

Technology Talks

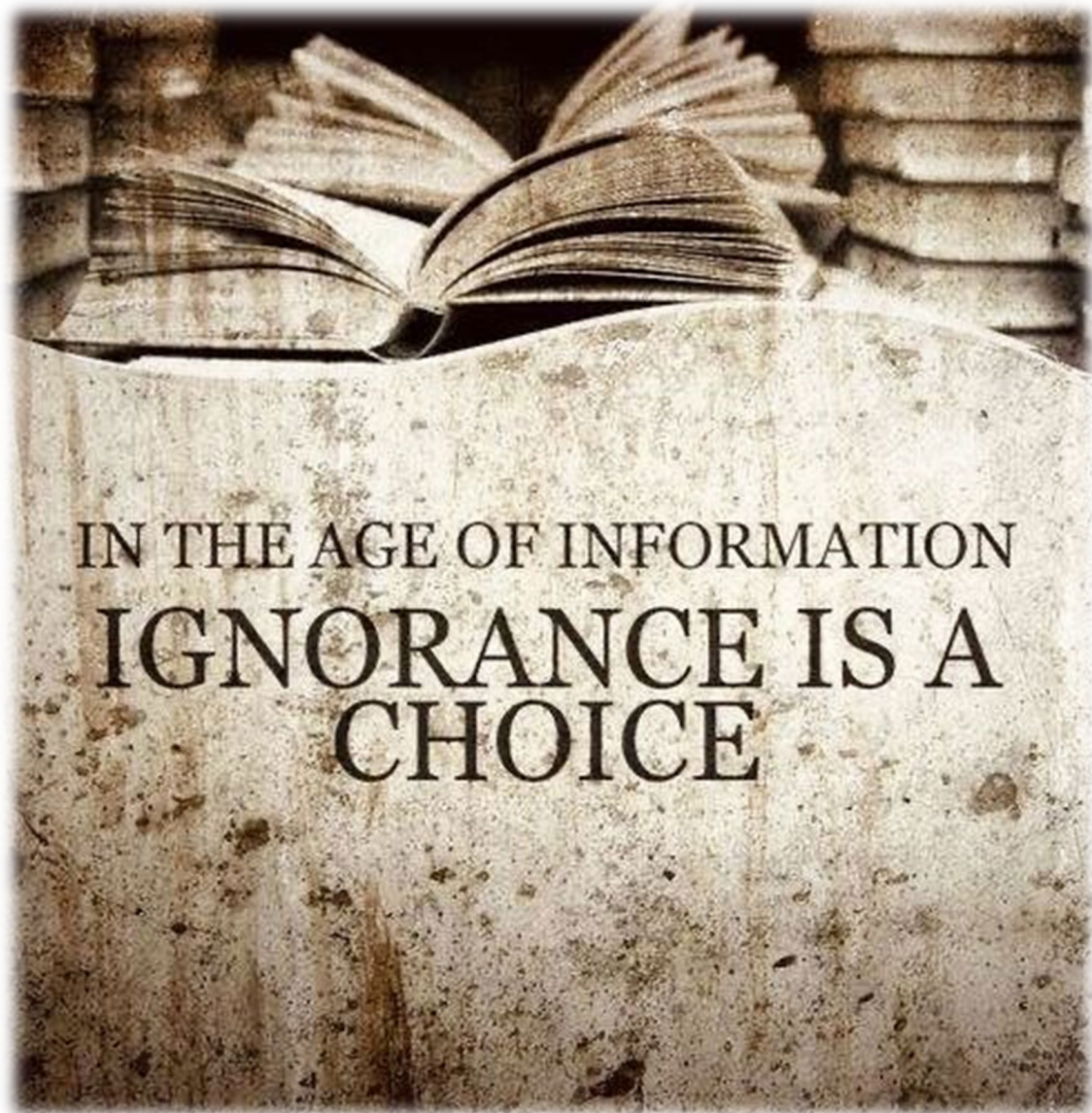
Austria by **MIT**



The triple transition and the dawn of quantum policymaking

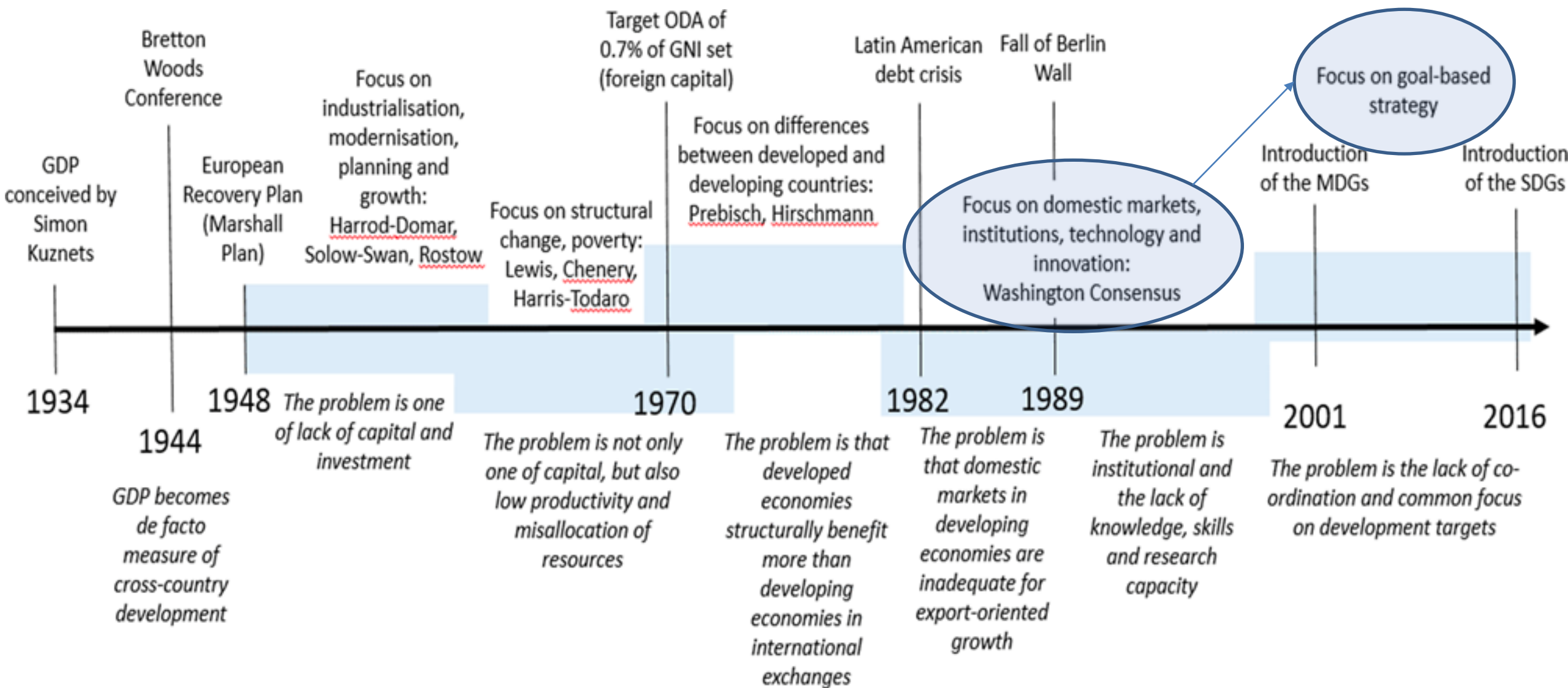
Andrea Renda

