The Sustainability Transition in Europe

Prof. Phoebe Koundouri pkoundouri@aueb.gr

Professor and Director ReSEES Research Laboratory, School of Economics
ATHENS UNIVERSITY OF ECONOMIC AND BUSINESS

President-Elect, European Association of Environmental and Resource Economists

Director, Cluster on Sustainability Transition
Co-Chair, UN Sustainable Development Solutions Network (SDSN) – Greece
Director, EIT Climate KIC Hub – Greece, ATHENA RC
Lead Economist UN SDSN EGD Senior Working Group
Chair SAB, European Forest Institute

Member of Greek Prime Minister Committee on Recovery and Development Plan
Member of the Ministerial Climate Change Committee, Ministry of Environment and Energy


BE SURE TO WASH YOUR HANDS AND ALL WILL BE WELL
COVID-19
RECESSION
CLIMATE CHANGE





THE CLIMATE EMERGENCY
Urgency of limiting global warming to +1.5C, beyond which the risk of extreme weather events 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.

Sustainability Related Policies

2015

UNITED NATIONS SUSTAINABLE DEVELOPMENT SUMMIT 2015
25-27 SEPTEMBER

193 Countries

17 SDGs

169 Targets

2015

PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

197 Countries

Limiting global temperature to well below +2°C

2018

ipcc
INTERGOVERNMENTAL PANEL ON climate change

Global Warming of 1.5°C

An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty

- Limiting global temp. to 1.5°C
- This implies zero net emissions globally by 2050

2019

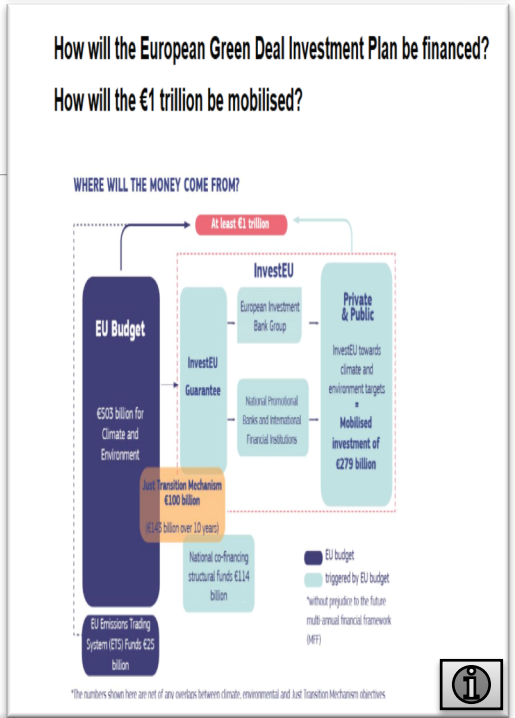
SUSTAINABLE DEVELOPMENT REPORT 2019

TRANSFORMATIONS TO ACHIEVE THE SUSTAINABLE DEVELOPMENT GOALS

6 Major Transformations to achieve SDGs

Dec 2019

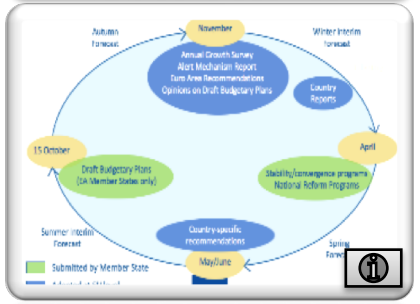
EGD Policies Overview



2020 ...

Flattening the infection curve steepens the macroeconomic recession curve

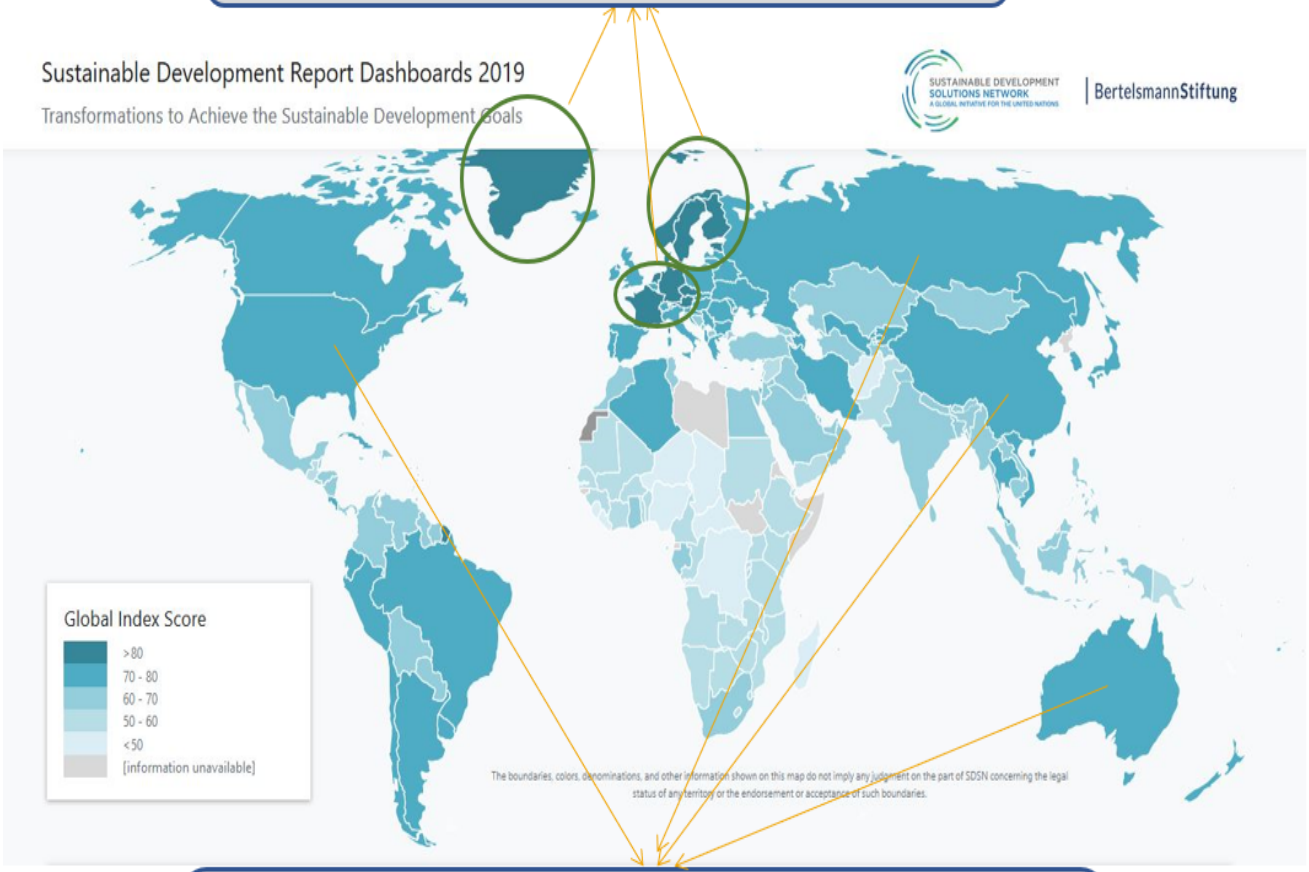
Enhanced EU MFF & Recovery Plan Next Generation EU



Senior WG for the EU Green Deal

Are We on Track ? https://www.sdgindex.org/

Right on track: Minority



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

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)

SUSTAINABLE DEVELOPMENT SOLUTIONS NETWORK

GREECE

OECD Countries

OVERALL PERFORMANCE

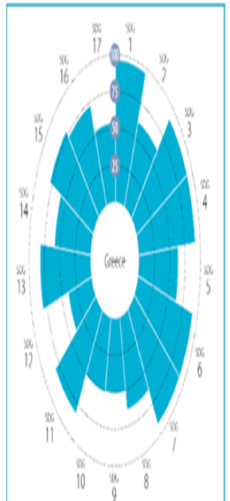
Index score: 71.4

Regional average score: 77.7

SDG Global rank 50 (OF 162)

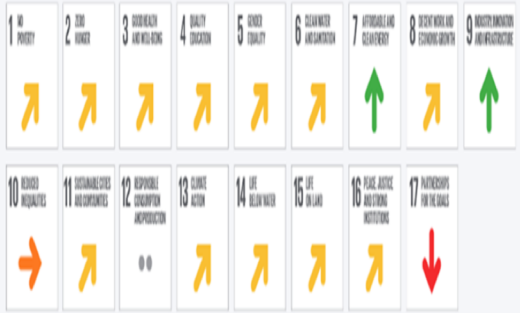
CURRENT ASSESSMENT - SDG DASHBOARD

Major challenges · Significant challenges · Challenges remain · SDG achieved · Information unavailable



AVERAGE PERFORMANCE BY SDG

SDG TRENDS



Decreasing · Stagnating · Moderately improving · On track or maintaining SDG achievement · Information unavailable

GREECE

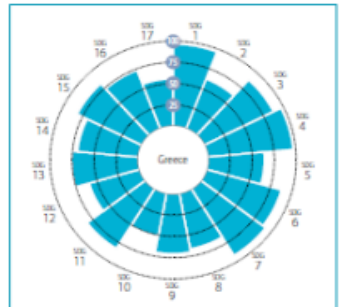
OECD Countries

OVERALL PERFORMANCE

Index score: 74.3

Regional average score: 77.3

SDG Global rank 43 (OF 166)



AVERAGE PERFORMANCE BY SDG

SPILLOVER INDEX

100 (best) to 0 (worst)

CURRENT ASSESSMENT – SDG DASHBOARD

Major challenges · Significant challenges · Challenges remain · SDG achieved · Information unavailable

SDG TRENDS

Decreasing · Stagnating · Moderately improving · On track or maintaining SDG achievement · Information unavailable

