

THINK PIECES

Resilience: How to better protect, prepare and transform the European Union?

The EU is currently facing unprecedented challenges. Member State governments are under stress to safeguard jobs, livelihoods and entire sectors of their economies, while facing unprecedented pressure on their healthcare systems and institutions. Policymakers and academics are increasingly looking at 'resilience' as a **holistic conceptual, analytical and policy framework** to synthesise insights from across disciplines.

This roundtable has been organised in close collaboration with **Nicole Dewandre**, **Per Haugaard** and **Mary Veronica Toysak Pleterski**.

For the purposes of our roundtable discussion, we have defined the term 'resilience' as the capacity to withstand and cope with shocks, and to undergo the required transformations in a fair, sustainable and cohesive manner. Resilience is in this sense what it takes for a society/economy both to recover from the COVID-shock and to achieve the twin transitions (green and digital). It has been argued that 'resilience' is needed for the EU to 'bounce forward' and swiftly recover and emerge stronger from the current and future crises, by accelerating its transitions, minimising damage and relieving suffering from crises through adaptation and transformation.

We asked our experts to reflect on the topic of resilience with the aim to lay the foundations for a fruitful discussion during the roundtable.

As discussed with **Nicole Dewandre**, **Per Haugaard** and **Mary Veronica Tovsak Pleterski**, we put the following three **questions** to our speakers:

- Is 'resilience' in your view a concept to offer a positive narrative and policy frame to pursue economic recovery, environmental sustainability, digital transformation and foreign policy?
- What is your assessment of the effectiveness of EU action so far, in engaging on that challenging path?
- Which initiative do you recommend for the Commission to take in 2021, in order to nurture EU resilience and put the EU firmly on the track of a transition-led recovery?



•	European Round Table for Industry					
•	Club of Rome, Expert					
	Group on Economic and Societal Impact of Research & Innovation (ESIF					
•	Rome University 'Tor Vergata' and a former					
	Italian Minister of Labour and Social Policies.					
•	Centre for Liberal Strategies, Sofia, and a					
	Institute for Human Sciences in Vienna.					
•	Club of Rome an					
	Collective Leadership Institute.					
•	The Pandemic Action Network.					
•	Research center for					
	Social sciences, Dauphine-PSL,					



Definition = capacity to *recover* quickly from difficulties. As resilience is linked to 'recovery', the concept itself is by definition, more defensive and therefore less inspiring/motivating than, for example, the Green Deal and the Digital Transformation. Resilience & competitiveness should be two sides of the same coin.

Negative resilience:

- Striving for more protectionism or (closed) economic sovereignty/autonomy.
- Reshoring when it does not make sense economically.

Positive resilience:

- Stimulating growth, competitiveness & productivity.
- Diversification of value chains + a global LPF for trade.
- Boosting R&I so as to achieve advancements in healthcare, etc.

Example of positive resilience through interdependence & open trade: the US administration did not prevent the export of ventilators from the US, as other countries would then restrict the export of key components for these ventilators to the US.

Effectiveness of EU actions?

Positive:

• The new Recovery and Resilience Facility with requirements for EU Member States' plans to address the green and digital transitions.

To be improved:

- 'Positive' resilience could be a guiding principle to modernise EU programmes, such as agricultural and cohesion programmes.
- The future-oriented and modern parts of the MFF should be preserved and preferably enhanced: Horizon Europe, Digital Europe programme, Space and defence programmes, etc.
- The **New Industrial Strategy for Europe** (10 March 2020) does not yet have any mention of the concept 'resilience'...
- Key Performance Indicators (KPIs) and quantitative targets to structurally measure progress on implementation and benchmark competitiveness ('positive' resilience) still need to be developed
- Initiate an intense dialogue between the public & private sectors, including on shortages and vulnerabilities in (critical) value chains, with the aim of improving framework conditions, so that the market incentivises companies to increase production and/or s to cks in Europe.



Role for the industrial ecosystems and the new Industrial Forum?

New Commission initiatives for 'positive' resilience

<u>INTERNALLY</u>: For a deeper single market, **renew integration** (similar to J. Delors).

- Further integrate the economies of the EU is a non-costly, budgetary-neutral way to boost economic recovery.
- The benefits would amount to €713 billion by end of 2029 (Communication of 10 March).

