

Covid-19

Merely an interruption or the death blow for the international coal market?

Keynote at the Enerday 09.04.2021



Source: The Economist (2020).



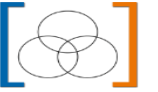
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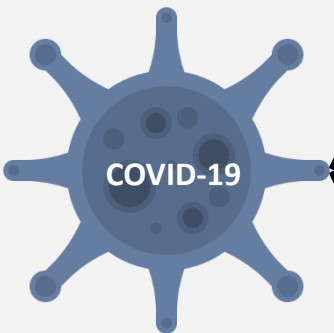
TU Berlin, DIW Berlin



The Effect of Covid-19 on the international coal market?

1 – Slide Summary

Effects on coal industry
- Negative + Positive



- Global (partial) lock-down for months

- Reduction of (air) traffic

- (Partial) closure of mines and power plants to stop the spread of the virus

- Air pollution (partly due to coal) worsens the effects of COVID-19 pandemic

Global Economy

- Global recession and financial crisis
- Rising unemployment and inequalities
- Hault of globalization trends and international trade
- ...

- Reduction of global energy demand by 6% in 2020

Energy Market

- International price war
- Oversupplies of oil and gas
- Increasing bankruptcies

- Increased competition in electricity market

+ Cheaper fuel costs for mining

- Increasing insecurity and divestment
+/- Recovery package stimuli (conditional to climate constraints)

Trends in the Coal Market before COVID-19

- Stricter climate and environmental policies
- Shrinking shares due to cheaper renewables and gas
- Divestment trends and bankruptcies of companies
- ...

- Shrinking coal demand (esp. in Europe and Northern America)

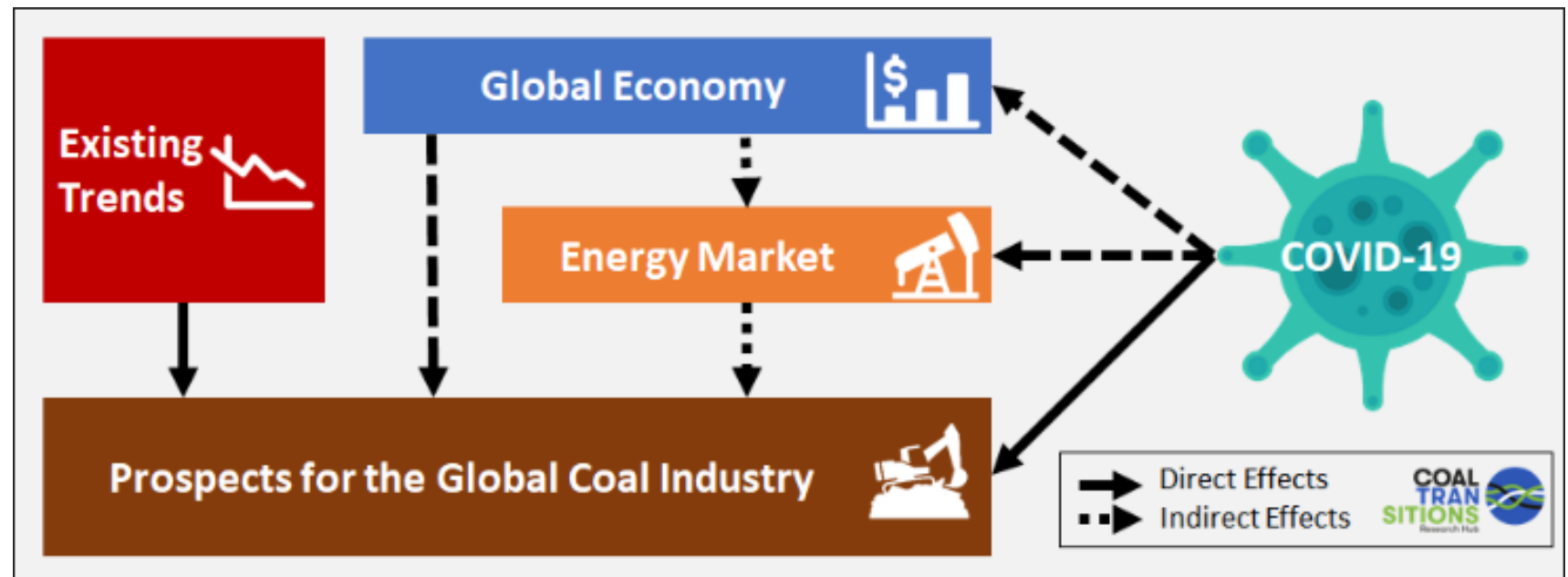
- Insecure outlook for investors and coal regions

Global Coal Industry in Times of and after the COVID-19 Pandemic

- 8% global coal demand reduction in 2020 (US -25%; EU -20%; -5-10% Asia)
- Drop of international coal prices, increase of bankruptcies and divestment activities
- Rising pressure on health aspects in addition to climate and environmental policies
- Rising need for transition management in coal regions to enable a "just transition"

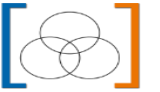
The Effect of Covid-19 on the international coal market? And its more detailed answer...

1. Introduction – pre COVID 19 trends in coal markets
2. COVID 19 shock and global energy markets
3. Outlook – the death Valley of coal?
4. Conclusions





Pre COVID-19 trends in coal markets showed already an structural decline in global coal markets



Existing trends in coal markets

- Stricter **environmental policies**
- Increased **competition** with other fuels
- **Divestment** trends and weak financial performance of coal firms
- Shrinking of coal plants pipeline

Ohio Valley ReSource

A Coal Comeback? Analysis Casts Doubt On Industry's Chances

Researchers there analyzed the factors leading to the coal industry's decline over the past six years and assessed the Trump administration to ...

10 May 2017

EURACTIV.com

European coal power output sees 'unprecedented' decline

European coal power output sees 'unprecedented' decline ... Electricity production from coal is on track to fall by around 3% globally in 2019 – the largest drop on ...

24 Nov 2019



Scientific American

Coal Decline Pushes World's Largest Private Coal Company ...

Coal Decline Pushes World's Largest Private Coal Company into Bankruptcy ... Peabody Energy filed for bankruptcy on April 13, joining a string of coal

FiveThirtyEight

Trump's Plan Won't Reverse Coal's Decline

Repealing the Clean Power Plan might help the coal industry, but that doesn't necessarily mean it will do much good for the coal miners Trump says he wants to ...



Inside Climate News

Trump's Weaker Clean Power Plan Replacement Won't Stop ...

... fuel pollution from electric power plants, the nation accomplished a more steady decline in the use of coal and its resulting emissions of carbon dioxide.

19 Jun 2019

Carbon Brief

Analysis: Global coal power set for record fall in 2019

The global decline means an economic hit for coal plants due to reduced average running hours, which are set to reach an all-time low. The record drop also ...

25 Nov 2019



Forbes

Report: New Coal Power Projects Are In Decline Across The World [Infographic]

The following infographic provides an overview of coal power's global decline with planned capacity in pre-construction status declining from 1,090 GW in 2015 ...

BBC

Coal: Is this the beginning of the end?

The report suggests that the reasons for the drop in coal-fired generation vary from country to country, but include increased electricity generation from renewables, ...