Notes: The full title of Goal 2 "Zero Hunger" is "End hunger, achieve food security and improved nutrition and promote sustainable agriculture".
The full title of each SDG is available here: https://sustainabledevelopment.un.org/topics/sustainabledevelopmentgoals

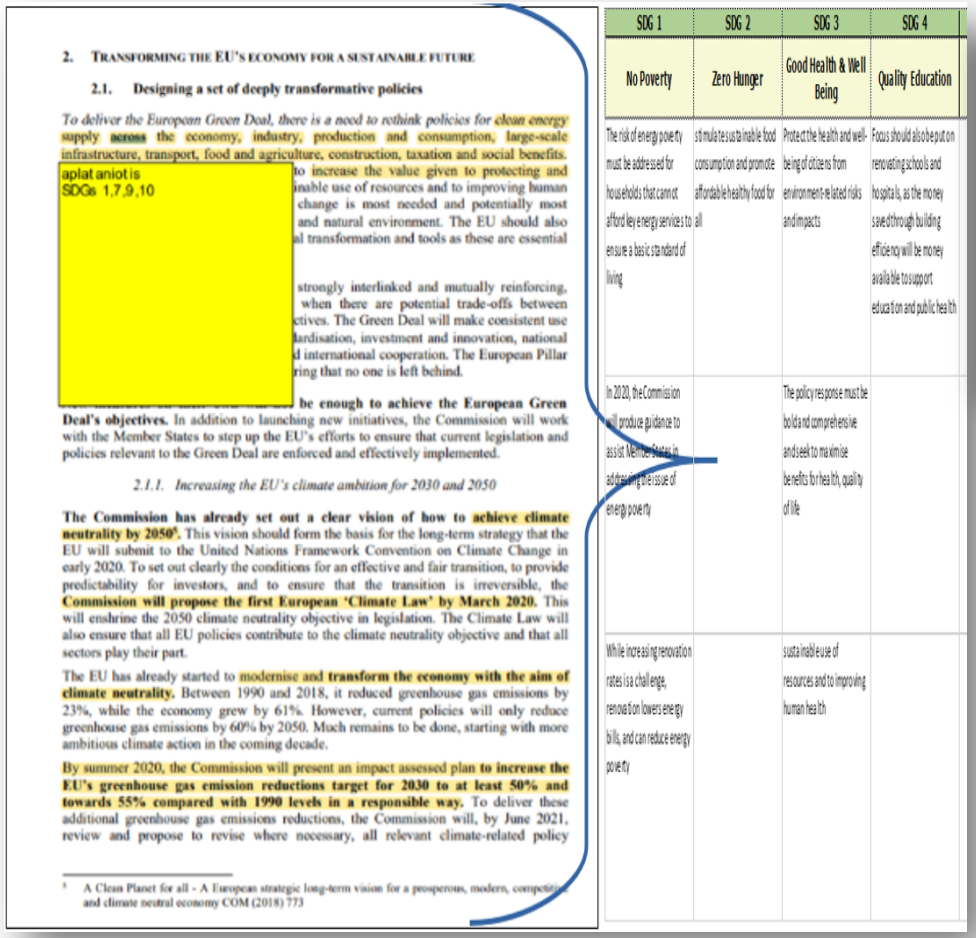
Six Transformations to Achieve the SDGs and Support for the European Green Deal: Senior Working Group for the Energy Transition

Chairs: Prof. Phoebe Koundouri and Prof. Jeffrey Sachs

- Identify and promote technological and policy **pathways for Climate Change mitigation (decarbonization) and adaptation** within and across EU Member States, for the joint implementation of the European Green Deal and the 17 Sustainable Development Goals of UN Agenda 2030, based on European Semester Process country-specific recommendations and supported by financial portfolios derived from the budget of **(a) the European Green Deal, (b) the EU Multiannual Financial Framework, (c) the EU Recovery Plan**.
- Provide strategic recommendations and mobilize experts for the ongoing implementation of the European Green Deal.
- Mobilize experts to “rethink policies for clean energy supply and climate adaptation projects, across the economy, industry, production and consumption, large-scale infrastructure, transport, food and agriculture, construction, taxation and social benefits”.
- Mobilize stakeholders to guarantee local engagement and support for these policies.

Linking EU Green Deal to SDG's

<u>Step 1</u>: Map EGD text to SDGs
We create a first mapping by extracting parts of the EGD document and categorize them under relevant SDGs:



2. TRANSFORMING THE EU'S ECONOMY FOR A SUSTAINABLE FUTURE

2.1. Designing a set of deeply transformative policies

To deliver the European Green Deal, there is a need to rethink policies for clean energy supply across the economy, industry, production and consumption, large-scale infrastructure, transport, food and agriculture, construction, taxation and social benefits.

aplat aniot is
SDGs 1,7,9,10

to increase the value given to protecting and
inable use of resources and to improving human
change is most needed and potentially most
and natural environment. The EU should also
al transformation and tools as these are essential

strongly interlinked and mutually reinforcing,
when there are potential trade-offs between
ctives. The Green Deal will make consistent use
lardisation, investment and innovation, national
d international cooperation. The European Pillar
ring that no one is left behind.

be enough to achieve the European Green Deal's objectives. In addition to launching new initiatives, the Commission will work with the Member States to step up the EU's efforts to ensure that current legislation and policies relevant to the Green Deal are enforced and effectively implemented.

2.1.1. Increasing the EU's climate ambition for 2030 and 2050

The Commission has already set out a clear vision of how to achieve climate neutrality by 2050[5]. This vision should form the basis for the long-term strategy that the EU will submit to the United Nations Framework Convention on Climate Change in early 2020. To set out clearly the conditions for an effective and fair transition, to provide predictability for investors, and to ensure that the transition is irreversible, the **Commission will propose the first European 'Climate Law' by March 2020.** This will enshrine the 2050 climate neutrality objective in legislation. The Climate Law will also ensure that all EU policies contribute to the climate neutrality objective and that all sectors play their part.

The EU has already started to modernise and **transform the economy with the aim of climate neutrality.** Between 1990 and 2018, it reduced greenhouse gas emissions by 23%, while the economy grew by 61%. However, current policies will only reduce greenhouse gas emissions by 60% by 2050. Much remains to be done, starting with more ambitious climate action in the coming decade.

By summer 2020, the Commission will present an impact assessed plan **to increase the EU's greenhouse gas emission reductions target for 2030 to at least 50% and towards 55% compared with 1990 levels in a responsible way.** To deliver these additional greenhouse gas emissions reductions, the Commission will, by June 2021, review and propose to revise where necessary, all relevant climate-related policy

[5] A Clean Planet for all - A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy COM (2018) 773

SDG 1	SDG 2	SDG 3	SDG 4
No Poverty	Zero Hunger	Good Health & Well Being	Quality Education
The risk of energy poverty must be addressed for households that cannot afford key energy services to ensure a basic standard of living	stimulate sustainable food consumption and promote affordable healthy food for all	Protect the health and well-being of citizens from environment-related risks and impacts	Focus should also be put on renovating schools and hospitals, as the money saved through building efficiency will be money available to support education and public health
In 2020, the Commission will produce guidance to assist Member States in addressing the issue of energy poverty		The policy response must be bold and comprehensive and seek to maximise benefits for health, quality of life	
While increasing renovation rates is a challenge, renovation lowers energy bills, and can reduce energy poverty		sustainable use of resources and to improving human health	

<u>Step 2</u>: Map EGD Policies to SDGs
The document extractions of Step-1 are categorized to each of the nine EGD Policies:

SDG 1	SDG 2	SDG 3	SDG 4
No Poverty	Zero Hunger	Good Health & Well Being	Quality Education
Clean energy	From Farm to Fork	Climate action	Building and renovating
Clean energy		Climate action	
Clean energy		Sustainable agriculture	
Clean energy		Building and renovating	
		Sustainable mobility	
		From Farm to Fork	
		From Farm to Fork	
		Sustainable industry	

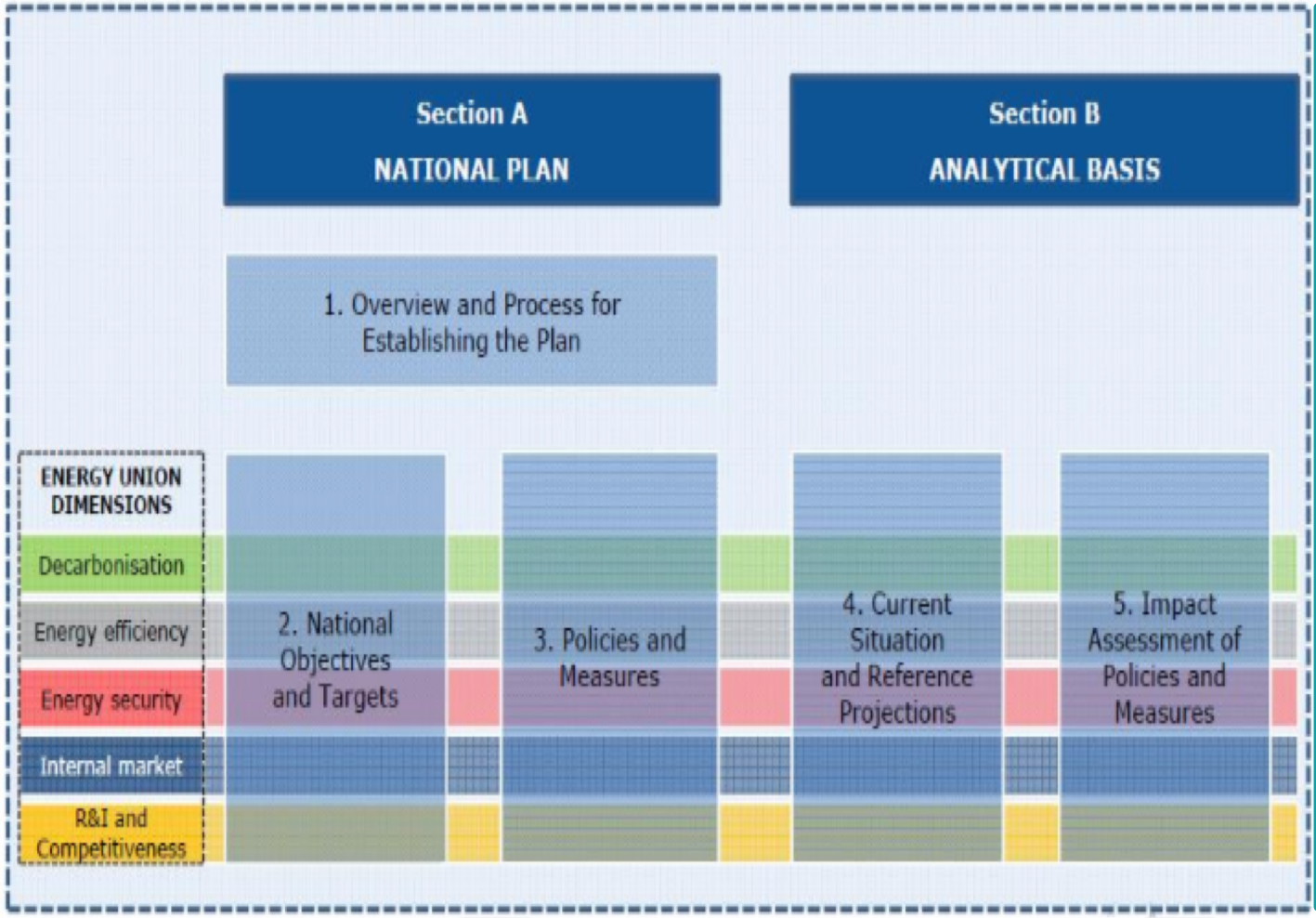
<u>Step 3</u>: Correlation Matrix
Based on the count of EGD Policies that lie under each SDG we construct a correlation Matrix that reveals a pattern of how strong the interconnection of an EGD Policy to a specific SDG is:

