



Universities and Climate Change

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Chair SAB, European Forest Institute



EAERE
European Association
of Environmental and
Resource Economists

Mobilizing Sustainability Transition in Europe

Cluster of Universities, Research Institutions, Innovation Acceleration

Research Projects



Deep Demonstration Projects and Innovation Acceleration



Education & Training



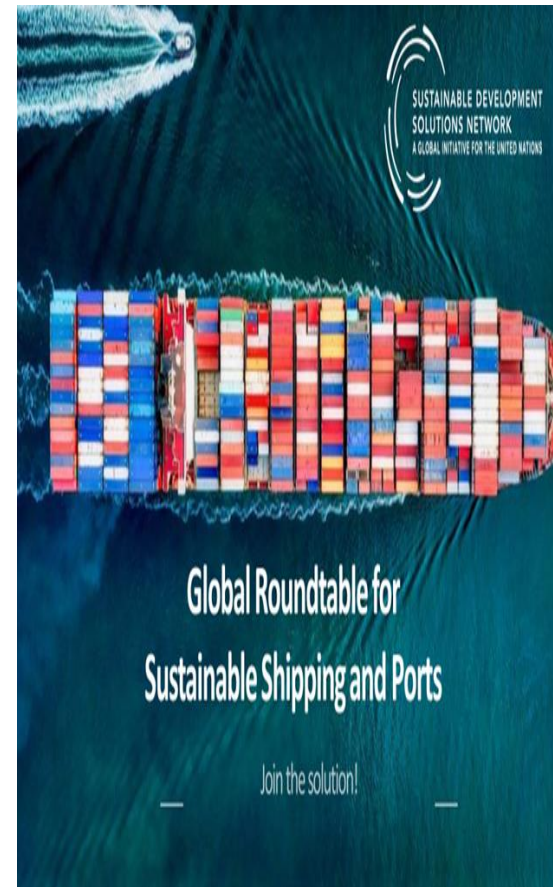
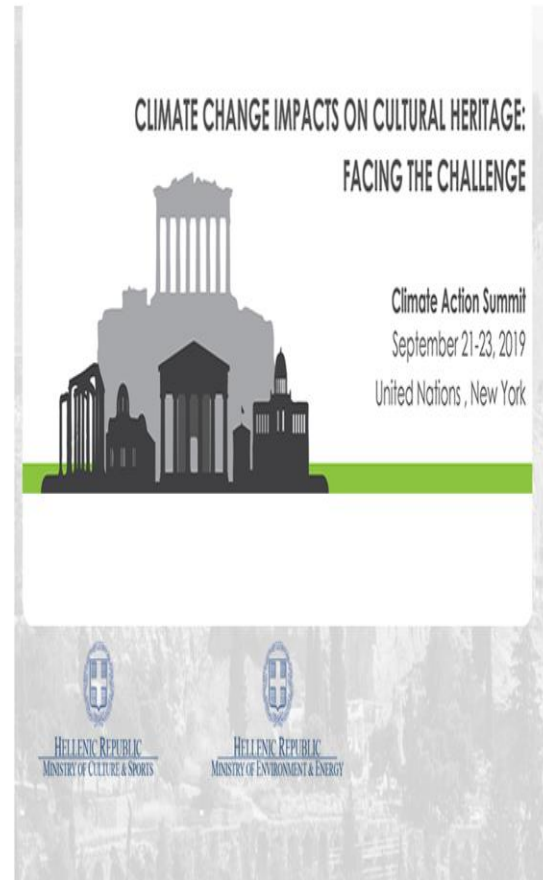
ΚΕΝΤΡΟ ΕΠΙΜΟΡΦΩΣΗΣ ΚΑΙ ΔΙΑ ΒΙΟΥ ΜΑΘΗΣΗΣ



European and Global Initiatives



UN SDSN Senior Working Group on the EGD
and the European Recovery Plan

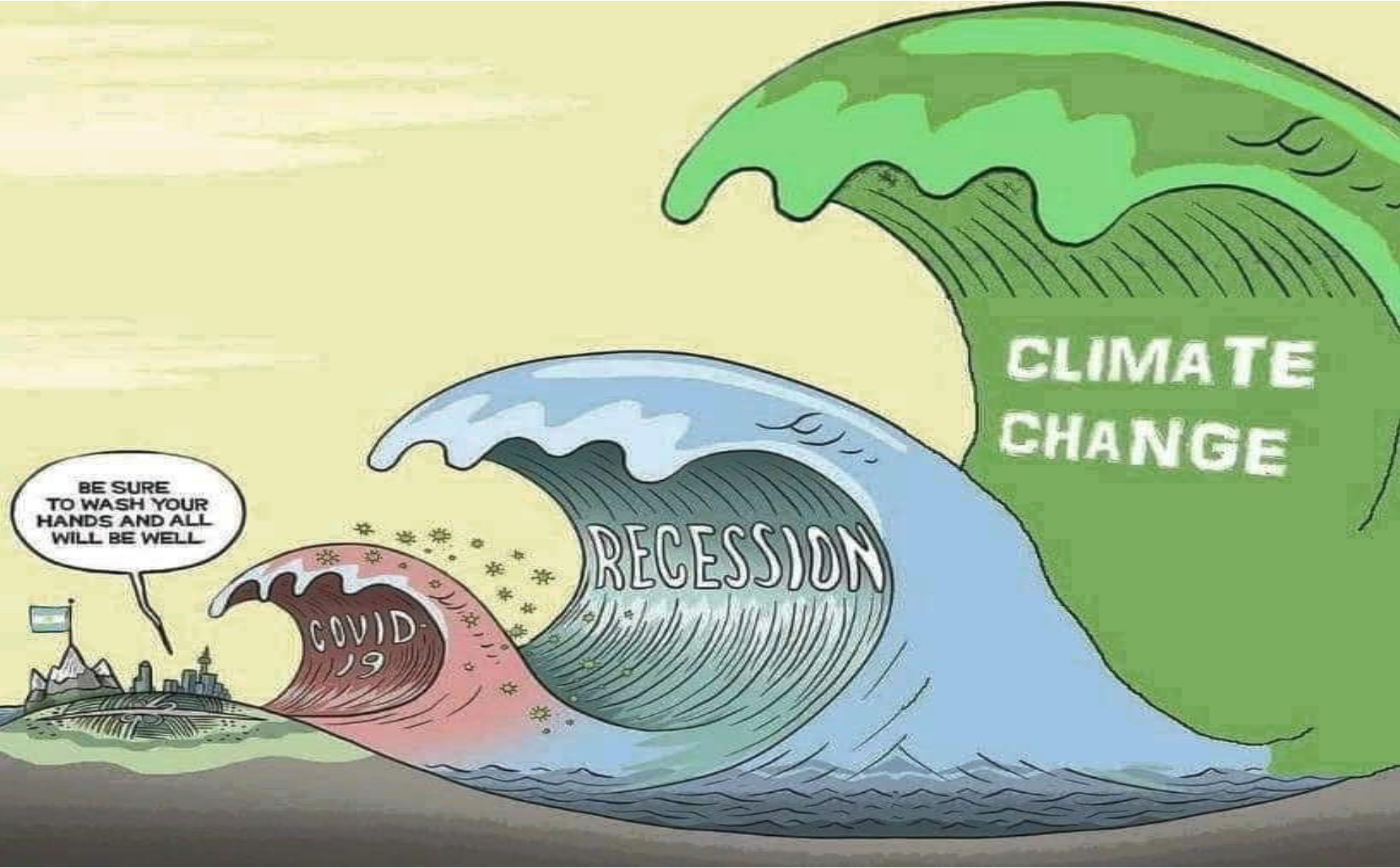


The UN SDSN 4-Seas Initiative



The UN SDSN 4-Seas is a Euro-Asian Initiative that aims to mobilizing science driven sustainable blue growth in the **Mediterranean Sea**, the **Black Sea**, the **Caspian Sea** and the **Aral Sea**, in order to protect the future state of global seas and oceans by providing a Blue Sustainability Transition Plan “from rivers to the oceans”.