Director of Research, CEPS

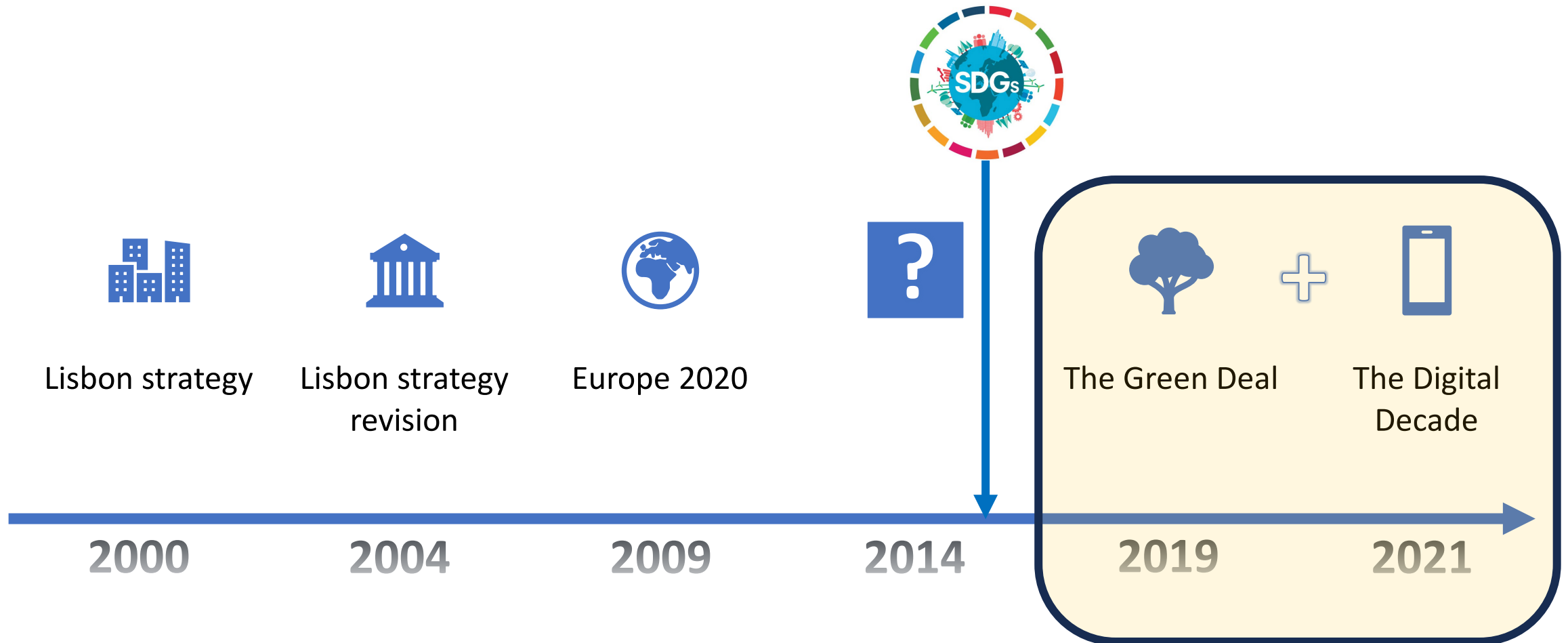


Linear policymaking





EU (select) goal-based strategies





BE SURE
TO WASH YOUR
HANDS AND ALL
WILL BE WELL

COVID-
19

