

CEER Annual Conference 2021 Dynamic Regulation in Practice:

The energy sector during the pandemic
and Energy Transition

30 March 2021



#CAC2021



Agenda



Keynote address by Kadri Simson, European Commission

Session One: Impact of the Covid-19 Pandemic on the Energy Sector

Presentations by Mechthild Wörsdörfer, International Energy Agency & Jean-Laurent Lastelle, CEER

Panel discussion

Jiří Jaromír Klemeš, Brno University of Technology

Matthew Vickers, Ombudsman Services & NEON

Marie-Pierre Fauconnier, Sibelga

Moderator: Jean-Laurent Lastelle, CEER

Session Two: Sector coupling and the energy transition

Presentations by Pedro Verdelho & Christine Materazzi-Wagner, CEER

Panel discussion

Catharina Sikow-Magny, European Commission

Uroš Salobir, ELES

Jorgo Chatzimarkakis, Hydrogen Europe

Moderator: Wolfgang Urbantschitsch, CEER

Closing remarks & preview new CEER

Strategy for 2022-2025 by Annegret Groebel, CEER President



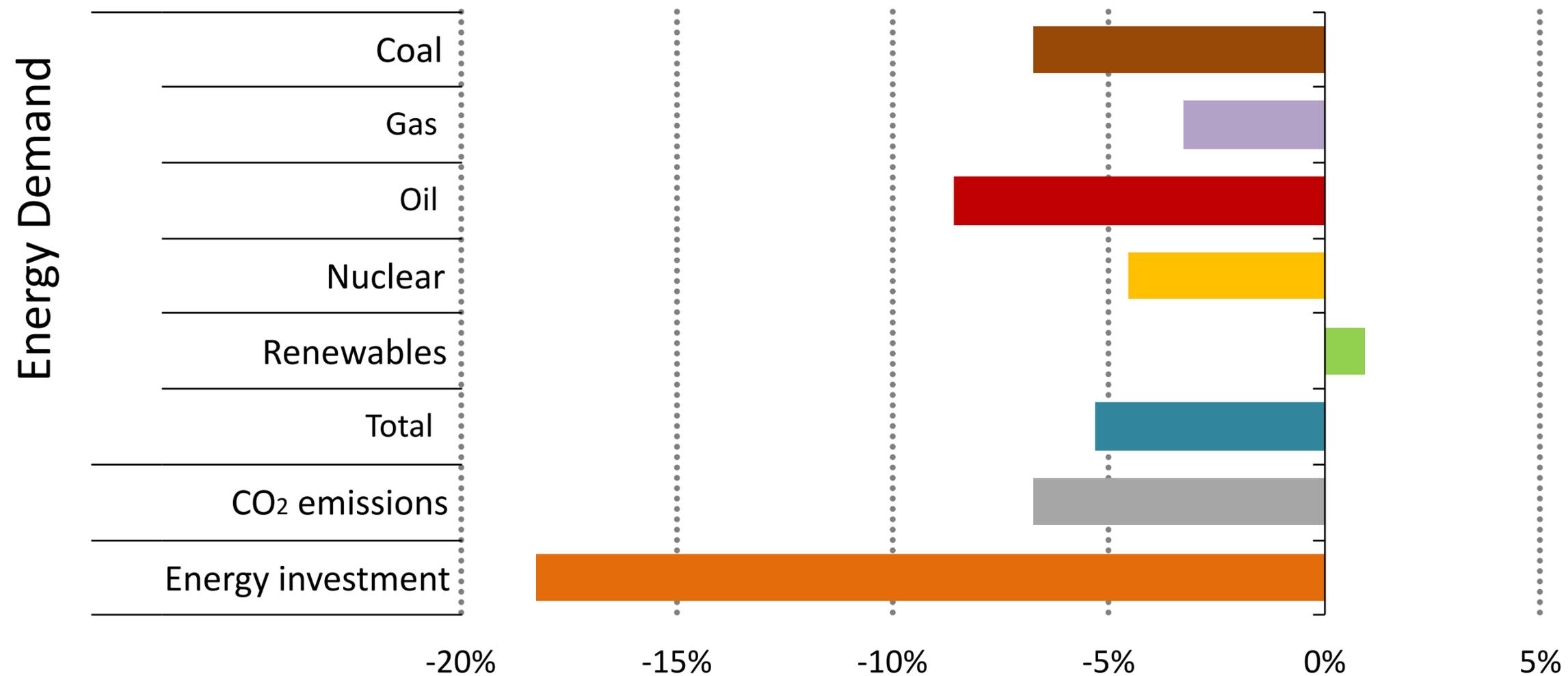
Impact of the Covid-19 pandemic on the energy sector

Mechthild Wörsdörfer, Director, Sustainability, Technology & Outlooks, IEA

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A shock to the energy system

Key estimated energy demand, CO₂ emissions and investment indicators, 2020 relative to 2019