- Create a true Single Market in services and enable integrated networks in the energy & digital sectors
- Similar toits strict enforcement approach in competition policy, the European Commission should take appropriate action (launch infringement procedures) against EU Member States which do not resolve obstacles

<u>EXTERNALLY</u>: A renewed boost to develop **European Economic Diplomacy** could open up new business opportunities and stimulate global trade.

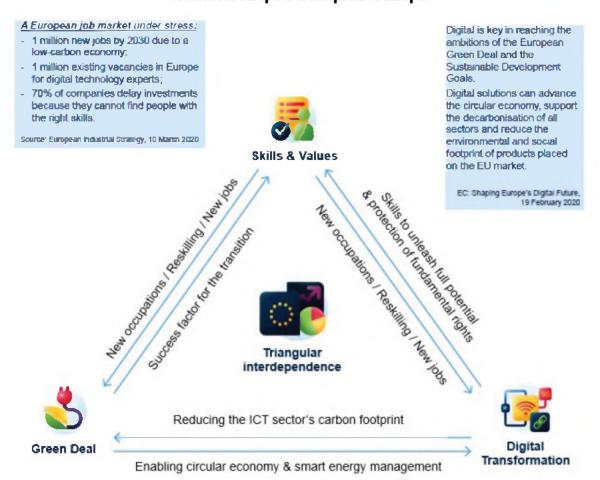
Devise & promote the 'Digital Deal', to have similar impact as the 'Green Deal', making Europe fit for the

digital age - with fairness and trust - and a strong digital economy that works for everyone. This would include key actions such as:

- 1. a 'European deal' to roll out 5G,
- 2. a 'Broadband pact', and
- 3. European Digital 'Lighthouse Projects' (IPCEIs) which crowd-in private sector (R&D) investments

Master the **triangular interdependence** between the <u>energy transition</u>, <u>digital transformation</u> and skills.

A resilient Europe is a competitive Europe.



Is '**resilience**' in your view a concept to offer a positive narrative and policy frame to pursue economic recovery, environmental sustainability, digital transformation and foreign policy?

"Follow the science" and optimise technology and digital infrastructure is the mantra of all governments who successfully contained epidemics in their respective countries. This has been evident also coming out of the COVID pandemic. Together with the scientific and expert community we must circumvent, where possible, and prepare, where necessary, for further crises so that European citizens and our communities are 1) better protected now and in the future, 2) prepared and 3) transformed to become more resilient to future pandemics. This ultimately means optimising innovation in an integrated and just transition that embodies new social – green – digital pathways together.¹

An optimised Europe for people-planet-prosperity is the positive narrative we need for Europe. Post COVID-19, building back better means a new framework that builds in resilience to future shocks whilst creating an exciting vision for Europe where the well-being of all citizens is guaranteed, measured by value based indicators and ensuring access to health, basic essentials (water, food, hygiene), employment and education whilst developing digital infrastructure that optimises people's lives and livelihoods and a regenerative economic system not the reverse.

Coming out of this crisis, we need to ensure that people understand we are still in a planetary emergency due to the convergence of health pandemics with climate change and biodiversity loss all created by the previous drive towards economic

growth at all costs and a disrespect for the planetary boundaries.² Going back to BAU will only create more crises whilst building in resilience and solutions for a more positive future will quarantee both a possible "emergence from emergency" and a more equitable and holistic economic model. Any economic system for resilience to future shocks should be not only be designed in line with the SDGs and the Paris climate agreement but it must also be aligned to new growth indicators that measure human health and wellbeing. Moving beyond GDP and embracing a broader range of value based economic and financial indicators focused on wellbeing is already being discussed in several countries as well as across the MDB's, financial institutions and private banks.

At the government level, the Group of Wellbeing Economy Governments (WEGo) currently comprising Scotland, Iceland, New Zealand, and recently Wales, have embraced a true paradigm shift based on a more holistic economic model that puts people-planet-prosperity at its core. They are leading the way in developing and implementing well-being policies plus putting in place indicators that prioritise life expectancy, inequality, clean environment and access to public services such as housing, health, education, etc. At the local level, similar economic models are being introduced such as Kate Raworth's Amsterdam city doughnut³ launched this April 2020.

What is your assessment of the **effectiveness of EU** action so far, in engaging on that challenging path?