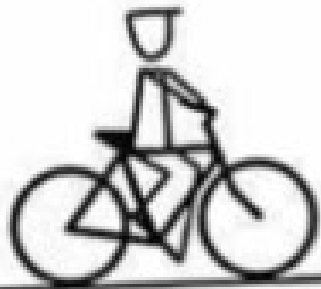
RECESSION

CLIMATE
CHANGE

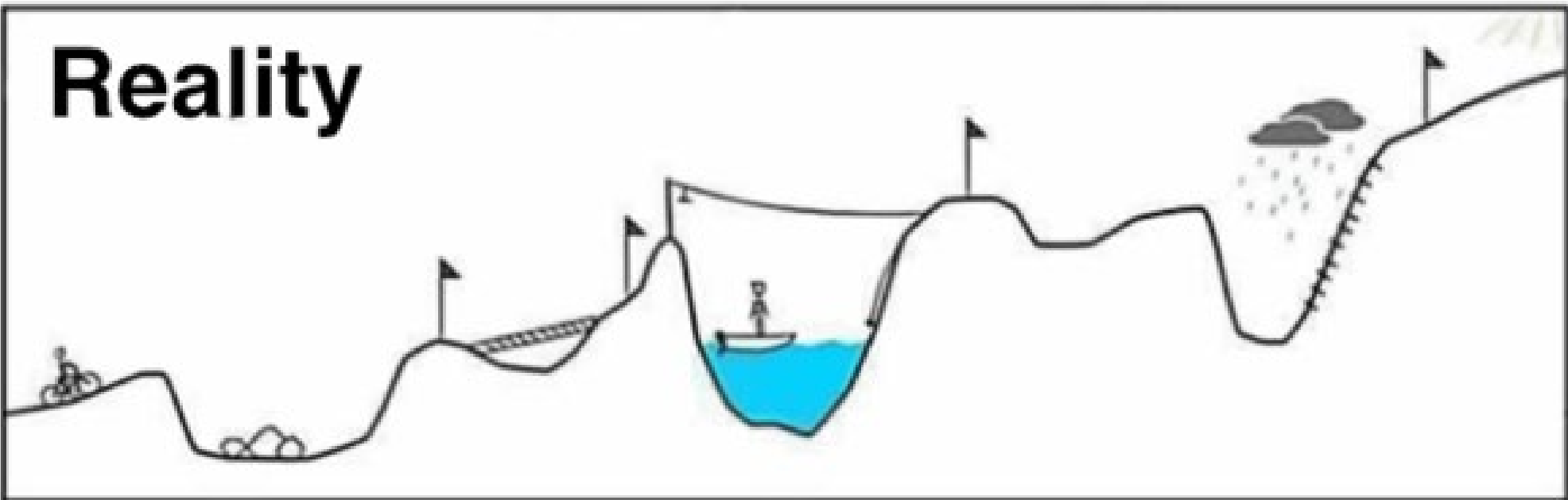
BIODIVERSITY
COLLAPSE

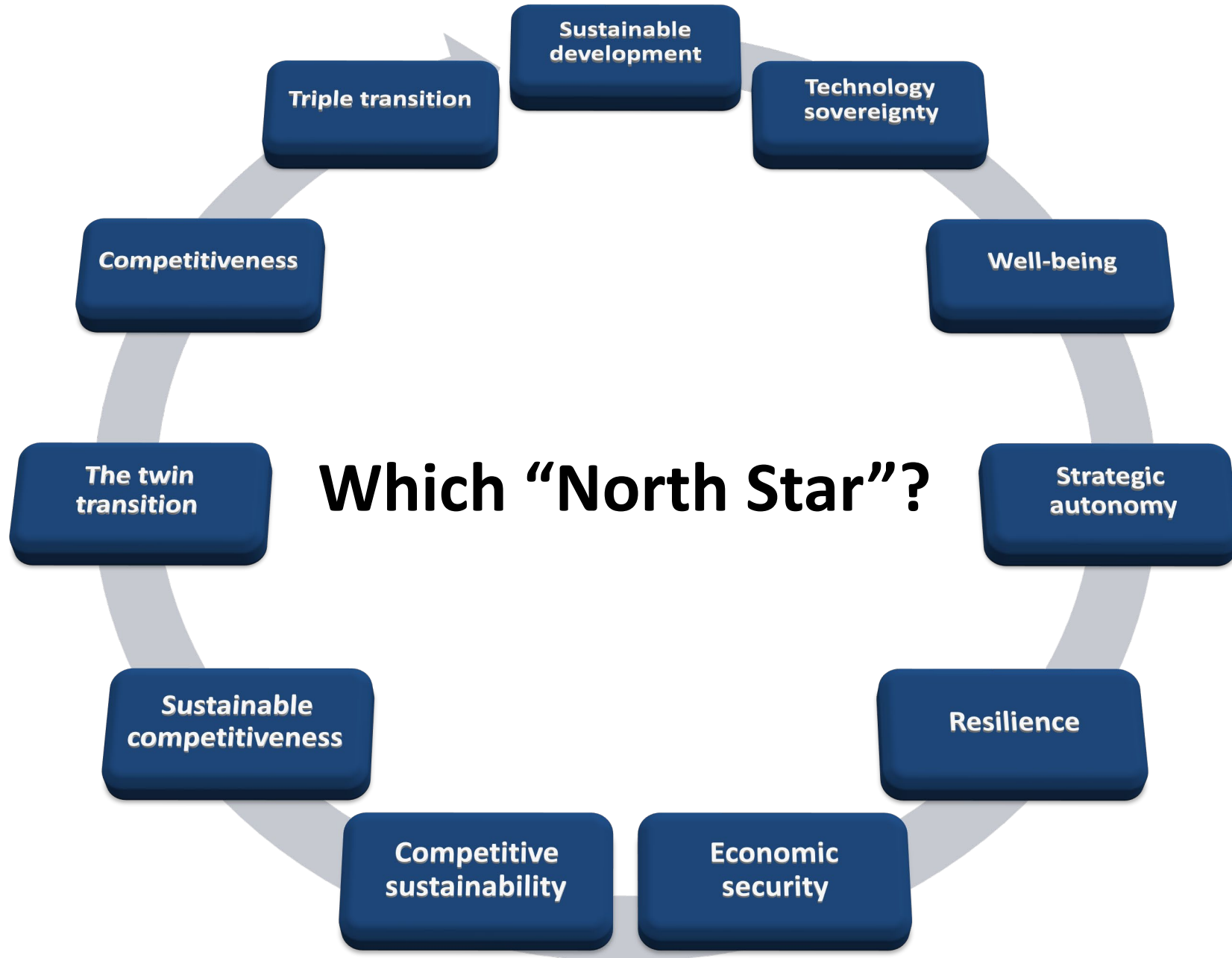
MACKAY
mackaycartoons.net

Your plan