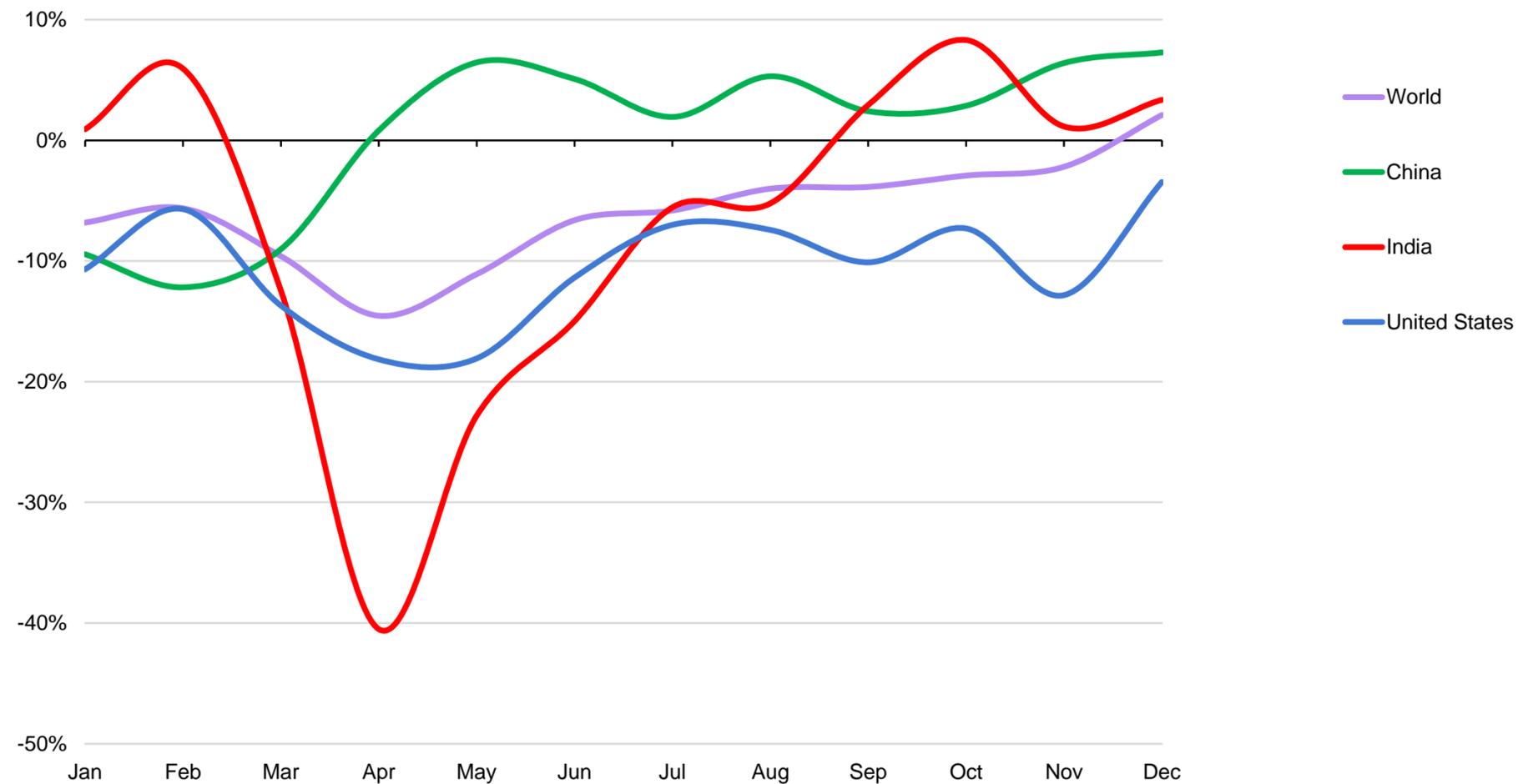


Sources:
Global Energy Review,
World Energy Investment
WEO-2020

The impacts of Covid-19 on future energy and emissions trends depend on the duration and severity of the pandemic, and the responses from the world's energy policy makers

Major emitters underpinned the rebound of global CO₂ emissions

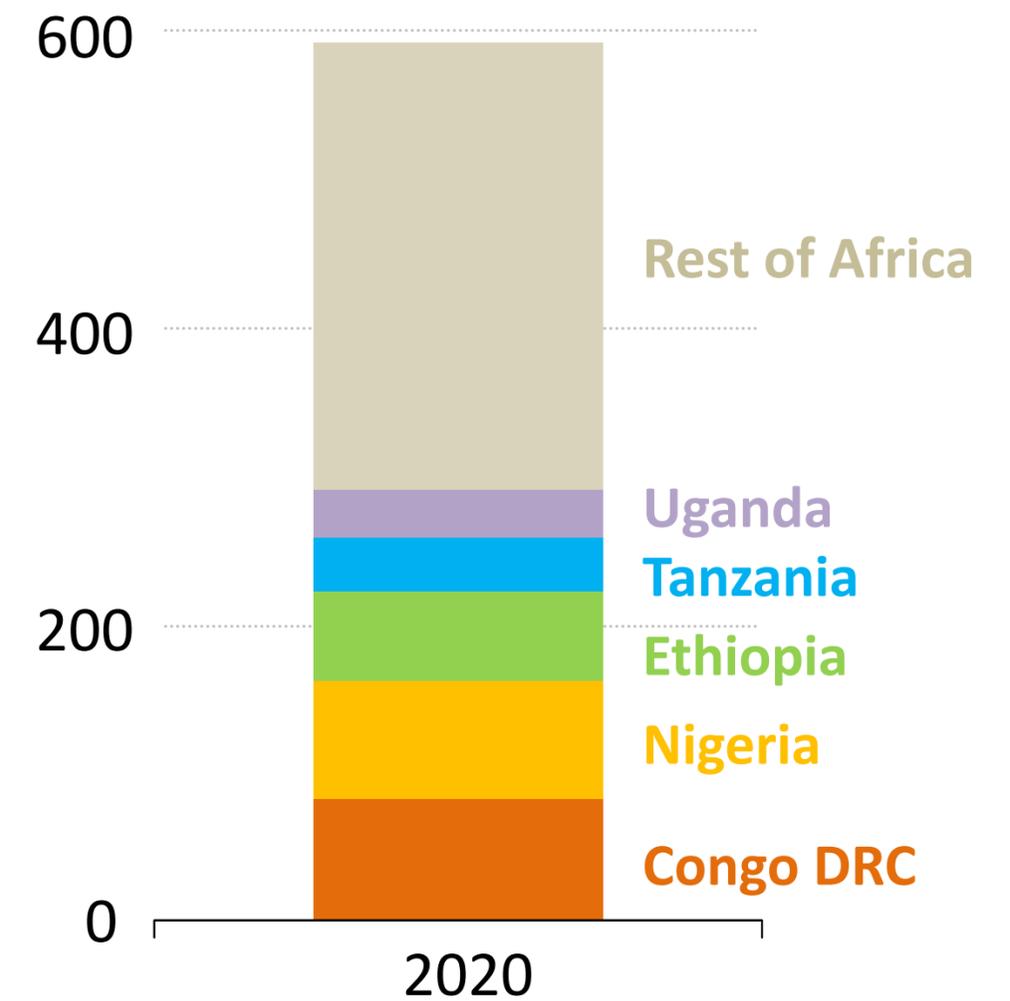
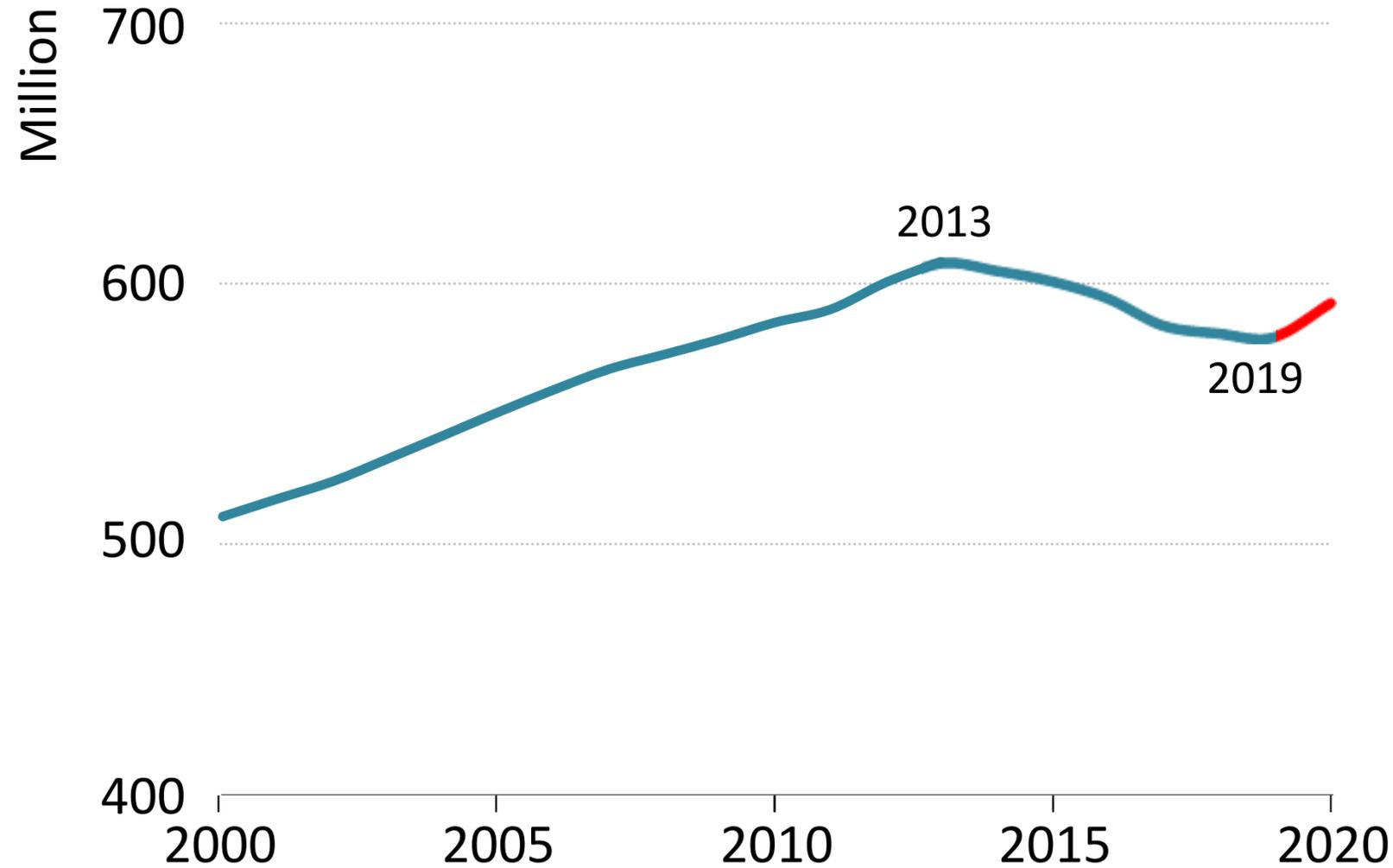
Evolution of monthly CO₂ emissions in 2020 relative to 2019



