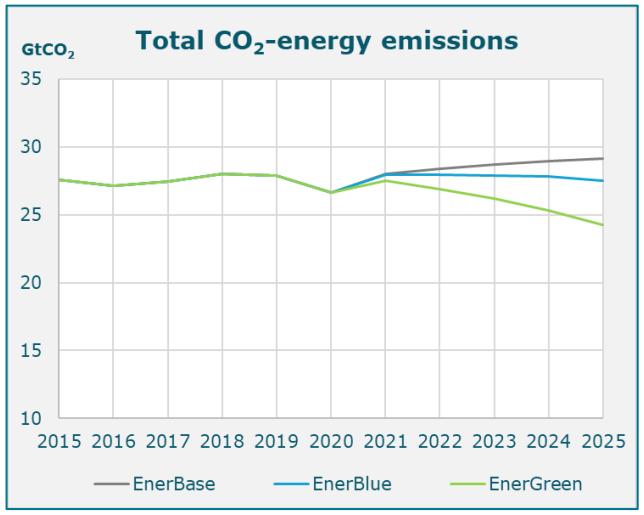
Pascal Charriau, Enerdata

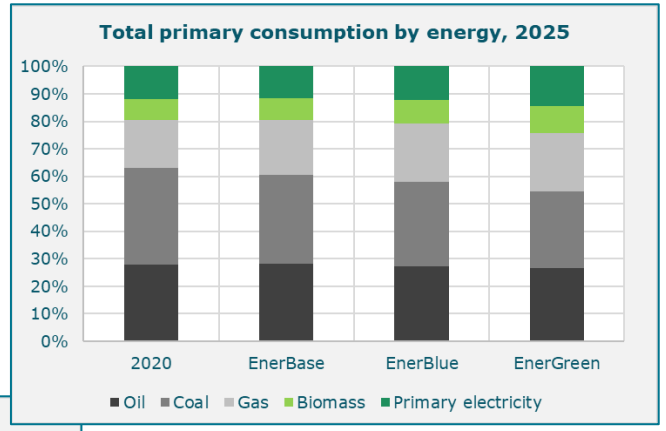


Source: Oxford Economics, Nov 2020

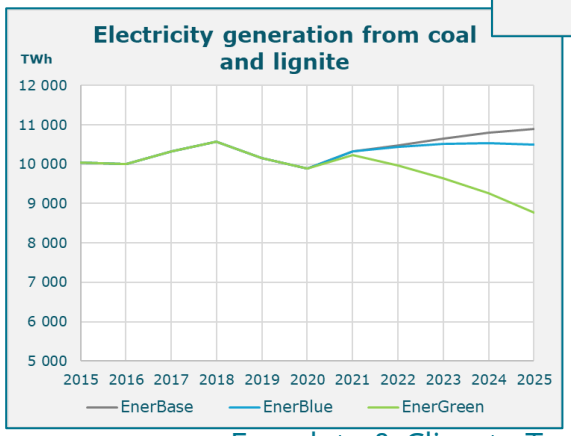


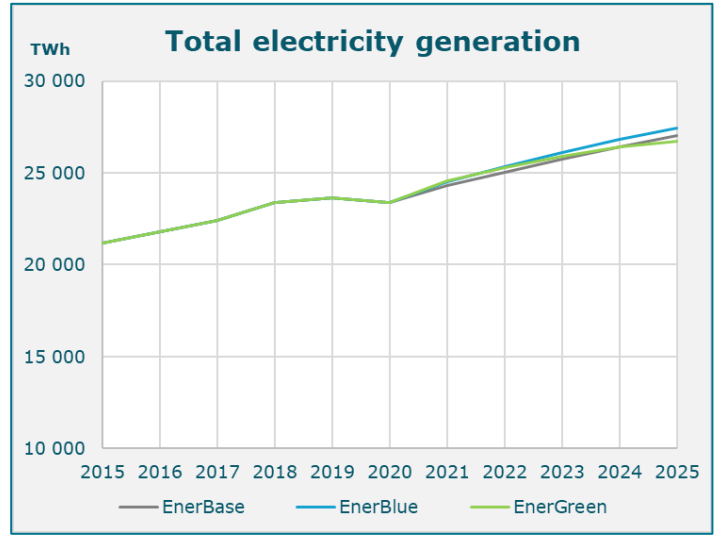






Share of electricity in final demand	2025
EnerBase	26%
EnerBlue	27%
EnerGreen	28%