The initiative is led by **SDSN Greece** and **SDSN Black Sea**, established leaders on research for the implementation of SDGs in rivers and wetlands, coastal zones, seas and oceans, shipping, marine transport, offshore energy production, fishing, aquaculture, marine litter, and relevant education and training.



BE SURE
TO WASH YOUR
HANDS AND ALL
WILL BE WELL

COVID
19

RECESSION

CLIMATE
CHANGE

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.

COVID-19 reveals the depth of global interdependence:

- The world is only as resilient as the least resilient country and person
- Widespread social, economic and environmental vulnerability.
- This moment of clarity must be used to effectively reboot development towards the people-centric, inclusive, rights-based, participatory and green development envisioned in the 2030 Agenda.





THE CLIMATE EMERGENCY

Urgency of limiting global warming to +1.5C, beyond which the risk of drought, floods, extreme heat and poverty for hundreds of millions of people, will significantly increase.

CARBON NEUTRALITY-2050.

UNEP Emissions Gap Report 2019 indicates that global emissions need to be cut by 7.6% per year. Calculated, this means a global reduction target of at least 68% by 2030.

Are We on Track ?

<https://www.sdgindex.org/>

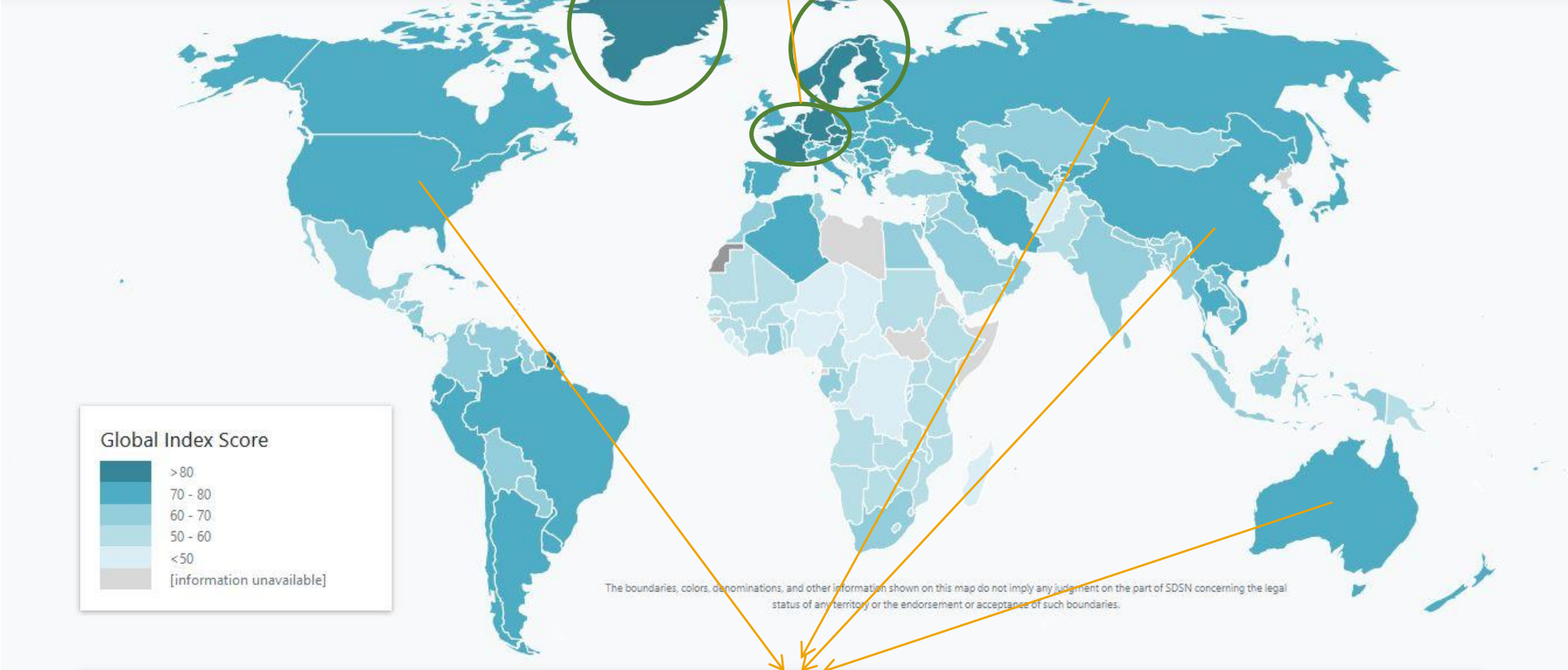
Globally,
Sustainability
Transition has
started!
BUT...



SDR2020: Six key findings

1. The highest priority of every government must remain the **suppression of the pandemic**. There can be no economic recovery while the pandemic is raging.
2. Covid-19 has **short-term negative impacts on most SDGs**. These impacts are amplified for the most vulnerable groups.
3. The SDGs and the Six SDG Transformations can help **build back better (greener, fairer and more resilient)**
4. Countries in **Asia-Pacific** have progressed most on the SDGs since 2015. They also responded **more effectively so far** to the Covid-19 outbreak
5. **Rich countries generate negative spillovers** that undermine other countries ability to achieve the goals and may increase the likelihood of future pandemics
6. The urgent need for more (not less!) global **partnerships and collaboration** (SDG 17)

Right on track: Minority



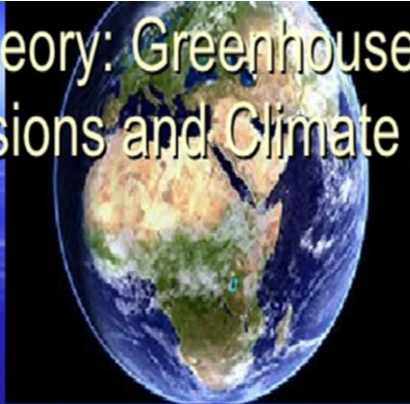
Making Progress but not Fast Enough
2013-2019 collectively, the warmest years in modern record

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.
- **CC requires policy changes less disruptive**, economically, socially and culturally, than those to tackle COVID-19.
- **Timing is 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!**