Major emerging economies underpinned the rebound in global CO₂ emissions, led by China where CO₂ emissions in 2020 were already above 2019 levels by April

The poorest feel the worst effects of the crisis

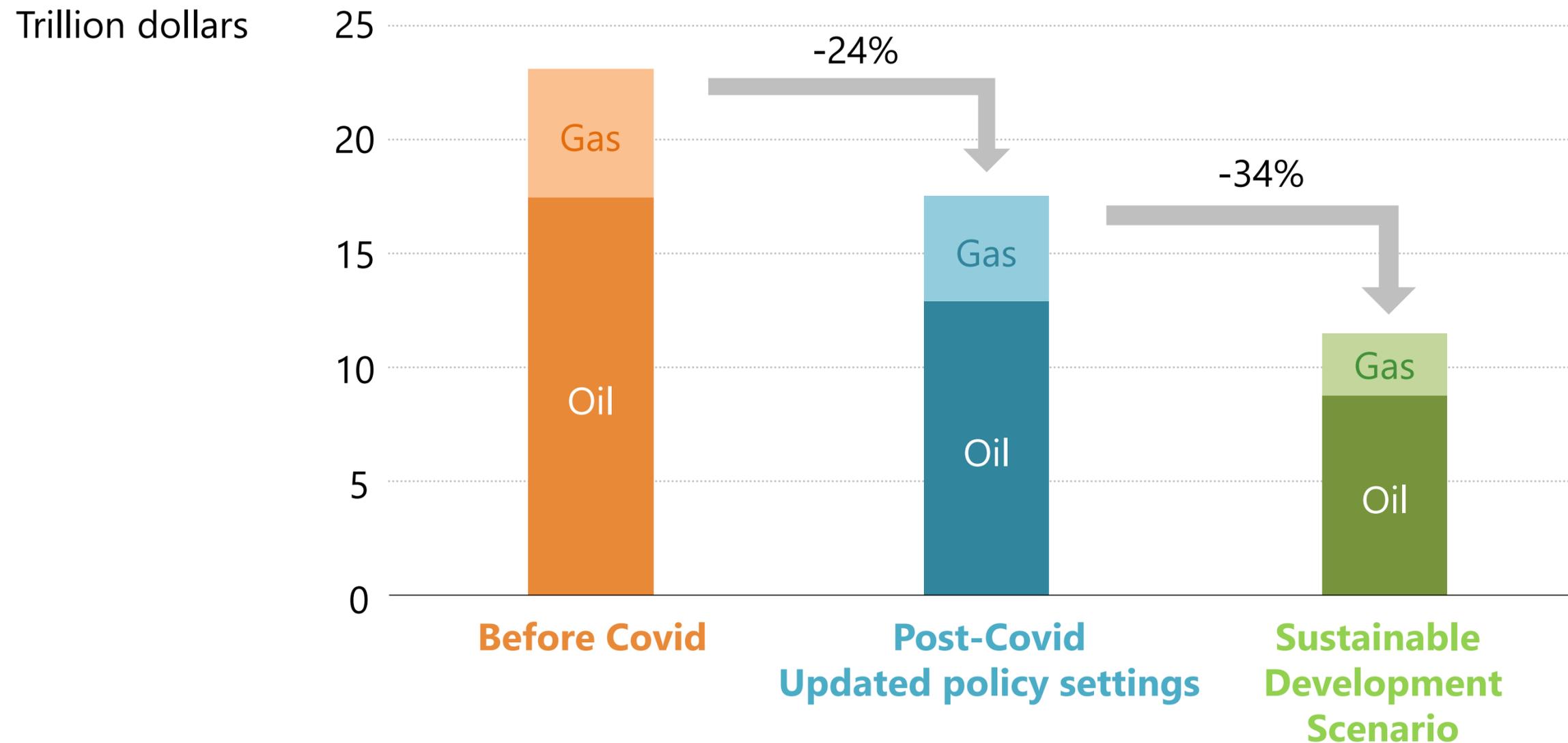
Population without access to electricity in Africa



The number of people without electricity access is rising in 2020, and five countries make up half of the total in Africa. Higher financing costs limit progress and a delayed recovery leaves 630 million in the dark in 2030.