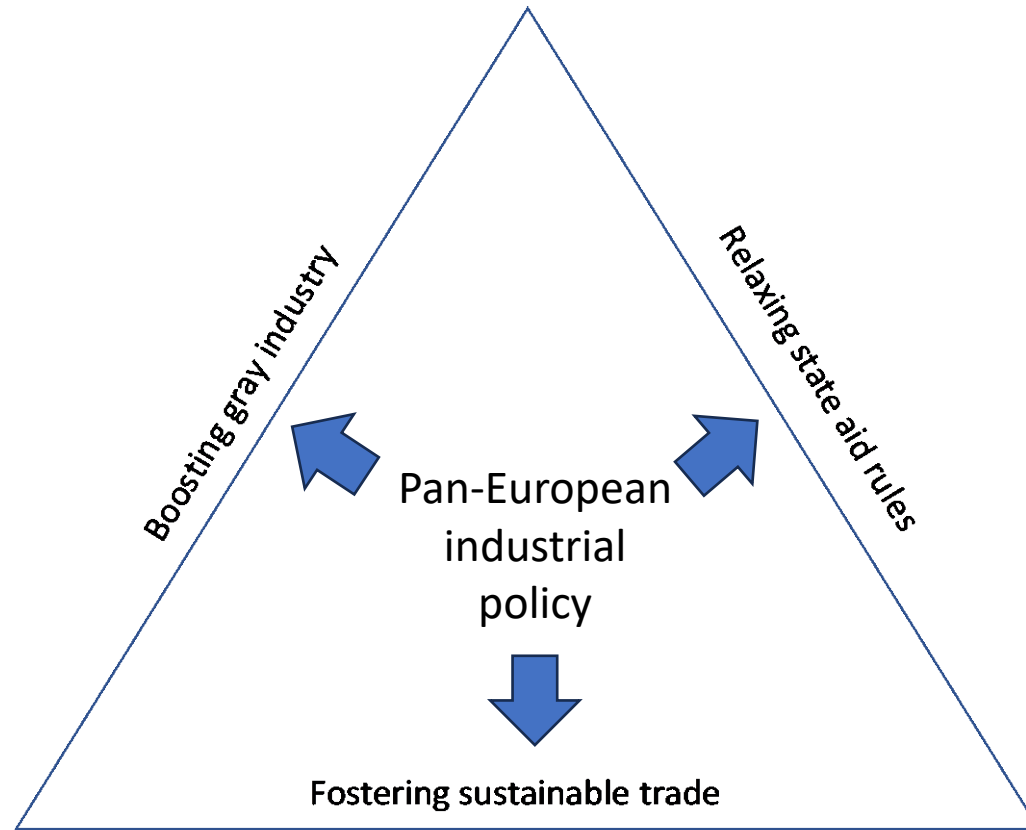


Reality





**Economic security/
strategic autonomy**



Competitiveness

Decarbonisation



Seven sins of our policies

Not “learning to prepare”

Not “preparing to learn”