25 Nov 2019





Pre COVID-19 trends in coal markets showed already an structural decline in global coal markets

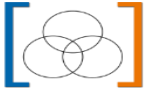
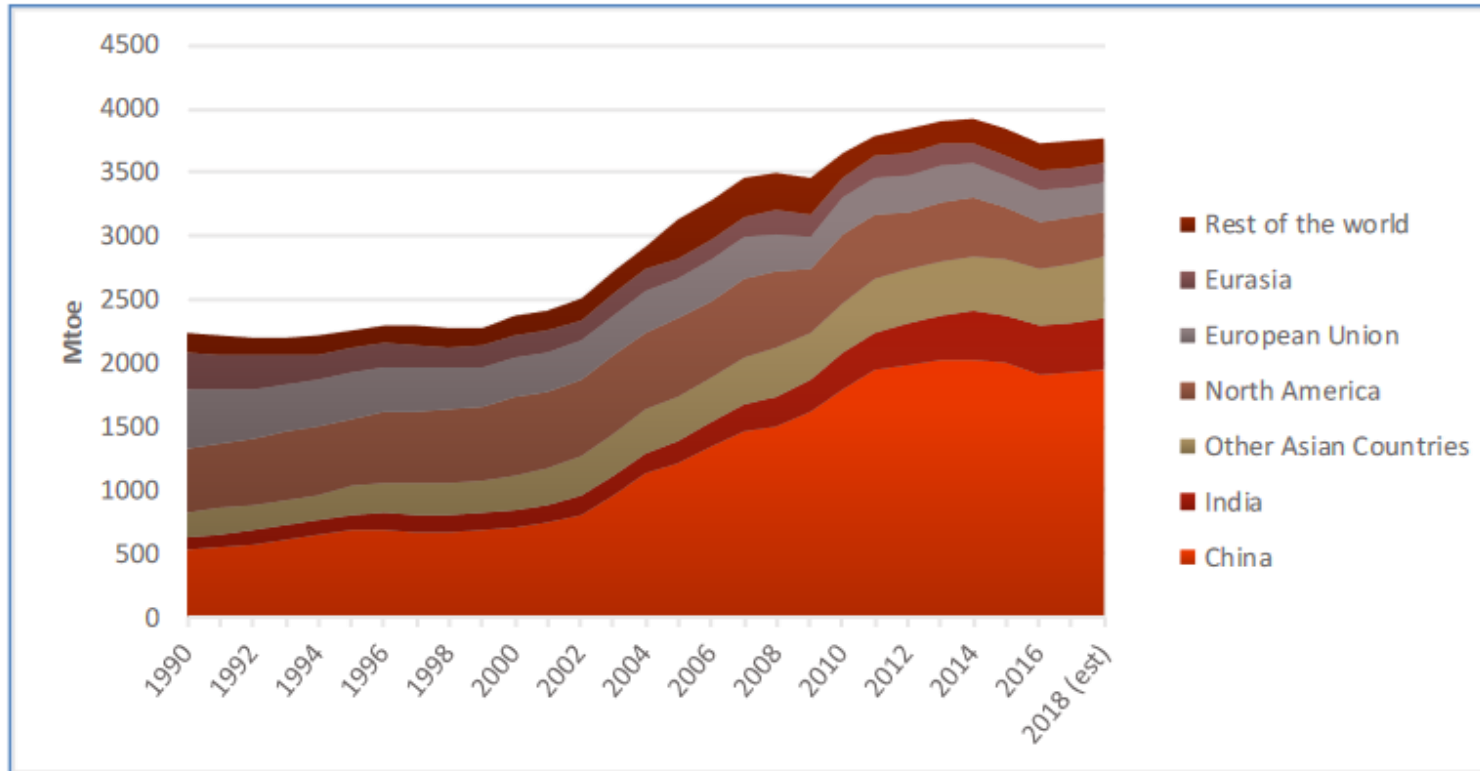


Figure 1 Global coal consumption by major region/country (1990-2018E); Source: (IFRI, 2019)



Global coal use:

- Might have peaked in 2014. For electricity production in 2018.
- European Union and US account for the majority of the decline in coal use.
- Developing countries still increasing use.

Existing trends in coal markets

- Stricter **environmental policies**
- Increased **competition** with other fuels
- **Divestment** trends and weak financial performance of coal firms
- Shrinking of coal plants pipeline



Pre COVID-19 trends in coal markets showed already an structural decline in global coal

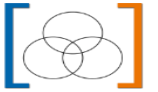
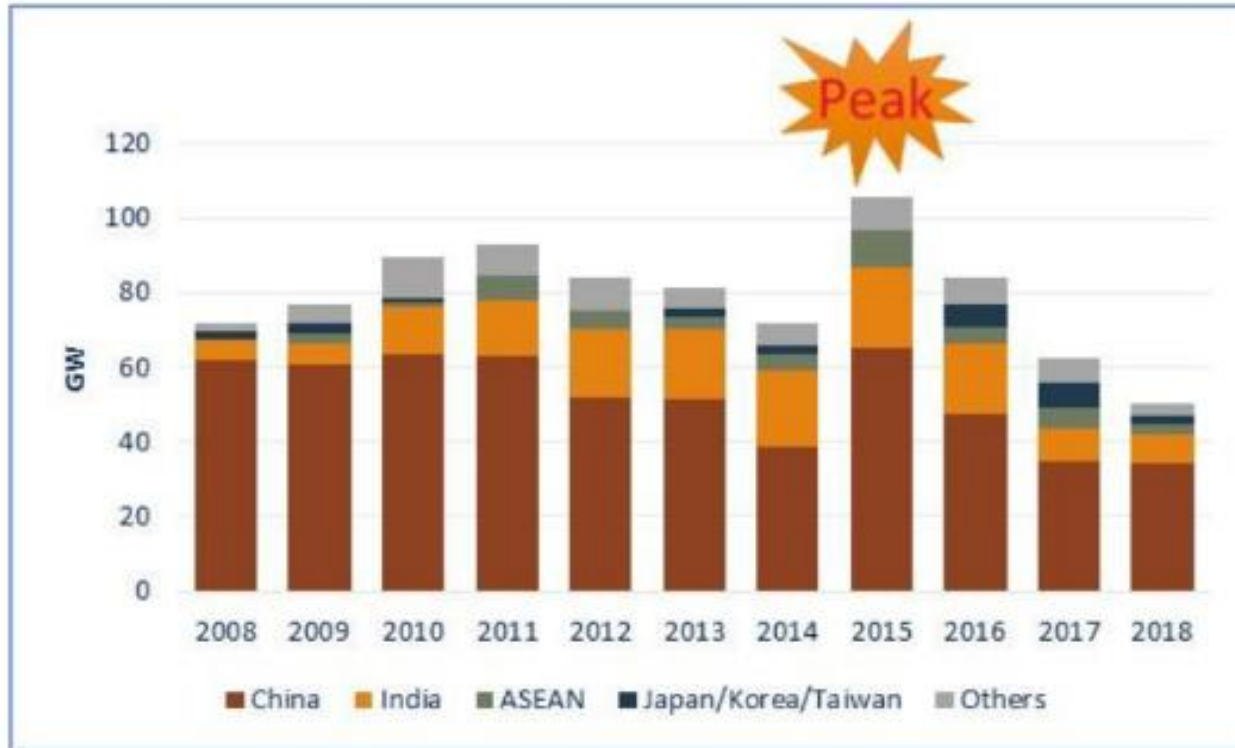


Figure 2 Newly operating coal plants by year (2008-2018); Source: (IFRI, 2019)



Existing trends in coal markets

- Stricter **environmental policies**
- Increased **competition** with other fuels
- **Divestment** trends and weak financial performance of coal firms
- Shrinking of coal plants pipeline

Coal power capacity:

- Net additions of coal power capacity peaked in 2015
- Many countries (mostly developing) are still building and planning new coal plants.
- A large share of the coal fleet is young (and not profitable) – risk of assets stranding or lock-in.

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COVID & Coal

2) Short-term COVID-19 impact on coal markets

- Unprecedented short-term shock in global coal demand 2020
- Drop of international coal prices, and decline in coal trade and exporters earnings
- Supply disruptions (both in mining and transport) & delay in investment

Argus Media

Seaborne thermal coal imports drop by 8pc

The decline in thermal coal imports was driven in particular by a drop in imports from the US and Australia, which together accounted for an 81.1% share of total imports.