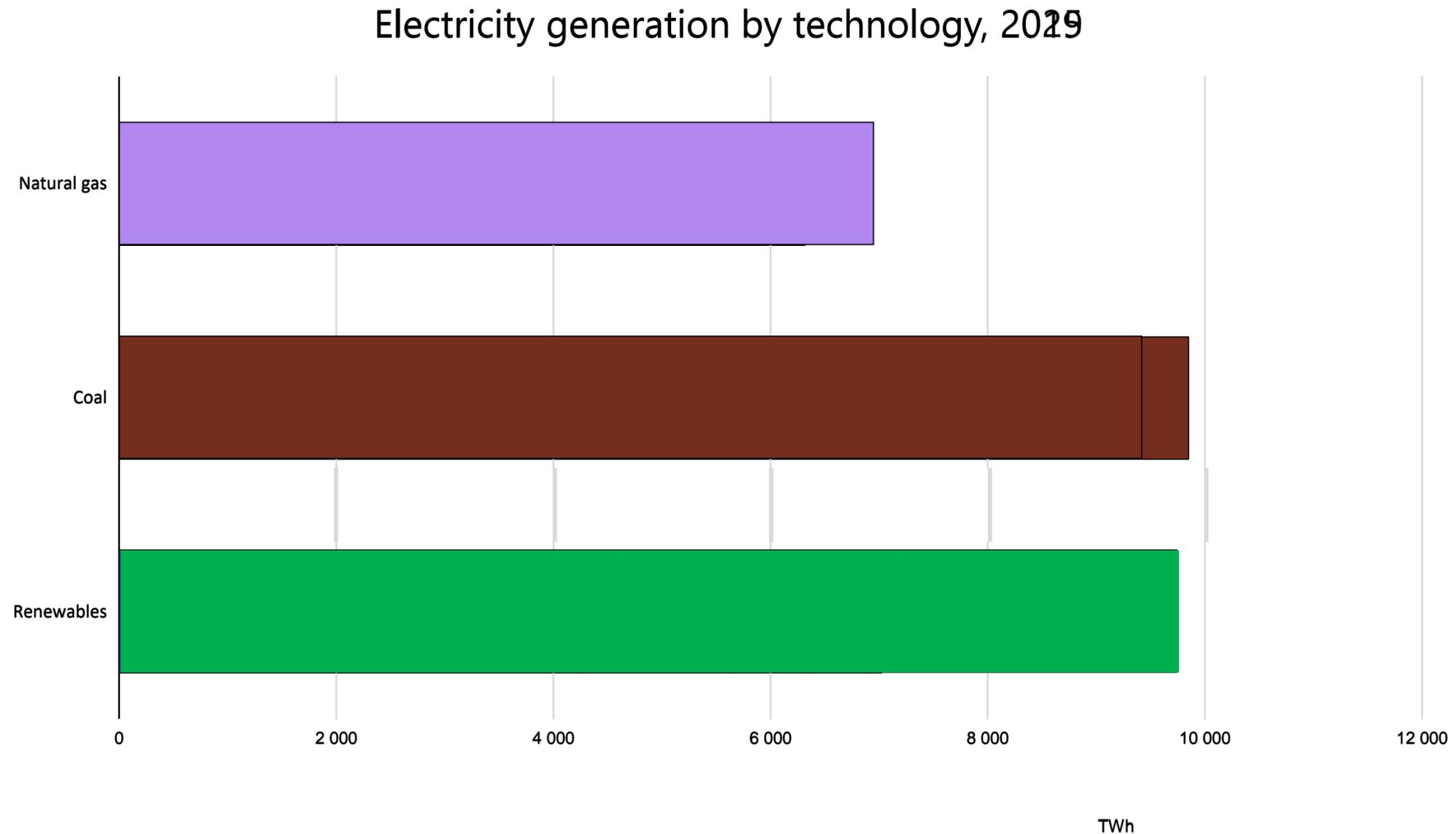
Diversification: the critical watchword for oil and gas producers

Today's value of global oil and gas production to 2040



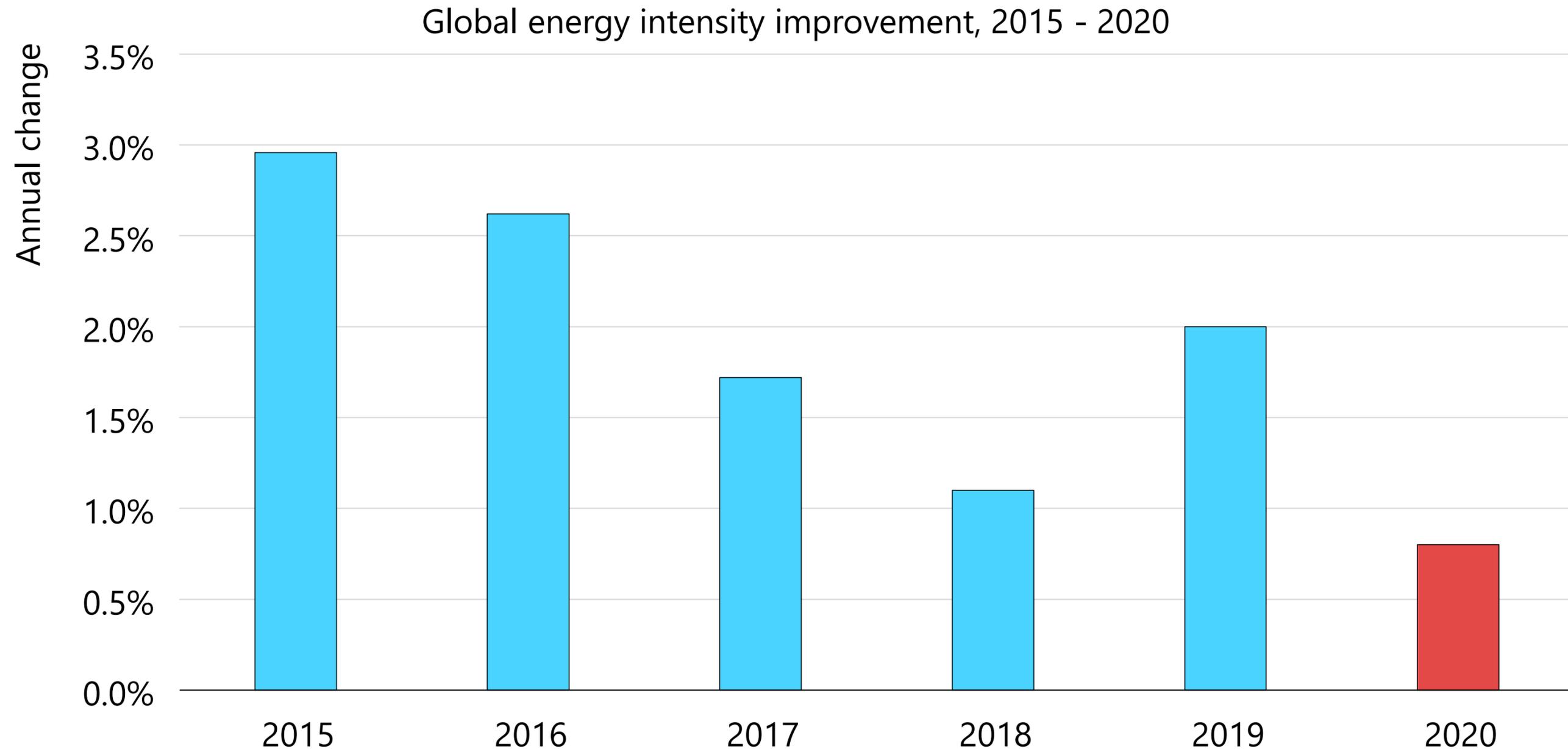
A changing energy system is posing critical questions for countries heavily dependent on oil & gas revenue. The push for net-zero emissions creates additional pressure for changes in strategies and business models.

