The impact of COVID-19 and the greenness of recovery packages on climate change mitigation scenarios

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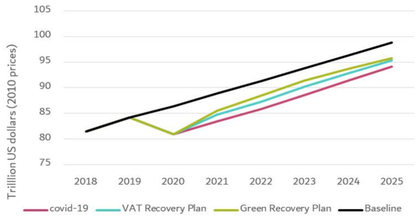
Projected impacts of COVID-19 and the greenness of recovery packages on…

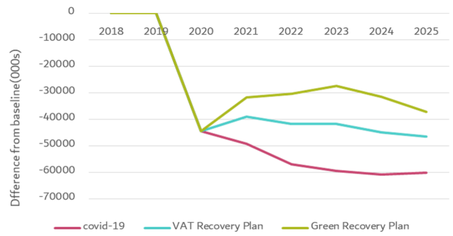
…the economy

The COVID-19 pandemic is having profound impacts on the economy, the labour market and structural changes (both demand and supply side).

Preliminary analyses show that green stimulus packages can boost growth and employment while substantially reducing emissions and contributing to meeting climate targets in the post-COVID era.



Global post-COVID GDP development scenarios. Preliminary results using E3ME-FTTmodel.



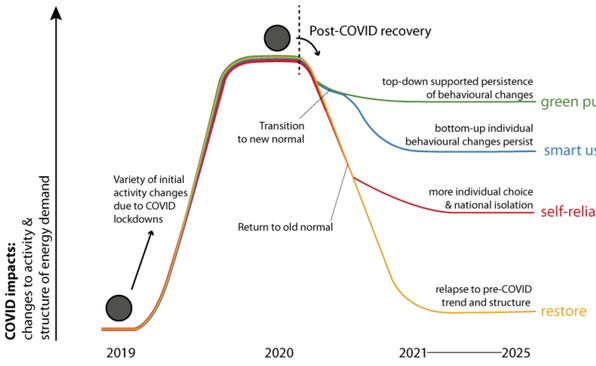
Global post-COVID employment development scenarios. Preliminary results using E3ME-FTTmodel.

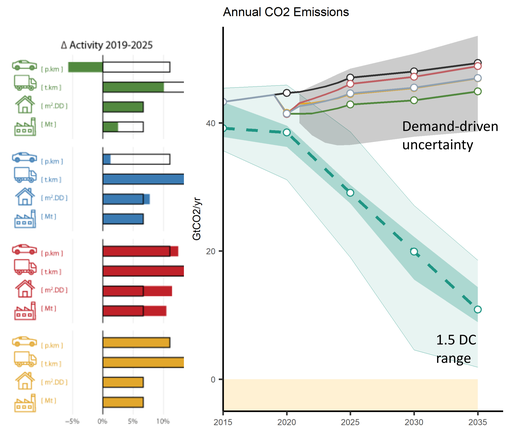
… demand and lifestyles

The COVID-19 pandemic caused radical temporary breaks with past energy use trends. A set of global COVID-19 shock-and-recovery scenarios systematically explored the effect of persisting demand changes.

Our pathways project:
- final energy demand reductions of 1 to 36 EJ/yr by 2025
- cumulative CO2 emissions reductions of 14 to 45 GtCO2 by 2030.

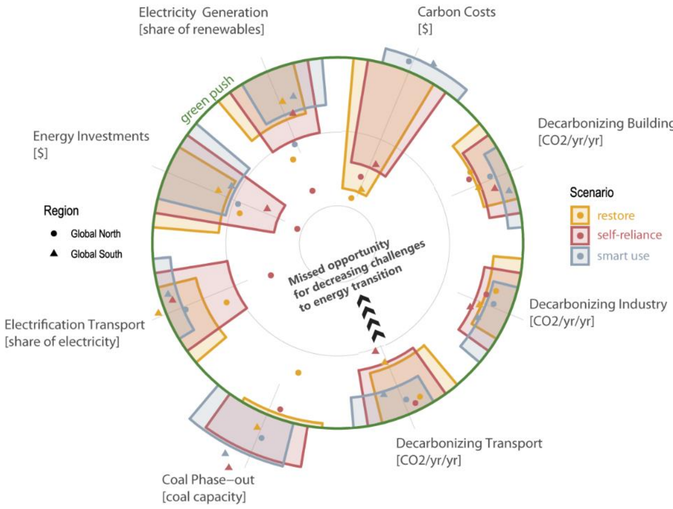
Avoiding lock-ins by recovering from the pandemic with energy-efficient practices embedded in new patterns of travel, work, consumption, and production reduces climate mitigation challenges.