The European Green Deal (EGD) is a step in the right direction. It sets out many of the core elements (e.g. circular economy, biodiversity, climate neutrality, farm to fork, sustainable finance, clean mobility,

¹https://eceuropa.eu/info/sites/info/files/research and innovation/groups/esir/ec rtd esir-recoveryresiliencecovid19.pdf

² https://clubofrome.org/publication/the-planetaryemergency-plan/

³https://www.kateraworth.com/2020/04/08/amsterdamcity-doughnut/

etc.) needed to position health, wellbeing and resilience at the heart of the EU recovery. But the European Green Deal is only part of an important series of stepping stones in the short term to wards real systems change in the long term. The proof of its effectiveness will be in its implementation as Member States distribute and apply MFF, JTF funds and are accountable in doing so. Linking the EGD and Green recovery to the following will enable success, as the current push back regarding real implementation at Member State level is worrying. We will need to:

- Further the EU investment pull out of fossil energy (following EIB leadership).
- Speed up ECB and central bank stress testing and stranded asset de risking.
- Ensure Taxonomy and DNSH use for both private and public funding including MFF,

 JTF and Horizon Europe.

Which **initiative** do you recommend for the Commission to take in 2021, in order to nurture EU resilience and put the EU firmly on the track of a transition-led recovery?

Clearly the implementation of an ambitious EGD package of legislation is fundamental and will demonstrate to the Member States the true notion of a political and economic Union that brings all Europeans together. Failure will be both a disaster for the future of the Union and for a global EGD vision at large. However, success also rests on

pushing an underbelly of economic and financial indicators that truly ensure resilience and foster well-being whilst reconfiguring public policy, for improved wellbeing across a broader range of areas. This should entail, for example:

- Prioritising Green & Social jobs and growth as an outcome of the COVID recovery.
- Prioritising wellbeing outcomes across all public policies.
- Developing appropriate metrics to measure wellbeing progress.
- Investing in public infrastructure in a way that enhances collective and personal wellbeing.
- Devising cost-benefit analytics of public policies in order to audit the wellbeing costs and benefits they present.
- Introducing full-cost wellbeing taxes on economic activities that diminish wellbeing, and subsidies that enhance it including shifting taxes from labour to products.
- Implementing wellbeing policies at all levels of government cities, local, regional, national, supranational.
- Embedding wellbeing objectives in domestic and EU-level legislation.
- Adapting analytical tools, policy interventions and MRV accordingly.

A policy approach based on the concept of "transformative resilience"

In the paper "Building a Scientific Narrative Towards a More Resilient EU Society" (JRC, 2017), Manca, Benczur and Giovannini proposed a conceptual model useful to redesign public policies around the concepts of vulnerability and resilience, originally proposed by UNDP in 2014 as key dimensions of modern policies. As descr bed in the introduction of the paper "Thinking about changes brought about by the digital innovation, demographic change, climate change, globalization or migration, it would be illusionary to believe that we can eliminate crises, shocks or persistent structural changes (slow burn processes) in the future. On the contrary, the number of potential shocks could even increase. Since we will not be able to avoid them, we have to learn from distressful experiences and set up policies that prepare citizens, companies, societies and institutions to overcome them with the minimum damage possible. Therefore, the role of policy institutions, such as governments or supranational institutions, is crucial in fostering policies towards a positive socioeconomic-environmental outcome of sustainability, cohesion and prosperity of the society. In the context of a stormy future becoming the 'new normal', enhancing resilience might become one of the most important tasks of policy institutions".

The proposal described in the paper is to:

- adopt a "system thinking" approach to public policies, based on the literature concerning "closed systems" like the earth-system where we live, as well as an innovative view of what "transformative resilience" means for socioeconomic systems;
- design policies with the aim of strength ening the capacity of socioeconomic systems to respond to shocks "bouncing forward" (and not "bouncing back", as the classical concept of resilience implies) towards a new development path;
- replace the classical approach to economic, social and environmental policies with a classification of

interventions based on five categories: prevention, preparation, protection, promotion and transformation.