A major shift in global electricity generation on the horizon



Wind and solar PV's combined installed capacity surpasses that of natural gas in 2023 and coal in 2024. Renewables will become the largest source of electricity generation in 2025, overtaking coal.

Efficiency progress, already weakened, faces further setbacks

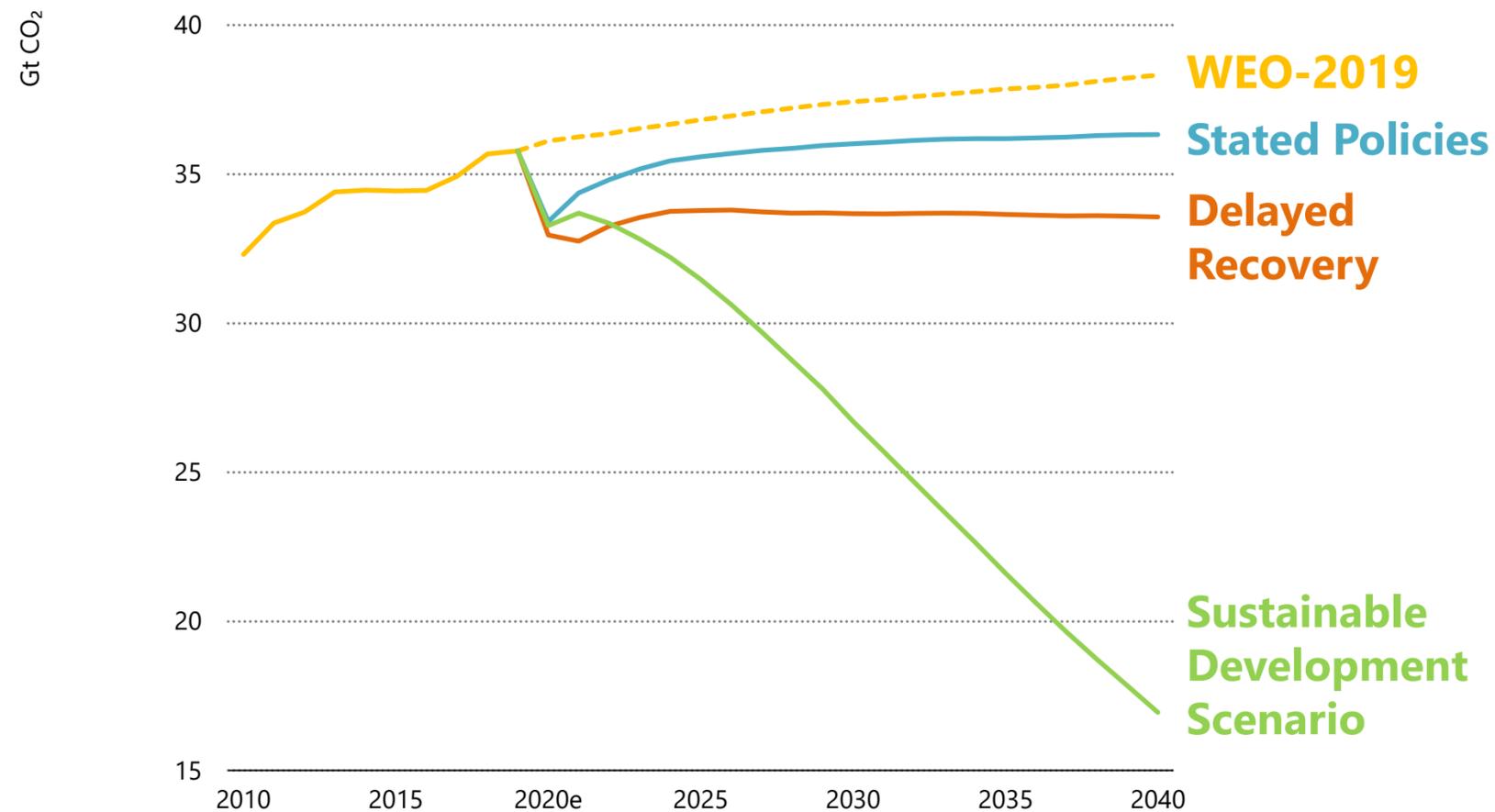


Source:
Efficiency 2020

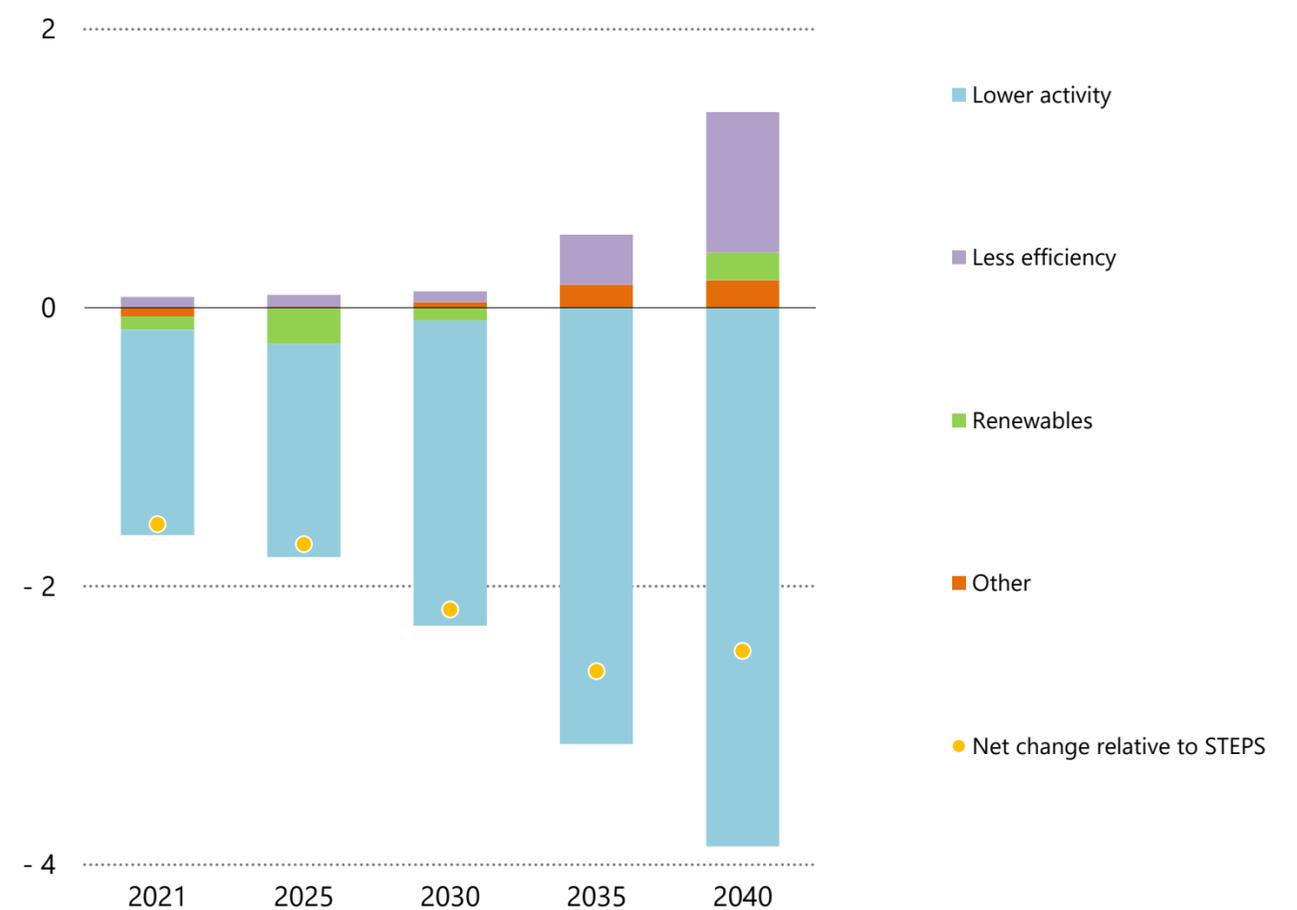
The Covid-19 crisis has shocked both economic activity and energy demand. While some clean energy technologies have proved resilient, the rate of global energy intensity progress halved in 2020