1 month ago

Argus Media

Indonesian coal exports still strong

Indonesia exported another record-high volume of coal in November, representing the first month-on-month increase since August.

4 weeks ago

Caixin Global

Roller Coaster Year for China's Coal Giant Shenhua

China Shenhua Energy Co. Ltd. (601088.HK), the world's largest coal miner, reported a third consecutive annual profit decline in 2020.

12 hours ago

EIA

Less electricity was generated from coal in 2020

By 2020, coal's operating capacity had fallen to 223 GW, and the coal industry's losses had increased. Although several nuclear power plants were retired, that decline in coal's capacity was offset by a decline in coal's operating capacity.

2 weeks ago

S&P Global

Following 2020 struggles, Hallador Energy expects a much brighter 2021

Houston — While the coal market struggled through the fourth quarter of 2020, ... following recovering energy markets and a decline in utility coal inventories, ...

3 weeks ago

Bloomberg.com

China Chips Away at Coal Addiction to Chase Climate Goals

Coal

Digital health care's leap forward

Taiwan's perky economy

Torture on the EU's doorstep

Our books of the year

DECEMBER 5TH-11TH 2020

The Economist

Making coal history



1 day ago



Short-term COVID-19 impact on coal markets caused the biggest decline in history for all key indicators

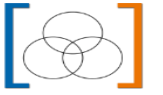
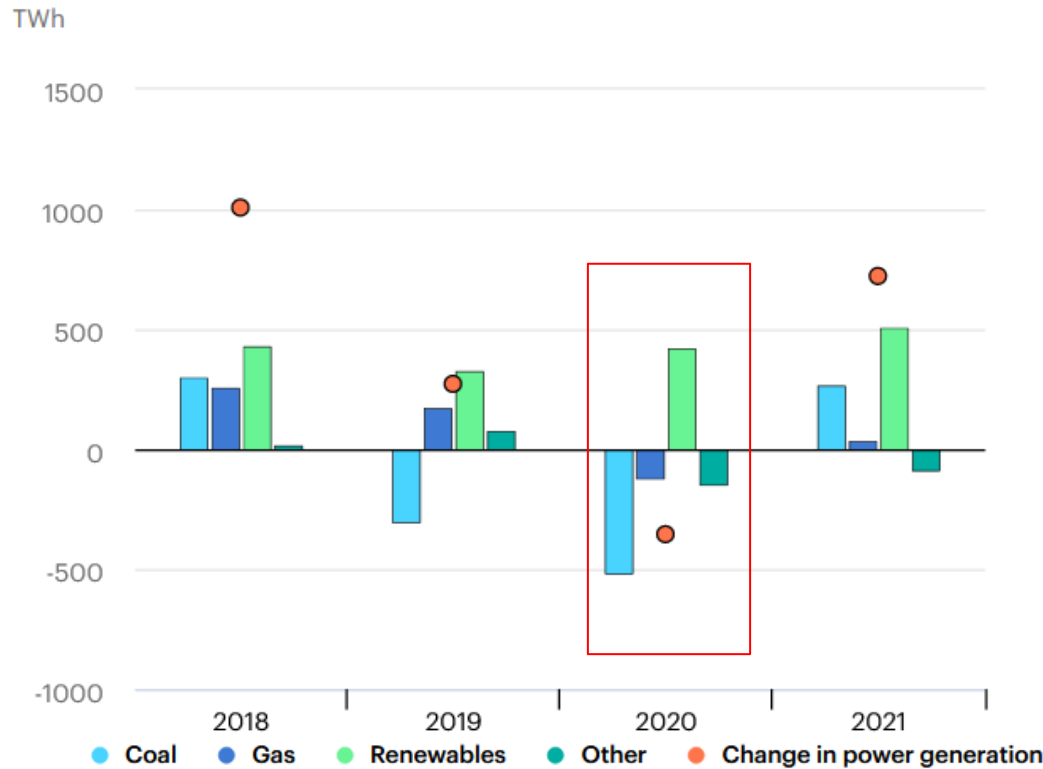


Figure 3 Annual changes in power generation by source 2018-2021;
Source: (IEA, 2020)



Global coal use:

- Largest drop in coal consumption since the Second World War (-5%), for electricity -4%.
- Large drops in coal demand (>15%) in the European Union and North America.
- Coal use only increased in the Asia Pacific region (1.2%)

2) Short-term COVID-19 impact on coal markets

- Unprecedented short-term shock in global coal demand 2020
- Drop of international coal prices, and decline in coal trade and exporters earnings
- **Supply** disruptions (both in mining and transport) & delay in **investment**



Short-term COVID-19 impact on coal markets caused the biggest decline in history for all key indicators

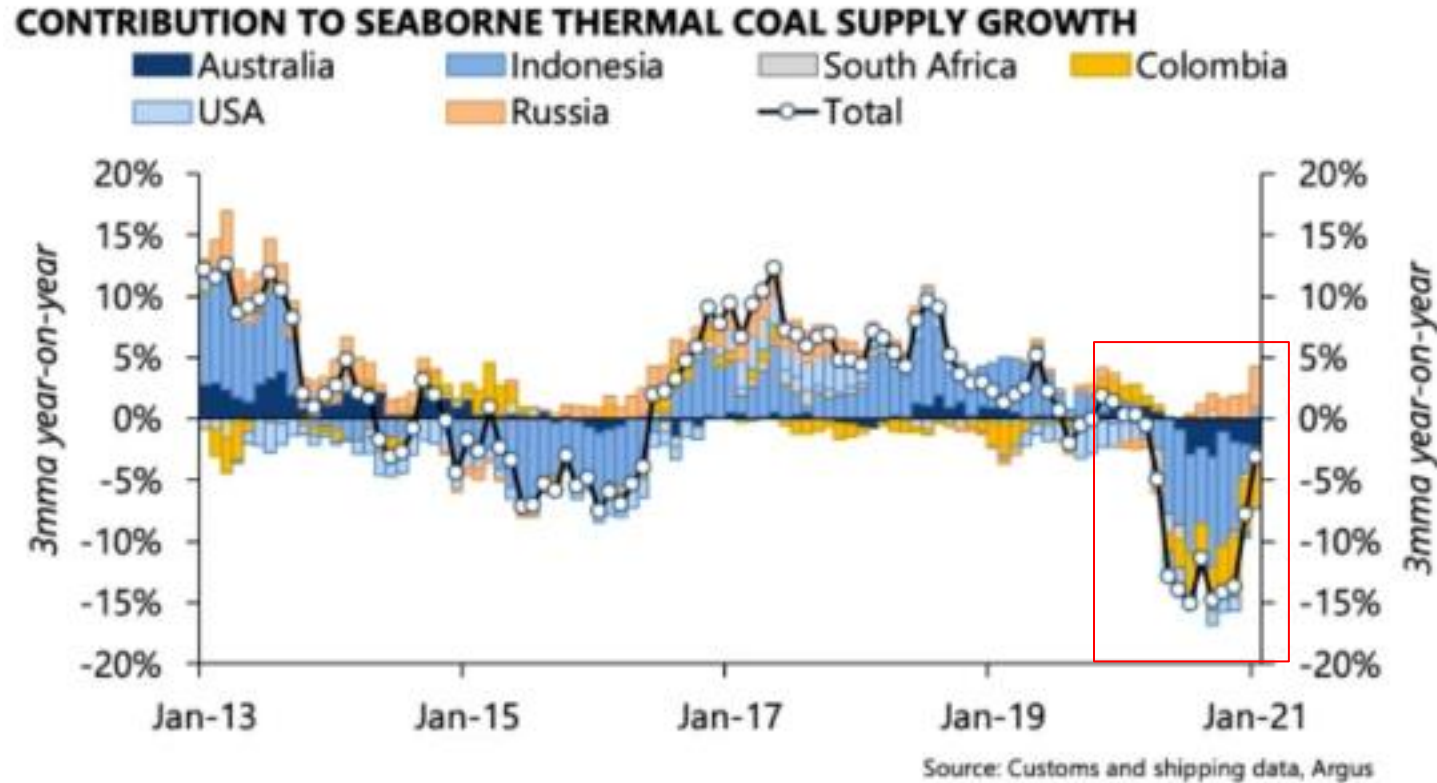
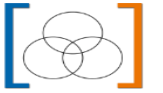


Figure 4 Seaborne thermal coal supply
Source: (Argus, 2021)

Global coal production and trade:

- Production declined -6.5% in 2020, primarily in response to falling demand.
- Seaborne coal trade fell around -10%, with large exporters hit hard.
- Coal reference prices fell around -50% and reached historic lows (34USD/ton).