In "Time for transformative resilience: the Covid-19 emergency" (JRC, 2020) the 5-group policy framework was applied to the concrete case of the Covid-19 outbreak, showing how the framework could be usefully used to frame the policy responses put in place at national and EU levels. The framework has also been used by the Italian Alliance for Sustainable Development (ASviS) to analyse the characteristics of the three bills adopted by Italy to respond to the sanitary and economic crisis over the first six months of 2020. The result of such analysis is described in the following table, where all specific measures are classified according to their aim:

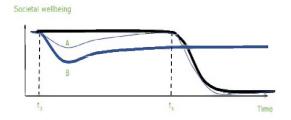
Decree	Protection	Promotion	Prevention	Preparation	Transformation
"Cure Italy"	119	8	0	0	0
	(94%)	(6%)	(0%)	(0%)	(0%)
"Liquidity"	30	8	0	0	3
	(73%)	(20%)	(0%)	(0%)	(7%)
"Recovery"	214	81	21	49	20
	(56%)	(21%)	(5%)	(13%)	(5%)

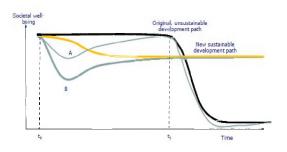
Why is this approach needed and useful now in the EU context?

Over the last few months, the European Commission has already used the term "resilience" in framing the policy orientation needed to respond to the current crisis. The "Recovery and resilience facility" is built on the idea that European funds must be spent not only to support a classical economic recovery, but also to strengthen the economic and social resilience of Member States. It is now the time to make the concept of "transformative resilience" key in the process of policy design to prepare the EU to face future shocks, especially the climate change related ones (as President von der Leyen wrote on Twitter, "sooner or later we will find a vaccine for the #coronavirus. But there is no vaccine for climate change").

The adoption of this concept is key to understand how short-term and long-term oriented policies have

to be jointly designed and how national policies can be evaluated in a medium-long term perspective. Let's take two countries who enjoy the same level of wellbeing at time t0. Both are hit by a shock. Country A looks more resilient than B: therefore, policies followed by Country A look more effective than those followed by Country B. But this assessment would be right only if Country A was, before the shock, on a sustainable development pathway. If this is not true, Country A could be hit by a second shock and perform much worse than Country B (who reacted to the first shock to move itself onto a more sustainable path) on a longer time perspective.





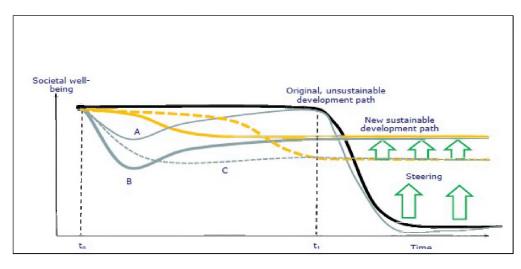
In other words, both short-term and long-term dimensions need to be jointly evaluated and assessed, especially when a comprehensive concept of development/wellbeing is used, like in the context of the 2030 UN Agenda, adopted by the EU as comprehensive policy framework for its policies. This is especially true now with the adoption of the initiative "Next generation EU", as it aims at providing support to Member States to design

policies able to move them from an unsustainable path onto a more sustainable path, in line with the 2030 Agenda.

In this perspective, the proposed policy frame work can be extremely useful also to check whether national and EU policies are fully aligned and integrated. For example, going back to the Italian case, it is quite clear that national funds have been used so far mainly to finance "protection" measures, while a small set of policies have been designed to "prepare", "prevent", "promote" or "transform". Therefore, all EU funds should be oriented to policies aimed at "transforming" Italy, but to be able to assess whether this is going to happen national "Recovery and resilience plans" should be presented (and assessed by the Commission) using the proposed framework.

Due to the Covid-19 crisis, people have unders tood that shocks may happen much more frequently than foreseen in the past. Since 2008, the European Union has been hit by several economic, so cial and health shocks (including the asylum one). Therefore, it is time to recognise – as scientists have recognised for environmental phenomena – that when a system becomes unsustainable, the frequency of shocks increases and that nonlinearities (both negative and positive) are going to be more relevant than ever.

As it is build on a systemic view of how economic-social-environmental-institutional dimensions work, beside its usefulness in the context of the "Next Generation EU", the proposed policy framework – and the concept of "transformative resilience" – could be widely used by the European Commission as political narrative and in its daily work, also to check the policy coherence of sectoral interventions, communications, regulations, etc. vis-à-vis the overall vision chosen by the EU in line with the 2030 UN Agenda for sustainable development



The COVID-19 pandemic is dramatically transforming the world as we knew it. Now we all live in a vast social and political laboratory. In order to survive, we should dare to take risks and experiment. In this context, the European Commission should be able to turn from the world's most admired symphonic orchestra into a jazz band capable of inspiring improvisation.