Only a sustainable recovery can break the emissions trend

Energy sector and industrial process CO₂ emissions by scenario



Emissions reductions in the Delayed Recovery Scenario, relative to Stated Policies (STEPS)



Emissions reductions in the Delayed Recovery Scenario come at a huge social and economic cost. Structural changes in energy supply and demand, not reductions in activity, are the key to energy transitions

iea

The Impact of the COVID-19 Pandemic on the Energy Sector

– A first snapshot

Jean-Laurent Lastelle, CEER Vice President

You can find the CEER paper [here](#).



Objectives

- **Mapping the effects** of the COVID-19 pandemic on the electricity and gas systems, consumers and energy companies in CEER countries;
- Identifying a first set of **lessons learned and best practices** from 2020.

Approach and data collection

- **Questionnaire** on the effects of the pandemic on the energy system as a whole, consumers, energy suppliers and network operators;
- **28 NRAs provided input:** Austria, Belgium, Bulgaria, Croatia, Czech Republic, Estonia, Finland, France, Georgia, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, North Macedonia, Norway, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden;
- Comparing the results of that exercise with **findings from other institutions** (IEA, OECD, EC, ACER/CEER).

Impact on electricity and gas systems 1/3

- **Electricity consumption (2020 vs. 2019)**

	March	April	May	June
Austria (pure COVID-19 effect)	-6.5%	-11.8%	-7.1%	-6.5%
Belgium	-6.8%	-13.2%	-9%	-3.8%
Czech Republic	-1.2%	-11.6%	-11.6%	-4.8%
Germany	-3.1%	-9.3%	-10.6%	-6.9%
Greece	n/a	-9.8%	-6.9%	-13.5%
Hungary	n/a	-9.1%	-10.5%	-8.7%
Lithuania	-3%	-7.2%	-6%	-3.9%
Malta	-1.6%	-9.8%	-8.3%	-17.9%
Portugal	n/a	-14%	-16%	-8%
Slovenia	n/a	-16.5%	-15%	-13%
Spain	n/a	-18%	-13%	n/a

Impact on the electricity and gas systems 2/3

- **Electricity**

- ▶ **Demand and prices** fell markedly over the spring months of 2020 that coincided with restriction measures, such as lockdowns.
 - E.g.: A **fall in global electricity consumption** per month in March-June 2020 in selected countries, compared to the same month of 2019.
 - Regarding **prices**, the COVID-19 pandemic was one of the causes, but **not the only cause**. Depending on the country, other factors were at play (e.g. weather conditions).
- ▶ **Second wave restrictions** (winter 2020) seem to have had less of an impact than first wave restrictions (spring 2020).
- ▶ **Renewable energy sources (RES)**: Several countries saw an increase in the RES share of their electricity mix, which the system was able to handle.

Impact on the electricity and gas systems 3/3

- **Gas**

- ▶ **Demand and prices** were already low in Q1 2020, but reached new lows at the same time restrictions were imposed.
- ▶ Gas trends varied more widely over all respondent countries, again due to other factors, such as **weather conditions**.

Impact on energy consumers

Risk for consumers

- Restrictions entailed business closures, income and even job losses.
- Risk of inability to pay energy bills and of losing energy supply.

Types of measures put in place to support consumers

- **Moratorium on disconnections:** the most widespread measure (reported by **18 NRAs**);
- **Staggering or deferral of consumer energy bills;**
- **Social welfare measures:** mostly not specific to energy expenditure;
 - But: in some countries, direct subsidies for energy costs, fuel vouchers (Great Britain, Ireland), facilitated access to social tariffs (Italy, Spain).
- **Aid for businesses:** mostly not linked to energy supply;
 - But: in some countries, suspension or reduction of contracted capacity (Ireland, Portugal, Spain).

Impact on energy companies

Energy suppliers

- Mirror image of disconnection bans: several NRAs reported or expected **an increase in unpaid energy bills.**
- Suppliers reported **losses due to drops in electricity demand and prices.**
- Measure taken to support suppliers in some countries: **staggering and deferral of network tariff bills.**

Network operators

- Lockdown measures entailed **delays to network development and smart-meter roll-out.**
- Some NRAs already anticipated / reported a **slight decrease in tariff revenue.**
- At the time of writing, the majority of NRAs had **not yet taken any measures** to support network operators.
 - In some countries: easing of quality of service obligations and penalties, consideration for pandemic-related costs.

Lessons learnt & best practices

- **Resilience of the energy sector;**
 - ▶ **Ireland:** some generation units set aside to ensure availability in winter;
- **Ensuring good and swift information flows;**
 - ▶ **Finland:** centralised task force including all relevant parties;
- **Adapting procedures and deadlines where necessary;**
 - ▶ **Germany:** legislation adopted to adapt deadlines and enable digital solutions in planning and approval procedures;
- **Key measure: preventing disconnections of consumers;**
 - ▶ **Spain, Lithuania:** possibly the most impactful measure;
- **Sharing the burden more widely within the sector;**
 - ▶ **Italy:** for suppliers, partial suspension of tariff bills and *ad hoc* financing.
- **Remote operations and digitalisation;**
 - ▶ **Luxembourg:** restrictions have pushed digitalisation efforts ahead.