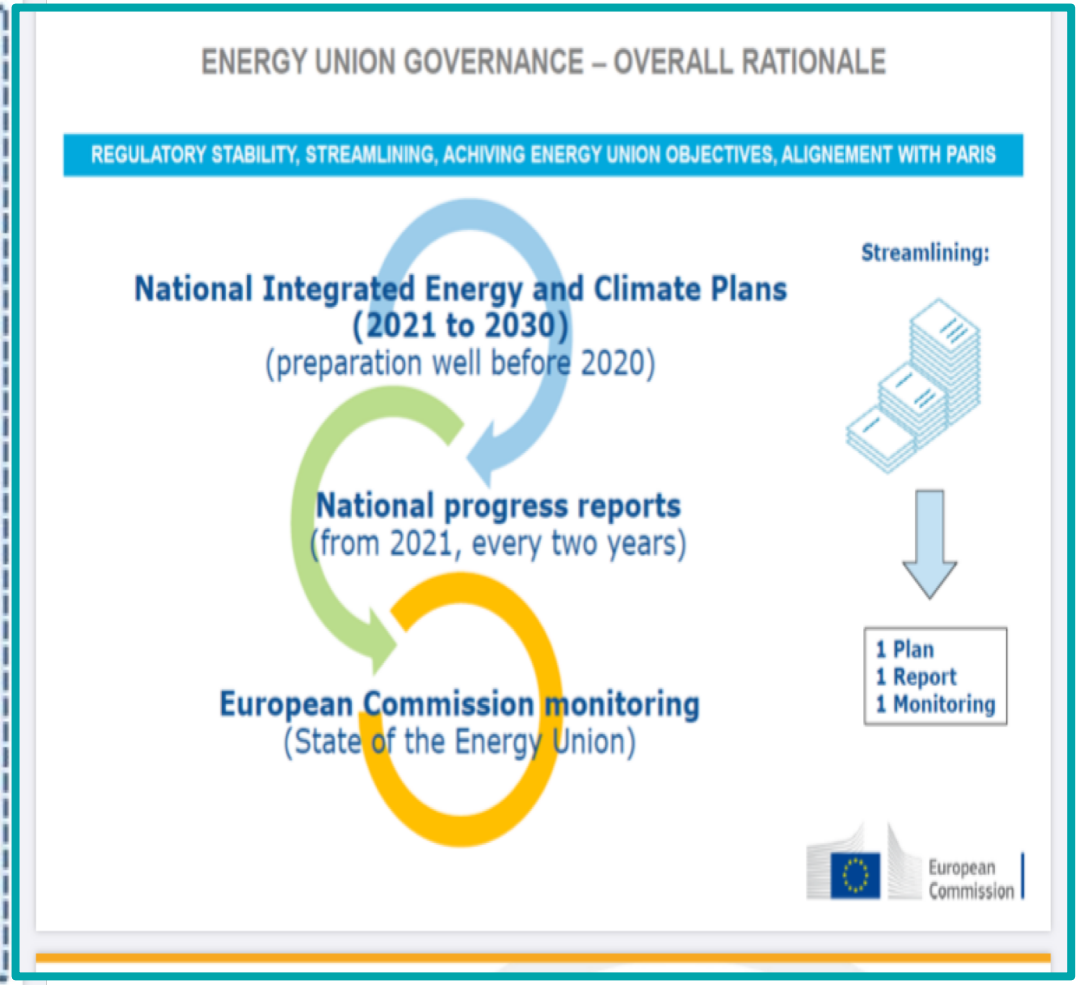
		P1	P2	P3	P4	P5	P6	P7	P8	P9
		Biodiversity	From Farm to Fork	Sustainable agriculture	Clean energy	Sustainable industry	Building and renovating	Sustainable mobility	Eliminating pollution	Climate action
SDG 1	No Poverty	0	0	0	4	0	0	0	0	0
SDG 2	Zero Hunger	0	1	0	0	0	0	0	0	0
SDG 3	Good Health & Well Being	0	2	1	0	1	1	1	0	2
SDG 4	Quality Education	0	0	0	0	0	1	0	0	0
SDG 5	Gender Equality	0	0	0	0	0	0	0	0	0
SDG 6	Clean Water & Sanitation	1	1	0	0	1	0	0	3	0
SDG 7	Affordable & Clean Energy	0	0	0	5	0	0	0	0	0
SDG 8	Decent Work & Economic Growth	0	0	0	0	6	1	0	0	0
SDG 9	Industry, Innovation & Infrastructure	0	0	0	7	3	0	0	0	1
SDG 10	Reduced Inequalities	0	0	0	0	2	0	0	1	0
SDG 11	Sustainable Cities & Communities	1	0	0	1	0	0	1	1	1
SDG 12	Response Consumption & Production	0	1	0	2	6	0	0	2	1
SDG 13	Climate Action	0	0	1	0	0	0	0	0	6
SDG 14	Life Below Water	5	0	1	0	0	0	0	0	0
SDG 15	Life On Land	7	5	4	0	0	0	0	3	0
SDG 16	Peace Justice & Strong Institutions	0	0	0	0	0	0	0	1	5
SDG 17	Partnerships for the Goals	2	0	0	3	1	0	0	1	10

Based on SDGs country specific performance and EU semester process country specific recommendations, we identify portfolio of priority policies and investments and respective financial portfolios to support their implementation.

National energy and Climate Plans (NECPs) 2021-2030

Prepared by EU Member States in order to deliver the EU's Energy Union objectives on the 2030 energy and climate targets. Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action.



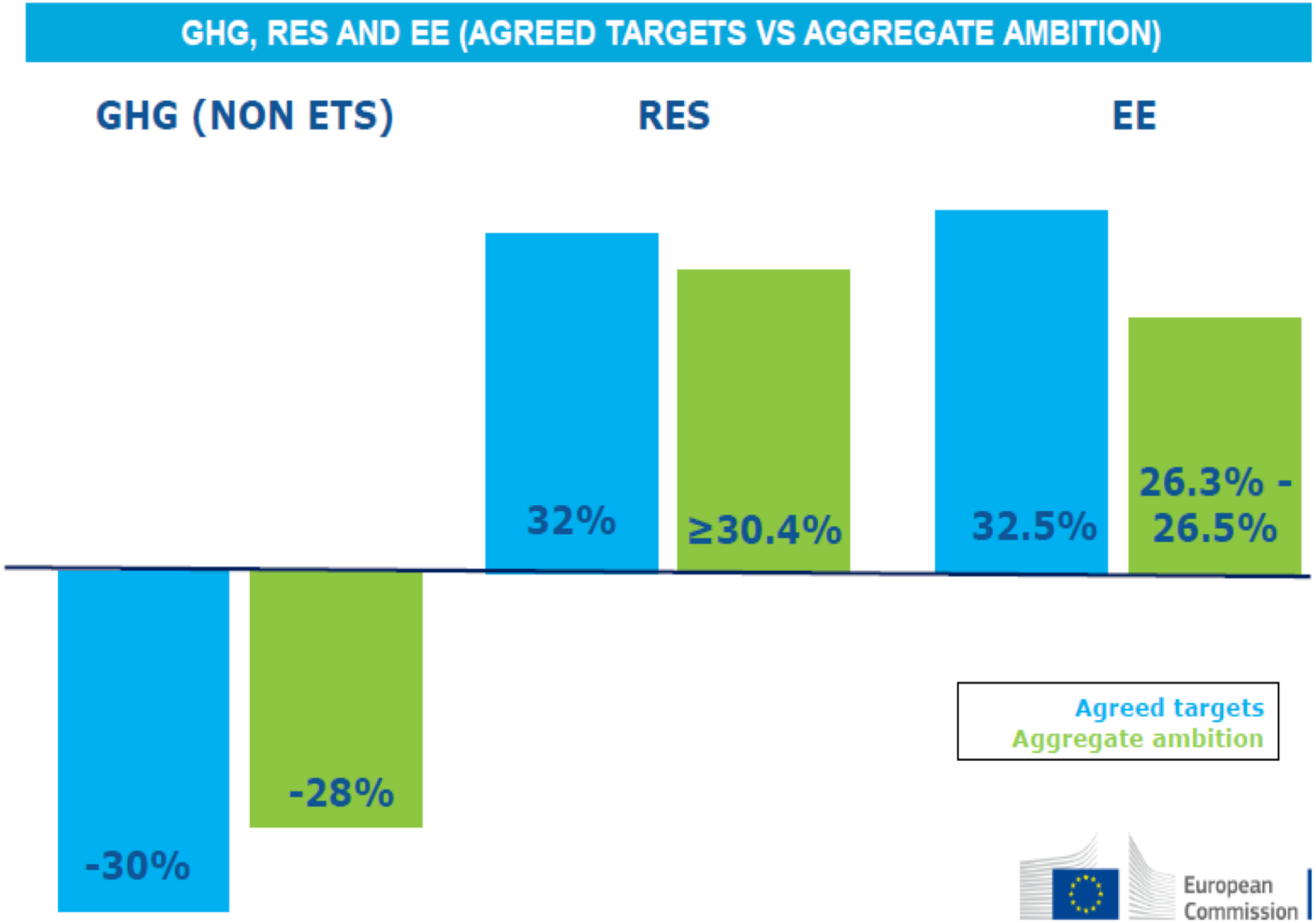


Assessment of the 2030 targets in the draft NECPs

The draft plans submitted by governments by the end of 2018 are in acute need of improvement.