Theory: Greenhouse Gas Emissions and Climate Change



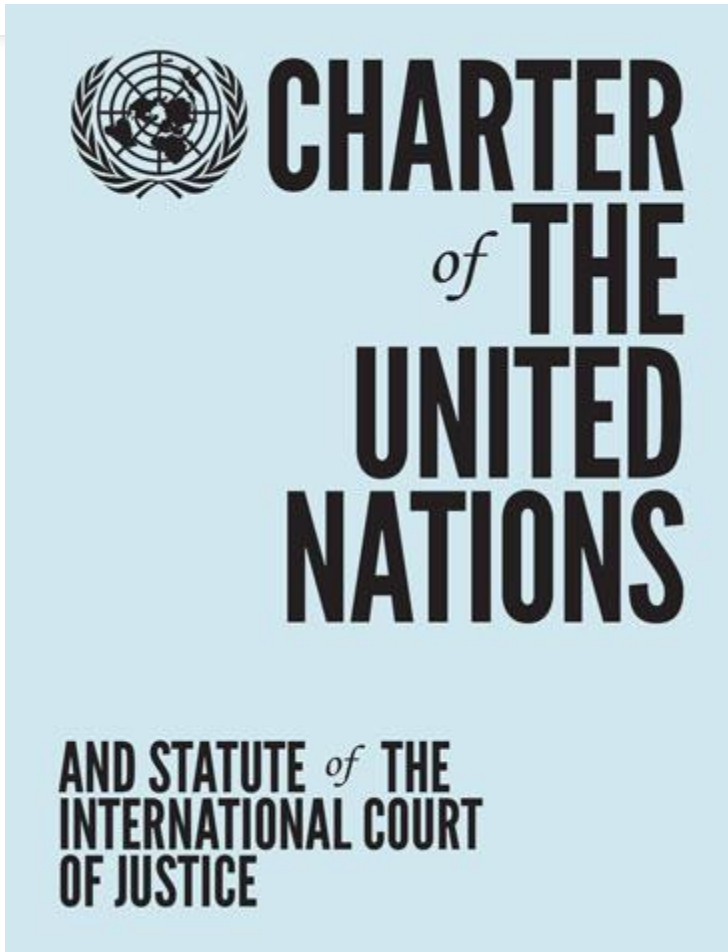
Alter the intensity and frequency of natural disasters that are regulated by atmospheric and oceanic conditions

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

No: volcanoes, earthquakes

Maybe: tornadoes (no decisive verdict yet)

Charter of the United Nations and The Universal Declaration of Human Rights (UDHR): The basic rights and freedoms to which all humans are entitled. They are universal, indivisible and interdependent



- security rights
- liberty rights
- political rights
- due process rights
- equality rights
- welfare rights
- group rights



2015-2020 Sustainability Timeline

2015

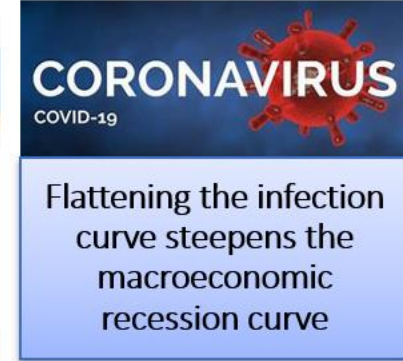
2015

2018

2019

Dec 2019

2020 ...



193 Countries
17 SDGs
169 Targets

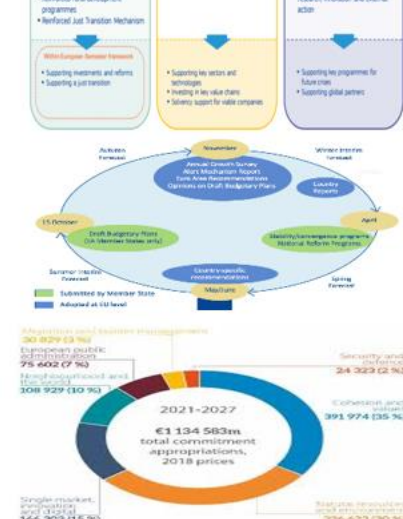
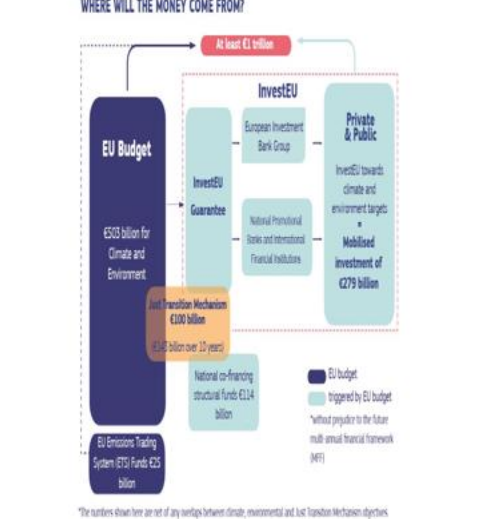
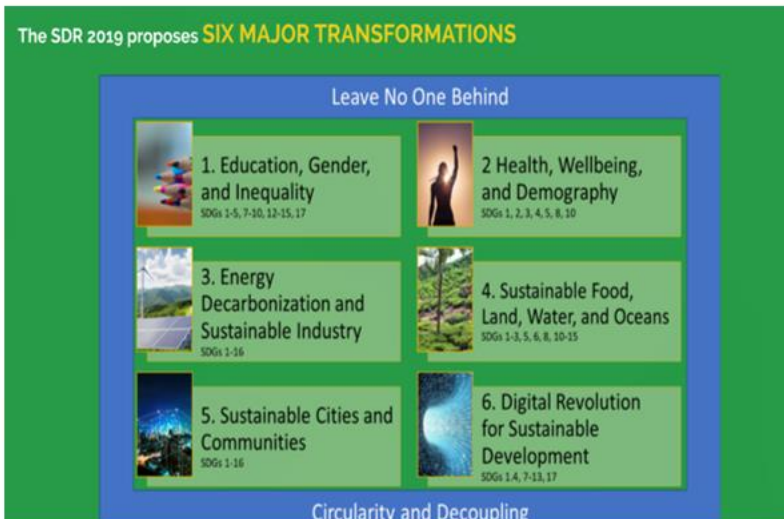
197 Countries
Limiting global temperature to well below 2°C

Limiting global temperature to 1.5°C
This implies zero net emissions globally by 2050

6 Major Transformation Pathways to achieve SDGs

EGD Policies Overview
How will the European Green Deal Investment Plan be financed?
How will the €1 trillion be mobilised?

