

Exploring the COVID-19 impacts on economic structural changes

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COVID-19, structural change, mitigation dynamics

- Aim 1: Capturing COVID-19 in NAVIGATE modelling
 - Focus on macro-economic and structural change caused by COVID-19
 - Demand and supply shocks with short- and long term legacy
- Aim 2: Exploring impacts of Green Recovery packages
 - Investment in green recovery packages (which sectors to focus on?)
 - Avoid reviving industries that we phase out later (e.g. Coal, aviation)
 - Impacts on jobs and income, GDP, trade (during and post-crisis)



Methodology

- Using two leading macro-economic models (E3ME-FTT, GEM-E3-FIT) that have been extensively used for policy analysis in the EU
- Based on two different schools of economic thought (post-Keynesian vs neo-classical) enabling comparison and identification of “robust” insights
- Establish common macro-economic outlook in post-COVID era
- Develop modelling protocol for green recovery scenario in EU and non-EU
- Limited financial constraints are assumed, with loans paid back after 2030, reflecting the current context of zero or negative interest rates



Scenario Assumptions

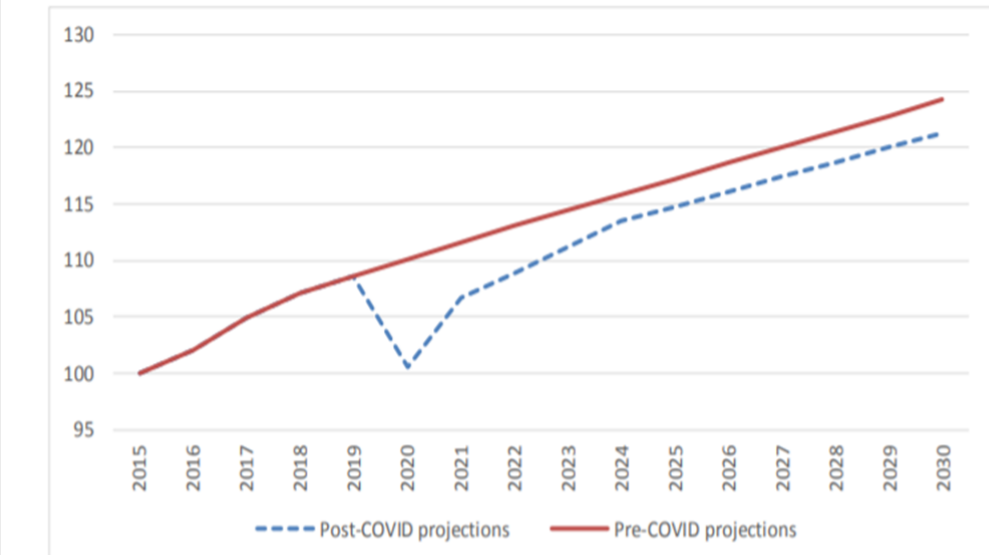
- Three core scenarios:
 - Pre-COVID Reference: Currently implemented energy and climate policies
 - COVID Baseline: new macro-economic baseline incl. COVID-19 impacts
 - Green Recovery: all countries use 1% of GDP for Green Recovery measures for 3 years (2021-2023): in line with IEA Sustainable Recovery
- Green stimulus is split to:
 - 1/3 for electricity, of which 80% renewable subsidies, 20% grid investment
 - 1/3 for EVs promotion via subsidies
 - 1/3 for energy efficiency in buildings



Establishing common macro-economic outlook

E3Modelling Results (EU)

Figure 14: Medium-term EU real GDP projections, pre-COVID and post-COVID (2015=100)