There are moments when our certainties collapse and our collective notion of what is possible and not get dramatically changed overnight. People begin to ignore the present and start thinking about the future instead – about what they hope for, or what they fear. It took a virus to turn the world on its head: for several weeks, the EU was temporarily suspended, and citizens took shelter in the security of the nation-state; democracy was put on hold, with emergency legislation introduced in most European countries; capitalism was temporarily suspended, with unemployment skyrocketing and the global economy undergoing a crisis far more devastating than the Great Recession of 2008–9.

Today we are able to imagine anything and everything because we are being besieged by something that was considered unimaginable. As mid-March 2020 planes were grounded and the big polluting corporations have closed their production lines, climate activists have started to believe that their dreams of a low-carbon world are achievable in the course of the next few years. And as the borders between the EU member states were closed overnight, right-wing populists began to dream that they never reopen.

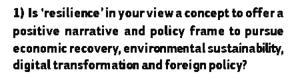
In this volatile context, the European Union's resilience will first and foremost mean the capacity of European institutions and societies for a timely self-correction and their ability to change course under the pressure of constantly changing circumstances. What the EU will need is strategic-minded flexibility.

The post-COVID-19 world will challenge one of the founding principles of the Union, namely that

economic interdependence is the major source of security in the world. In this new brave world, the risk emerges that economic interdependence turns into a major source of insecurity, and the interdependence gets weaponized. The paralysis of multilateral institutions witnessed in the time of the corona pandemic, the proliferation of economic sanctions, the weaponization of migration flows, the interference in the electoral politics of democratic societies and other forms of hybrid warfare can turn out to be permanent features of the post-COVID-19 world.

Getting Europe's political dynamics right is critical for the success of the EU. In this context, the pan-European survey conducted by the European Council of Foreign Relations in early May provides some interesting insights. As a result of the pandemic, the vast majority of Europeans demand more European cooperation but not deeper European integration. The crisis has strengthered simultaneously both citizens' attachment to their nation-state and their conviction that only consolidated European Union can defend their interest. What we face in Europe is not so much a Hamiltonian moment meant to be a radical move to the United States of Europe but new Allan Millard moment. In his revisionist history, The European Rescue of the Nation-State, Milward argued that the driving force for the European project was a recovery - rather than sublimation - of national sovereignty. This is also what we witness today. But, whereas Milward's narrative was about rescuing states in the 1950s from the destruction brought about by war between Europeans, the challenge to the state in 2020 comes from outside Europe. Europeans recognize that failing to act together gives rise to the risk that they become casualties in a Sino-American game of chicken.

So, European leaders will be well advised to go towards defacto "federalization" (e.g. empowering the European Commission to raise taxes and act independently in the areas of mutual interest), while mastering the language of the national interest.



As a policy frame:

Yes, because resilience would be one result of a well-functioning European Union with thriving member states and people who cherish their national or local identities, but are also cognizant and proud of being a citizen of a larger entity that cares, encourages, protects and guides the common future in continuous negotiation with partial interest and interests of the European Union as a whole. In such a Union, the institutional landscape would be adaptive, agile, learning-oriented, peoplecentred and, above all, collaborative. Actors and stakeholders alike would keep humankinds and the planetary future high on the agenda.4 The advantage of the term is that its definition suggests a systemic approach that links individuals, households, communities, nation states, regions and the union as overall entity. Among others, resilience is built upon two important principles (1) Diversity and (2) Self-organization that are crucial for European development. As a policy frame, it can therefore be useful. Important note of caution: The commission needs to not deliver resilience as if it was something new, but nurture conditions for resilience, based on work that has been done in the past.

As a positive narrative:

No, because, the term **resilience**, in its common definition, refers to "withstand, cope, adapt and recover from stresses and shocks" or "absorb disturbances andretain essentially the same

2) What is your assessment of the effectiveness of EU action so far, in engaging on that challenging path?