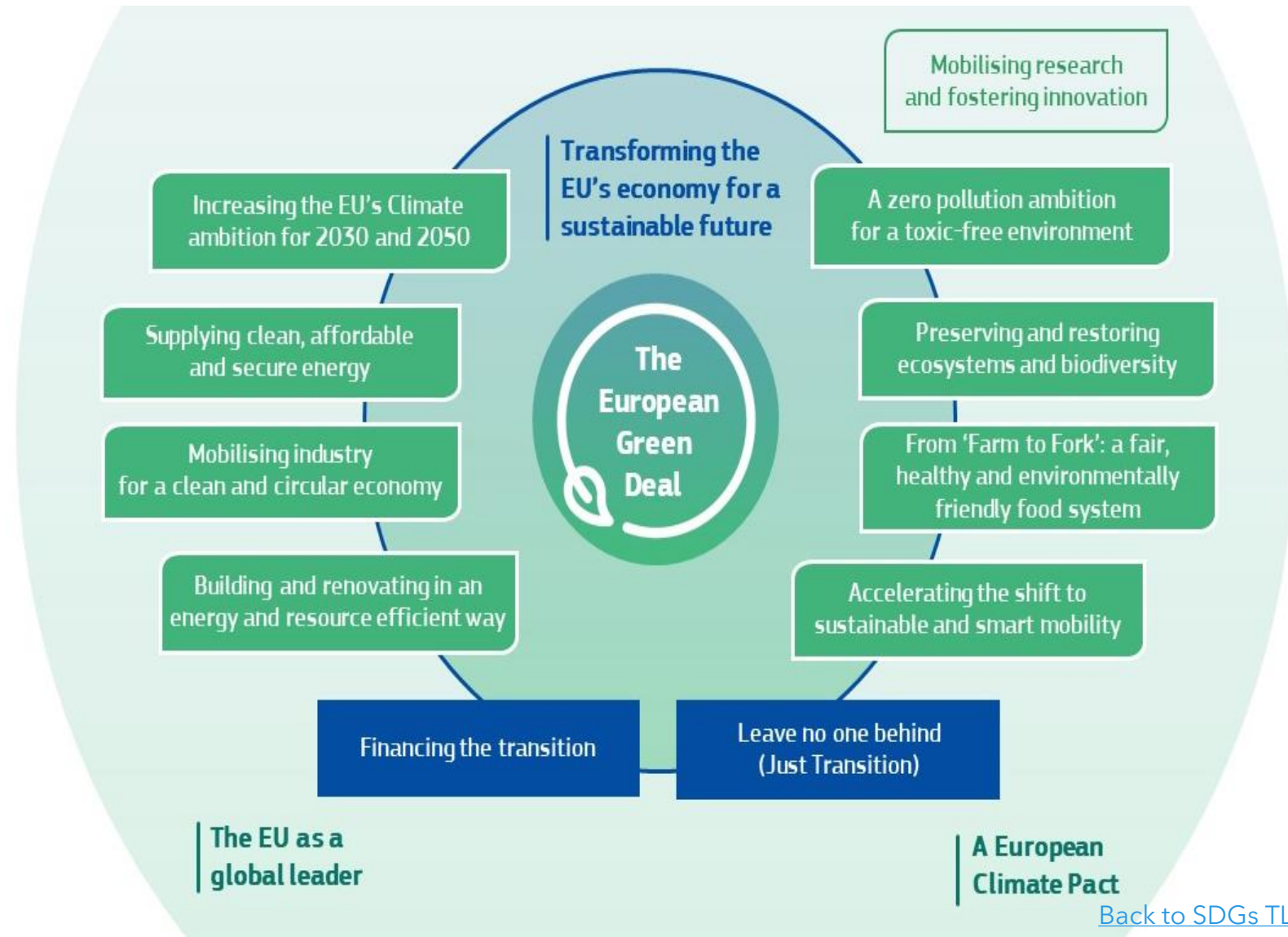
Recovery Plan
Next Generation EU



The European Green Deal (EGD) – Overview

The policy areas that are covered from the EGD are:

- ✓ Biodiversity
- ✓ From Farm to Fork
- ✓ Sustainable agriculture
- ✓ Clean energy
- ✓ Sustainable industry
- ✓ Building and renovating
- ✓ Sustainable mobility
- ✓ Eliminating pollution
- ✓ Climate action





Senior Working Group

Pathways of technological and policy innovations for the joint achievement of EGD and SDGs and respective portfolios of financial instruments consistent with EGD budget, EU Recovery Plan, the European Semester Process and Multiannual Financial Framework

Objectives

1. Identify and promote technological and policy pathways for decarbonization by 2050 within and across EU MS.
2. Identify and promote adaptation pathways within and across EU MS.
3. Identify socially inclusive pathways that “leave no one behind”
4. Provide strategic recommendations and mobilize experts at country level & EU Level for the ongoing implementation of the EGD
5. Mobilize stakeholders to guarantee local engagement and support for these policies.

Center for Sustainable Development
EARTH INSTITUTE | COLUMBIA UNIVERSITY


THE LANCET

The New Lancet Commission on COVID 19 engages global leaders to promote best practices in the control of the pandemic, the social protection of basic needs and the recovery of the global economy.

The New Lancet Commission on COVID 19 will engage experts in public health, virology, economics, finance business, civil society, and will draw from all regions of the world.

THE CLIMATE LAW – PROPOSAL

Greek CC
Committee

- Does not include an ambitious goal with regards to Green House Gas (GHG) emissions by 2030
 - Does not address the other legislative interventions and revisions that will be required to achieve climate neutrality by 2050
 - Does not allow the European Commission to impose sanctions on Member States (MS)
 - Does not allow the Commission to take additional measures and change policies that will correct possible deviations from the path to achieving the emission goals.
 - There is no clear reference to an assessment mechanism between today and 2050
 - No reference to financial mechanisms that will be required to achieve the goal of climate neutrality.
- 

THE CLIMAE PACT

Systems Innovation Approach: Co-Design Solutions with Stakeholders



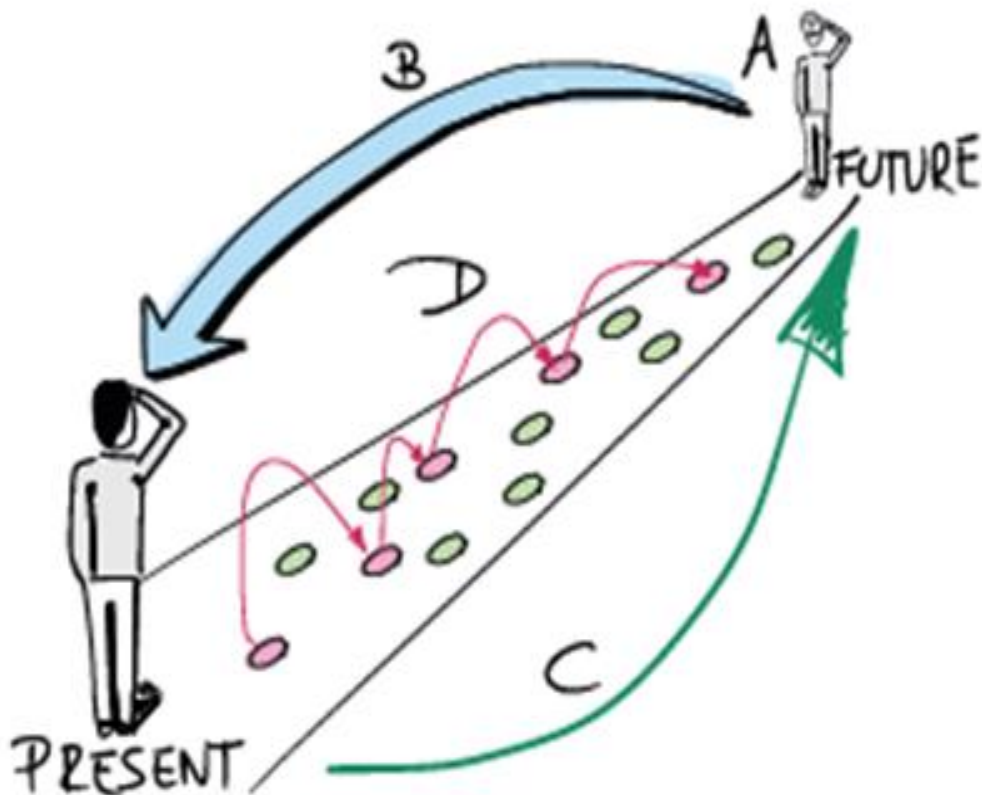
Civil society and citizen engagement

National regional and municipal level examples of citizens' assemblies & citizens' dialogues to enable engagement