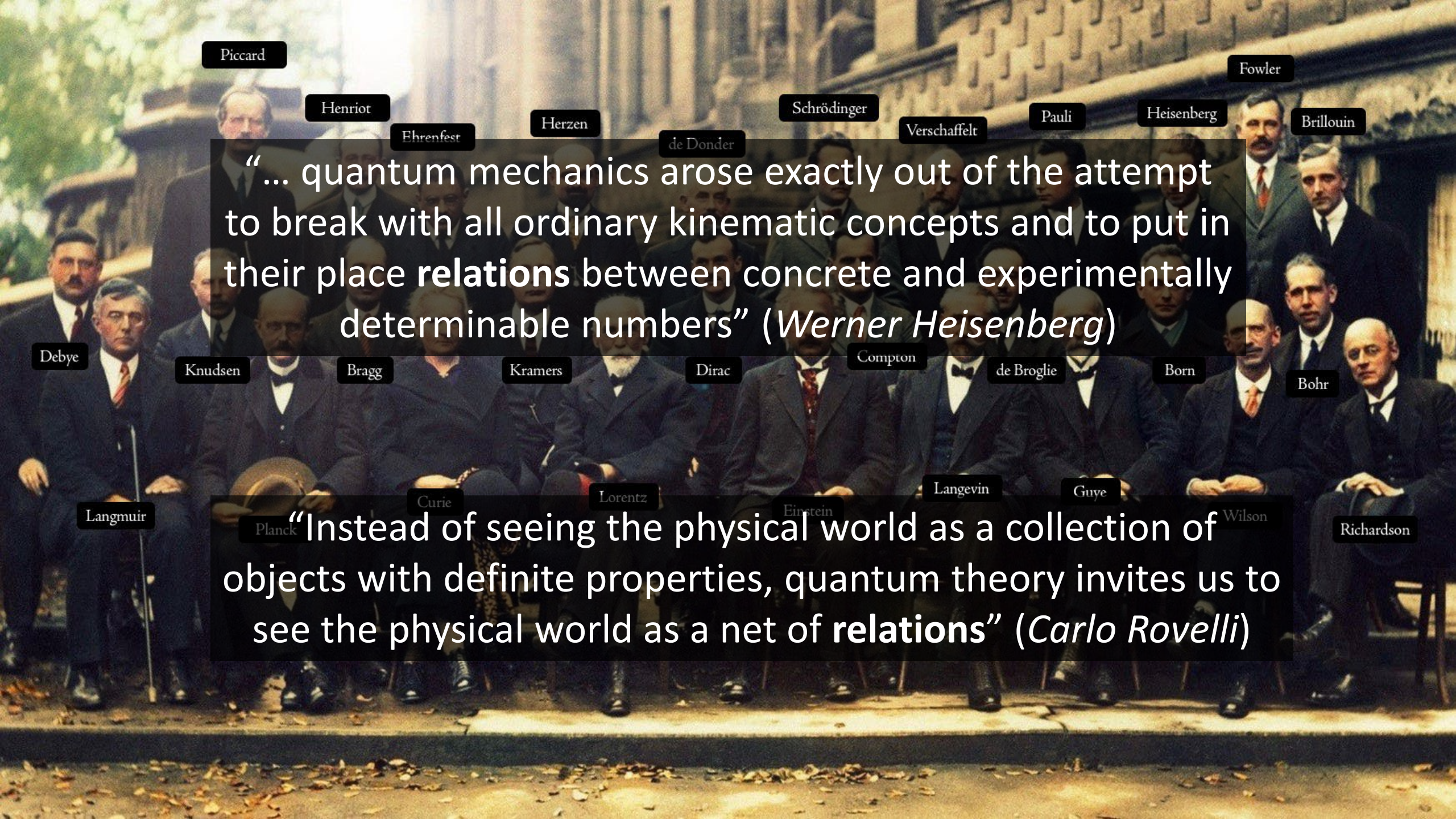
Dividing the SDGs

Taking innovation as good *per se*

Constantly switching North Star

Ignoring distributional impacts

Ignoring territorial impacts



Piccard

Fowler

Henriot

Schrödinger

Pauli

Heisenberg

Brillouin

Ehrenfest

Herzen

Verschaffelt

de Donder

“... quantum mechanics arose exactly out of the attempt to break with all ordinary kinematic concepts and to put in their place relations between concrete and experimentally determinable numbers” (Werner Heisenberg)

Debye

Knudsen

Bragg

Kramers

Dirac

Compton

de Broglie

Born

Bohr

Langmuir

Planck

Curie

Lorentz

Einstein

Langevin

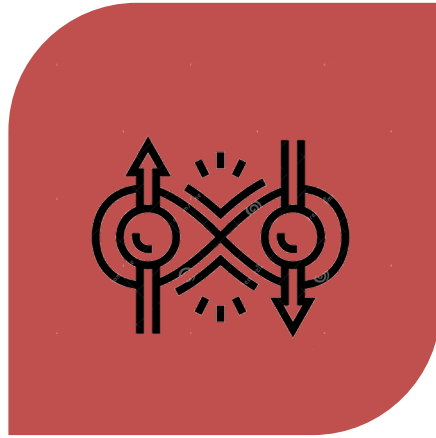
Guye

Wilson

“Instead of seeing the physical world as a collection of objects with definite properties, quantum theory invites us to see the physical world as a net of relations” (Carlo Rovelli)

Richardson

Enter quantum
policymaking,
exit neoclassical
economics



Neoclassical economics
cherishes methodological
individualism

In reality, the well-being of
individuals is “**entangled**”



Policy impacts are **superposed** –
they reveal their state only upon
direct observation

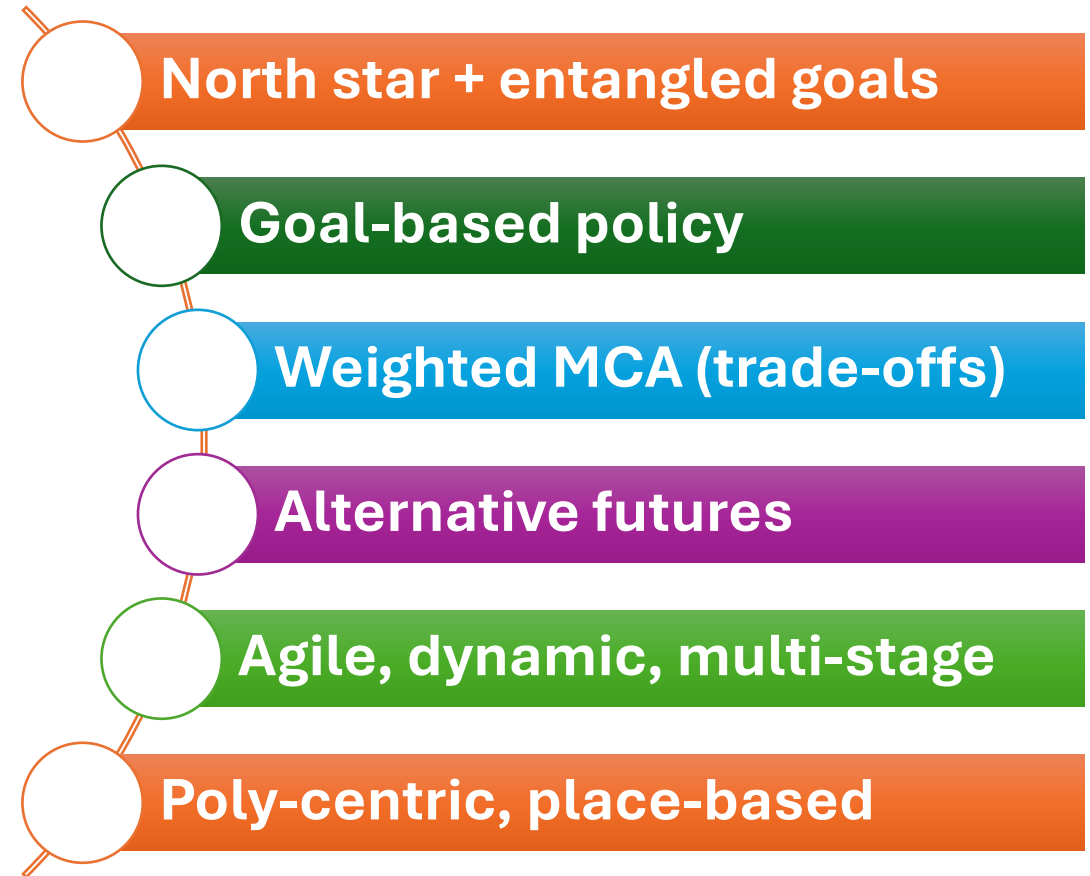
This requires understanding
local conditions, governance
and cumulative effects