2) Short-term COVID-19 impact on coal markets

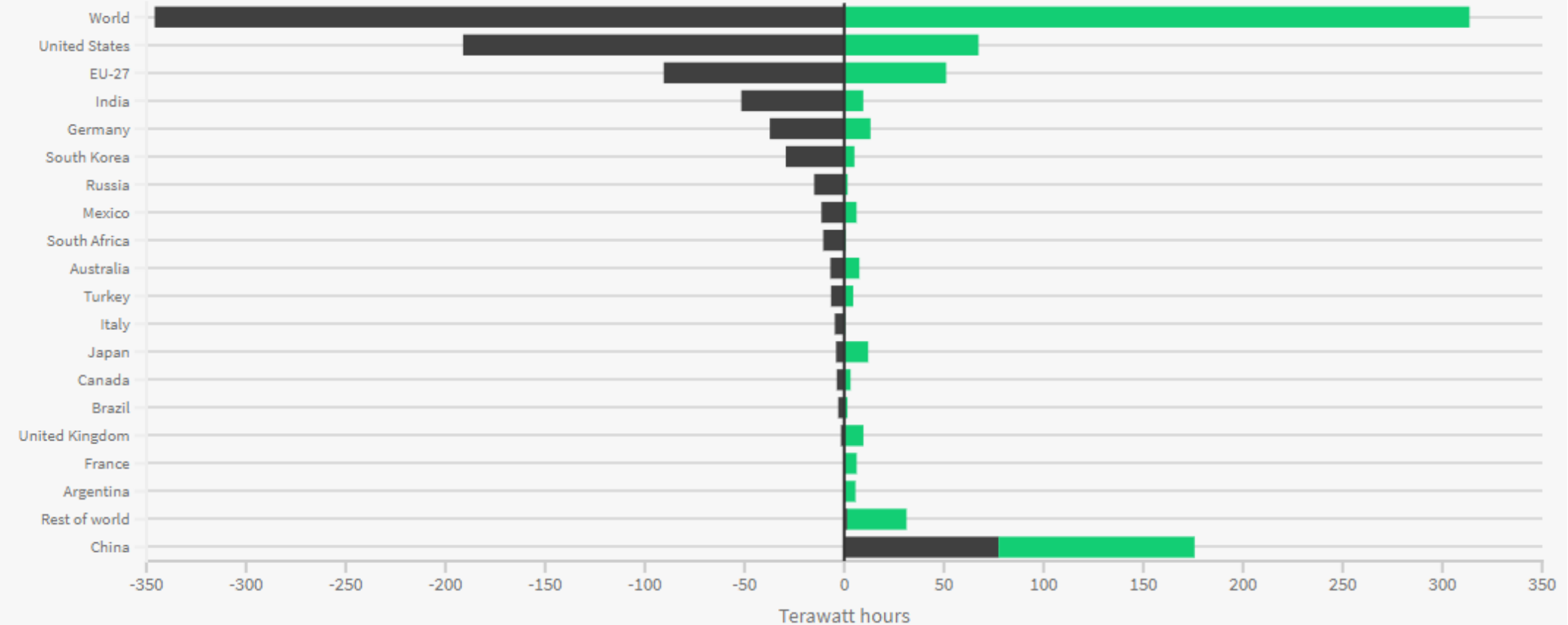
- Unprecedented short-term shock in global coal demand 2020
- Drop of international coal prices, and decline in coal trade and exporters earnings
- Supply disruptions (both in mining and transport) & delay in investment

2020 marks a negative shift for global coal consumption in the global electricity sector

Wind and solar collapse coal, as China alone in coal 2020 growth

Electricity generation change in 2020 versus 2019, for G20 countries

■ Coal ■ Wind and solar



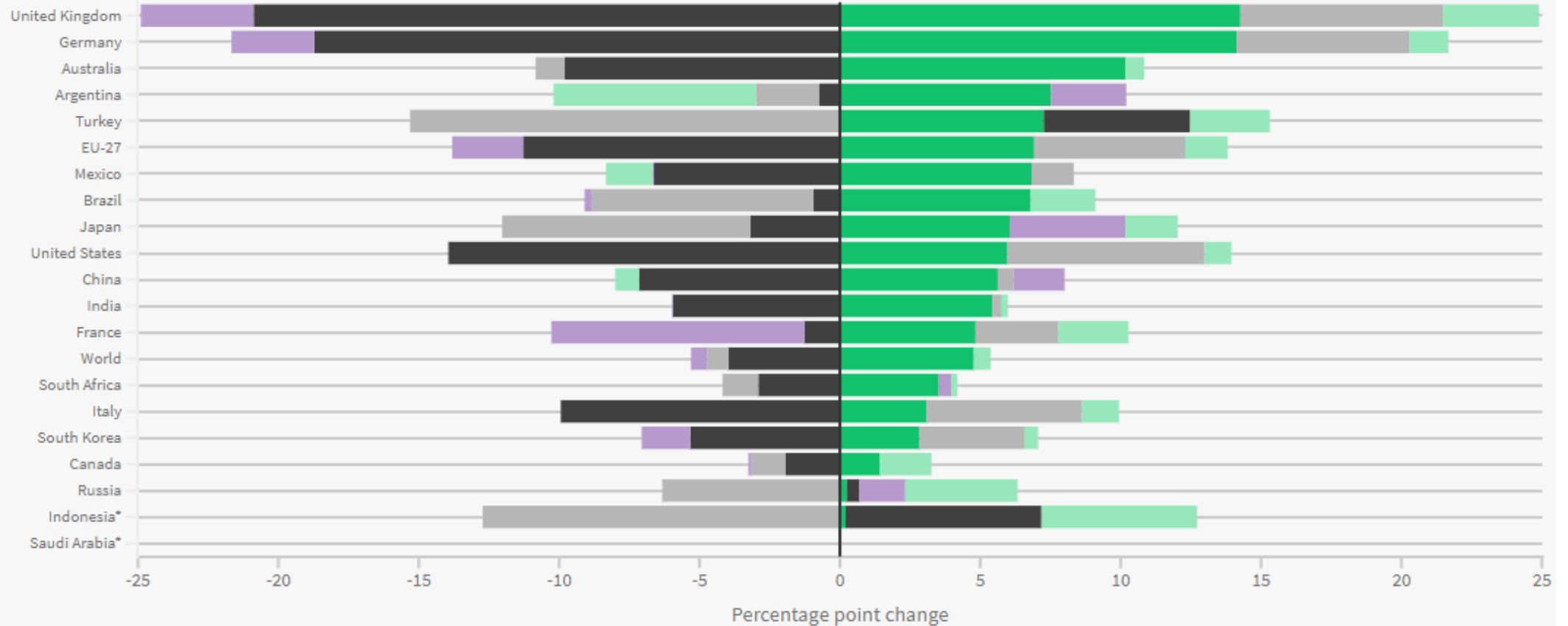
Indonesia and Saudi Arabia are not included as no 2020 data exists.
Ember's Global Electricity Review, March 2021.