Multi-stakeholder platform (MSP) on Sustainable Development Goals

European Circular Economy Stakeholder Platform

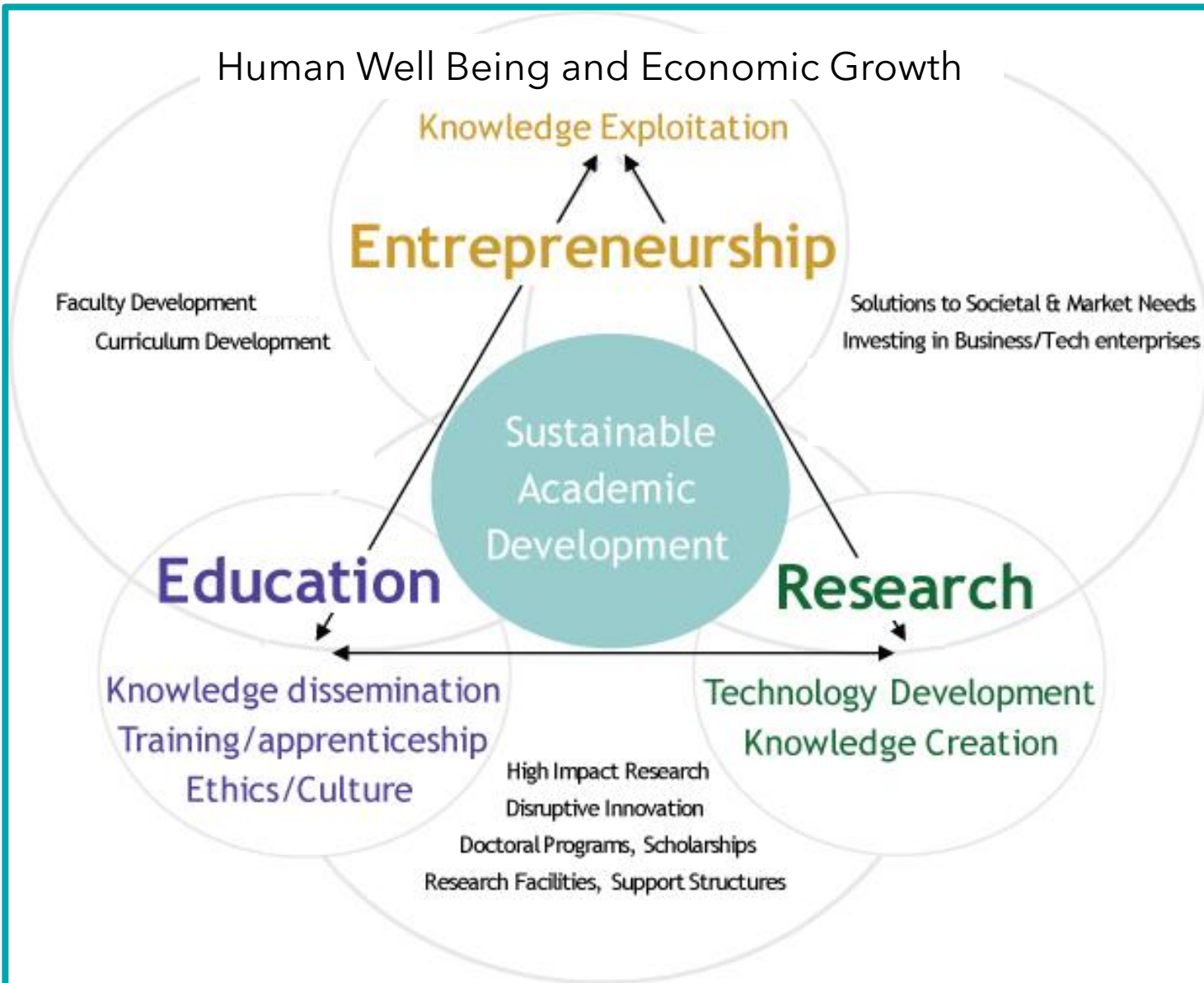
EIT Climate-KIC experiments focused on triggering new ways of thinking, leveraging exponential effects of new technologies, networks and community forces



How Can Universities help CC Mitigation and Adaptation?

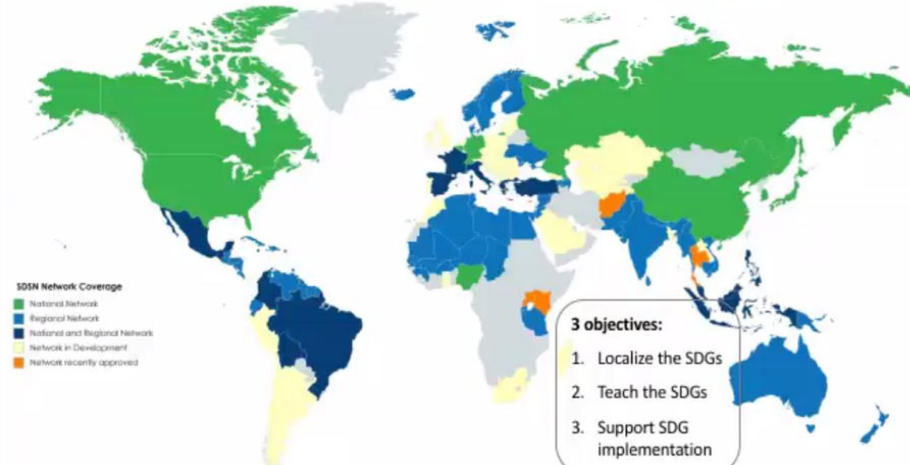


Human Well Being and Economic Growth



38 National & Regional SDSNs

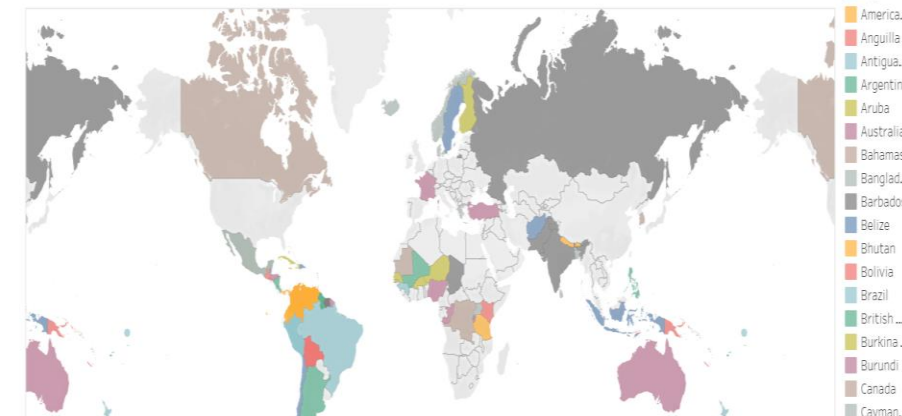
Over 1300 members worldwide
20 new networks in the pipeline

