



#### Global context: unprecedented challenges

1. IPCC: climate

change

2. IPBES: biodiversity loss and ecosystem services

3. IRP: unsustainable resource use

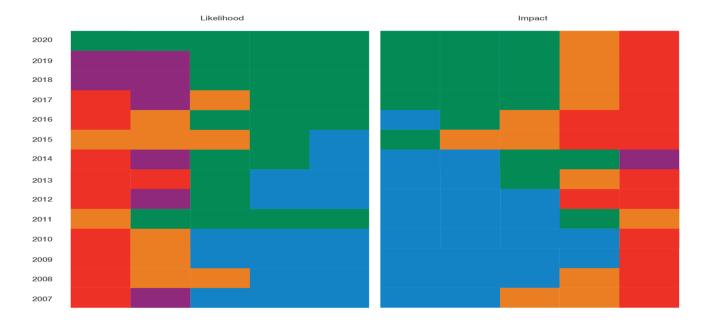
4. WHO: environment and **health** 





#### TOP GLOBAL RISKS

From economic to environmental. Climate now tops the risks agenda, while the economy has disappeared from the top five.



#### **Economic**

Asset bubble
Critical infrastructure failure
Deflation
Energy price shock
Financial failure
Fiscal crises
Illicit trade
Unemployment
Unmanageable inflation

#### **Environmental**

Biodiversity loss Climate action failure Extreme weather Human-made environmental disaster Natural disasters

#### Geopolitical

Global governance failure Interstate conflict National governance failure State collapse Terrorist attacks Weapons of mass destruction

#### Societal

Failure of urban planning Food crises Infectious diseases Involuntary migration Social instability Water crises

#### **Technological**

Adverse technological advances Cyberattacks Data fraud or theft Information infrastructure breakdown

## A context of risk and uncertainty



#### European Green Deal: a paradigm shift in politics/policy?

- First climate-neutral continent an • Bio The political, economic, investment, ..., priority for Europe Nev- Strong systemic transitions logic Deal
- Zer Link with sectoral policies
- Interconnected
  - Longer time horizon
    Social dimension
- Sustainnovation, digitalization
- Futur Governance agendaew industrial strategy

Ambitious, innovative, interconnected, systemic



mmission

#### Sustainability as a process of societal transitions

- How to improve conditions for well-being?
- Fundamental reflections and policy responses necessary to strengthen social capital, social cohesion, ...
- ... within the limits of our disturbed relationship with natural capital
- Future visioning based on ethical considerations about the future
- Recognizing that current metrics that dominate the debate about economic performance are part of the problem
- Serious innovation needed in how we understand societal change
- Finally doing something about this, after often decades of theorizing...







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# Bringing nature back into our lives

Restoration
Nature Based Solutions

EU 2030 Biodiversity strategy

May 2020

#EUGreenDeal

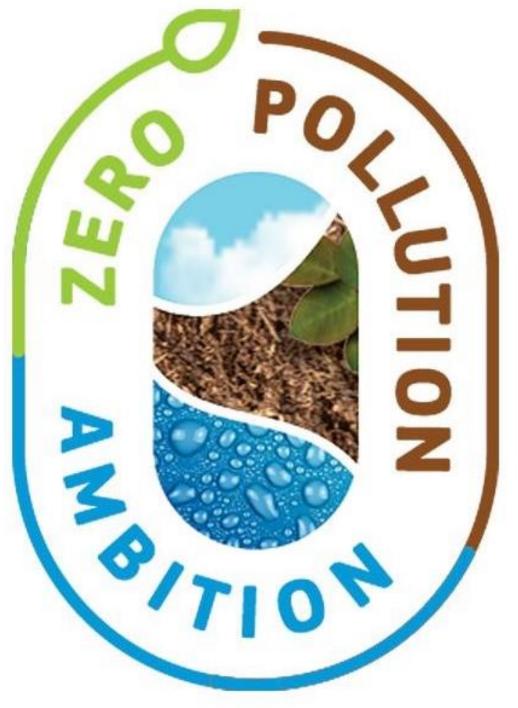


"Making nature healthy again is key to our physical and mental wellbeing and is an ally in the fight against climate change and disease outbreaks. It is at the heart of our growth strategy, the European Green Deal, and is part of a European recovery that gives more back to the planet than it takes away."