Longer trend for coal is clearly negative since 2015

Wind and solar replacing coal market share in most countries

Change in electricity market share between 2015 and 2020, for G20 countries

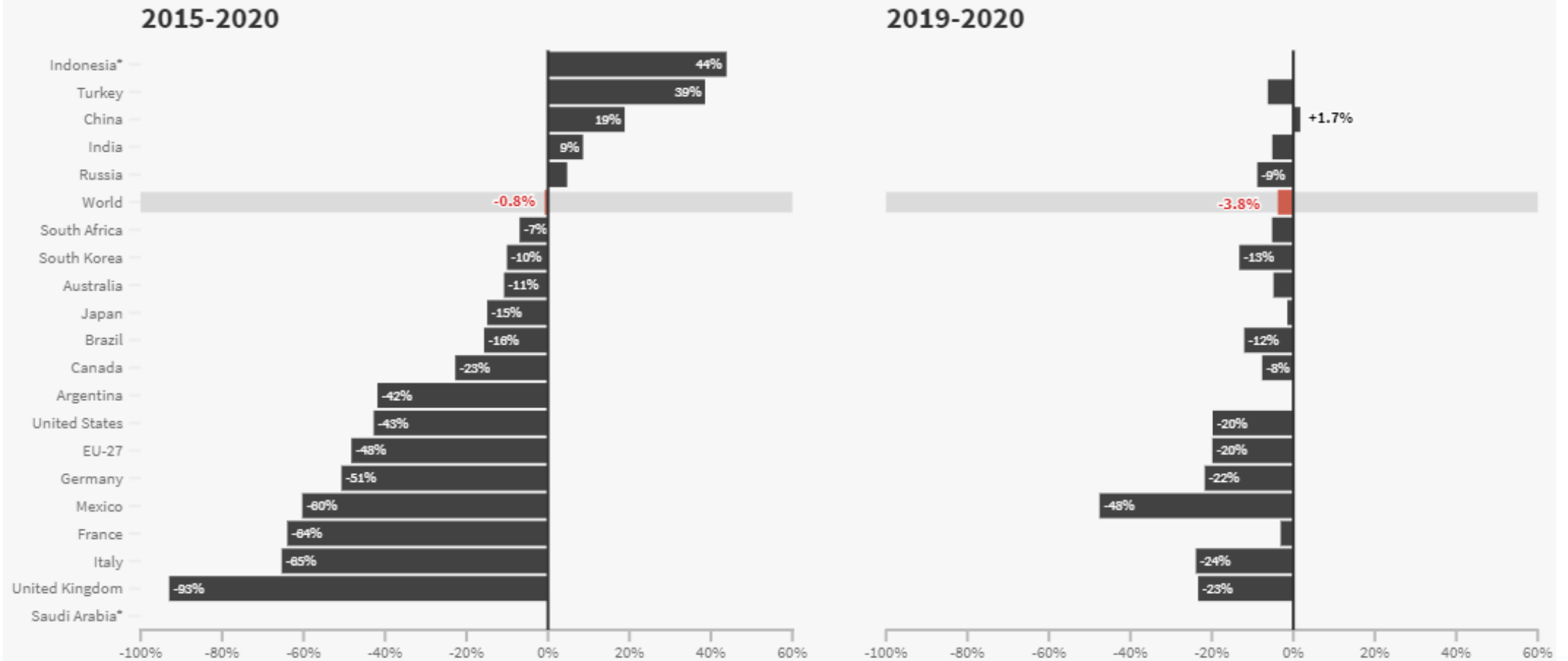
■ Wind and solar ■ Coal ■ Gas & oil ■ Nuclear ■ Hydro, bioenergy & other renewables



*For Indonesia and Saudi Arabia, 2019 is used as no 2020 data exists. Saudi Arabia's electricity mix is made up of entirely gas and oil, so shows no change.
Ember's Global Electricity Review, March 2021.

Negative Trend 2015-2020, especially within OECD countries

Change in coal generation, for G20 countries

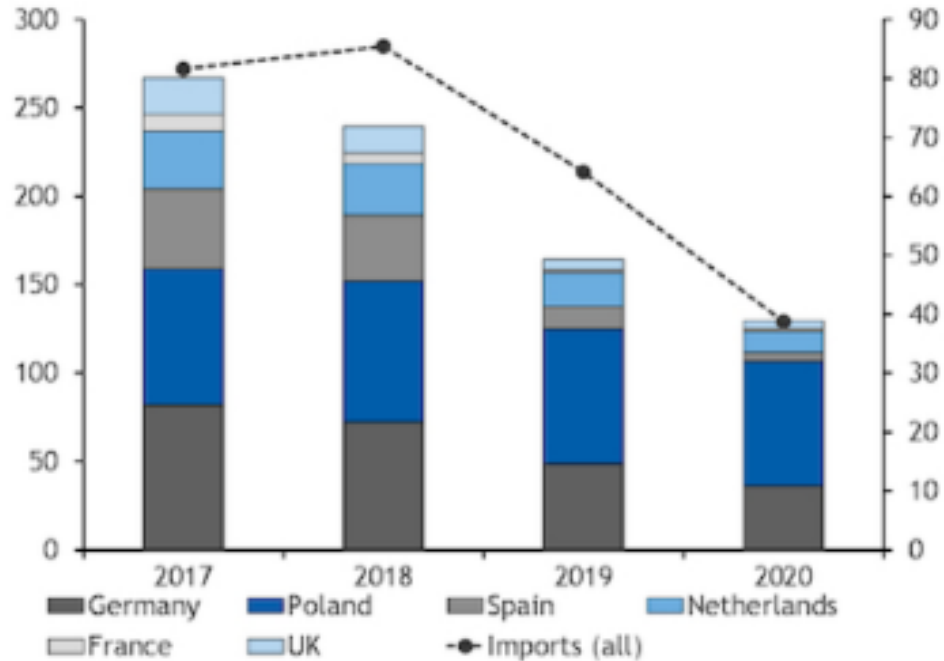


*For Indonesia and Saudi Arabia, 2019 is used as no 2020 data exists.

Ember's Global Electricity Review, March 2021.

European Union

Figure: European coal power generation [TWh] and coal imports [mio t] Source: (Argus, 2021)



