



COVID-19 & Energy: The need for a Sustainable Recovery

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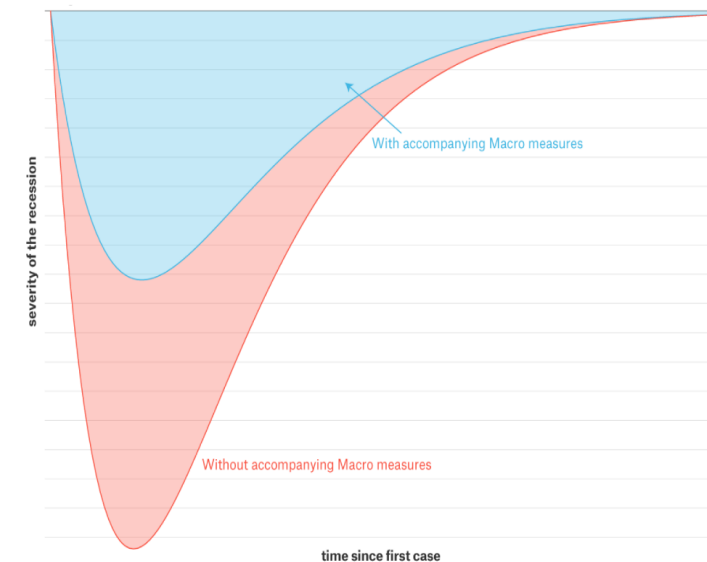
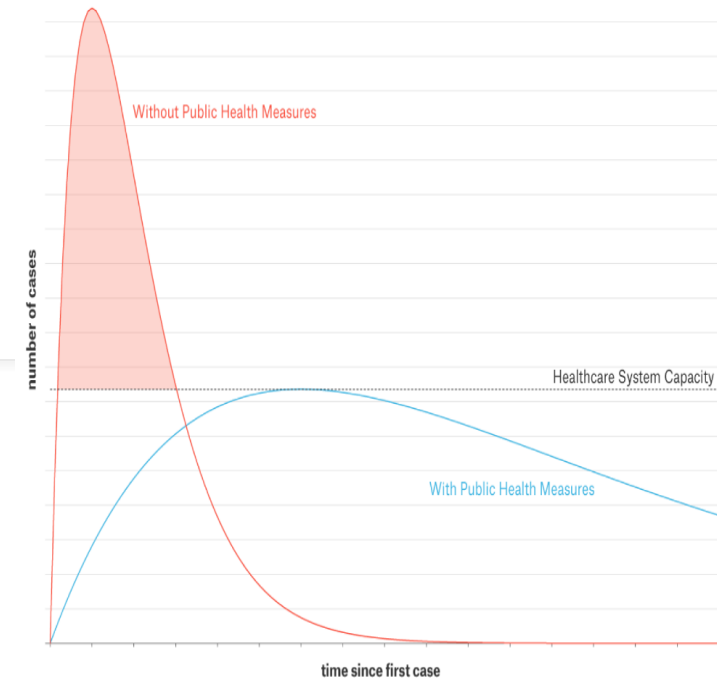
The Pandemic of COVID-19 has proven:

- Governments' ability to take dramatic measures to mitigate an existential threat.
- People's ability to adapt to new restricted lifestyles imposed by these measures.
- National states are better equipped to respond to the epidemic compared to International Organizations (in terms of explicit imminent response).
- Timing of the enactment of measures is crucial for their effectiveness in saving lives.



Flattening the infection curve, Steepens the macroeconomic recession curve

- Health-related measures aim to spread the pandemic out over time and buy time for drastically raising the capacity of the health-care sector.
- Strict isolation measures lead to the shutdown of the complex web of economic supply chains and socio-economic networks.
- How can we avoid the pandemic turn into a major economic and financial crisis that will long outlast the health crisis?
 1. Work force remains employed even if quarantined.
 2. Governments channel financial support to public and private institutions that support vulnerable citizen groups.
 3. SMEs be safeguarded against bankruptcy.
 4. Policies to support the financial system as nonperforming loans mount.
 5. Fiscal packages, comparable to the crisis related loss of GDP, will have to be financed by national debt.
 6. Should we worry about the level of the debt? Yes, to the extent that is possible we want to avoid another debt crisis, but most importantly, we want to avoid an unsustainable recovery.