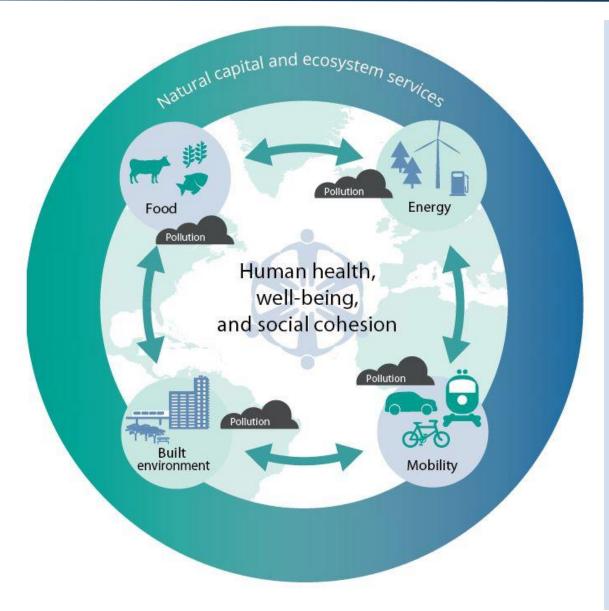
Ursula von der Leyen, President of the European Commission







#### Catalysing systemic change



- Recognise fundamental drivers and system interlinkages
- Adopt transformative policy frameworks
- Fill crucial policy gaps:
  - Food
  - Land and soil
  - Chemicals
  - Social dimension
- Leverage the power of cities,
   businesses and communities
   for society-wide action European Environment Agency



## Recognizing the scope of systemic challenges & transitions

- Transformations should be of a 'deep' character
- No 'silver bullets' to solve complex challenges.
- We are deeply locked-in and entrenched in social practices and paradigms
- These can become barriers to fundamental change



## Governance responses

- Strong vision, needle on the compass (including fundamental reflections on what type of society we want)
- Embracing systemic starting point
- Policy coherence
- Policy consistency
- Engaging
- Strong implementation
- Scaling-up and speeding-up mechanisms
- Emphasis on what we should stop doing
- Knowledge4Action perspective



## Understanding wicked problems



## A paradigm to deal with Super-wicked problems?

Super-wicked problems have the following additional characteristics:

- 1. Time is running out.
- 2. Policies discount the future irrationally.
- 3. Those seeking to solve the problem are also causing it.
- 4. No central authority.

(Kelly Levin, Benjamin Cashore, Graeme Auld and Steven Bernstein, 2012, *Policy Sciences*)

## The 'x-curve': lacking attention for the difficult part

Enabling **Optimisation Stabilisation** Destabilisati What do we know about this? **Examples** Data, statistics, indicators, **Fossil fuels** understanding, expertise? **Unsustainable taxes** How is this integrated in policy-

**Experimentation** 

making?