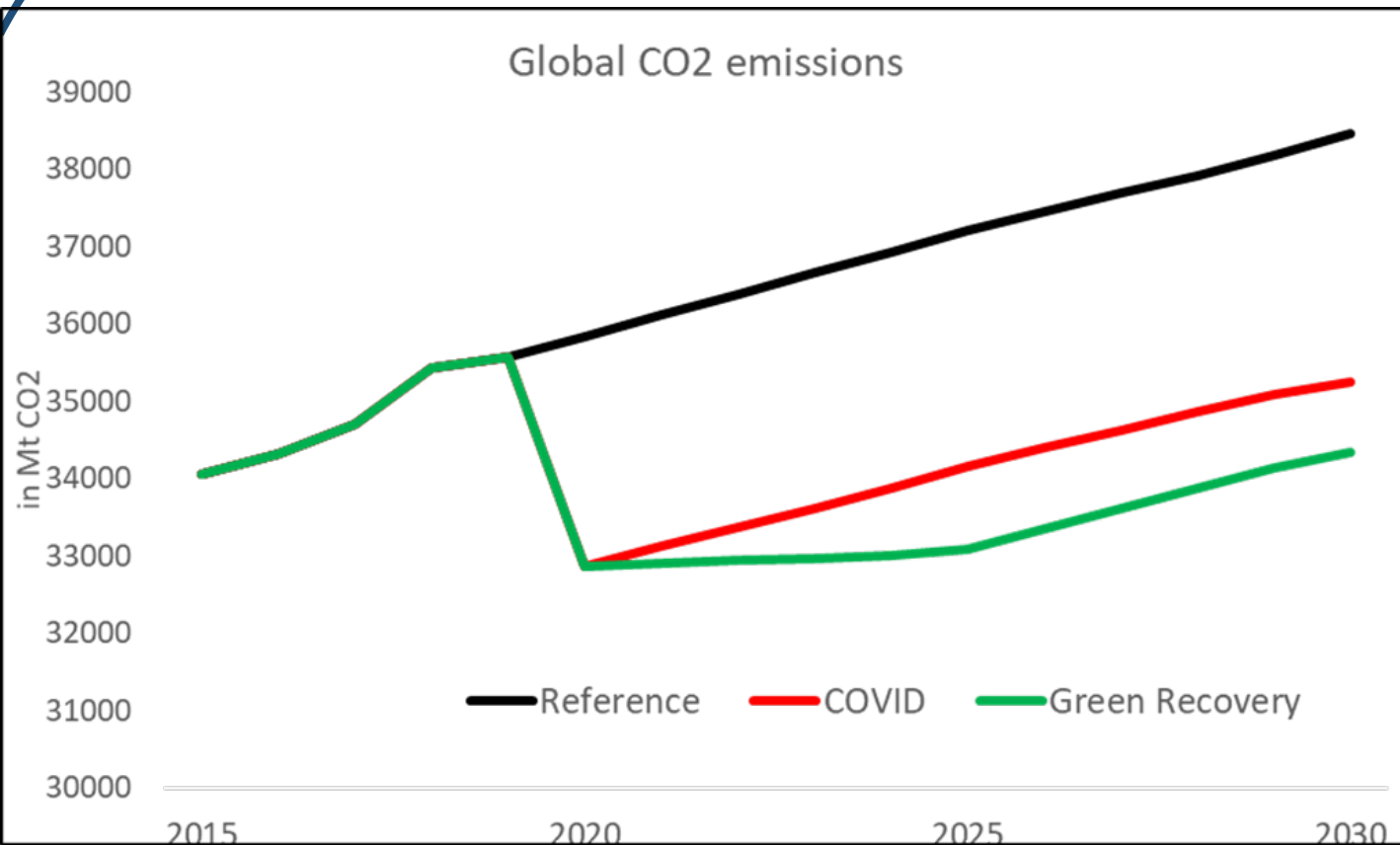
ECFIN – Spring 2020 Forecasts of real GDP growth