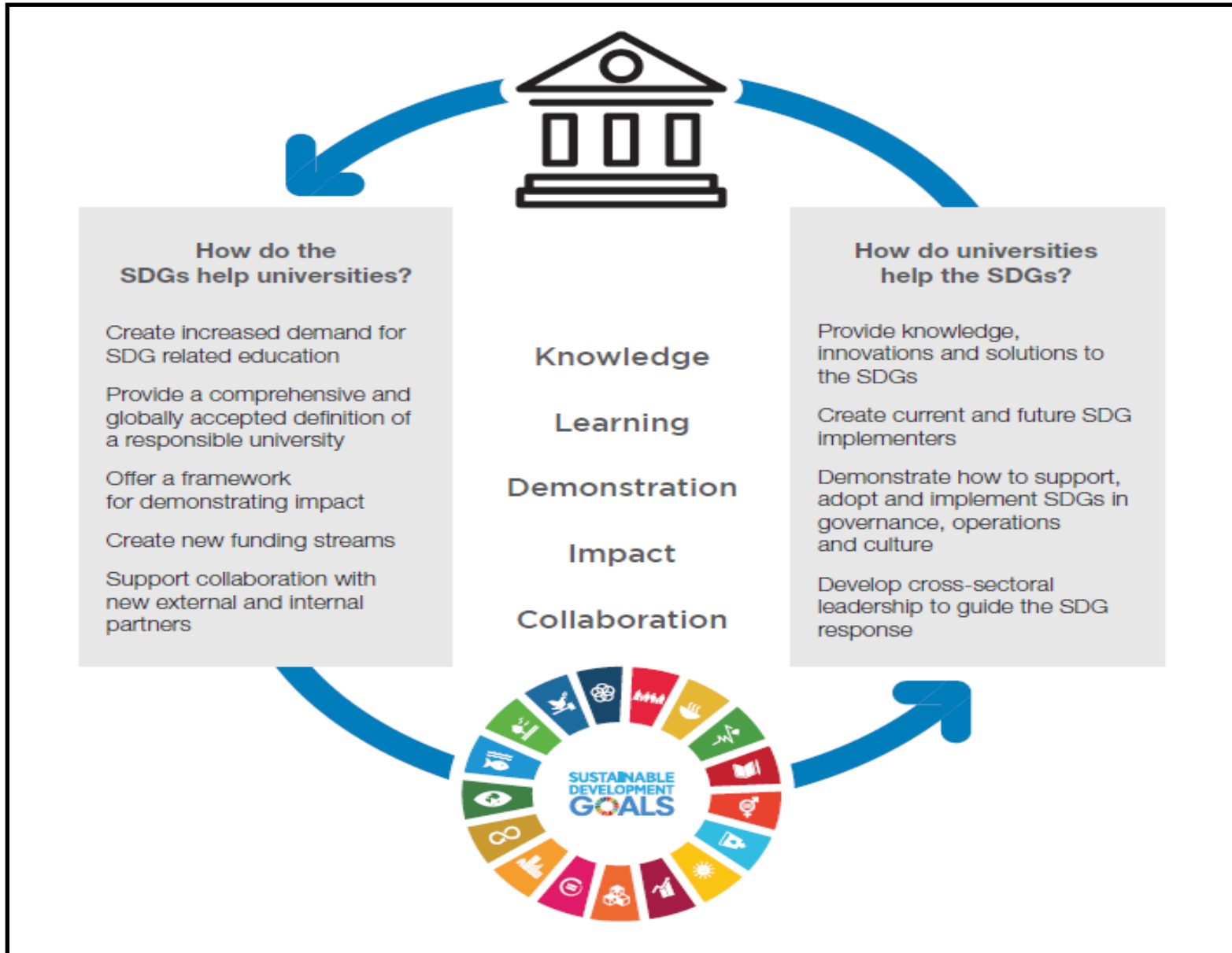


SDSN's National and Regional networks support the localization of SDGs and their implementation, develop long-term transformation pathways for sustainable development, promote education around Agenda 2030, and launch solution initiatives.

Network Map Network Map Network Details

SDSN Youth Network Jurisdictions





GETTING STARTED WITH THE SDGS IN UNIVERSITIES

A GUIDE FOR UNIVERSITIES, HIGHER EDUCATION INSTITUTIONS, AND THE ACADEMIC SECTOR



Goal



Examples of actions

- Incorporating aspirational environmentally sustainable design aspects into capital works
- Providing free drinking water for students, staff and visitors
- Instituting zero-net emission policies and investing in on-campus renewable energy production
- Putting climate mitigation and adaptation strategies in place
- Including climate change risk in risk reporting frameworks
- Developing long term resource efficiency and management plans
- Developing management and guardianship plans for on-campus and surrounding waterways
- Developing management and guardianship plans for on-campus biodiversity and ecosystems
- Installing appropriate drainage traps to minimise pollution
- Installing water harvesting, storage and reuse systems
- Reducing all waste (including hazardous waste) and increasing recycling
- Ensuring safe practice expectations for hazardous waste handling and disposal
- Increasing use of sustainable transport
- Incorporating sustainability and ethical considerations into purchasing policies, procedures and activities
- Monitoring and reporting on sustainability performance through to Council level
- Engaging staff and students in all sustainable campus activities



Recover Better

A science-driven way forward that invests in makes our socio-economic system resilient to crisis by laying the foundations for a people-centric, inclusive, rights-based, participatory, green, circular economy that is geared toward public wellbeing, sustainable livelihoods and global stability.

Universities have a Crucial Role in
Co-Designing this Recovery

...the financial crisis 2007-08, 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 need Systems Innovation!**
- Use the science -as we are using science currently for designing measures to restrain the diffusion of COVID19- :
 - Design economies and societies 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.