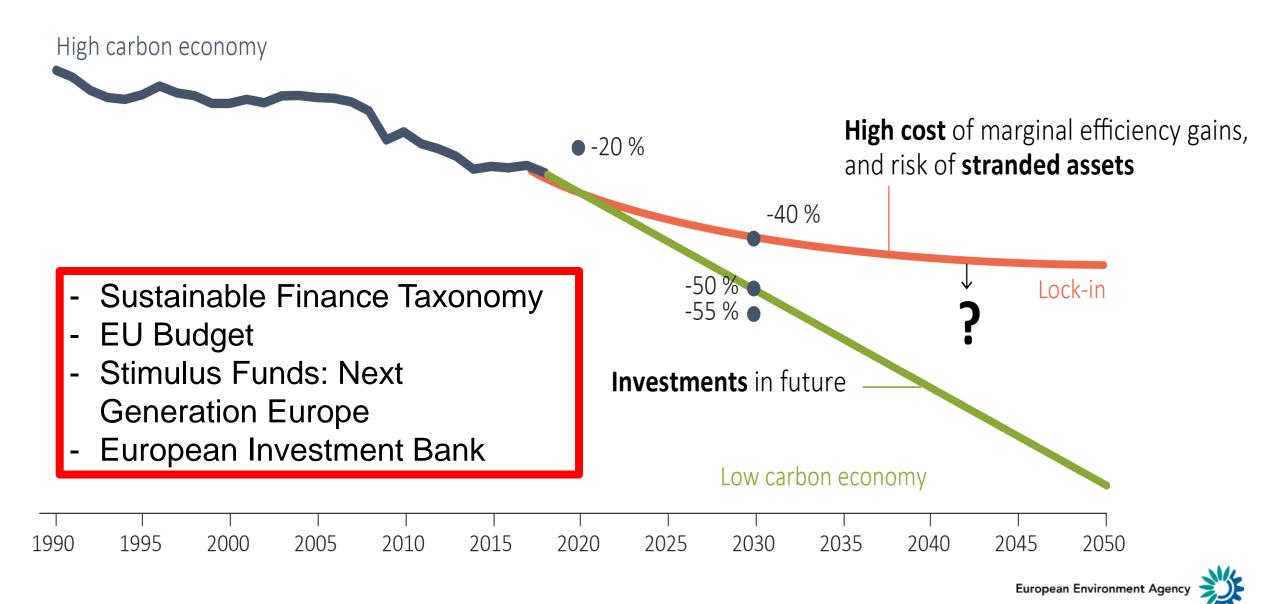
conditions

- **Environmentally harmful subsidies**
- **Unsustainable spatial planning**
- Unsustainable inequality and living conditions

Phase out



#### Investing in sustainability, not dead-end streets



#### Societal change: vulnerability, resilience and just transition





- Is Lef Underdefined
  - Poor knowledge base
  - Linked to fundamental debate on distributional issues
  - Linking Europe to the rest of the world

The Just Transition Mechanism (JTM) will pr are most affected by the transition towards

THE JUST TRANSITION MECHANIS

Helping address the social and economic effect

and workers who will face the greatest challer

InvestEU "Just Transition" scheme, mobilising €45 billion of investment;

a new public sector loan facility with the EIB backed by the EU budget, mobilising €25-30 billion of investments.

TRANSITION PLANS for beneficiary regions to steer the investments

ATTRACTIVE CONDITIONS and risk sharing for public and private investors

TECHNICAL ASSISTANCE via a Just Transition Platform to advise and support

€7.5 billion new funding

· match each € from the JTF with €1.5-3 from the ERDF/ESF+

national co-financino



unificant amounts of energy and



The current rates of renovation of public and private buildings should at least double