	2011-15	2016	2017	2018	2019	2020	2021
Belgium	1.3	1.5	2	1.5	1.4	-7.2	6.7
Germany	1.7	2.2	2.5	1.5	0.6	-6.5	5.9
Estonia	3.3	2.6	5.7	4.8	4.3	-6.9	5.9
Ireland	7.1	3.7	8.1	8.2	5.5	-7.9	6.1
Greece	-3.9	-0.2	1.5	1.9	1.9	-9.7	7.9
Spain	0	3	2.9	2.4	2	-9.4	7
France	1	1.1	2.3	1.7	1.3	-8.2	7.4
Italy	-0.7	1.3	1.7	0.8	0.3	-9.5	6.5
Cyprus	-1.6	6.7	4.4	4.1	3.2	-7.4	6.1
Latvia	3.6	1.8	3.8	4.3	2.2	-7	6.4
Lithuania	3.8	2.6	4.2	3.6	3.9	-7.9	7.4
Luxembourg	2.9	4.6	1.8	3.1	2.3	-5.4	5.7
Malta	5.7	5.8	6.5	7.3	4.4	-5.8	6
Netherlands	0.8	2.2	2.9	2.6	1.8	-6.8	5
Austria	1.1	2.1	2.5	2.4	1.6	-5.5	5
Portugal	-0.8	2	3.5	2.6	2.2	-6.8	5.8
Slovenia	0.4	3.1	4.8	4.1	2.4	-7	6.7
Slovakia	2.6	2.1	3	4	2.3	-6.7	6.6
Finland	0.1	2.7	3.1	1.6	1	-6.3	3.7
Euro area	0.8	1.9	2.5	1.9	1.2	-7.7	6.3
Bulgaria	1.8	3.8	3.5	3.1	3.4	-7.2	6
Czechia	1.7	2.5	4.4	2.8	2.6	-6.2	5
Denmark	1.3	3.2	2	2.4	2.4	-5.9	5.1
Croatia	-0.2	3.5	3.1	2.7	2.9	-9.1	7.5
Hungary	2.1	2.2	4.3	5.1	4.9	-7	6
Poland	3	3.1	4.9	5.3	4.1	-4.3	4.1
Romania	3	4.8	7.1	4.4	4.1	-6	4.2
Sweden	2.1	2.4	2.4	2.2	1.2	-6.1	4.3
EU	1	2.1	2.7	2.1	1.5	-7.4	6.1
UK	2	1.9	1.9	1.3	1.4	-8.3	6

- DG ECFIN GDP forecasts for EU Member States
- OECD September 2020 forecasts for non-EU economies
- Slow recovery to pre-COVID growth rates, but global GDP by 2030 remains 5% lower than previously projected