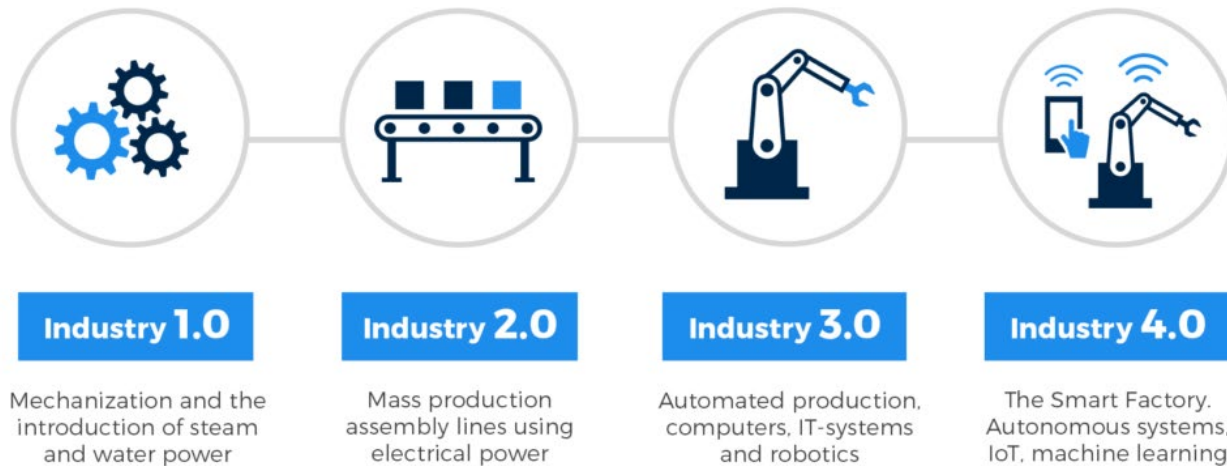
Linear policymaking



Quantum policymaking



Example: Industry 5.0



INDUSTRY 5.0



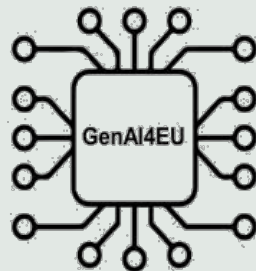
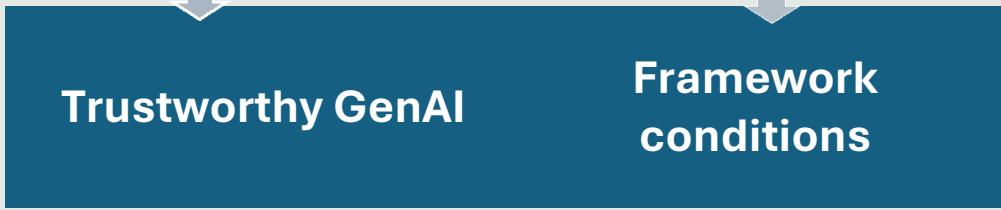
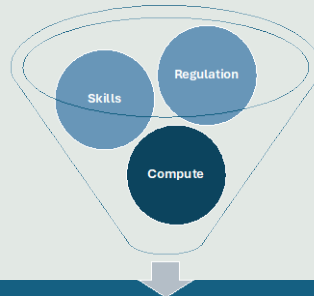
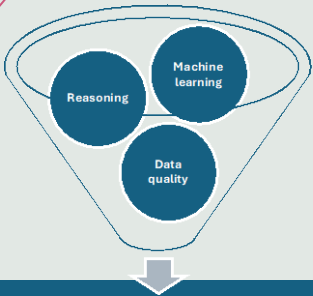
**Human-
centric**



Sustainable



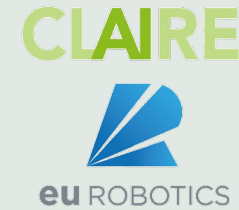
Resilient



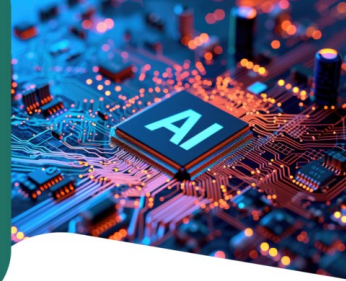
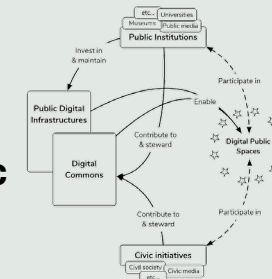
GenAI in Science



GenAI in Robotics



GenAI in public services



**TOWARDS A EUROPEAN
LARGE-SCALE INITIATIVE ON
ARTIFICIAL INTELLIGENCE**

What are the options?