The plans fall short on ambition and credibility, and do not describe a robust, Paris-compliant pathway for Europe.

MS need to identify additional measures in the final NECPs.



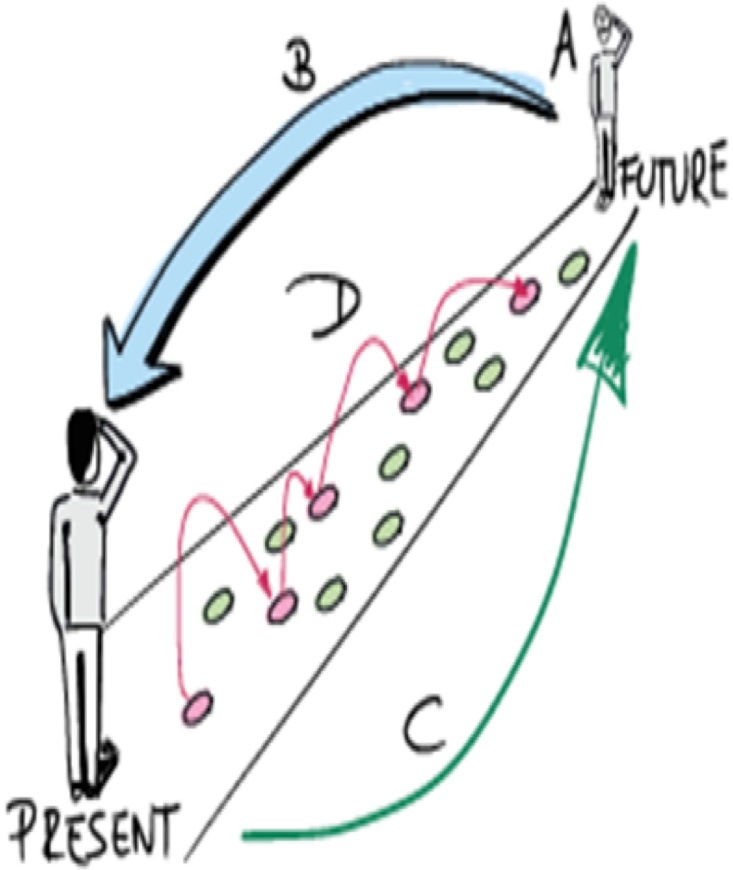
THE CLIMATE LAW – PROPOSAL

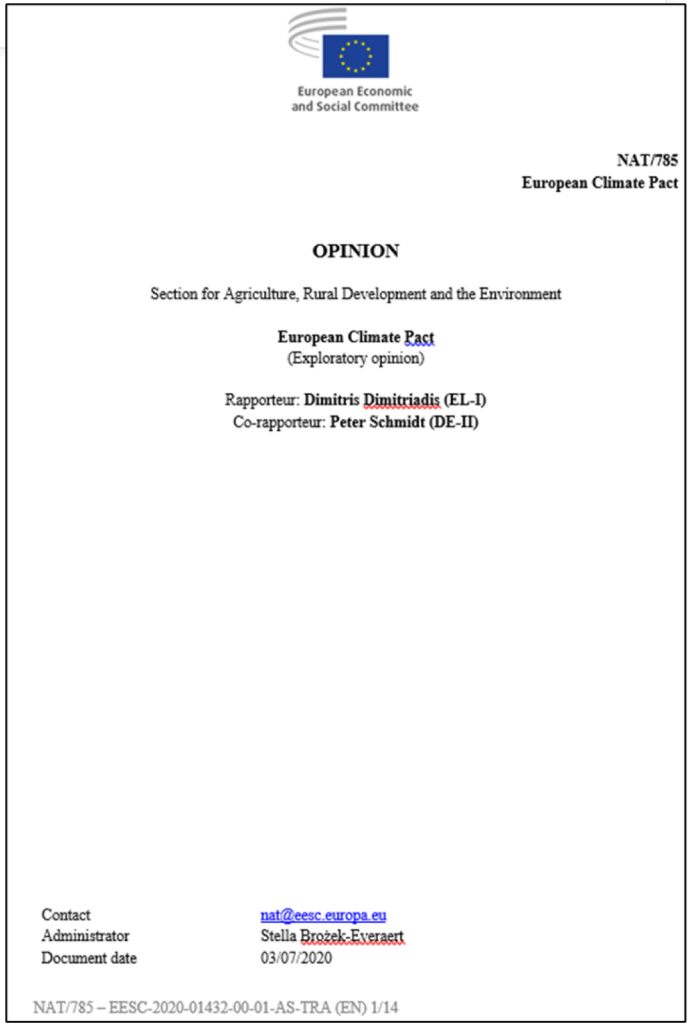
Greek CC Committee

(Prof. Phoebe Koundouri is a member)

- 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 (EC) to impose sanctions on Member States (MS)
- Does not allow the EC 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.
- No reference to comprehensive framework that will recognize the relationship between water, energy, food security and biodiversity (WEF Nexus)

THE CLIMAE PACT
Systems Innovation Approach: Co-Design with Stakeholders





European Economic and Social Committee

NAT/785
European Climate Pact

OPINION

Section for Agriculture, Rural Development and the Environment

European Climate Pact
(Exploratory opinion)

Rapporteur: **Dimitris Dimitriadis (EL-I)**
Co-rapporteur: **Peter Schmidt (DE-II)**

Contact nat@eesc.europa.eu
Administrator Stella Brożek-Everaert
Document date 03/07/2020

NAT/785 – EESC-2020-01432-00-01-AS-TRA (EN) 1/14

…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 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.

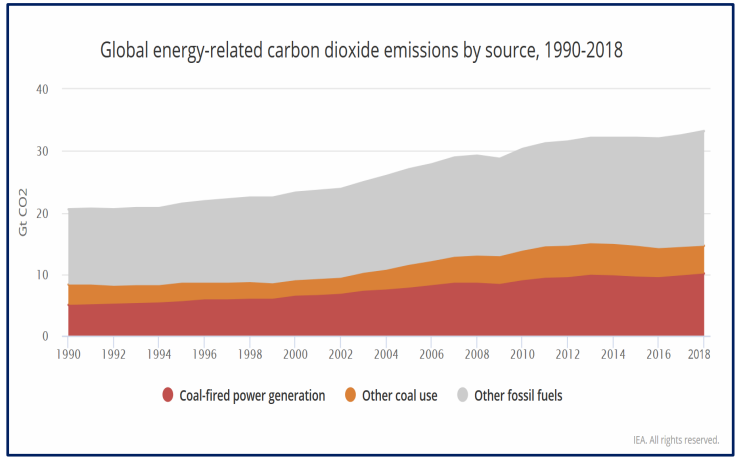
COVID-19 & CC Early Days:
Global survey of fiscal recovery policies
Hepburn, O'Callaghan, Stern, Stiglitz, Zenghelis, 2020

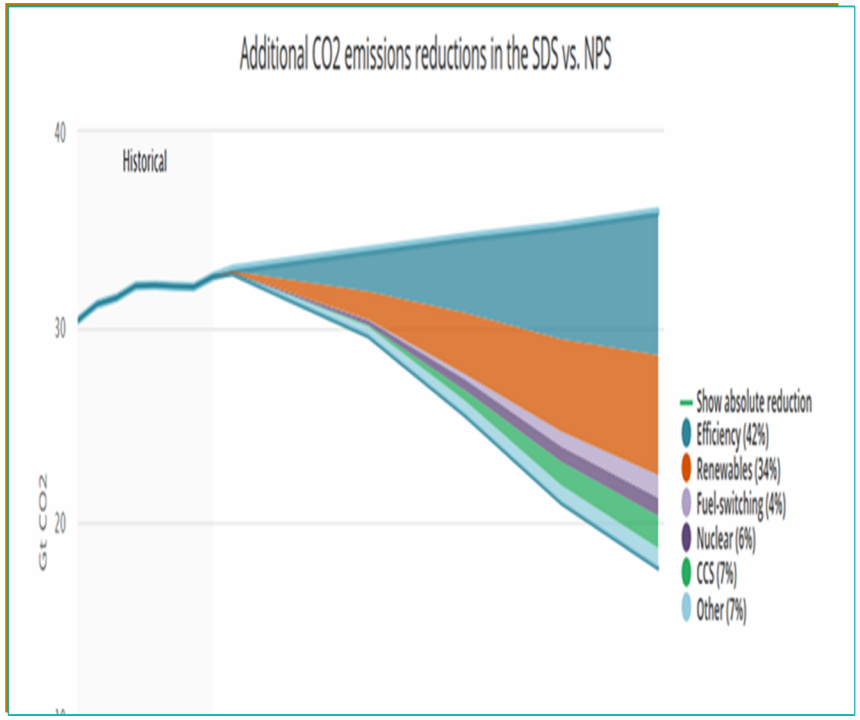
- April 2020, 231 officials from finance ministry, central bank, other economists, representing 53 countries including all G20 nations, to ascertain their perspectives on COVID-19 fiscal recovery packages according to:

- 'speed of implementation' from the time of legislation
- 'long-run economic multiplier'
- 'climate impact potential'
- 'overall desirability' social, political, personal factors

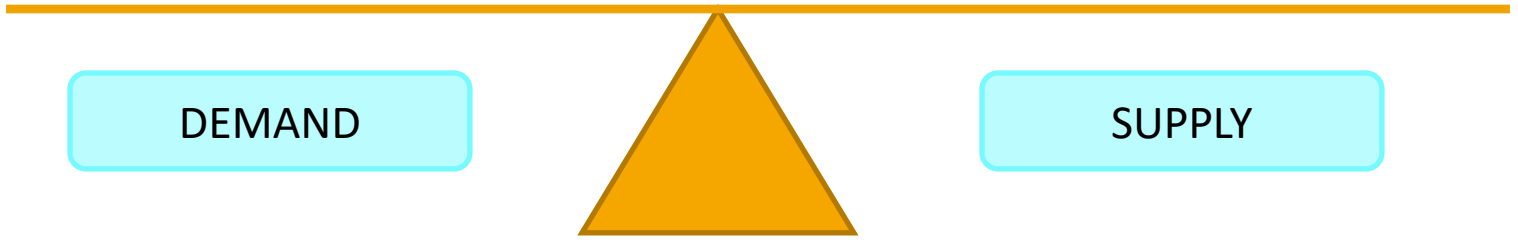
Results suggest that experts think that climate-positive policies also offer superior economic characteristics.

SUPPLY SIDE:
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.



Recover Better

The way forward to a Sustainable Recovery

What will we do?

CLIMATE

The EU will be **climate neutral in 2050**.
The Commission will propose a European Climate Law turning the political commitment into a legal obligation and a trigger for investment.

Reaching this target will require action by all sectors of our economy:

ENERGY

Decarbonise the energy sector

The production and use of energy account for more than **75%** of the EU's greenhouse gas emissions

BUILDINGS

Renovate buildings, to help people cut their energy bills and energy use

40% of our energy consumption is by buildings

INDUSTRY

Support industry to innovate and to become global leaders in the green economy

European industry only uses **12%** recycled materials

MOBILITY

Roll out cleaner, cheaper and healthier forms of private and public transport

Transport represents **25%** of our emissions

SUSTAINABLE DEVELOPMENT SOLUTIONS NETWORK
A GLOBAL INITIATIVE FOR THE UNITED NATIONS

SUSTAINABLE DEVELOPMENT SOLUTIONS NETWORK
A GLOBAL INITIATIVE FOR THE UNITED NATIONS

The European Green Deal

#EUGreenDeal

Center for Sustainable Development
EARTH INSTITUTE | COLUMBIA UNIVERSITY

THE LANCET

Senior Working Group

Pathways of technological and policy pathways for the joint achievement of EGD and SDGs, supported by 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.

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.

Energy Sector to kick-start Green Recovery

- 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.

Special Edition of the IEA's (with IMF) annual World Energy Outlook, 18 June 2020

International Energy Agency

- **A set of targeted energy-related sector investment of 1 trillion a year over three years would:**
  - **Boost economic growth by 1.1 percentage points a year**
  - **Save or create 9 million jobs a year**
  - **Ensure 2019 was the definite peak of energy-related greenhouse gas emissions**
- The $1 trillion in annual investment required: public and private sources and is equivalent to about 0.7% of global GDP.

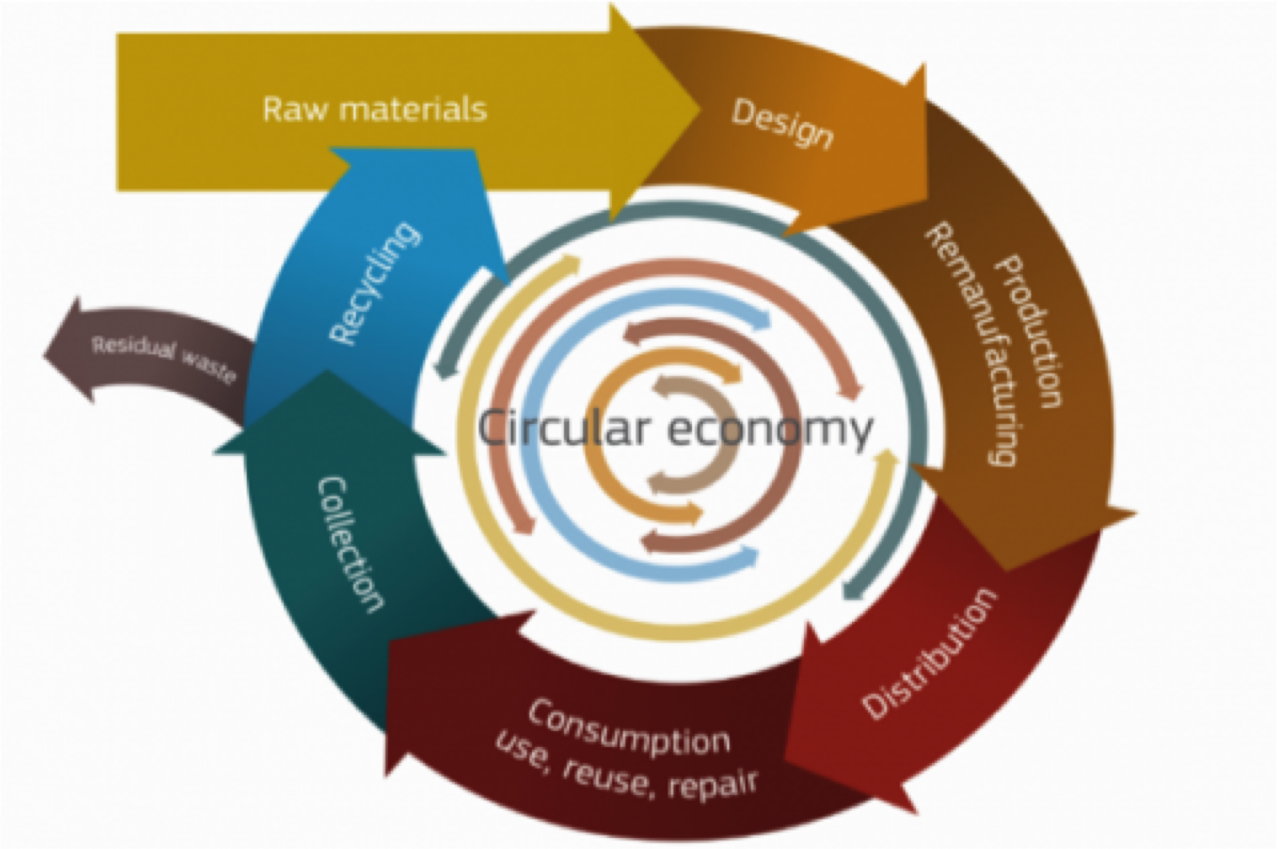
The clean energy investment push will need to be done on a major scale given the size of today's economic shock. Policies with existing legal and institutional structure are the easiest to scale up.

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.

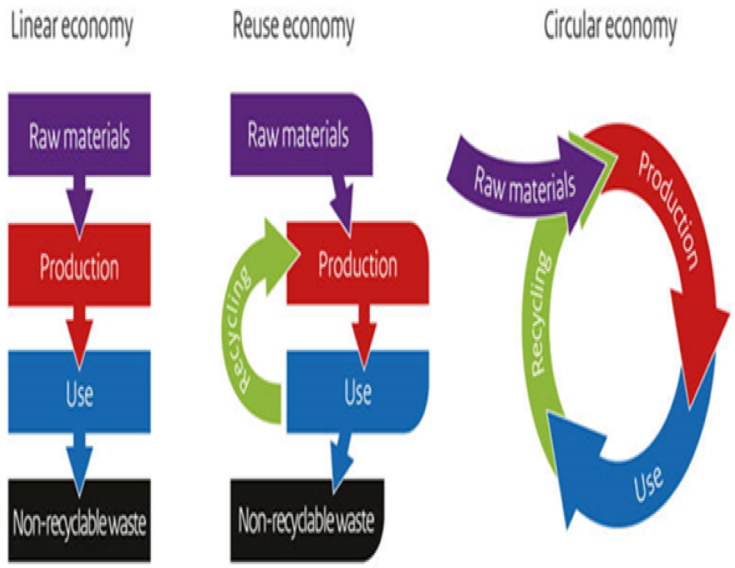
Circular Economy



2015: **European Strategy for circular Economy**

Based on 5 concepts:

- Product design
- Production process
- Consumption
- From waste to resources (secondary raw materials)
- Innovation, investment and other cross-cutting issues



Circular economy: based on principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems.

By 2050 CE:
56% cut in EU emissions from heavy industry
45% cut global emissions from steel, cement, plastic and aluminum products.

CE a win-win situation:

- Savings of 600 billion euro for EU Business, 8% of their annual turnover
- Creation of 580,000 jobs in innovative design and business models, research, recycling, re-manufacturing and product development
- Relevant for SMEs
- Reduction of EU carbon emissions by 450 million tonnes by 2030
- Reducing Environmental Footprint: The less products we discard, the less materials we extract. Optimize waste management will boost recycling and reduce landfill

- Public-Private Partnerships best model for financing the transition to CE. Why?

THE ECONOMIC **BENEFITS**

What are the macroeconomic impacts of shifting to a new economic model?