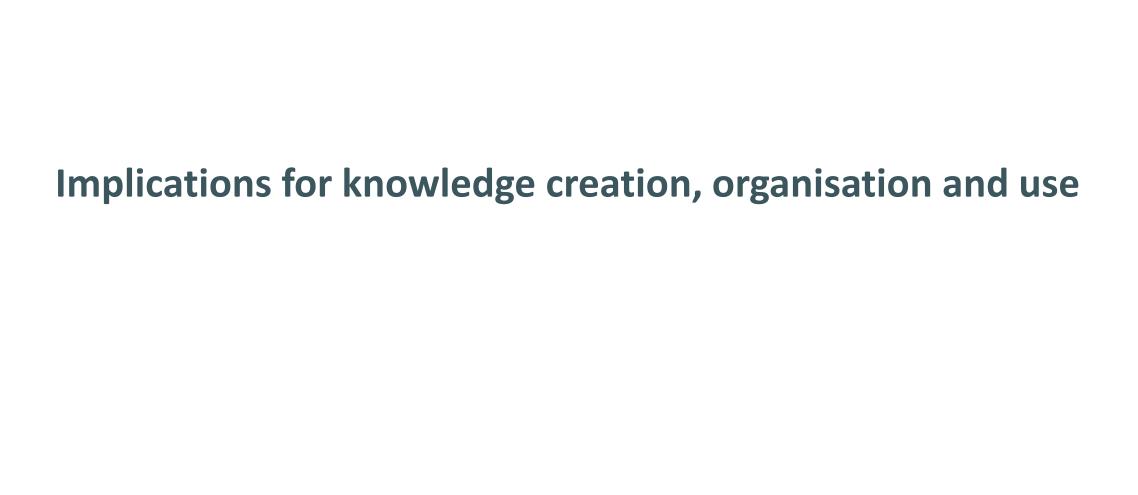


#### EGD: promising a speeding-up of the transition

- Urgent challenge
- The EGD will accelerate ... the transition needed in all sectors
- More ambitious climate action in coming decade: rapid phasing out of coal and decarbonizing gas.
- To be ready in 2050, decisions and actions need to be taken in the next 5 years
- The transformation (towards a circular economy) is taking place a too slow pace.
- The EGD will ... accelerate the EU's industry transition
- Breakthrough technologies in Key industrial sectors by 2030. E.g. zero-carbon steel making.
- Rate of renovation of buildings is too slow and needs to double.
- Accelerating the shift to sustainable mobility
- •

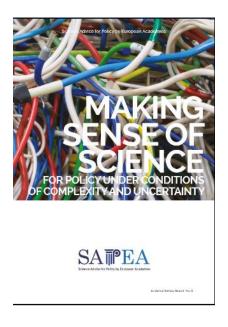
#### Mechanisms to speed-up of the transition

- Race-to-the-top logic
- From a 'cost' to an 'investment' logic
- Institutional set-up fit for purpose to stimulate speeding up?
- Phasing-out of non-sustainable practices
- The role of investments and capital: sustainable finance
- Digital society
- Urban setting
- Understanding the cost of the 'new normal'
- •

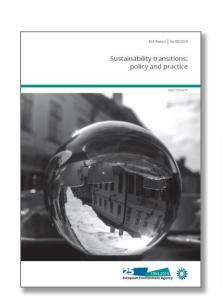


#### Developing solutions-oriented knowledge - how

- Developing knowledge that reflects the nature of (super-wicked) problems: systemic; drivers; uncertain; agency; time; scale; ... transition dynamics
- Knowledge co-creation at the science-policy-society interface
- Knowledge use: engagement with academic communities and policy audiences











#### Expansion of sustainability science needed for the SDGs, 2019

Dominant research modes are not enough to guide the societal transformations necessary to achieve the 2030 Agenda. Researchers, practitioners, decision makers, funders and civil society should work together to achieve universally accessible and mutually beneficial sustainability science.

Peter Messerli, Eun Mee Kim, Wolfgang Lutz, Jean-Paul Moatti, Katherine Richardson, Muhammad Saidam, David Smith, Parfait Eloundou-Enyegue, Ernest Foli, Amanda Glassman, Gonzalo Hernandez Licona, Endah Murniningtyas, Jurgis Kazimieras Staniškis, Jean-Pascal van Ypersele and Feva Furman



#### Developing solutions-oriented knowledge – what







An EU knowledge strategy could help create, organise, communicate, and use diverse knowledge:

- Complex environmental change and systemic risks;
- Societal systems actors, lock-ins, trends, etc.
- Transition dynamics in production and consumption systems
- Integration: methods, technology (data intelligence), understanding
- Future: foresight, modelling, scenario's, expertise
- Early warning systems: harms and opportunities
- Practice-based evidence: innovations, impacts, successes, failures at various levels
- New knowledge skills, infrastructures, institutions



## European Green Deal: a paradigm shift in politics/policy?



