

5th European Resources Forum

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A SYSTEM CHANGE COMPASS

Implementing the European Green Deal in a time of recovery

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*“We will enhance emission trading, boost renewable energy, improve energy efficiency, reform energy taxation. But the mission of the European Green Deal involves much more than cutting emissions. It is about making **systemic modernisation across our economy, society and industry**. It is about building a stronger world to live in.”*

*“Our current levels of consumption of raw materials, energy, water, food and land use are not sustainable. We need to change how we treat nature, how we produce and consume, live and work, eat and heat, travel and transport ... This is a plan for a true recovery. **It is an investment plan for Europe.**”*

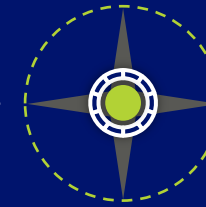
The System Change Compass contributes to the implementation of the ambitions of the European green Deal



Ambition of the EGD is high...



...but implementation is uncertain



The System Change Compass guides action on all levels of the system

- *Sets zero net emissions of GHG by 2050 and decoupling of growth and resource use*
- *Acknowledges need for fair and just transition*
- *Aims at strongly interlinked and mutually reinforcing policy recommendations*
- *Does not sufficiently address drivers and pressures that cause environmental damage*
- *Does not offer systemic perspective to guide decision-making*
- *Implementation is put at extra risk due to COVID-19 recovery*
- *Maps and envisions the system in service of people and planet*
- *Derives system level orientations towards desired state*
- *Charts pathway towards prosperity and wellbeing within planetary boundaries*



UNEP IRP and Club of Rome:

The core *limiting factor of human wellbeing and our (economic) development are (the unsustainable use of our) natural resources and environmental sinks*

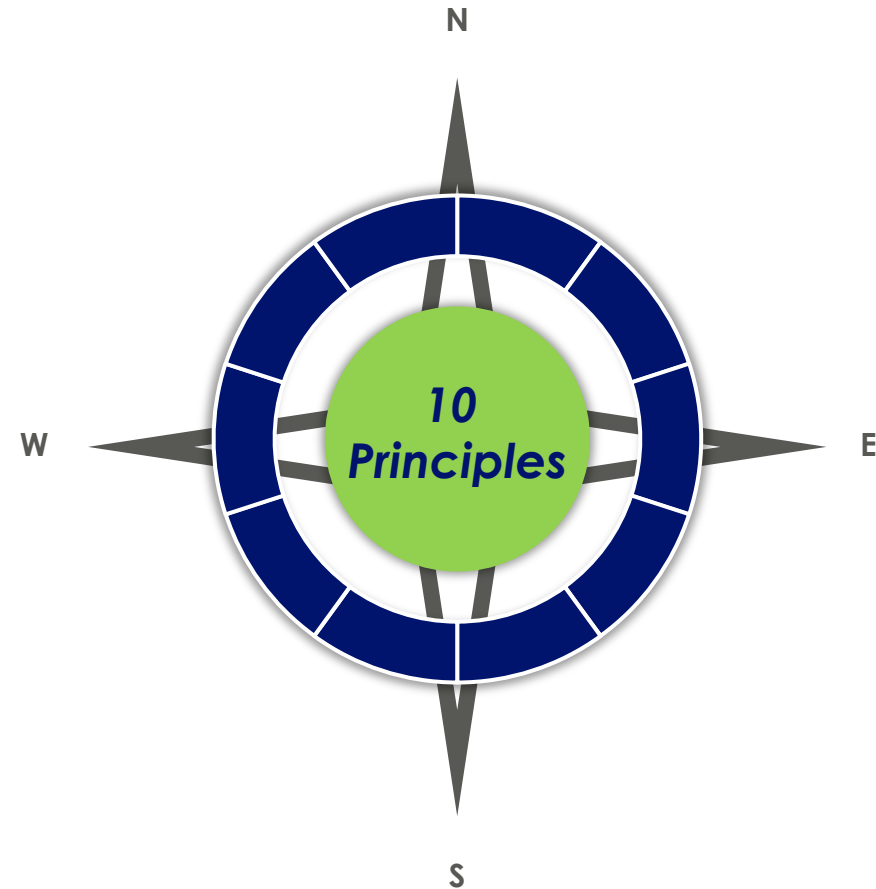


Report is based on *natural resource optics*.