The circular economy has been gaining traction with business and government leaders alike. Their imagination is captured by the opportunity to gradually decouple economic growth from virgin resource inputs, encourage innovation, increase growth, and create more robust employment. If we transition to a circular economy, the impact will be felt across society. The slider below illustrates some of the potential macroeconomic benefits of shifting to a circular economy.

THE OPPORTUNITY FOR **COMPANIES**

How will companies benefit from the circular economy?

Businesses would benefit significantly by shifting their operations in line with the principles of the circular economy. These benefits include the creation of new profit opportunities, reduced costs due to lower virgin-material requirements, and stronger relationships with customers. The sliders below expand on these and more benefits.

THE OPPORTUNITY FOR **INDIVIDUALS**

What does the circular economy mean for individuals?

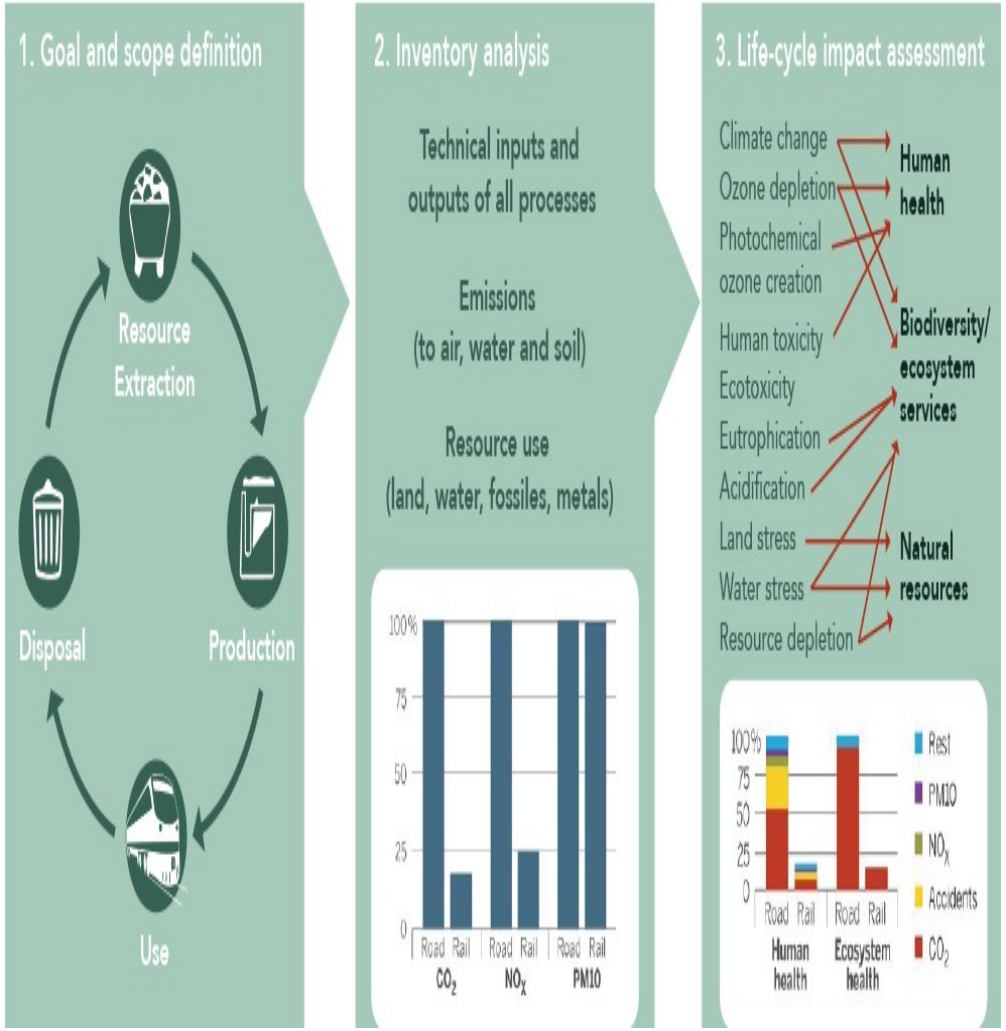
The circular economy will not only benefit businesses, the environment, and the economy at large, but also the individual. Ranging from increased disposable income to improved living conditions and associated health impacts, the benefits for individuals of a system based on the principles of circularity are significant.

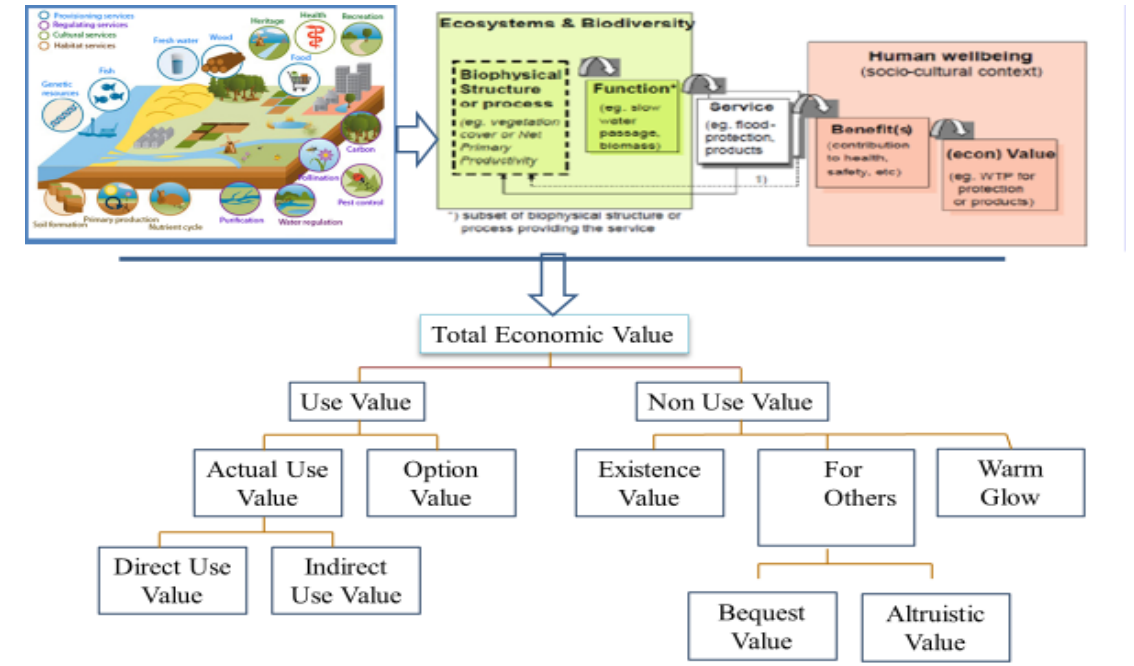
ENVIRONMENTAL AND SYSTEM-WIDE **BENEFITS**

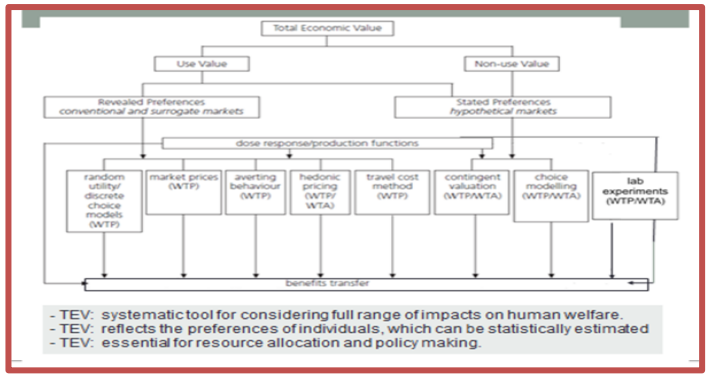
What impact will shifting to a circular economy have on the environment?

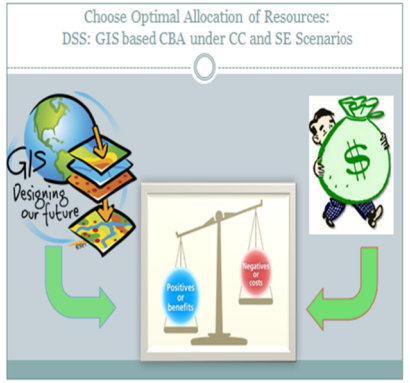
The potential benefits of shifting to a circular economy extend beyond the economy and into the natural environment. By designing out waste and pollution, keeping products and materials in use, and regenerating, rather than degrading, natural systems, the circular economy can be the mechanism by which we achieve global climate targets.