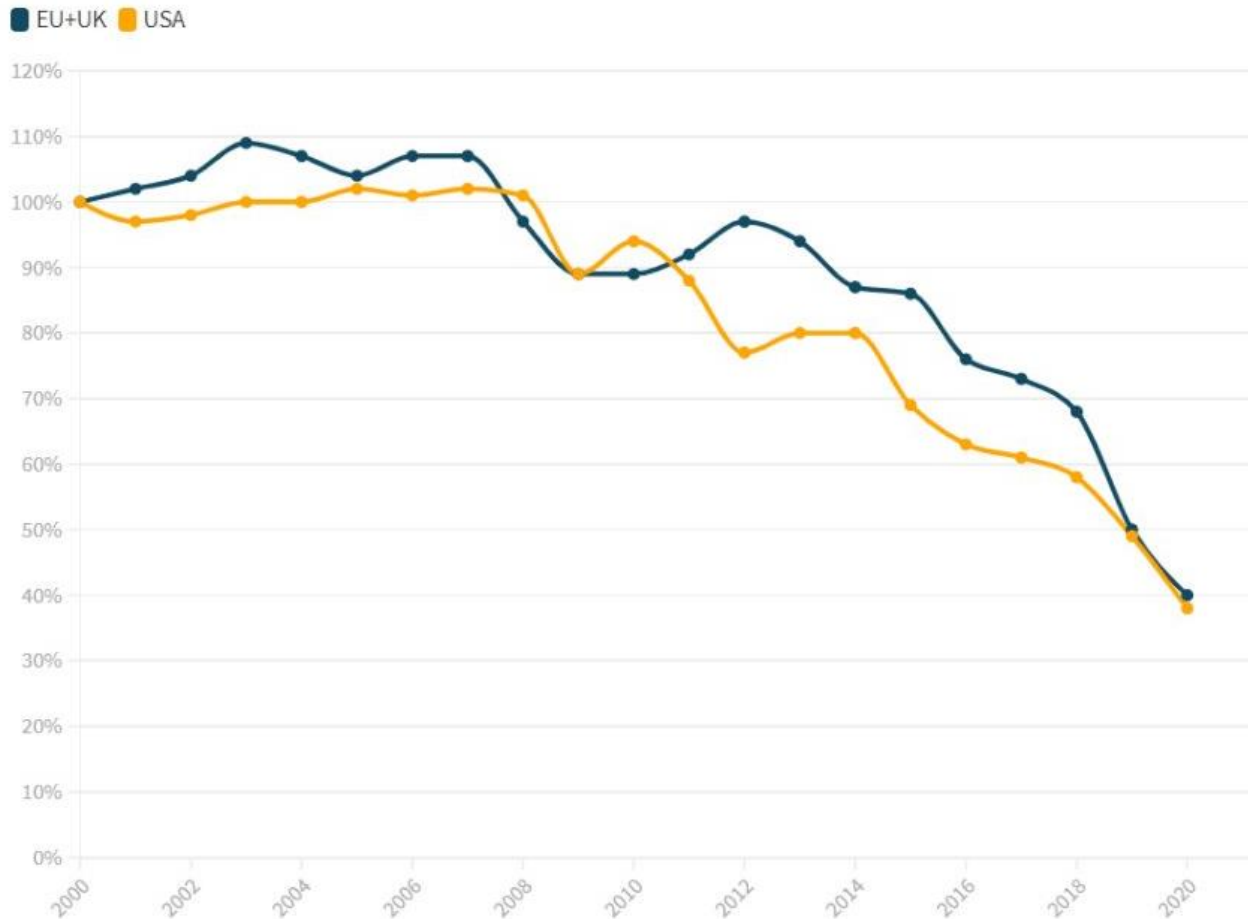
Key facts:

- Coal demand in the EU declined by a record of - 20% in 2020 (-23% for power generation) despite cold winter.
- Perspectives for an accelerated decline: Half of Europe's 324 coal-fuelled power plants have either closed or announced a retirement date before 2030.
- EU financial institutions have also introduced nearly 40 coal-restricting policies in 2020 alone.
- EU ETS price has risen above 40 €/tCO₂



USA

Change of Power Generation from Coal, Index (100%) = 2000



Source: Europe Beyond Coal (2021)



Key facts:

- Coal demand in the USA declined by a record of - 17% in 2020 (-14% for power generation) despite cold winter.
- USA coal production fell strongly in 2020 (- 23%) and most mines operating under profitability margins. This accelerated trend of bankruptcies of coal mine operators.
- Decreasing gas prices pushed out many coal power plants out of the market in 2020.

Colombia

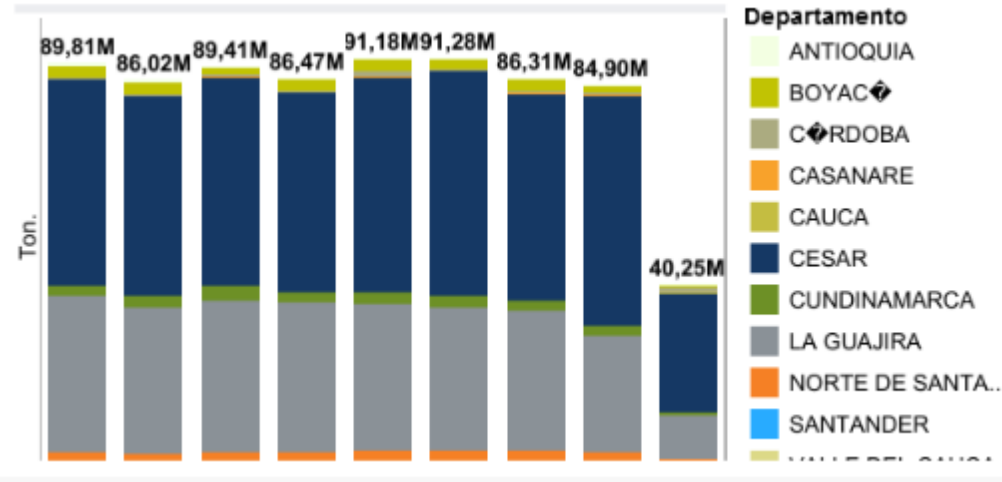


Figure 6 Colombia's Coal Production per origin 2010 – 2020p
Source: (SIMCO, 2020)

Key facts:

- Over 90% of national production is exported. 2020 level (49*Mt) are lowest levels since 2005 (-40% yoy).
- Mines closed for months due to Covid restrictions, strikes, and economic choices of operators (e.g. Glencore has surrendered they mining rights for 2 mines accounting for 20% of national production)
- Coal producing regions hit hard by the crisis of the sector. Employment, royalties, social investment declined strongly.



South Africa

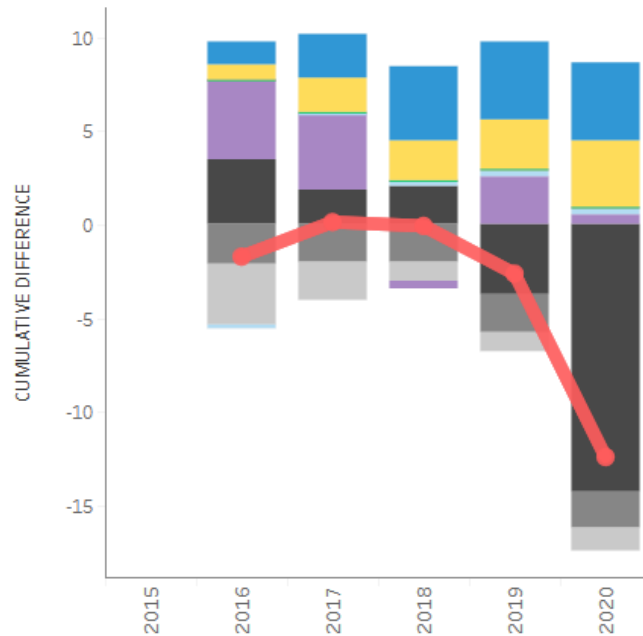


Figure 8 South Africa electricity production 2019- 2020
Source: (Ember Data Explorer, 2021)



Key facts:

- It accounts for over 90% of the African coal production.
- Coal mines were excluded from lockdown measures as they are considered essential for power generation.
- Production declined -7% in 2020. Stable exports but lower domestic demand for power generation.
- Lower sales and prices have hit small and mid-size producers in particular.

Australia

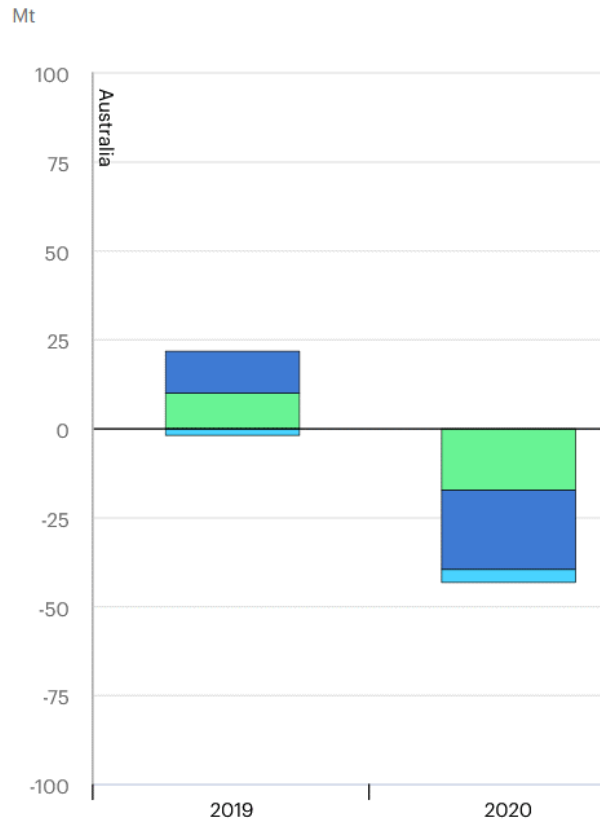


Figure 9 USA coal production 2019- 2020
Source: (IEA, 2021)

Key facts:

- Coal production both for thermal and met coal fell strongly in 2020 (-10%)
- Exports to China declined in the second-half of the year as import quotas tightened.
- Low demand stimulated temporary mine closures in the second-half of 2020: e.g. Wambo mine (2 months), Glencore mines (3 weeks in September and October).