This refers to the six new initiatives:

The six initiatives and their details are a tremendous step ahead in taking the planetary emergency situation seriously and making a decisive European contribution to a world that is currently in trouble. However, the details come across as siloed actions, may partly contradict each other, are not sufficiently linked to the 17 Sustainable Development Goals as a globally guiding narrative and are doubtful in their guidance to member states. Hence without a strong overall monitoring of coherence, and a principles-based approach that encourages member states (and smaller units) to take up the conceptual frames behind the six principles, the six initiatives may lack teeth.

3) Which initiative do you recommend for the Commission to take in 2021, in order to nurture

function, structure, identity and feedbacks." This means, if used as a narrative for European Union policy, it suggests reactiveness rather than proactiveness, it anticipates crises rather than inviting institutions, policy-makers and citizens to work towards the pre-requisite for resilience – such as other systemic and transformation concepts that have a more positive connotation like wellbeing, societal vitality, etc. A positive narrative requires an aspiration. Resilience is an important vehicle in order to get towards a desired state, but it is not emotionally compelling as an aspiration.

⁴ See the Club of Rome Planetary Emergency Plan (https://clubofrome.org/impact-hubs/climate-emergency/) ⁵(https://ec.europa.eu/echo/files/aid/countries/factsheets/thematid/EU_building_resilience_en.pdf)

⁶ Walker, B., Holling, C. S., Carpenter, S. R., & Kinzig, A., (2004). Resilience, adaptability and transformability in social-ecological systems. Ecology and Society 9(2): 5. [online] Retrieved

from:http://www.ecologyandsociety.org/vol9/iss2/art5/ p. 6

EU resilience and put the EU firmly on the track of a transition-led recovery?

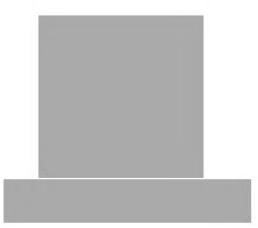
Recommendations:

1. Combine resilience as a policy guide with fostering **transformation research** that integrates practice, and has a faster turnaround of results and learning. Include research about (A) how transformations can be deliberately organized, respectively which conditions enhance self-organized transformations, and (B) existing prototypes of transformative actions that work or have worked in the past.

Example: Circular Economy Action Plan

- 2. **Review incentive systems** in the form of subsidies with regard to inconsistencies with the six initiatives, respectively the Green New Deal. Example: Agricultural Subsidies that cause contradictions on the ground
- 3. **Organize processes that help citizens to engage** with the principles behind the six initiative and carry or rather co-create a positive future narrative beyond resilience.

Example: From a conference on The Future of Europe to an engagement process for Shaping the Future of Europe.



Embedding Resilience in the EU's way of doing business

What does resilience mean, and what end does resilience serve? The ability to withstand and cope with shocks is at the core of the definition. In terms of an epidemic or pandemic, this means systems quickly and effectively springing into action when a disease breaks out. However, by the time an epidemichas become a pandemic, the world has already betrayed its lack of resilience. When it comes to pandemics, the EU needs to take one step back. Real resilience means doing everything in our power to prevent pandemics happening in the first place. We need to show resilience in the face of the threat of a pandemic occurring and withstand those threats, thereby avoiding the epidemic or pandemic itself. That means tackling the root causes of pandemics, not just preparing for them.

This framework has real policy consequences - policy innovation that prioritises stopping diseases migrating from animals to humans and limit the opportunities

for transmission to occur, not just preparing for when that happens. Heavy investment in early warning mechanisms rather than mobilizing when a pandemic has already taken hold.

In line with this framework, here are 3 ideas I would like to put forward:

1. Rebooting the EU's vision: Climate change + pandemic prevention + digital revolution = Europe's future mandate.

The trifecta of increasing digitization and big data, the climate emergency and the COVID-19 pandemic have handed the EU the political agenda that it can work to. The health agenda needs to be added to the Commission's stated priorities of digitization and climate change. This is a chance for the EU to be the first to deliver 21st century policy responses to 21st century challenges in these three areas. Making sure every piece of EU legislation and every bit of EU spending "protects people and planet" using the best available data is the way that the EU can get the buy-

in of both leaders and the general public over the longer term. Pushing at the boundaries of what the EU is mandated to do on health and disease control - building on its record of consumer protection - will also be a positive path for Europe to take.

2. Global action towards a global compact with civil society and international partners to create a truly equitable response.