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

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

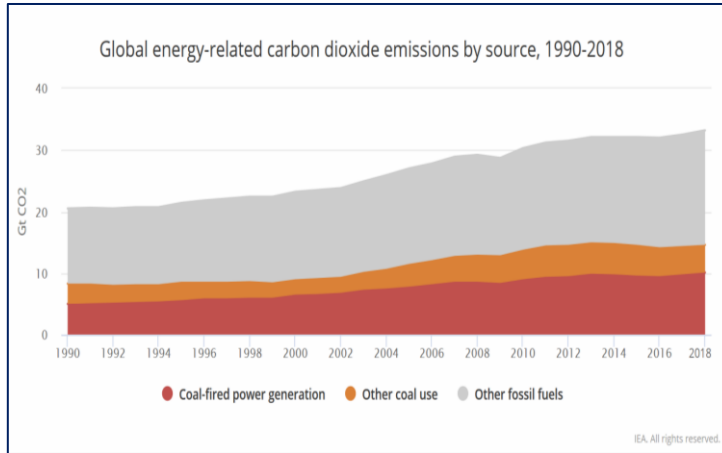


- April 2020, 231 officials from finance ministry, central bank, other economists, representing 53 countries including all G20 nations, to ascertain their perspectives on COVID-19 fiscal recovery packages according to:
 - 'speed of implementation' from the time of legislation
 - 'long-run economic multiplier'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

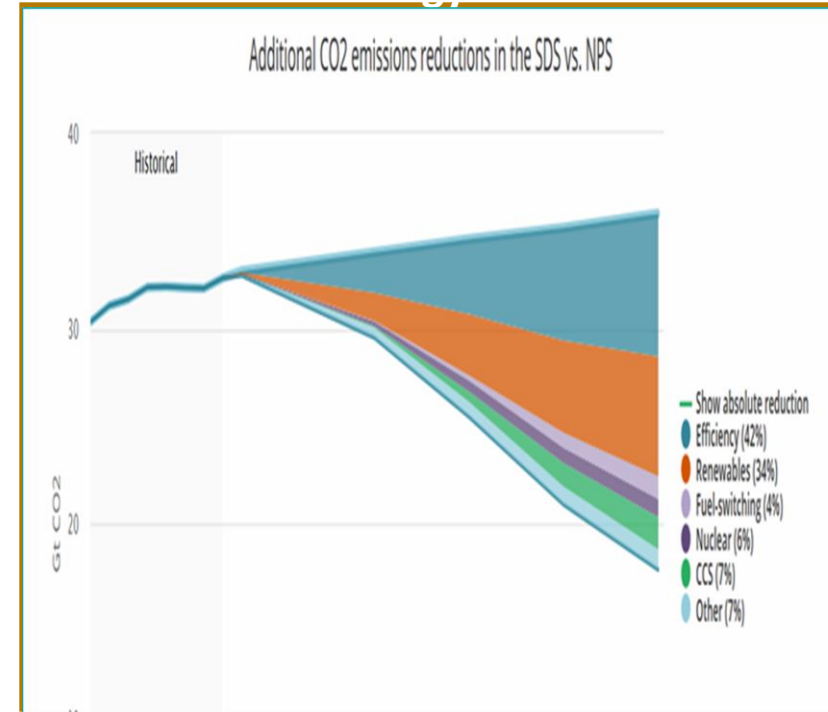
Results suggest that experts think that climate-positive policies also offer superior economic characteristics.

RESEARCH AND INNOVATION for CC MITIGATION

Aggressive de-carbonization will be needed beyond 2030 to keep temperature increases below 1.5 C



Now-2050: Global power demand will grow by 62%, equating to 1.5-2% per year.



DEMAND

SUPPLY

BRIGAIID H2020 Project and BRIGAIID Org. Climate Window with 200 Innovations (TRL 8-9) on Climate Change Adaptation

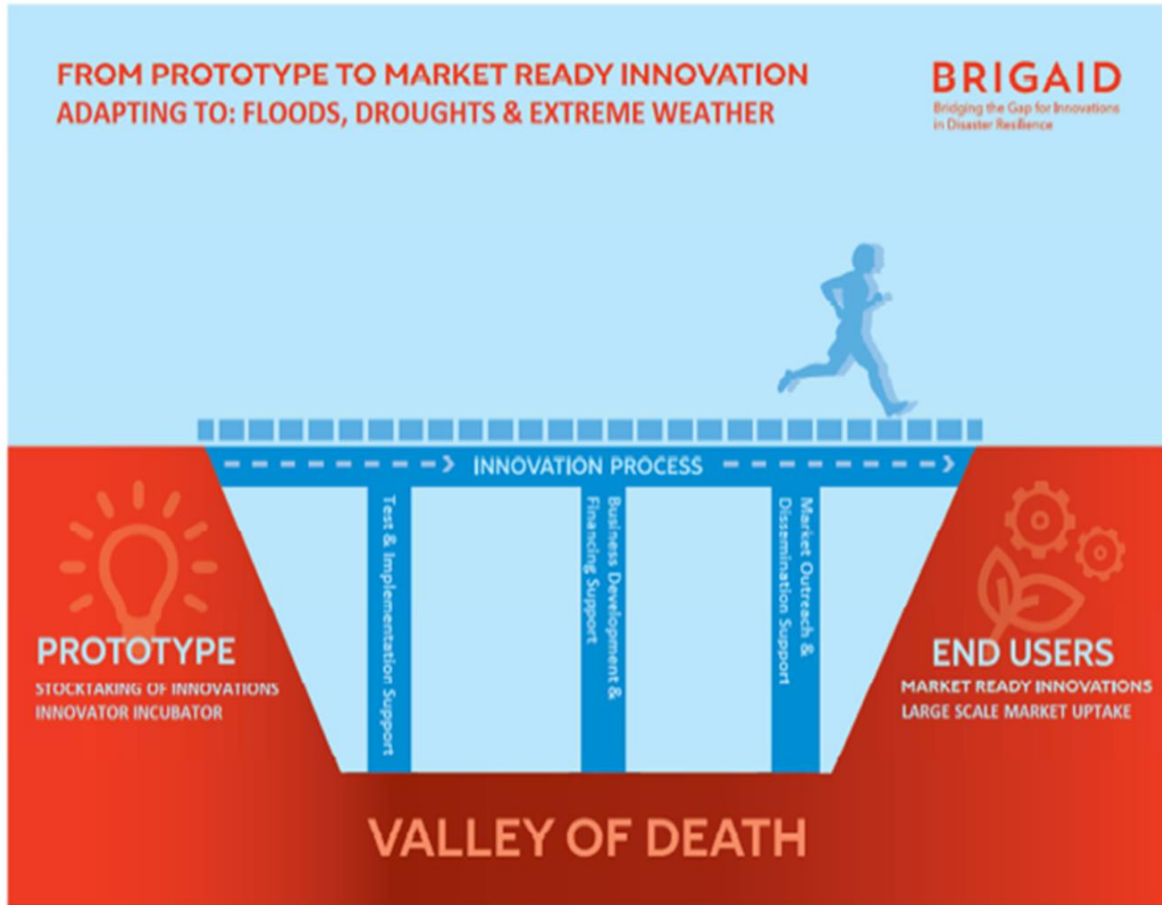


Figure 1.1: BRIGAIID's conceptual approach with three types support for innovations

SHARE AND DISCOVER CLIMATE INNOVATIONS

INNOVATIONS FOR CLIMATE CHANGE ADAPTATION

the EU reference marketplace where end-users and innovators can meet

Share your innovation

Show Innovations | All Hazards | All Topics | View by Most Recent

- Disasters and ICT | Water Safety**
MyFloodRisk (for business)
TRL 5
- Disasters and ICT | Urban Areas**
3C for Cities
TRL 6
- Agriculture | Disasters and ICT**
ARIEL, soil moisture retrieval by microwave remote sensing
TRL 5

