

## COVID-19 and Fossil Fuels: Puncturing the Carbon Bubble?

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SDG Goal 13. How the COVID-19 pandemic is presenting an unprecedented opportunity to address the climate emergency

### Key messages:

1. **The sudden nature of COVID-19 presents an opportunity to take accelerated action on the creeping climate emergency by puncturing the 'carbon bubble'.**
2. **The term 'carbon bubble' denotes a tremendous overvaluation (\$12-185 trillion) of the fossil fuel industry, posing a substantial risk for investors and shareholders who manage fossil fuel assets.**
3. **Past financial recessions have devalued the fossil sector, deflating the bubble. But short-term recovery processes have propped-up the fossil sector and re-inflated the bubble.**
4. **COVID-19 has deflated the carbon bubble, evident through decreased share prices & market capitalisations and declined fossil sector activity**
5. **Four post-pandemic recovery scenarios are plausible from the perspective of the carbon bubble, but only one scenario prevents the re-inflation of the carbon bubble while ensuring social inclusion**
6. **Achieving an inclusive recovery requires three conditions:**
  - a. Treating climate and health as public goods;
  - b. Redirecting investment from fossil to fossil-substitutes;
  - c. Cushioning the blow for poor fossil fuel users and former fossil sector employees

### Introduction: Sudden pandemic creates opportunities

Limiting global warming to 1.5-2°C under the 2015 Paris Agreement on Climate Change requires leaving most fossil fuels underground (80% coal, 50% natural gas, 33% oil). Since 2015, US, European and Asian banks have invested \$2.7 trillion in the fossil industry. However, the COVID-19 pandemic offers an unprecedented opportunity to phase out fossil fuels. Furthermore, both the pandemic and climate change are driven by inadequate investment in and the privatisation of essential public goods (healthcare and the environment) and affect both the rich and the poor, but the poor more existentially because they are more vulnerable. They are different in that climate impacts are both experienced locally and temporally spaced, while COVID-19 is a sudden global challenge. The similar underlying causes and the sudden nature of the COVID-19 pandemic presents an opportunity to address both crises simultaneously.

### The Carbon Bubble Problem

The fossil fuel sector is valued (up to \$300 trillion) assuming that all fossil fuel resources will be commercialised ignoring the Paris Agreement. The true value is substantially lower: this overvaluation is referred to as the 'carbon bubble'. This explains investor reluctance to support climate policy. However, if the Paris Agreement is implemented, the bubble will 'pop', catalysing an enormous financial crisis.

### Past Recessions & the Carbon Bubble

Financial recessions have historically deflated the carbon bubble by devaluing the fossil industry. In 2008, major fossil company share prices plummeted (like BP (47%), Chevron (44%)), global CO<sub>2</sub> emissions dropped by 1.4%. However, within 2-3 years CO<sub>2</sub> emissions rose by 6%. Fiscal support for fossil-related infrastructure and frozen climate policies re-inflated the carbon bubble as global economies recovered.

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## COVID-19 and the Carbon Bubble

Since July 2019, fossil company share prices have fallen (Fig. 1) - notable firms include Shell (51%), ExxonMobil (49%) and BP (46%) – prompting decreases in market capitalisations (how much companies are ‘worth’), like Shell (from \$220 billion to \$130 billion). Shareholders have suffered; the two largest Dutch pension funds ABP and PFZW (ranked 5<sup>th</sup> and 10<sup>th</sup> globally) lost at least €5.0 billion and \$1.9 billion, respectively, as a result (Fig.2).

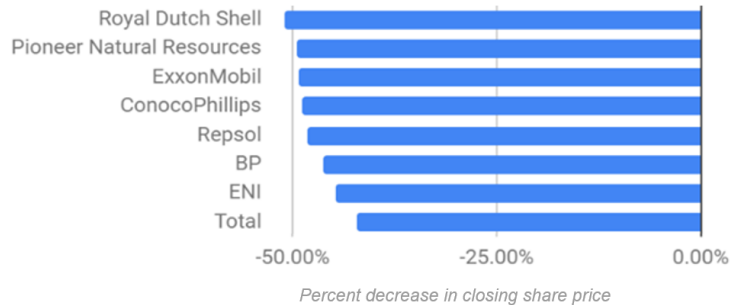


Fig. 1. Percent decrease in fossil fuel company closing share prices from July 2019 – April 2020. Source: original work