The European Commission and the EU should lead the push to ensure the international COVID-19 response is equitable through a global compact which sets out international norms and principles to be followed in the event of a pandemic. This will help ensure global equity and equip the international community with the governance tools it needs to respond fairly. Initiatives such as the Costa Rica patent pool, individual country negotiations with companies and Europe's own purchasing pool would benefit from adopting rules of the road to ensure equity and transparency at the point of deal-making, purchase, investment and distribution of COVID-19 tools. Working closely with civil society groups on this agenda will help the EU stay ahead of where the debate is likely to go.

3. Revamping the mandate and work of the ECDC.

The European Centre for Disease Control has not thus far been a voice citizens have heard in discussions around COVID-19 - few citizens have heard of it. The ECDC's mission is to "identify, assess and communicate current and emerging threats to human health posed by infectious diseases". Ideally, the independent work of the ECDC should help with assessing the policy choices of EU Member States so that best practices can be pinpointed. Whatever work happened behind the scenes was not visible to the public. The ECDC should connect with Commission offices and the broad network of EEAS offices across the world which could, with data experts installed, become part of a new network of data tracking of health data (and climate data) which could help the ECDC in its analysis, with its outreach, with the findings available for analysis by the EU and Member States.

The transnational agendas of digital, health and climate and where they overlap can define the EU's resilience agenda.



Our societies must engage as soon as possible in what I call "ecological reconversion". This term underlines the scale of the changes we must agree to. First of all, changes in our representation of the world, in the relationship between humans and Nature (we must reintegrate humans into Nature and stop thinking of Nature as a reality external to us from which we could continue to draw without limits), in the foundations and articulation of our disciplines, but also in the grammar and the reference systems that we use to

measure our performance. In particular, we urgently need to counterbalance the use of GDP and national accounts. Indeed, our accounting is a flow accounting and not a stock accounting: it does not allow us to follow the evolution of critical assets, i.e. the existence of which is decisive and conditions the quality of ours and which we must pass on to future generations. Our eyes are focused on the evolution of monetarily valued production, and even of the value added by humans to the world, but not on the evolution of

critical assets, which may one day be so degraded that the permanence of genuinely human living conditions on earth will have become imposs ble. Since the end of the 1990s, together with my colleagues, we have been trying to bring into the public debate the idea that it was necessary to adopt and use indicators complementary or alternative to GDP to highlight the evolution of our critical heritages, which implies making inventories of the quantities and qualities of the realities that matter to us. Two indicators seem essential to me because they can play the role of warning, namely the carbon footprint, which can be broken down at national, meso and individual level and which can be used, unlike GDP, as an indicator of limits or even rationing, and the social health index, constructed by and team. GDP would, in a way, be framed by these two indicators, with the whole process ensuring that production takes place in compliance with environmental and social standards - in other words. the main objective of our societies would no longer be to have the highest growth rate or the highest GDP per capita, but to satisfy social needs in the best possible way within the impassable framework set by respect for social and ecological limits. This attempt is very different in the spirit of the World Bank's proposal to adopt "adjusted net savings": this indicator consists precisely in considering everything as "capital" and consists in making the sum of three capitals registered in monetary value: economic capital, natural capital, and human capital. If this net saving increases from one year to the next, it is a good sign. But we need to understand what this means philosophically: it means

that we can destroy our natural heritage if the human genius and the technological progress it produces is able to compensate for this disappearance, by building, as it were, an artificial world that will give us the same doses of satisfaction as the natural world. This is a criminal delusion to which a number of works by economists, including some very famous ones, lead us straight to. Adopting this new representation highlights the fact that the care given to essential heritage (and therefore the improvement of health, job quality, air quality, water quality...) is an essential ingredient of the *resilience* of our societies.

But if I use the term reconversion it is also to signal the scale of the changes we are going to have to organise in terms of employment: we are going to have to close some sectors, deploy others and we will have to be able to organise the huge transfers of labour. This will require much more extensive measures than what has been attempted with the European Globalisation Adjustment Fund.

- Au-delà du PIB. Pour une autre mesure de la richesse, 1999 :2008
- La Mystique de la croissance. Comment s'en libérer, 2013
- Faut-il attendre la croissance? avec
- Vers une société post-croissance (avec et
- https://www.lemonde.fr