Andrea Renda

CEPS IN-DEPTH ANALYSIS

July, 2024 - 11

The territorial dimension of policies

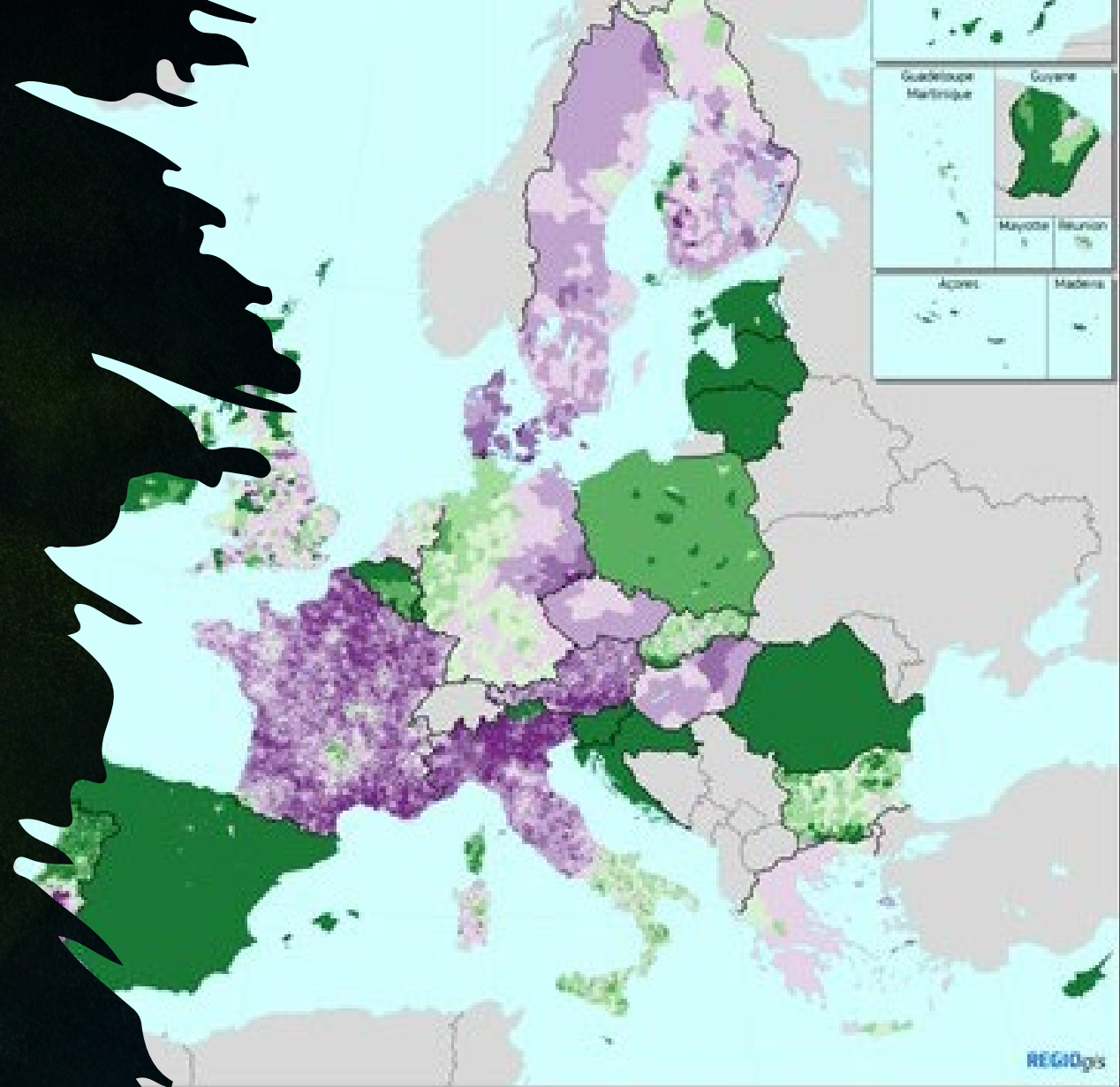
The “geography of discontent” matters

Technological specialisation and relatedness

Understanding governance dynamics at the local level

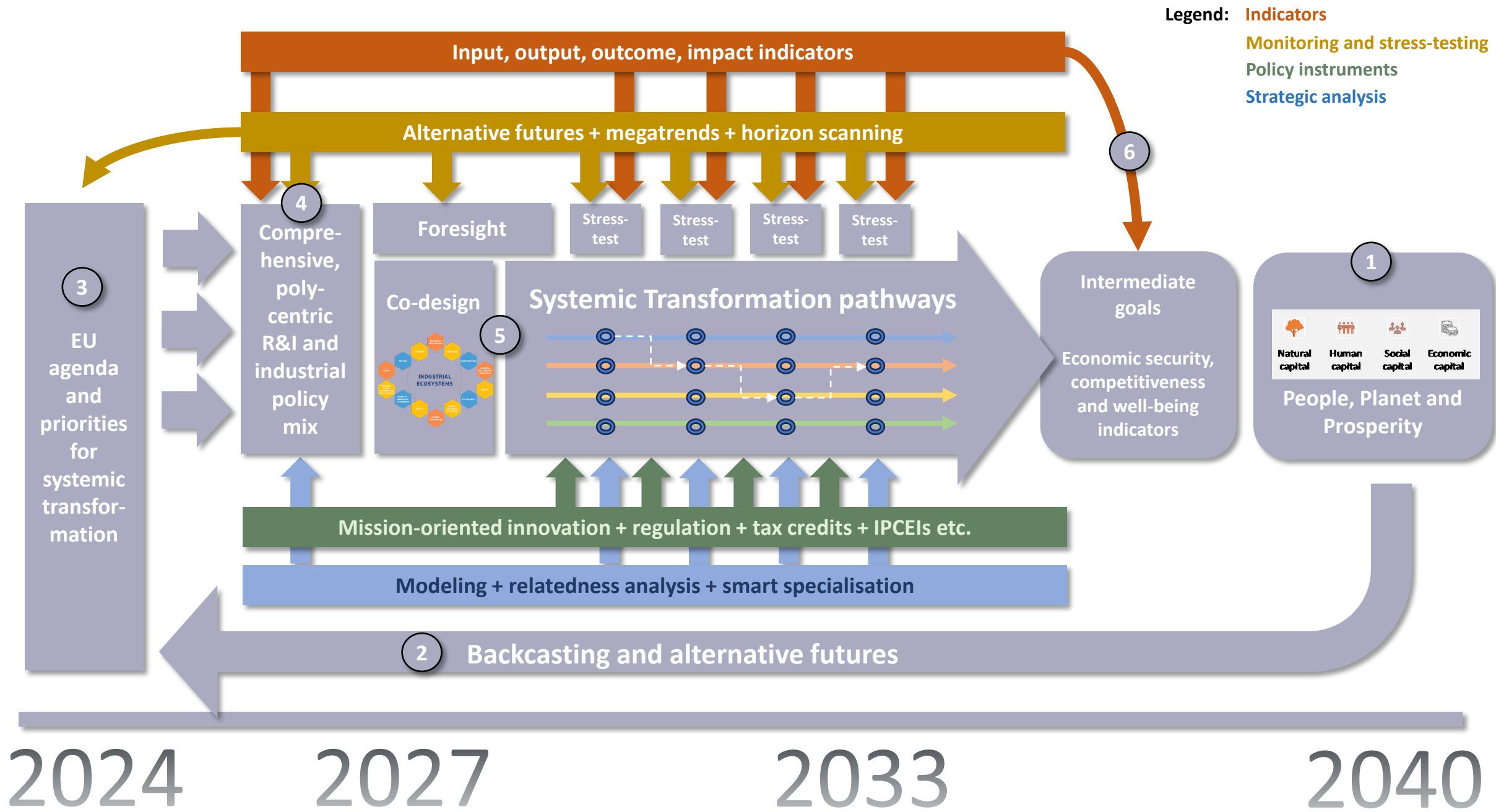
Place-based innovation + benefit-sharing throughout the Union

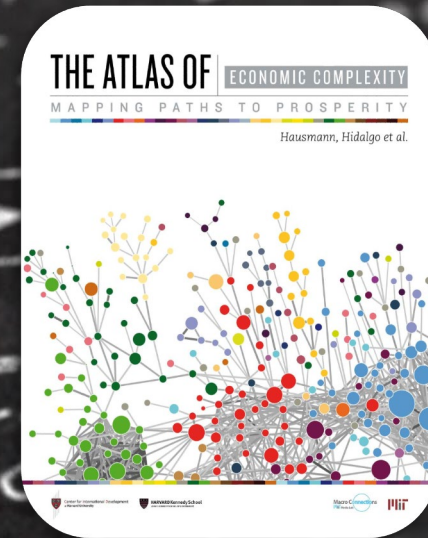
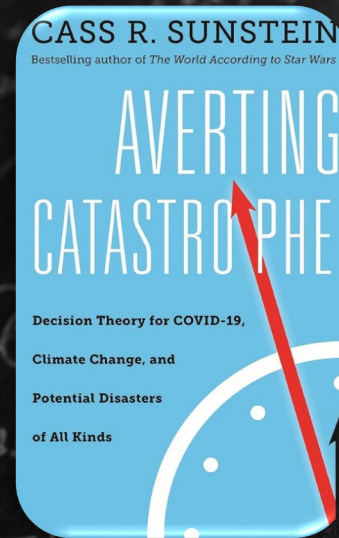