Session One: Impact of the Covid-19 Pandemic on the Energy Sector – panel discussion

Jiří Jaromír Klemeš, Professor Brno University of Technology

Matthew Vickers, CEO Ombudsman Services & Vice

President National Energy Ombudsmen Network (NEON)

Marie-Pierre Fauconnier, CEO Sibelga (Distribution network operator of Brussels Capital Region)

Moderator **Jean-Laurent Lastelle**, CEER Vice President

More Lessons from COVID-19 pandemic: Creative Destruction



Jiří Jaromír Klemeš, Yee Van Fan



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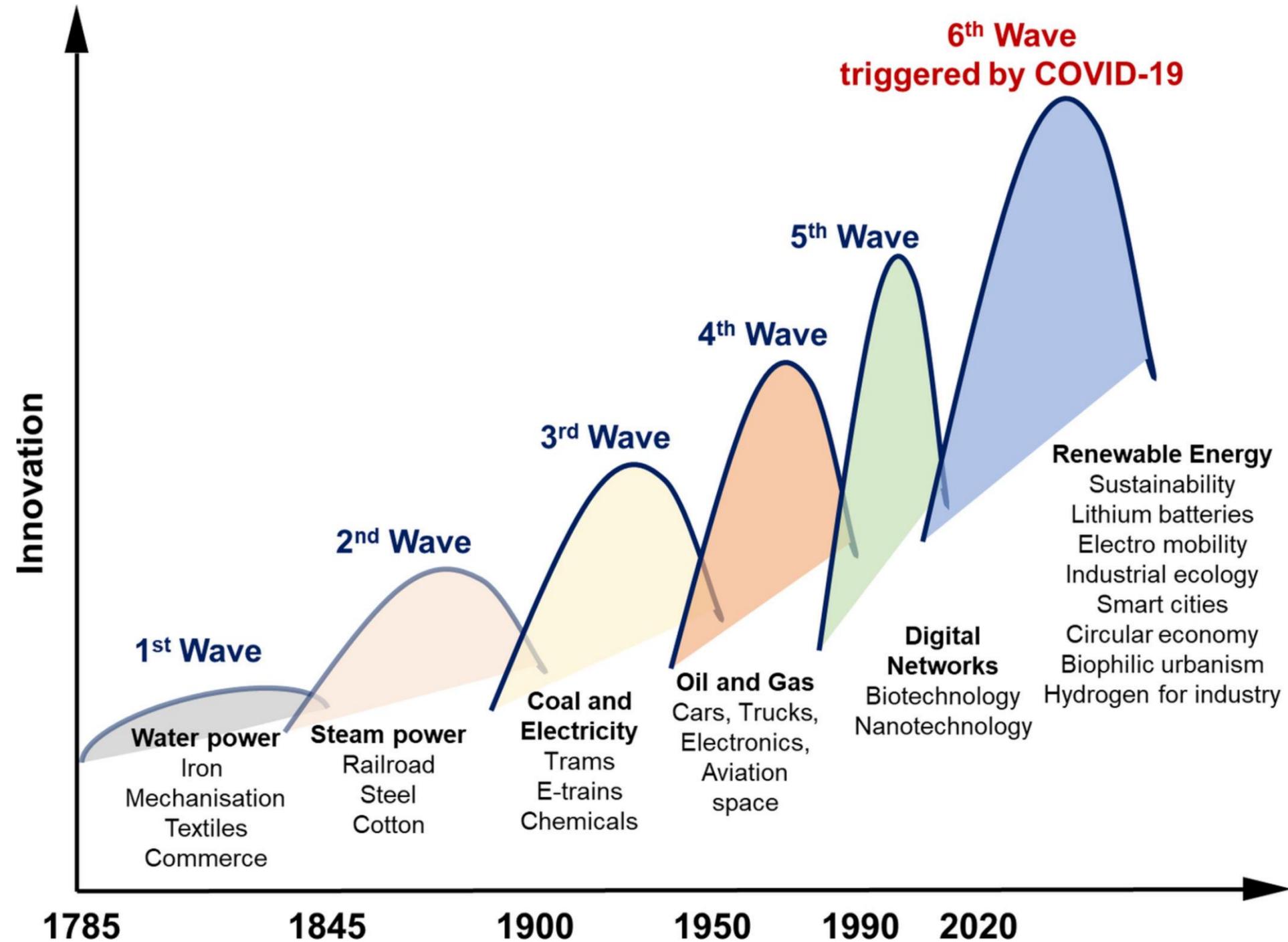


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Waves of Innovation



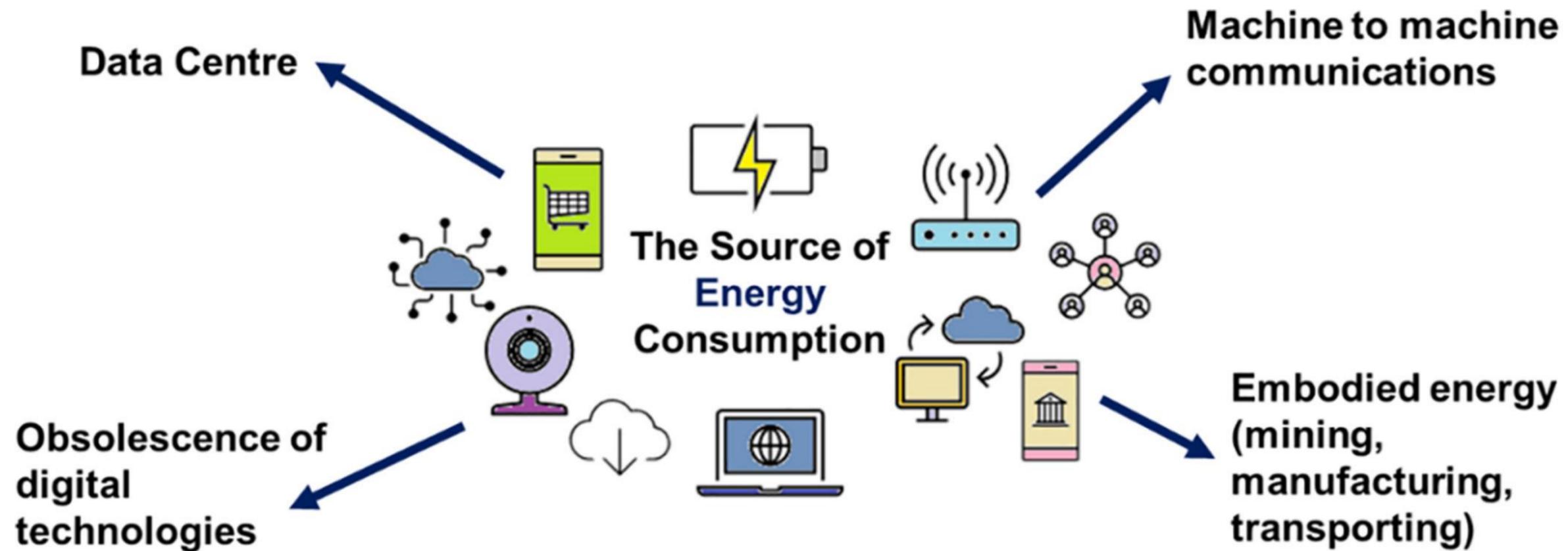


New Opportunities and Emerging Development



1. Spread out of distance meeting and learning
2. Massive home office
3. The growing popularity of e-shopping
4. Raise in e-socialising
5. Related to this intensifying the data transmissions as 5G and even starting 6G
6. Urban and sanitary reforms
7. Remote and robotic health monitoring and even treatment
8. Related preference to shortening the commuting
9. Intelligent traffic control, strengthening to favour self-driving autonomous vehicles
10. Advanced digital manufacturing. Advanced and possible person-less waste management collection and treatment.
11. Applications of novel ways for deliveries
12. Promotion of renewable energy
13. Setting up a post-COVID-19 supply chain
14. Industrial Internet of Things (IIoT)