The Energy Sector

The COVID-19 crisis is having a major impact across the energy sector and threatens to undermine efforts to accelerate clean energy transitions.



Energy Security. The crisis reminds us of electricity's indispensable role in our lives and highlights the critical value of electricity infrastructure and know-how. The crisis provides insights into how this role is set to expand and evolve in the future.

How Clean Energy Transitions can help kick-start economies

- **Ambitious agenda setting for job creation and climate change goals:** Modernizing energy systems can contribute to job creation and economic growth while also protecting the climate.
- **Public sector leadership on investing in clean energy:** Governments directly or indirectly drive more than 70% of global energy investments. At this time of crisis, their actions matter more than ever. Policy settings can actively steer energy-related investments onto a more sustainable path.
- **Making energy efficiency, renewables and battery storage central to economic recovery:** Stimulus programs in energy industries should be prioritized to support existing workforces, create new jobs and drive reductions in emissions.

IEA advices: Build on what you already have - and think big



- The clean energy investment push will need to be done on a major scale given the size of today's economic shock. Policies with existing legal and institutional structure are the easiest to scale up.
- Wind and solar are cost-competitive in large parts of the global energy system, but their continued growth still needs supportive policy frameworks (especially in the case of offshore wind, which is now ready for massive investment).
- Accelerating wind and solar PV can be pillars of post-pandemic stimulus efforts
- Important emerging technologies for clean energy progress - **lithium-ion batteries and hydrogen electrolysers** - have the potential to be the coming decade's breakout technologies.

Global Oil Markets: An unprecedented situation

Could there be a rush - or delay - to renewables?



- Demand is collapsing because of the impact of the coronavirus. Supply, already overabundant, is significantly increasing.
- Oil-importing countries might experience benefits from low oil prices when repairing their post-coronavirus economies. Oil-exporting countries will face a profound shock, risks social stability, limits ability to buy goods and services from the rest of the world.
- Given the oil sector's size, strategic importance and role in global finance and trade, bankruptcies in this sector likely to make the **global financial situation unstable**.
- Generally low (negative) oil prices make green energy less competitive, but for
 - oil exporters: the bargain-basement price means there is a greater economic incentive to invest in renewables
 - investors could then interpret this move as a sign that oil margins will be low, and so put more of their capital into green resources

Emissions: The history of 2008 financial crisis calls for caution!



- A pandemic-driven drop in emissions is almost certain this year but would be nothing to celebrate.
- From an emissions point of view, the recovery from the 2008 financial crisis was energy and carbon intensive. Although carbon dioxide (CO₂) emissions declined in 2009, they rebounded 2010 to the sharpest upswing in history, driven mainly by developing Asia.
- Hepburn et al. 2020: assess 196 stimulatory fiscal recovery policies implemented in response to GFC: 63 green, 117 colourless (maintain the status quo), 16 brown. We need to learn from what happened in 2009 and 2010 to make smart policy decisions that can put emissions into structural decline this decade.
- **GFC experience shows that green stimulus policies have advantages over traditional fiscal stimulus. Green construction projects, such as insulation retrofits or renewable energy infrastructure, can deliver higher multiples due to reduce long-term energy costs and flow-on effects to the wider economy**

When COVID-19 met the EU ETS

The EU carbon market prices are plummeting as a result of economic shutdown, underlining the need to strengthen the scheme to better sustain similar shocks



- Beginning April 2020 EU ETS price was 25 euros per tonne. The higher price has helped drive the coal phase-out, a key goal for Europe. As of now, the current price drop has not revived coal power generation, however, the profitability of lignite plants has unfortunately already improved. The price drop, also means reduced revenues to member states coming from the auctioning of emission allowances.
- A lower carbon price means less exposure to the carbon price signal to incentivize emission reductions. This is especially important for large polluting industrial sectors (steel, chemicals, cement) and the aviation sector.
- The EU ETS Market Stability Reserve (MSR) has been absorbing excess allowances off the market since the beginning of 2019, which is the main reason for the 25€ price. It will continue to take out the surplus and cancel those permits later. However, the MSR was designed to handle past oversupply accumulated over the years. It is not fit for purpose to deal with current or future surplus
- The MSR will, therefore, [need to be strengthened](#) in the context of the EU Climate Law implementation and the upcoming review of the EU carbon market rules. This means increasing the intake rate from 2024 onwards, adopting a declining threshold and by setting an automatic cancellation for allowances held in the MSR for more than five years. In addition, the pace at which the pollution permits are reduced annually, the ETS linear reduction factor (LRF), needs to be raised in order to decarbonize the power and industry sector by 2040 the latest.
- EU governments can help strengthen the system by cancelling surplus allowances as power plants are closed down, as provided for in the EU ETS directive.
- Implementing either national or regional carbon floor prices would be an ideal measure to strengthen the EU ETS and provide the necessary incentives to phase out coal.