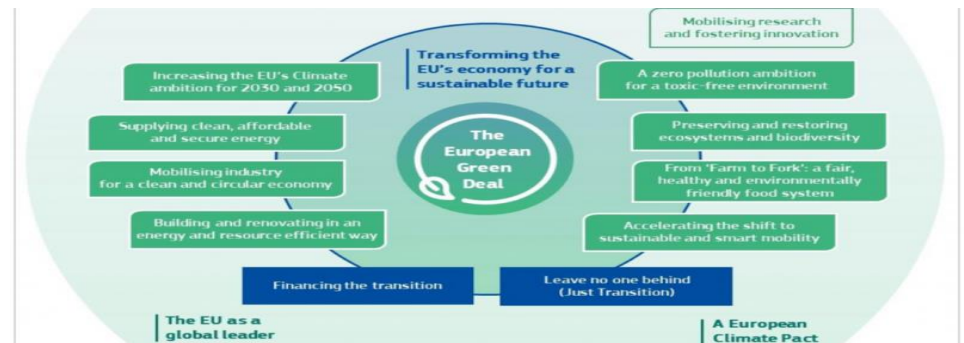
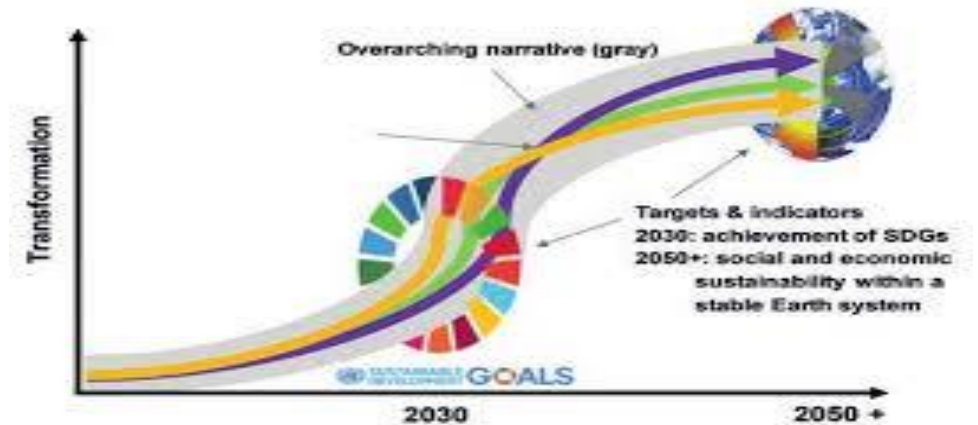
Our Blueprint for Systemic Change: The SDGs and EGD

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**.

The social and economic damages of COVID-19 will be particularly pronounced in countries with weaker health systems, higher levels of debt, less fiscal space to organize stimulus packages, less easy access to international liquidity, and weak productive capacity and associated low incomes.

Multilateral response is needed to help the poorest countries, particularly least developed countries (LDCs), weather the economic shock they are facing.



Never Waste a Good Crisis! Universities have a Central Role and Responsibility

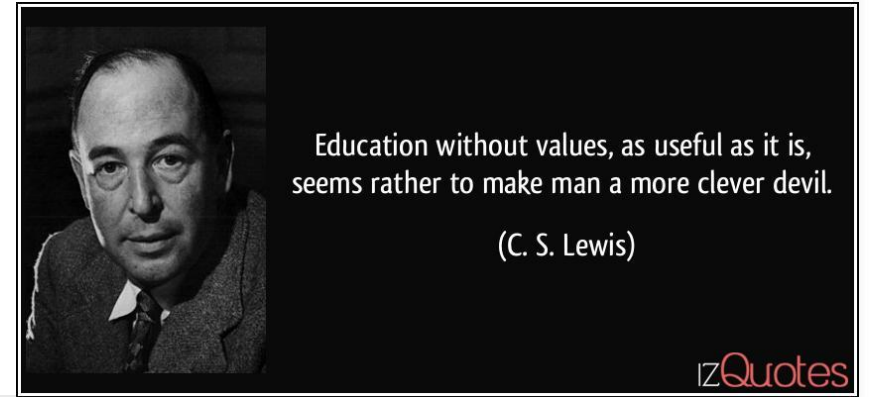
- Economic crisis more severe than the 2008 financial crisis, and the decarbonization challenge is even more urgent.
- Energy technologies: some vital components for building a clean energy future are more mature and ready to scale up.

1. Control of the epidemic (contact tracers, testing, other public systems)
2. Biomedical research (vaccines, drugs, diagnostics)
3. Border security, safe travel, safe trade
4. Renewable energy and circular economy (EGD) - EU Sustainable Investment Taxonomy
5. Food security and Smart Agriculture
6. Promotion of European supply chains (ICTs, batteries, EVs, etc.)
7. Secure ICT networks (privacy standards, 5G rollout, etc.)
8. Sustainability Education, Training, Capacity Building and Innovation

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.



Education and Research Should serve the Well-being of Humanity



Education and Research can

- Shape Moral Values and Culture and contribute to Well-being and Global Stability
- Empower understanding of problems and enables engagement in the development of solutions
- Shape the Potential of the Work Force by providing Analytical and Technical Skills
- Shape Technological and Social Innovation and enables progress

The Way Forward:

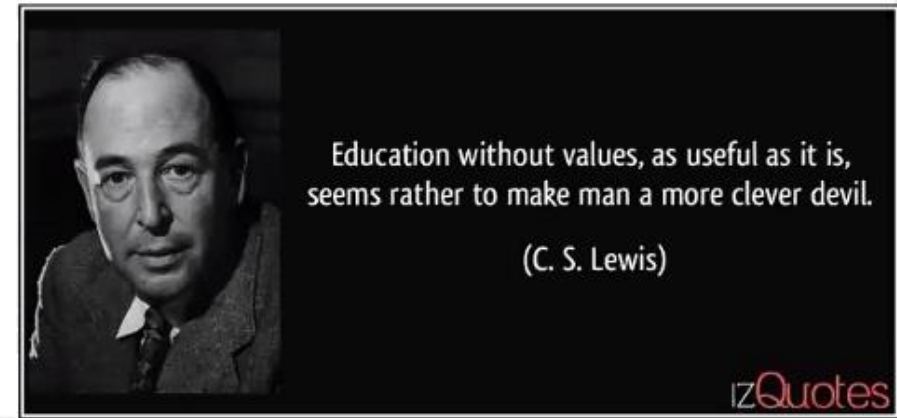
- Values Based Education (personal, social, eternal)
- Equality of Access to Education and Research and Strong International Collaboration (use the potential of Digital Revolution)
- Inter-Multi Disciplinary Education and Research
- Holistic Integration of Major Contemporary Challenges (like CC) in Research and Education
- Linkage Education and Research to the market
- Outreach and Leadership: engage civil society, innovation acceleration, business, policy-making, politicians



Phoebe Koundouri

Well-being and Global Stability

- Empower understanding of problems and enables engagement in the development of solutions
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Orientation to SDGs

Home Insert Draw Design Transitions Animations Slide Show Review View

Calibri (Body) 32

1 3 PILLARS

2 Economic Development Social Inclusion Environmental Sustainability

3 6 TRANSFORMATIONS

4 Education and Knowhow Health and Wellbeing Clean Energy and Industry Sustainable Land Use Sustainable Cities Digital Technologies

5 17 GOALS

6

Click to add notes

Slide 1 of 7 English (United States)

Cancel the Spotlight Video

Jeffrey Sachs