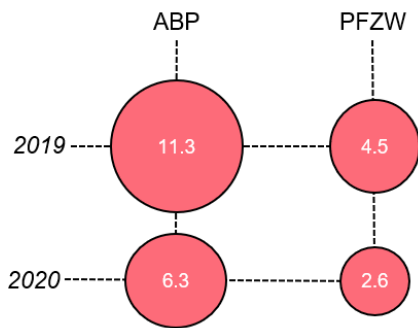


Fig. 2. Est. equity (in billion €) managed by pension funds ABP and PFZW in fossil firms pre- and mid-pandemic. Source: original work

Furthermore, fossil fuel production has reduced: coal-fired plants have closed in USA, UK and Austria; 11 global oil refineries have reduced/shutdown production; and many companies have announced plans to slash 2020 expenditures on new projects, like Shell (\$5B reduction), ExxonMobil (\$10 billion) and Saudi Aramco (\$30 billion).

## Post-COVID Recovery Scenarios

Four recovery scenarios exist (Fig. 3). Scenario 1 (‘Exclusive’) describes a likely return to business-as-usual. Governments support existing companies ignoring climate policy, driving the fossil fuel sector to its pre-recession state, reinflating the carbon bubble. ‘Growth’ is prioritised, support is allocated to corporate executives rather than other workers, and the well-being of the vulnerable is sacrificed. This is socially & ecologically exclusive, jeopardizing long-term climate-resilient development.

Scenario 2 (‘Socially Inclusive’) ignores climate policy and financially supports fossil-related companies and the social issues borne by the poor and working class. This could entail subsidies for petrol use or generating jobs by funding new coal plants. The carbon bubble is reinflated.

This scenario is ecologically exclusive, but the burden of the recovery is cushioned for the poor and absorbed by the rich.

In Scenario 3 (‘Ecologically Inclusive’), governments capitalise on the deflated carbon bubble and phase out the fossil sector by subsidising fossil-substitutes. While ecologically inclusive it is socially exclusive ignoring impacts on unemployed coal miners and street vendors that use petrol-based vehicles. Scenarios 2 and 3 threaten long-term climate resilient development but for different reasons.

Scenario 4 (‘Inclusive’) uses the COVID-19 lifeline to write-off (or puncture) the carbon bubble while addressing unemployment, healthcare and reliable access to energy. This inclusive scenario promotes long-term climate resilient development. The financial burden is borne by the rich.

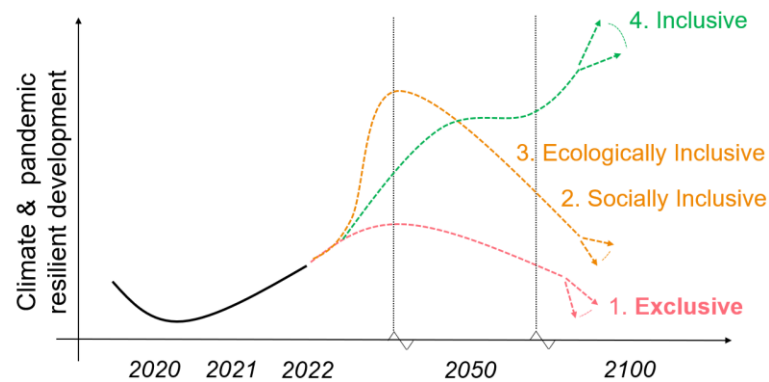


Fig. 3. Post-pandemic recovery pathways. Source: original work

## Three Conditions for an Inclusive Recovery

- 1. Climate and health must be treated as public goods**  
Internalising environmental externalities, promoting well-being not growth, and addressing the problematic privatisation of essential energy and healthcare resources.
- 2. Financial & political support for fossil-substitutes**  
Stimulus packages, tax breaks, subsidies, and feebates must flow to non-fossil resources like renewables. This should be paired with stringent climate policies & emissions regulations.
- 3. Cushioning the blow for poor fossil-dependents**  
Retraining programmes for former coal miners and subsidies for electric vehicles are two of many instruments that will prioritise the wellbeing of the poor and vulnerable during the fossil fuel phaseout.

## Key References

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