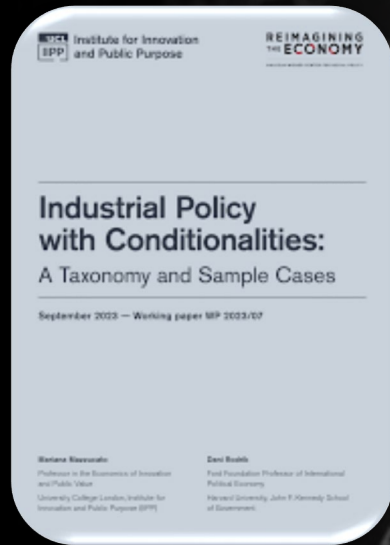
Framework conditions for local well-being (“right to stay”)



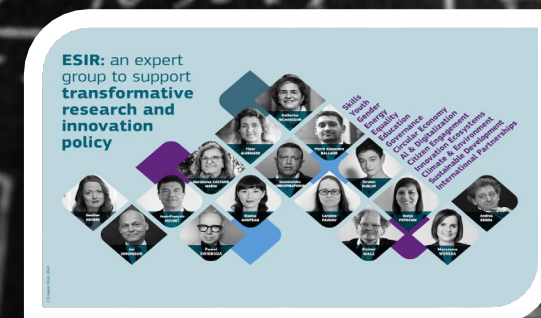
13.5 - 20.0
20.1 - 27.0
27.1 - 35.0
35.1 - 45.0

Sources: national authorities, CLEA, Chapel Hill Expert Surveys 2014 and 2017, EuroGeographics, DG REGIO
Election year: 2019 (1)
2019: 00, 02, 04, 06, 08, 10, 12, 14





References and examples



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