Change in coal consumption by region, 2020

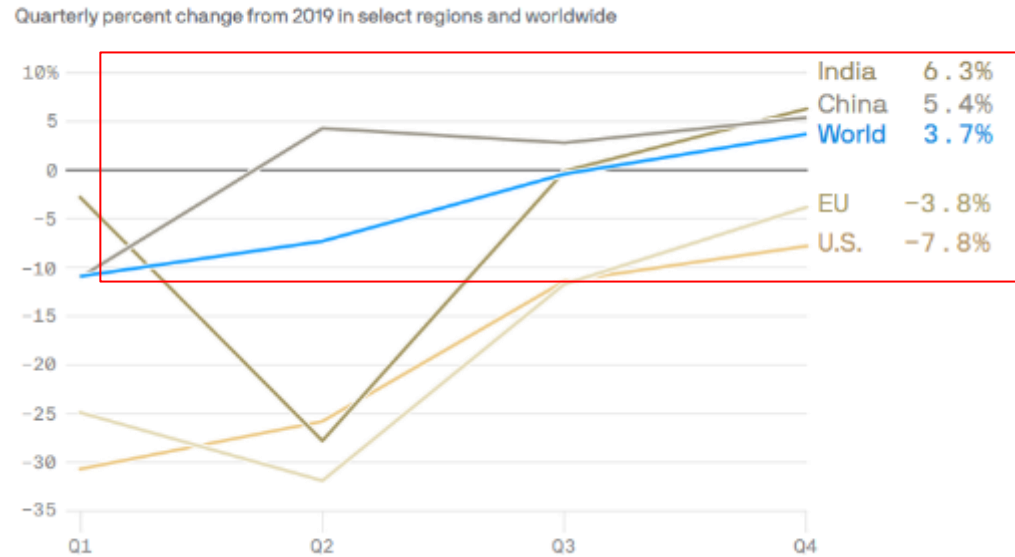


Figure 10 Global coal consumption by major region/country 2020
Source: (IEA, 2020)

Key facts:

- Coal consumption decreased. China (-0,5%; India -7%; rest of Asia -3,8%)
- China and India promoting national production and implementing policy to cut coal imports (with important implication in exporting countries).
- State ownership of coal assets in China and India makes financial concerns less relevant for business decisions as in other countries.
- Decline in international and domestic coal prices, and production decline (-14%) put pressure on state revenues in Indonesia.

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Outlook – the death Valley of coal?

3) Mid and long-term influence of COVID-19 recovery plans on coal markets

- Global economic recession and green/brown recovery packages
- Concentrated policy efforts on coal transitions
- Changes in trade policies (in particular in China and India)

UN News - the United Nations

Commitment to post-pandemic 'green' recovery falling short ...

Commitment to post-pandemic 'green' recovery falling short, UN-backed study finds. World Bank/Gerardo Pesantez. The UN is urging countries across the world to ...
3 weeks ago

Thomson Reuters Foundation News

OPINION: Here's how to propel a green recovery for the poorest

OPINION: Here's how to propel a green recovery for the poorest. by Shamshad Akhtar & Paul Steele | International Institute for Environment and Development (...)
7 hours ago



Climate Home News

Rare IMF relief offers a hope of green recovery to debt-laden ...

Cash-strapped governments in Africa, Latin America and the Caribbean do not have the luxury of borrowing cheaply to finance a green recovery from the ...

World Bank Group

Building a Green, Resilient, and Inclusive Recovery: Speech ...

... working toward a green, resilient, and inclusive recovery. Let me begin by ...



Financial Times

Europe's 'green and just' transition starts with its recovery fund

Europe's 'green and just' transition starts with its recovery fund. EU leaders must not miss the once-in-a-lifetime opportunity to build for a sustainable future ...
6 hours ago

Modern Diplomacy

54th ADB Annual Meeting to Focus on Collaboration for a Resilient and Green Recovery

... format from 3 to 5 May 2021, with a focus on deepening collaboration for a resilient and green recovery from the coronavirus disease (COVID-19) pandemic.
4 days ago



ANI News

\$300 million from GCF to support ADB's first green recovery plan in SE Asia

The ASEAN Catalytic Green Finance Facility (ACGF) Green Recovery Programme aims to leverage GCF and ADB funds to catalyse financial development ...
3 days ago

Inquirer Opinion - INQUIRER.net

A green recovery pathway for PH | Inquirer Opinion

A green recovery pathway for PH. By: Khalid Hassan, Selva Ramachandran - @inquirerdotnet

Outlook – the death Valley of coal?

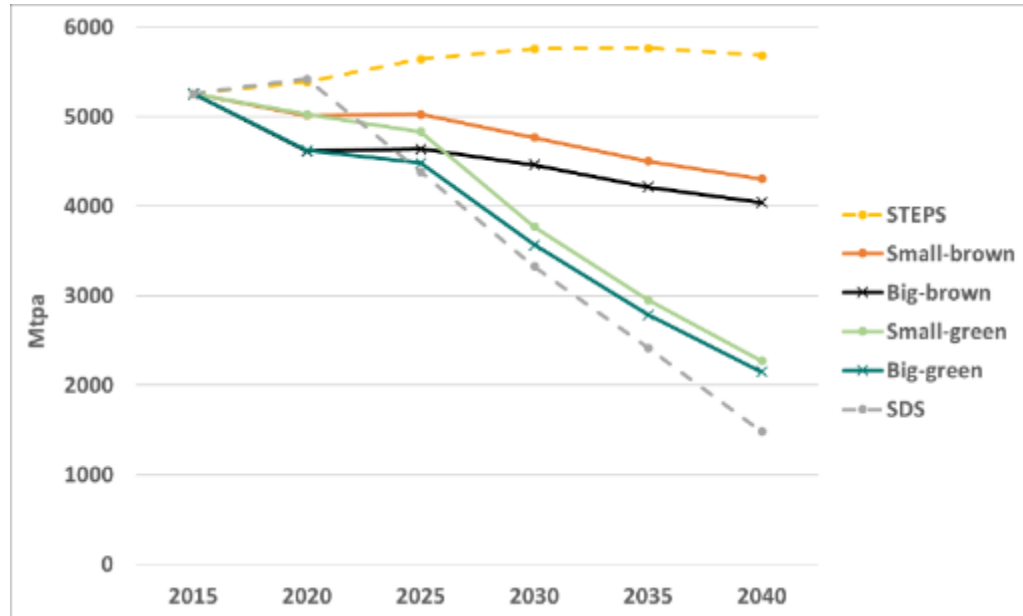


Figure 11 international thermal coal demand scenarios

Source: (Yanguas et al, 2021)

<https://www.sciencedirect.com/science/article/pii/S0306261921001112>

International coal demand:

- Severity of short-term 2020-21 shock will depend on scale of the pandemic (uncertain) but will mean reaching tipping points for coal demand.
- Design of COVID-19 recovery policies have large influence on long-term coal outlook.