Measuring Socio-Economic Benefits of CE
Life Cycle Analysis (LCA) and Total Economic Valuation









Climate Change Adaptation Infrastructure

BRIGAID H2020 and BRIGAID CONNECT Inc.
Climate Window with 200 Innovations (TRL 8-9) on Climate Change Adaptation

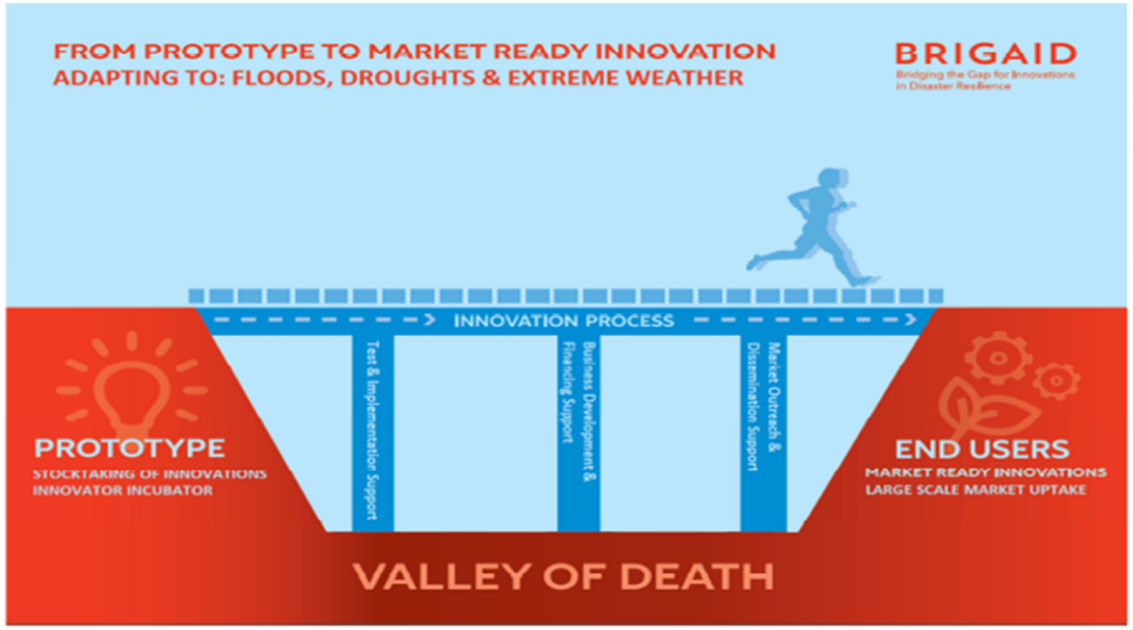
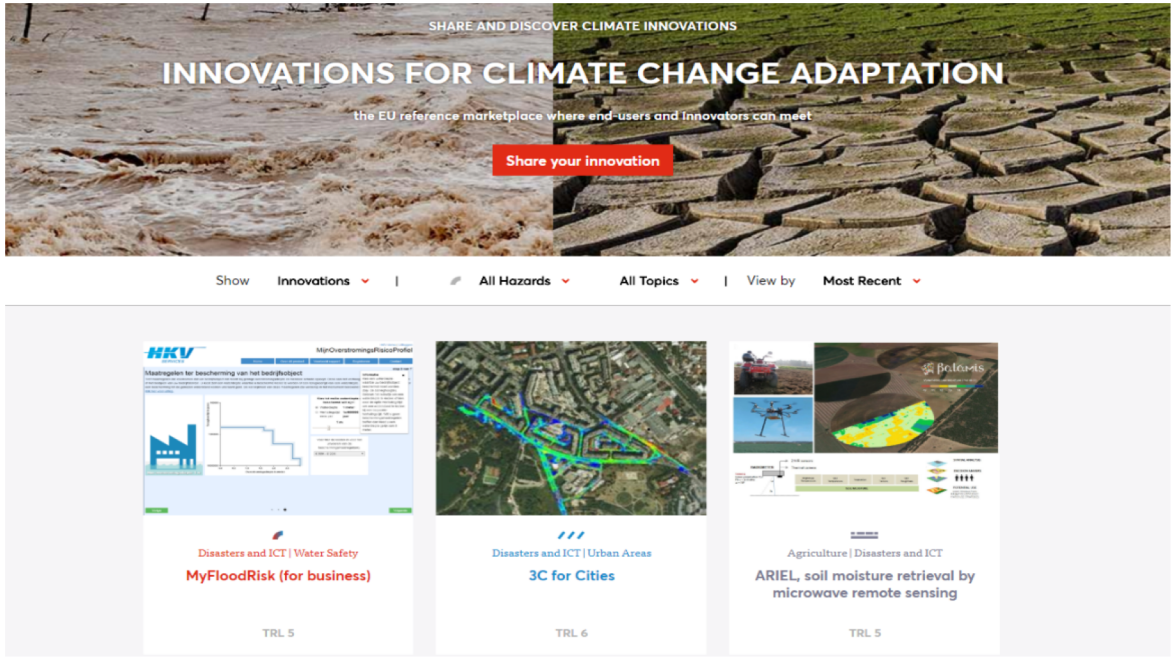
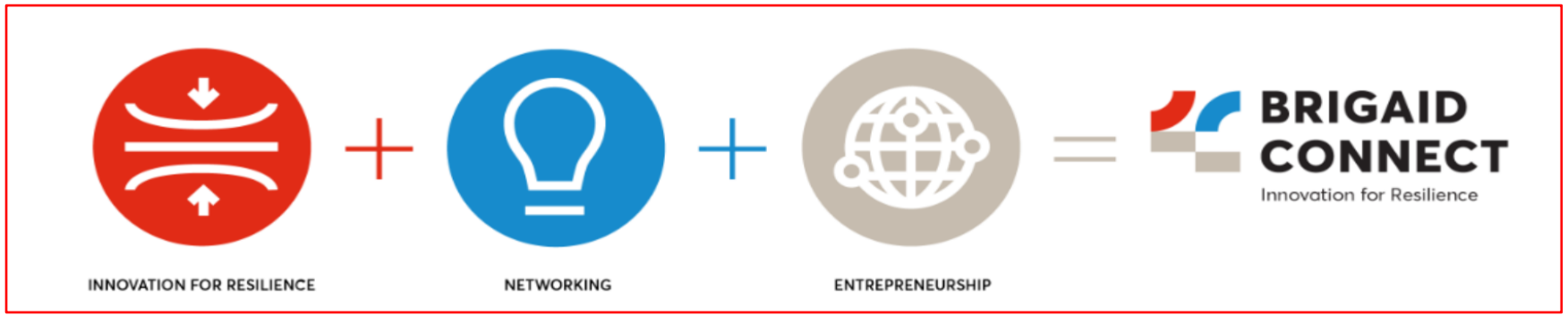


Figure 1.1: BRIGAID's conceptual approach with three types support for innovations





Sustainable Ports, Coastal Communities & Shipping

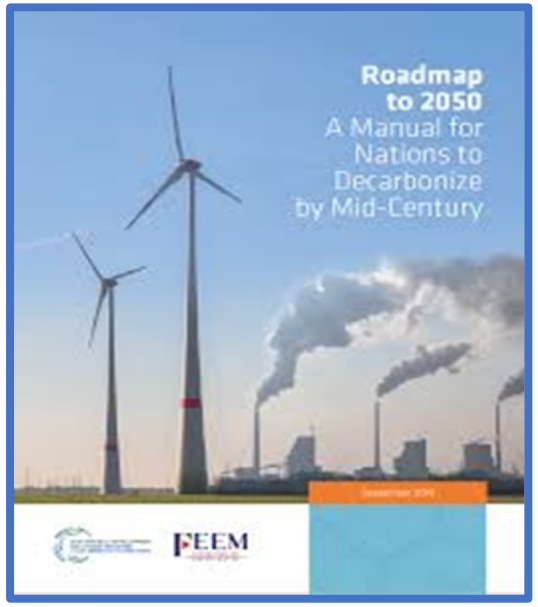
- Aims at bringing together **researchers and technology developers, shipbuilders**, **shipowners**, **ports, policy makers and politicians**, from across the globe, to work on technological and policy innovations, related to zero emissions shipping, to target net-zero emissions by 2050.

- Find more at: http://www.unsdsn.gr/global-roundtable-for-sustainable-shipping-2

ACTION AREAS IN MARITIME TRANSPORT

Effective decarbonization pathways rely on technological solutions, new sustainable fuel developments, and fuel shifts

- Long-haul navigation is hard to abate. **ammonia and hydrogen** are currently being investigated.
- Short-haul navigation (in-land waterways, coastal and intra regional) can be supplied by **electricity or hydrogen technologies.**
- Use of biofuels and the sustainability of biomass for biofuels needs to be carefully assessed to avoid competition with food production, deforestation, loss of biodiversity.



- Regulatory frameworks need to be **technology agnostic** to create a fertile environment for **innovation**, unleashing the potential of the research.
- Research and innovation need to investigate:
  - life-cycle analysis (LCA)
  - indirect land-use change (ILUC)

impacts of technologies to confirm sustainability, avoiding solution lock-in and stranded assets.

Resilient Maritime Hubs

- Catalyzing Systemic Change in Maritime Sector across Europe by:

- Decarbonization Shipping Industry
- Ports Sustainable Transition Roadmap
- Fostering Sustainable Tourism
- Strengthening Fragile Ecosystems & Communities

- 13 European Ports including the Port of Piraeus.