COVID-19 & CC Early Days: Global survey of fiscal recovery policies

Hepburn, O'Callaghan, Stern, Stiglitz, Zenghelis, 2020



- April 2020, 231 officials from finance ministry, central bank, other economists, representing 53 countries including all G20 nations, to ascertain their perspectives on COVID-19 fiscal recovery packages according to:
 - 'speed of implementation' from the time of legislation
 - 'long-run economic multiplier'
 - 'climate impact potential'
 - 'overall desirability' social, political, personal factors

Results suggest that experts think that climate-positive policies also offer superior economic characteristics.

Guidelines for policymakers:

Fiscal recovery with high multiplier economic impact & high long-term positive climate impact.



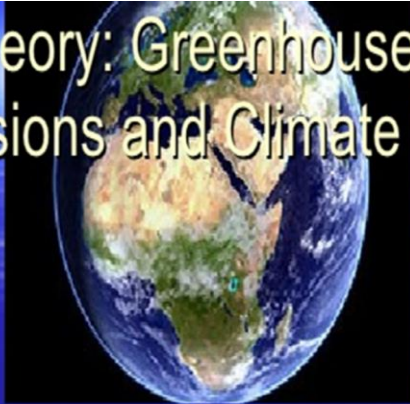
- Renewable energy assets, storage (including hydrogen), grid modernization and CCS technology
- Building efficiency spending for renovations and retrofits (improved insulation, heating, domestic energy storage systems)
- Investment in education and training to address unemployment from COVID-19 and structural shifts from decarbonization
- Natural capital investment for ecosystem resilience and regeneration including restoration of carbon-rich habitats and climate-friendly agriculture;
- Clean R&D spending.
- LMICs: Rural support scheme spending for sustainable agriculture, ecosystem regeneration, accelerating clean energy installations
- **Global Debt a serious problem, but** financial assets are not net wealth, and total global debt is only relevant in that it reflects growing inequality, or in that it creates vulnerabilities from systemic financial interlinkages. What matters is whether borrowing is used to invest in sustainably productive assets.
- **Outflow of funds from EM & EM Debt, two options:** resort to IMF or borrow directly from the FED through the swap lines. The IMF and World Bank are already planning to allocate \$ 1 trillion to help many EMs repay their debts. The problem is that \$ 1 trillion is very little compared to the \$ 5.5 trillion in direct EM debt. On the other hand, for the next six months, the FED has decided to allocate a total of 450 billion to provide dollars (against local currencies) to central banks.

Response to COVID19 pandemic vs. lack of effective action on climate change

- Climate change (CC) has the potential to end up killing more people than COVID-19, but the deaths reference hidden in the jargon as “increased frequency and severity of natural disasters” and is spread over decades.
- IPCC: global warming accelerate emergence of new viruses. Deforestation drives wild animals closer to human populations, increasing the likelihood that zoonotic viruses will make the cross-species leap.
- Effective policies against CC require international cooperation, which are more demanding than unilateral national policy decisions.
- Timing is also important. IPCC 2018 “the level and speed of the change needed, to successfully tackle the climate crisis, is unprecedented”. **Incremental changes will not be enough!**
- CC requires policy changes less disruptive, economically, socially and culturally, than those to tackle COVID-19.