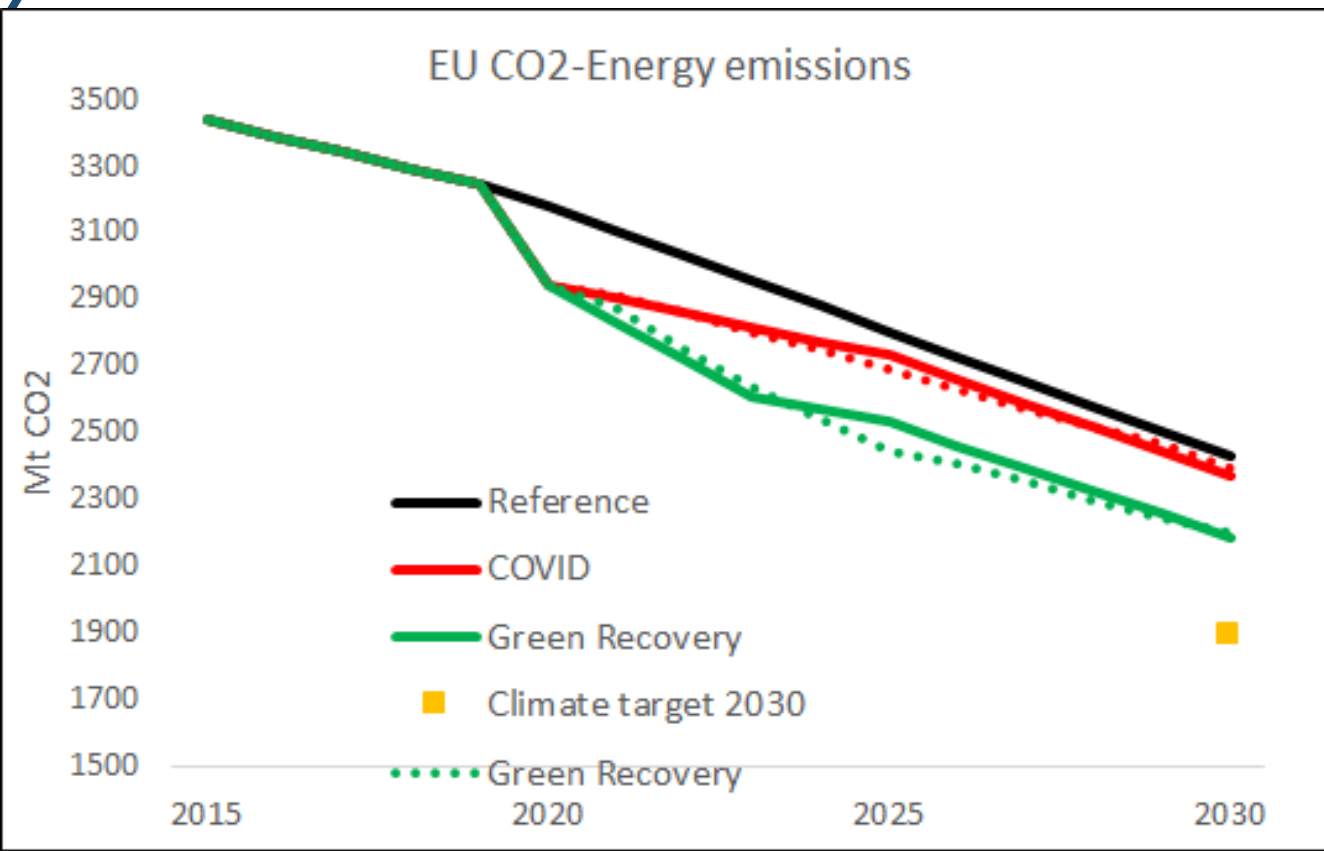


Impact on global CO2 emissions



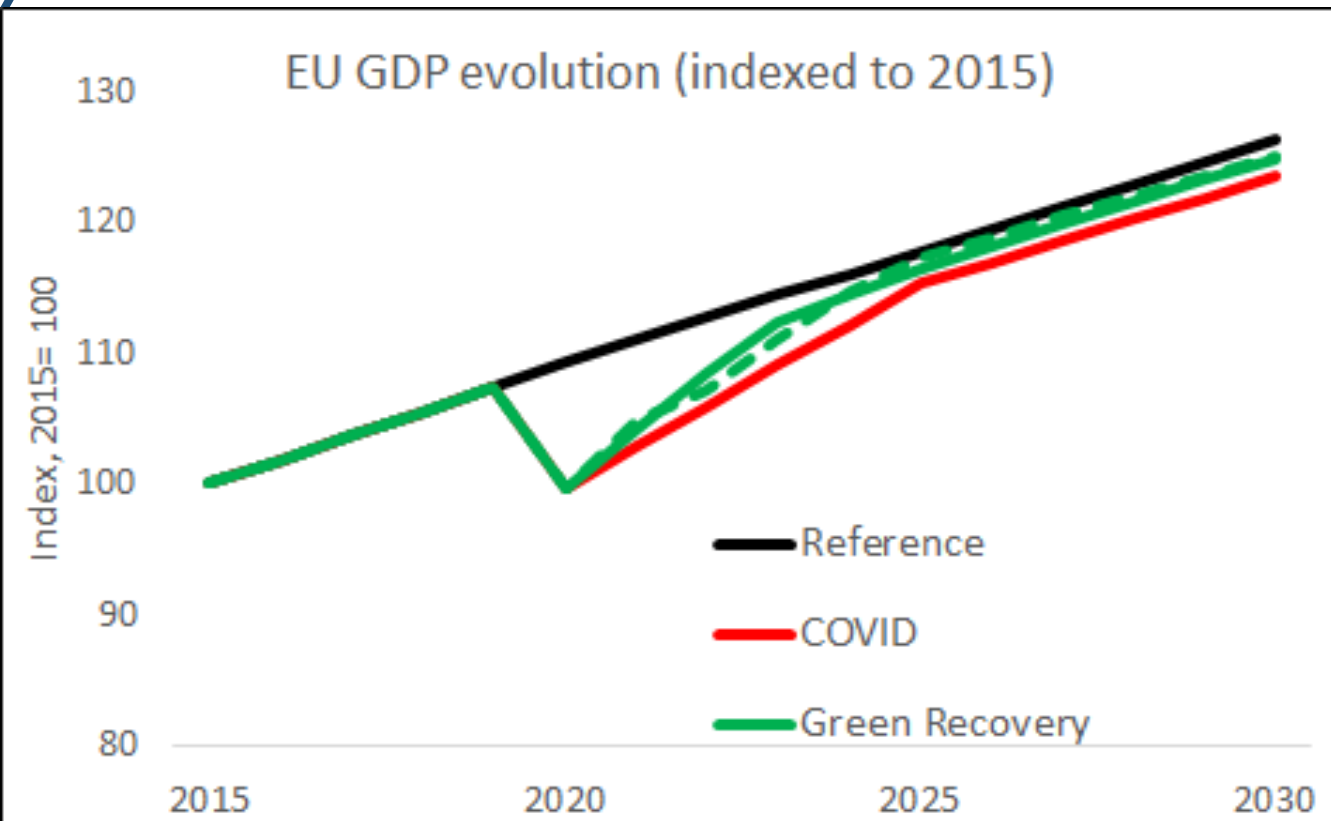
- > Global CO2 emissions decline by 8% in 2020 due to COVID, with lasting impacts until 2030
- > Green Recovery further reduces global emissions due to low-carbon subsidies and clean technology learning
- > Green Recovery can partially close the gap to 2oC in the absence of structural changes or stronger climate efforts

Impact on EU CO2 emissions



- > EU Green Recovery package can reduce the emission gap between current policies and the ambitious 55% GHG reduction target for 2030
- > Models agree that implementation of Green Recovery would reduce EU CO2 emissions by ~10% in 2030
- > This is mostly achieved through the increased uptake of RES in electricity production and electric vehicles

Green Recovery impacts on EU GDP



- > Large economic impacts from COVID with some effects sustained by 2030
- > Green Recovery boosts growth triggered by low-carbon investment offering strong economic stimulus
- > EU GDP is about 2% higher by 2030, as investment in new infrastructure improves the overall productivity
- > Increased GDP growth may lead to a “rebound” in emissions, if not combined with ambitious climate policies



Impacts on Employment

- Green recovery leads to increased EU employment by 1.5-2% in both models by 2025. About half of additional jobs are sustained by 2030.
- Most new jobs would be created in the:
 - ✓ Construction sector (triggered by higher installation of renewable technologies and retrofitting of buildings),
 - ✓ Electricity sector, particularly in grids and renewables.
 - ✓ Manufacturing of electric vehicles and batteries
 - ✓ Other sectors indirectly benefit from cascade effects and inter-industrial relations captured by multi-sectoral models



Final remarks

- COVID-19 has profound impacts on the economy, the labour market and structural changes (both demand and supply side)
- Preliminary analysis showed that Green recovery packages can boost growth and employment, while substantially reducing emissions and contributing to meeting EU Green Deal targets
- However, to avoid rebound in emissions, additional climate policies should be introduced aiming towards energy system transformation
- Different options for Recovery Packages will be analysed