Energy Consumption of Digitalisation and IoT



The advantages of digitalisation and IoT are generally known. However, the long-term sustainability is depending on (i) **Energy**, (ii) Security and (iii) Privacy. The energy efficiency measures could offset by usage (the rebound effect)



The energy network operator function during the pandemic crisis

Marie-Pierre Fauconnier, CEO Sibelga (Distribution network operator of Brussels Capital Region)



Sibelga, DSO gas and electricity in Brussels

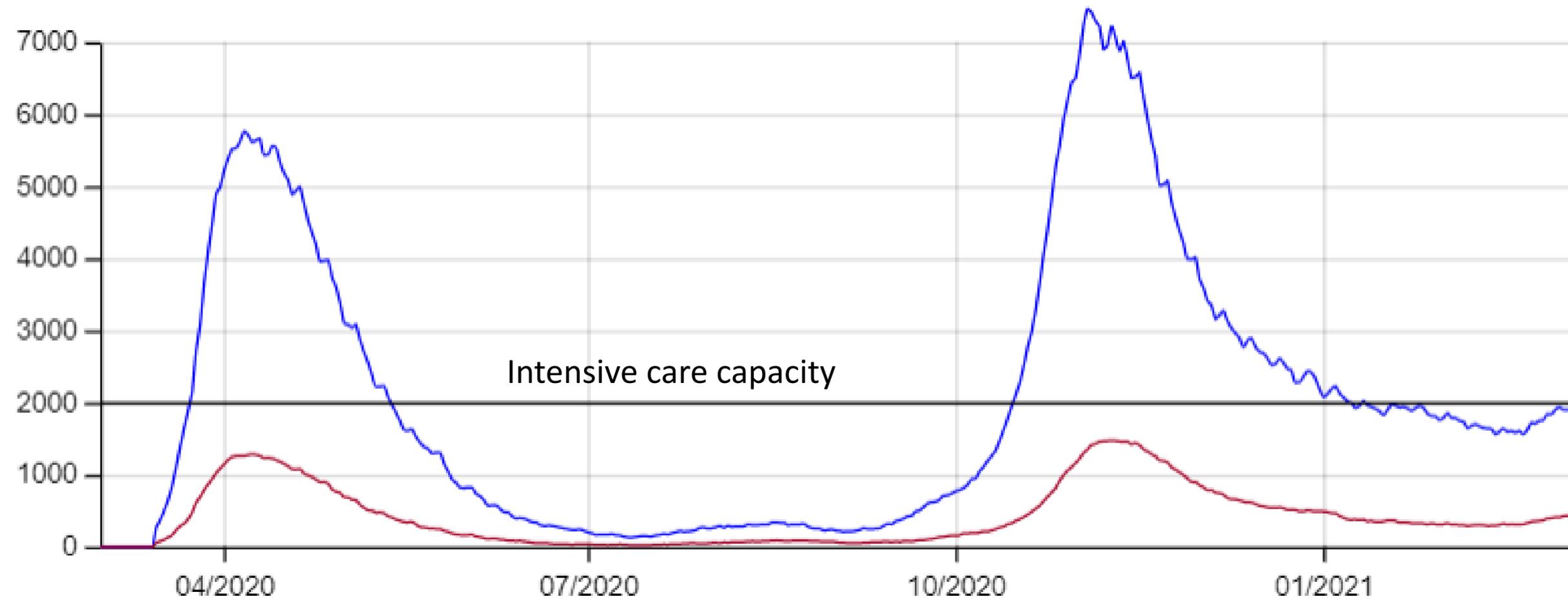
Key data

- 1,200 staff
- 717,638 EAN electricity
- 510,050 EAN gas
- 85,300 street lights
- 2,918 km gas grid
- 6,424 km electricity grid
- Turnover: € 313 million



Recap of the COVID-19 evolution in Belgium

Total of people **in hospital** and **in intensive care**



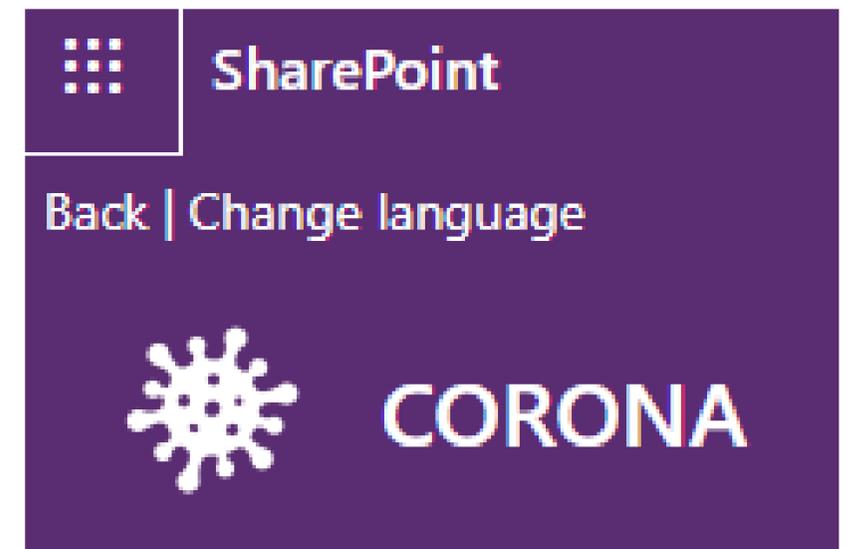
Phasing of activities @Sibelga

- No preparedness plan prior to 13 March 2020 (Belgian lockdown);
- Lesson learned from Italy as ‘early mover’;
- Phasing by activities and in line with the official communication:
 - Essential service incl. dispatching and on-call service for emergencies: never interrupted;
 - 100% telework for administrative staff (sometimes presence on the field is requested);
 - Non urgent activities: resuming from 15 April 2020 (by phases);
 - From May 2020: 100% activities on the field ;
 - In November 2020: ‘second wave’ stress on essential services.



Lessons learned

- Staff is proud and committed to performing essential service (no absence);
- Crisis Steering Committee establishing its governance early;
- Good cooperation with labour unions;
- Daily exchanges and cooperation with other DSOs;
- Keeping close communication with staff (intranet, e-café, virtual yoga/stretching classes, recorded messages from the Management, etc.).



See you again after the short break!

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