Theory: Greenhouse Gas Emissions and Climate Change



Alter the intensity and frequency of natural disasters that are regulated by atmospheric and oceanic conditions

Yes: hurricanes and cyclones, droughts, floods, thunderstorms, wild fires, winter storms

No: volcanoes, earthquakes

Maybe: tornadoes (no decisive verdict yet)

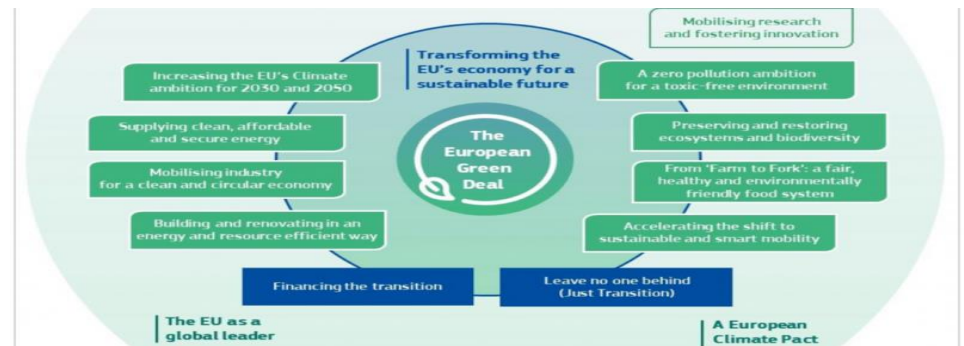
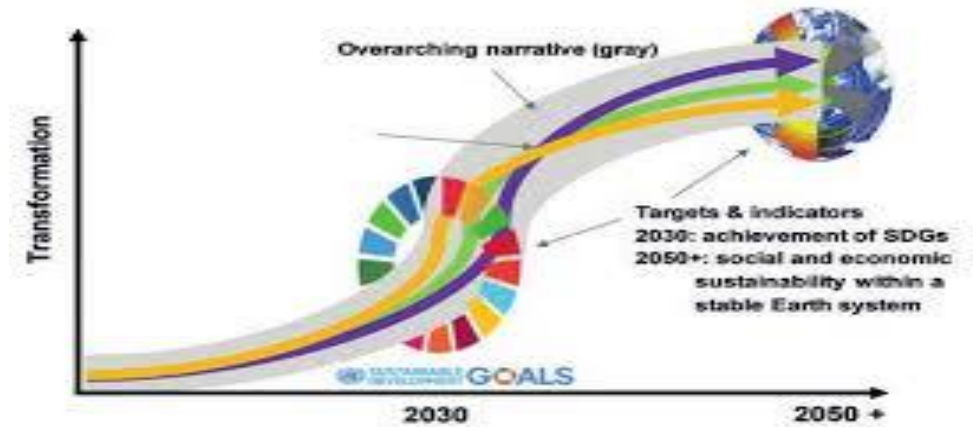
...the financial crisis 2007-08, the refugee crisis, the climate crisis, the COVID-19 crisis....



- Attempting to face each new crisis with the same thinking that gave rise to the crisis itself, will fail to find a sustainable and resilient socio-economic- environmental pathway.
- **What is needed now is a fundamental transformation of economic, social and financial systems that will trigger exponential change in strengthening social, economic, health and environmental resilience. We need big thinking and big changes!**
- We can use the science -as we are using science currently for designing measures to restrain the diffusion of COVID19- :
 - Design economies that mitigate threats of climate change, biodiversity loss, pandemics.
 - Leverage the power of people to achieve the vision of prosperous, inclusive, climate and pandemic resilient society with a circular, net-zero emissions economy.

Our Blueprint for Systemic Change: The SDGs and EGD

- Following 2008 financial crash, public funds flew disproportionately to polluting, unsustainable industries. This must not happen again!
- We must start investing in what makes our socio-economic system resilient to crisis, by laying the foundation for a green, circular economy that is anchored in nature-based solutions and geared toward public wellbeing.
- Now is the time to usher in **systemic economic change** and the good news is that we have our blueprint: it's the combination of **UN Agenda 2030 (17 SDG)** and **European Commission's European Green Deal**.



Never Waste a Good Crisis!



- Economic crisis more severe than the 2008 financial crisis, and the decarbonization challenge is even more urgent.
- Energy technologies: some vital components for building a clean energy future are more mature and ready to scale up.
- Embrace **EU taxonomy** for sustainable investments (2019)
 - phase out fossil fuels by deploying existing renewable energy technologies
 - eliminate fossil fuel subsidies and redirect them to green and smart climate mitigation and adaptation infrastructural projects
 - invest in circular and low carbon economies
 - shift from industrial to regenerative agriculture
 - exploit the limits of the digital revolution and reduce transportation needs.
- The transition should be inclusive and **"leave no one behind"**! finance should be directed to those that are sustainable, but also those who are willing to commit, and be monitored henceforth, to learning how to become sustainable.

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