LOOP·Ports
Circular Economy Network of Ports

Climate-KIC

Sustainable Finance and Economic Instruments

Launches ambitious new climate strategy and Energy Lending Policy

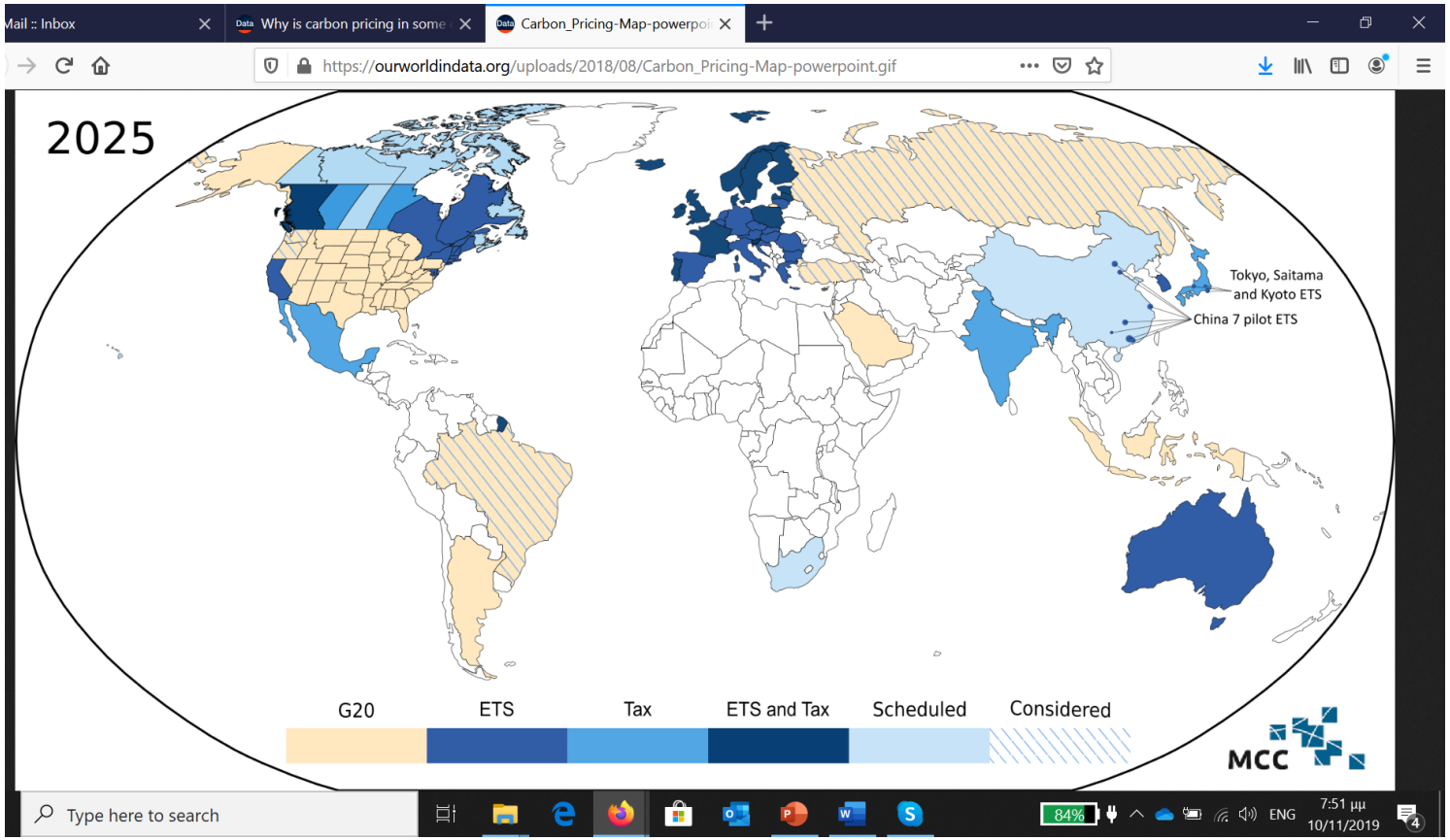
European Investment Bank

- The EIB will end financing for fossil fuel energy projects from the end of 2021
- Future financing will accelerate clean energy innovation, energy efficiency and renewables
- EIB Group will align all financing activities with the goals of the Paris Agreement from the end of 2020

- Classification system for sustainable economic activities, which creates a common language for investors and lenders.
- Scale up private and public investments to finance the transition to a climate-neutral and green economy
- Challenge: connect green taxonomy with financial instruments (green/transition bonds, green loans, etc.)
- Monitoring mechanism needed: ensure that transition bonds are used in an energy-efficient, circular, sustainable investment.

Demand Management: Information-Awareness-Training-Education

Economic Instruments: Green/Digital Bonds, CO2 taxes, ETS, REDD, Sustainable Insurance, etc.

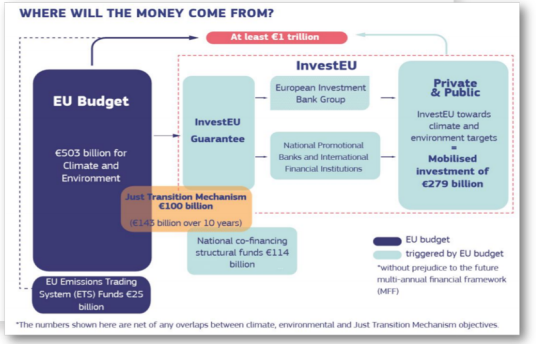


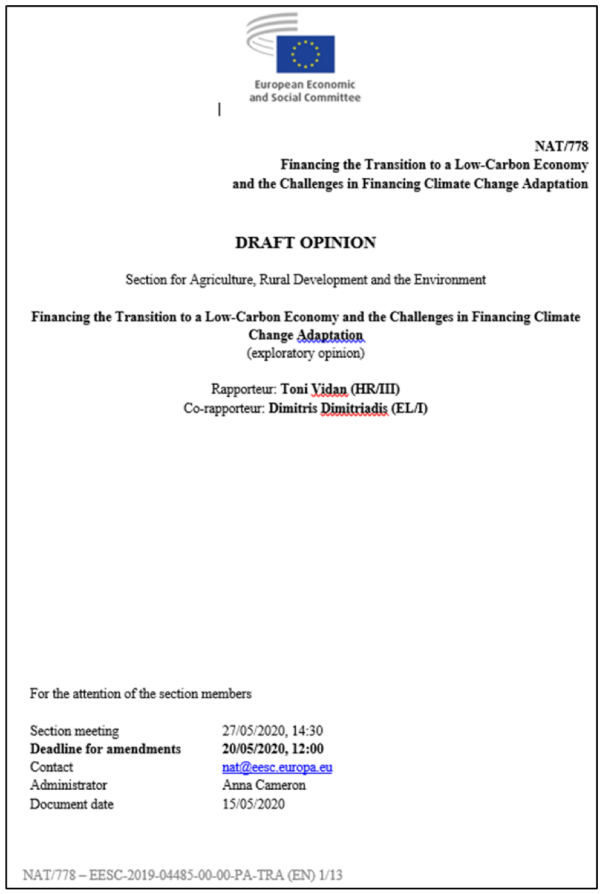
- Over the last decade:
- 51 carbon pricing schemes have been implemented or are scheduled for implementation
- 25 of the 51 are in the form of ETS, predominantly introduced at the subnational level
- 26 of the 51 in the form of carbon taxes, mostly implemented at the national level.

- Among the countries that have already submitted their Nationally Determined Contributions to the Paris Agreement, 88 countries have stated their intent to implement carbon pricing as part of their national climate policies

Green Bonds

Needed to Leverage Private Funds for InvestEU & Implementation of EGD





European Economic and Social Committee

NAT/778
Financing the Transition to a Low-Carbon Economy and the Challenges in Financing Climate Change Adaptation

DRAFT OPINION

Section for Agriculture, Rural Development and the Environment

Financing the Transition to a Low-Carbon Economy and the Challenges in Financing Climate Change Adaptation
(exploratory opinion)

Rapporteur: **Toni Vidan (HR/III)**
Co-rapporteur: **Dimitris Dimitriadis (EL/I)**

For the attention of the section members

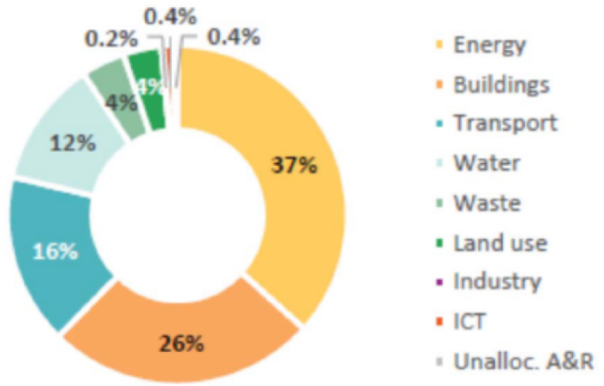
Section meeting	27/05/2020, 14:30
Deadline for amendments	**20/05/2020, 12:00**
Contact	nat@eesc.europa.eu
Administrator	Anna Cameron
Document date	15/05/2020

NAT/778 – EESC-2019-04485-00-00-PA-TRA (EN) 1/13

Green bonds

- A **green bond** has the same financial characteristics of a conventional bond, with the special commitment that the proceeds from the bond will be used to finance green projects that deliver environmental benefits.
- The "**use of proceeds**" is what distinguishes green bonds from conventional bonds.
- There is **not a globally agreed methodology** for establishing which projects are "green".

80% of issuance to date is allocated to Energy, Buildings and Transport



Source: Bloomberg and CBI data (2018)

Climate-KIC is supported by the EIT, a body of the European Union

ΟΙΚΟΝΟΜΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ
ATHENS UNIVERSITY OF ECONOMICS AND BUSINESS

SDSN GREECE

Cluster on Sustainability Transition

Transforming Research and Innovation into Climate Action

Director: Professor Phoebe Koundouri

OUR PROJECTS

UN SDSN GREECE
ReSEES, AUEB
EIT Climate-KIC HUB Greece

Cluster for Sustainability Transition in Greece and Europe: Research, Deep Demonstration & Education Activities

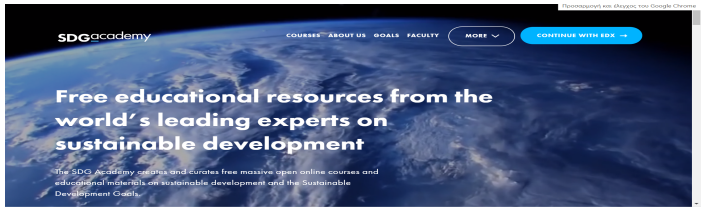
Research & Global Initiatives

BRIGAID
OpenAIRE
simra Social Innovation in Marginalised Rural Areas
AMAre
COASTAL Collaborative Land-Sea Integration Platform
eit Climate-KIC
SMIRES Science and Management of Intermittent Rivers and Ephemeral Streams
Interreg Balkan-Mediterranean RECONNECT
BlueBRIDGE
MERMAID
GENESIS groundwater and dependent ecosystems
TROPOS
GLOBAQUA
THESEUS
DAFNE
H2Ocean
Euro-limpacs
CIGESMED
AQUASTRESS

BANK OF GREECE
Climate Change Committee

Deep Demonstration Projects & Innovation Acceleration

Education & Training



MSc in
Law and Economics in Energy Markets

ΟΙΚΟΝΟΜΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ
ATHENS UNIVERSITY OF ECONOMICS AND BUSINESS
ΚΕΝΤΡΟ ΕΠΙΜΟΡΦΩΣΗΣ ΚΑΙ ΔΙΑ ΒΙΟΥ ΜΑΘΗΣΗΣ