G20 scenarios up to 2025

Source: Enerdata modelling, Dec. 2020

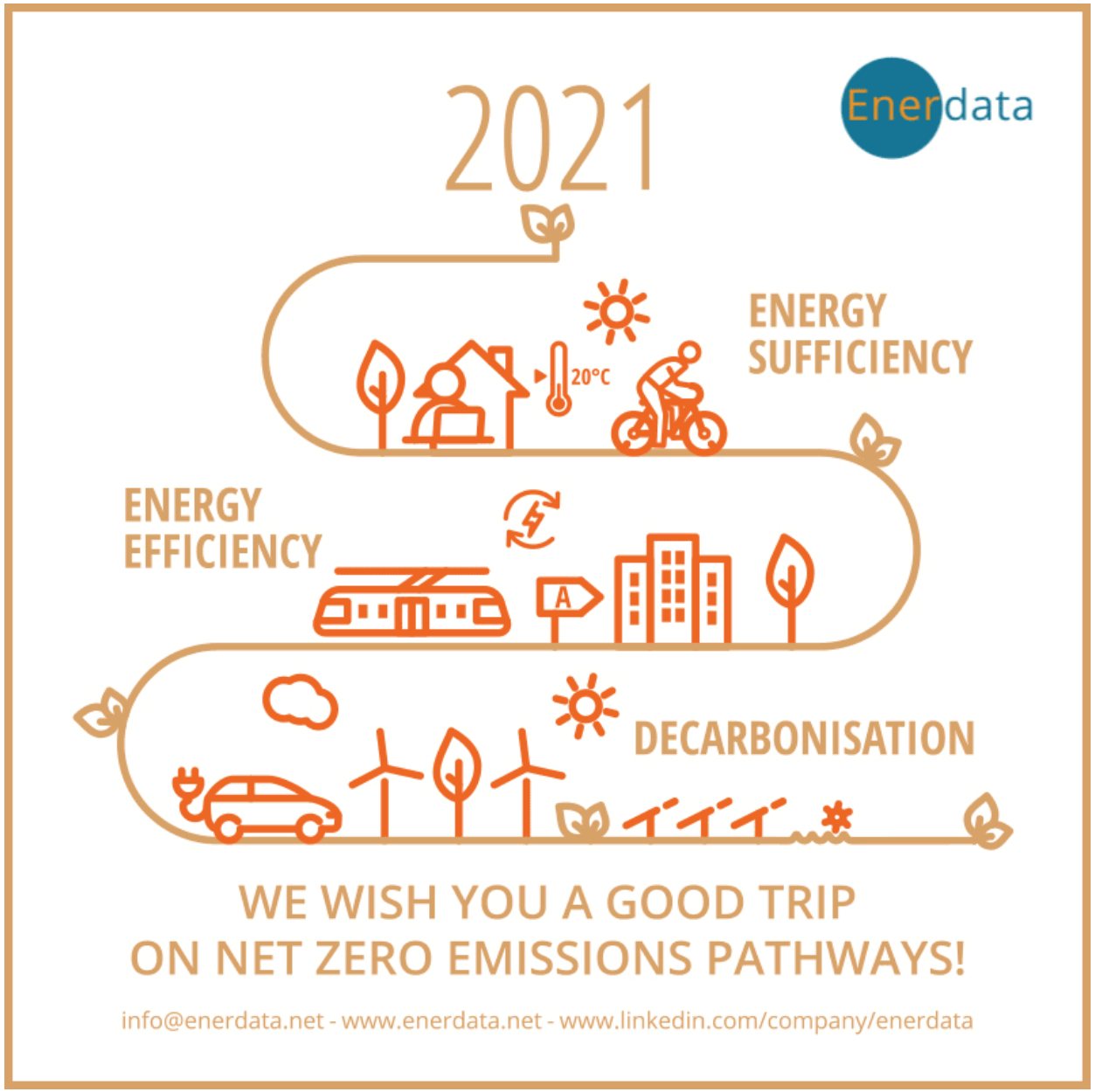
Enerdata

What will we closely monitor in 2021?

- New NDCs & Zero Net Emissions commitments
  - Scope, ambitions & completeness
  - Short term (2021 – 2025) objectives consistency
- Trends in key decarbonisation enablers
  - Electrification of end-uses & Power mix (capacities & production)
  - Decrease in coal % in the primary mix
  - Development of other decarbonised energy vectors
  - Energy efficiency policies acceleration
  - Energy sufficiency integration in demand monitoring
- Other key actors' trends
  - Industrial segments, regions & cities…

Q & A session

Conclusions


2021
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