3) Mid and long-term influence of COVID-19 recovery plans on coal markets

- Global economic recession and green/brown recovery packages
- Concentrated policy efforts on coal transitions
- Changes in trade policies (in particular in China and India)

Outlook – the death Valley of coal?

Green vs Brown recovery:

- Of total recovery public money committed in the energy sector, 40% has been directed to fossil fuels and 38% to clean energy.
- USA has been the worst performer (in absolute terms) with 72 billion USD for unconditional FF funding, and Turkey, Russia, Saudi Arabia, and Argentina, the worst relative performers with 100% of the recovery funds going to unconditional FF funding.
- India has been the best performer (in absolute terms) with 36 billion USD for clean energy funding, and Japan and China, the best relative performers with over 79% of the recovery funds going to clean energy funding.

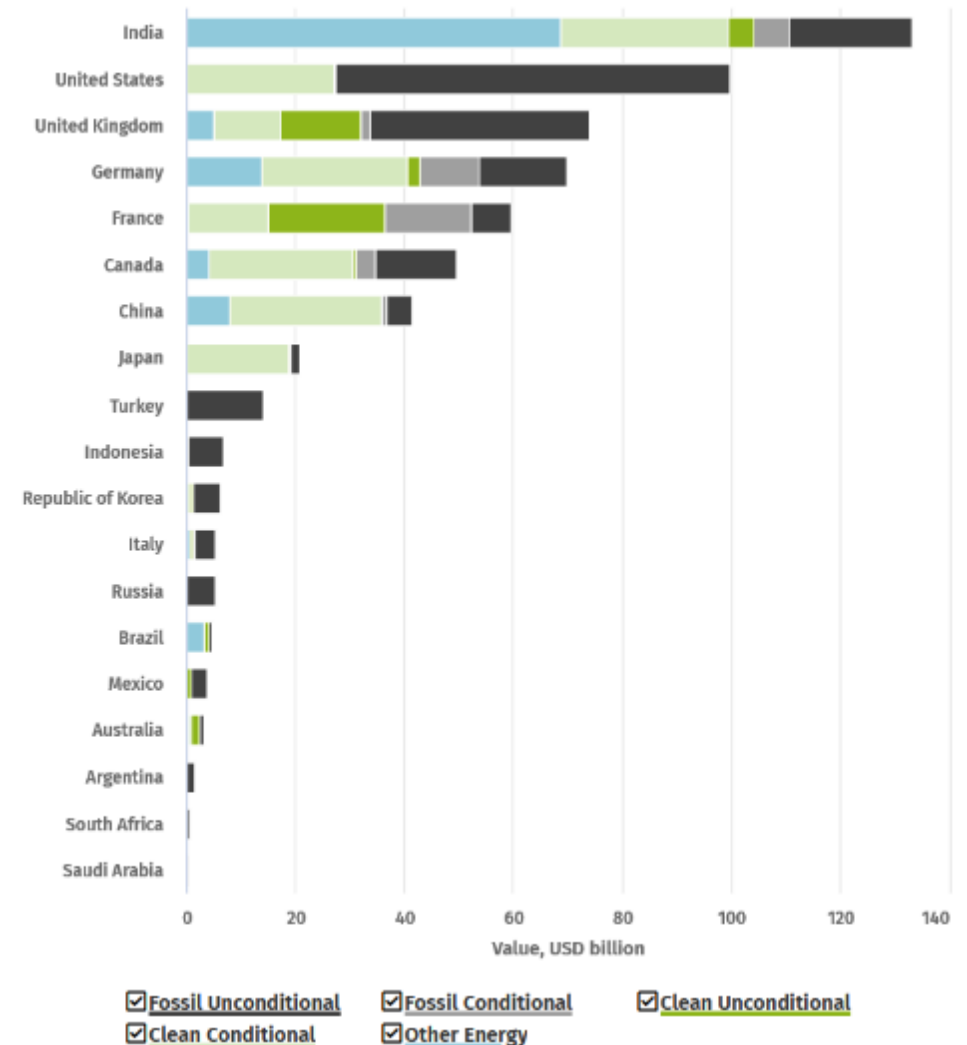


Figure 12 Green vs Brown recovery expenditure
Source: (Energy Policy Tracker, 2021)

Outlook – the death Valley of coal?

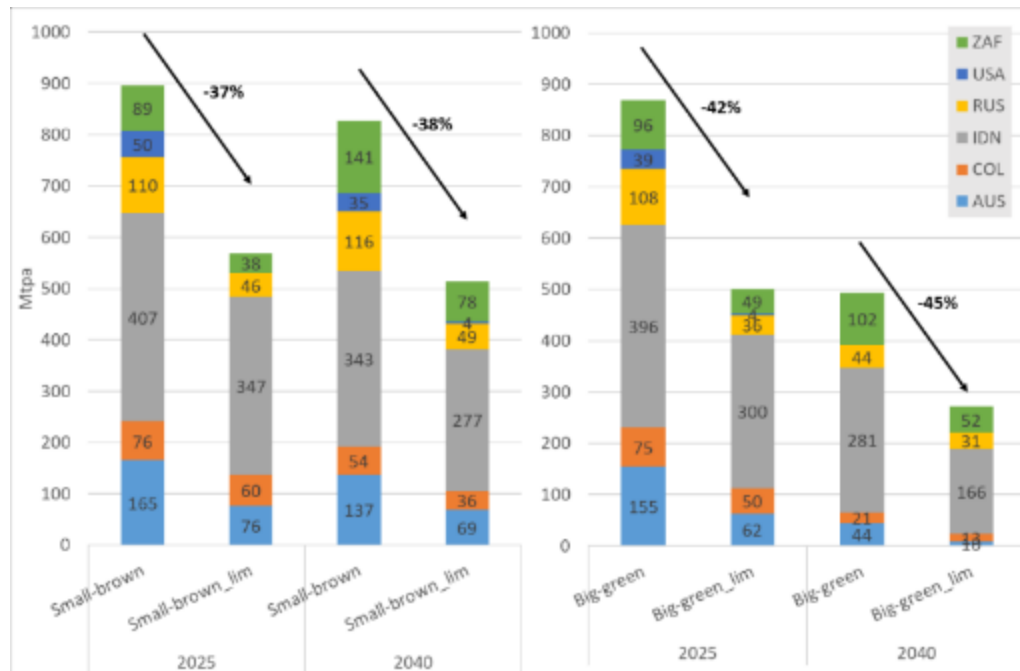


Figure 13 International thermal coal supply scenarios

Source: (Yanguas et al, 2021)

<https://www.sciencedirect.com/science/article/pii/S0306261921001112>

International coal supply:

- Dramatic changes in the composition of international coal trade expected.
- COVID-19 driven coal decline scenarios still not compatible with 1.5°C target.
- Need for concentrated policy efforts in coal sector in the pandemic aftermath.

3) Mid and long-term influence of COVID-19 recovery plans on coal markets

- Global economic recession and green/brown recovery packages
- Concentrated policy efforts on coal transitions
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Conclusions

- ✓ Pre-COVID-19 negative trends in coal markets were accelerated by pandemic.
- ✓ The COVID-19 shock in 2020 for global energy demand, and commodity prices hit the global coal sector hard, and a structural (and rapid) decline of the sector is expected in the future.
- ✓ Design of COVID-19 recovery policies have large influence on long-term coal outlook. Decisions by big players (China and India) point into a good direction. But not sufficient action on Green Recovery is seen globally.
- ✓ COVID-19 driven coal decline scenarios still not compatible with 1.5°C target. Concentrated policy efforts in coal sector still needed in the pandemic aftermath.
- ✓ Dramatic changes in the composition of international coal trade expected but coal-dependent countries (and regions) are not prepared for the structural decline of this sector.
- ✓ Need for a planned coal phase-out and just transition plan for dependent countries and regions.

THANK YOU!

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