Thank you very much for your attention

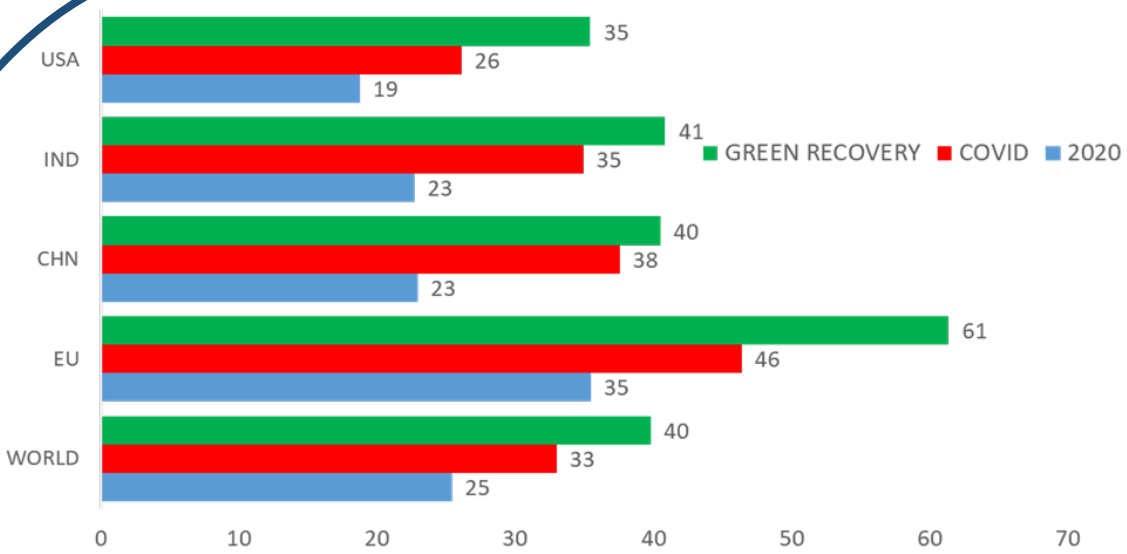
Comments?

For further information:

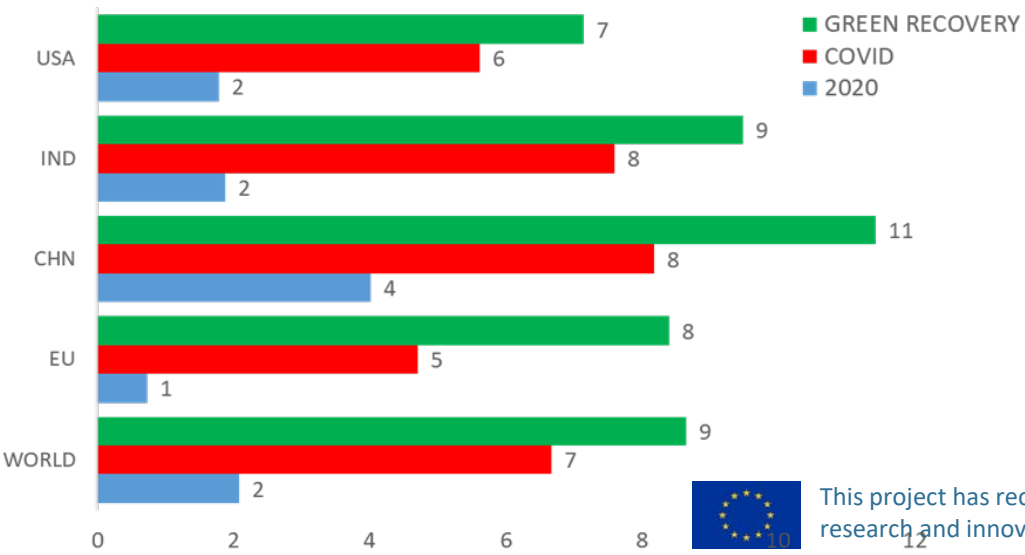
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RES share in power generation in 2025



Share of EVs in passenger car stock in 2025 (%)



Energy system impacts

- RES share increases in all major economies with RES accounting for 40% of global power generation in 2025 surpassing coal
- Uptake of EVs accelerates, with their share in global stock increasing to 10% in 2025
- The deployment of EVs combined with a low-emission grid results in lower global CO2 emissions