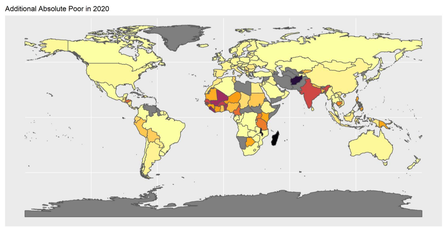
… emission pathways

A low energy demand recovery reduces carbon prices for a 1.5°C consistent pathway by 19%, lowers energy supply investments until 2030 by 1.8 trillion USD, and softens the pressure to rapidly upscale renewable energy technologies.



… inequality

In 2020, an additional 75 million people are estimated to live in poverty, notably in Africa and India. Moreover, inequality is seen rising significantly in 2020.

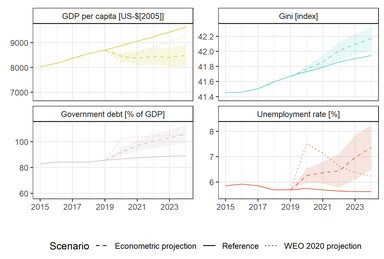


Projected additional poor in 2020

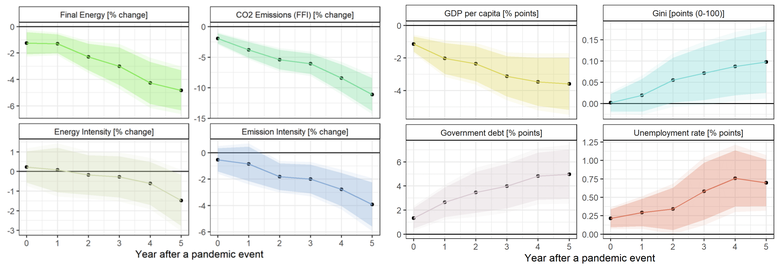
Past pandemics have had significant impacts on economic sustainability, resulting in increased inequality, unemployment, and poverty, as well as having a persistent impact on GDP. It is thus important that policies are designed to address these multi-dimensional impacts.

Moreover, while energy demand and emissions dropped after pandemic episodes, this was mostly due to reduced oil demand. Energy intensity did not change significantly, and most of the emissions reduction was due to energy demand response, indicating no structural energy system changes. Stringent mitigation targets thus require additional strong policies, since the drop in emissions due to COVID-19 is mostly transitory.

Source: Emmerling et al. (2021)



Projected impacts on economic sustainability



Impacts on energy demand & emissions of past pandemics

Impact of past pandemics on socioeconomic variables

… climate change mitigation efforts

In a survey, policymakers and stakeholders indicated their expectations concerning the likely medium-term impact of the COVID-19 crisis and its economic implications on climate policy.

Data collection started on May 28, 2020 and lasted until October 12, 2020. 223 complete responses were received from 55 different countries.

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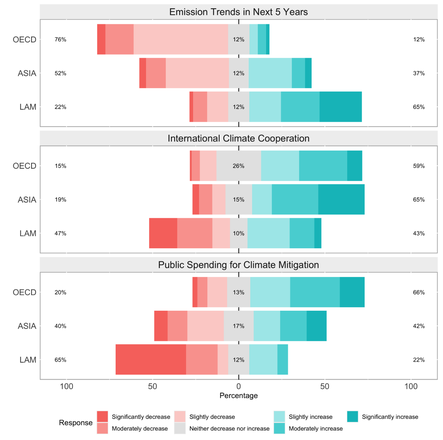
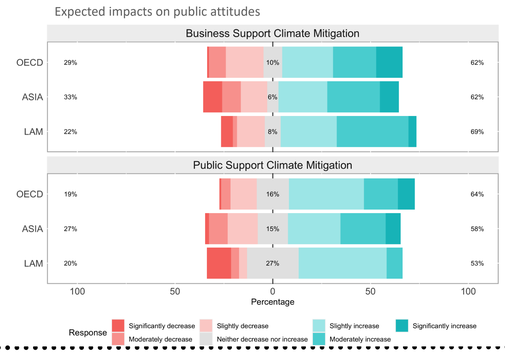
Overall expected impacts on climate performance



The survey suggests that experts have relatively positive outlooks, expecting the COVID-19 pandemic to open a window of opportunity for more ambitious climate action, albeit with sectoral & country differences. Experts from developed countries expect a more pronounced strengthening of climate policy; views on developing countries are more uncertain.

Expected impacts on public attitudes



The experts also expect that public attitudes will shift in favor of climate change mitigation

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