The way we treat natural resources to a large extent determines economic results, as well as environmental and health impacts. Natural resources are the bridge between economy and competitiveness on one hand and climate change, biodiversity loss, pollution and health implications on the other.

Translating the system change compass to systemic orientations

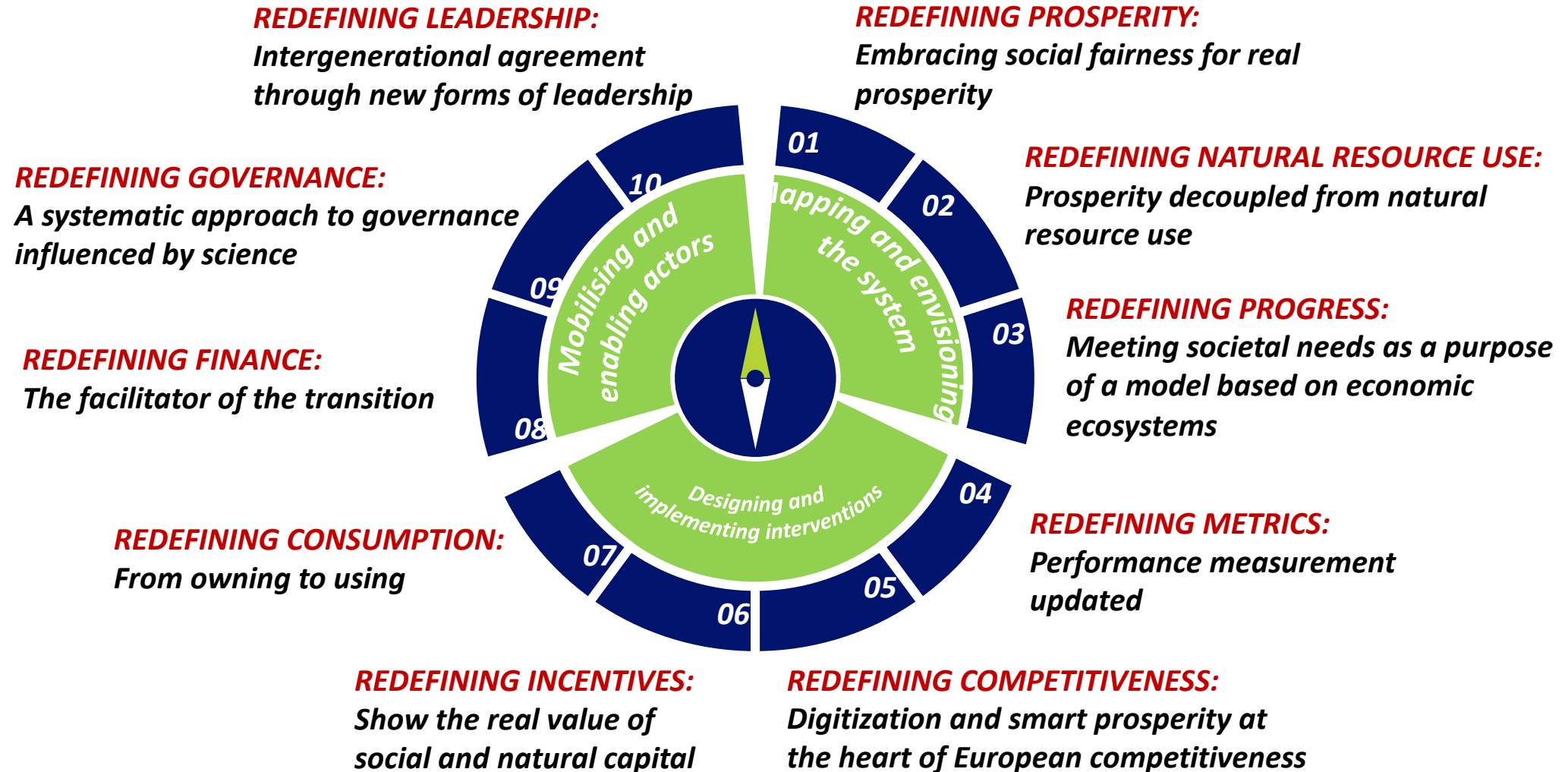
System Change Compass (10 Principles)



Application to the system to derive systemic orientations



The System Change Compass



3 System Level Policy Orientations for each Compass Principle

COMPASS PRINCIPLES

SYSTEM LEVEL INTERVENTION

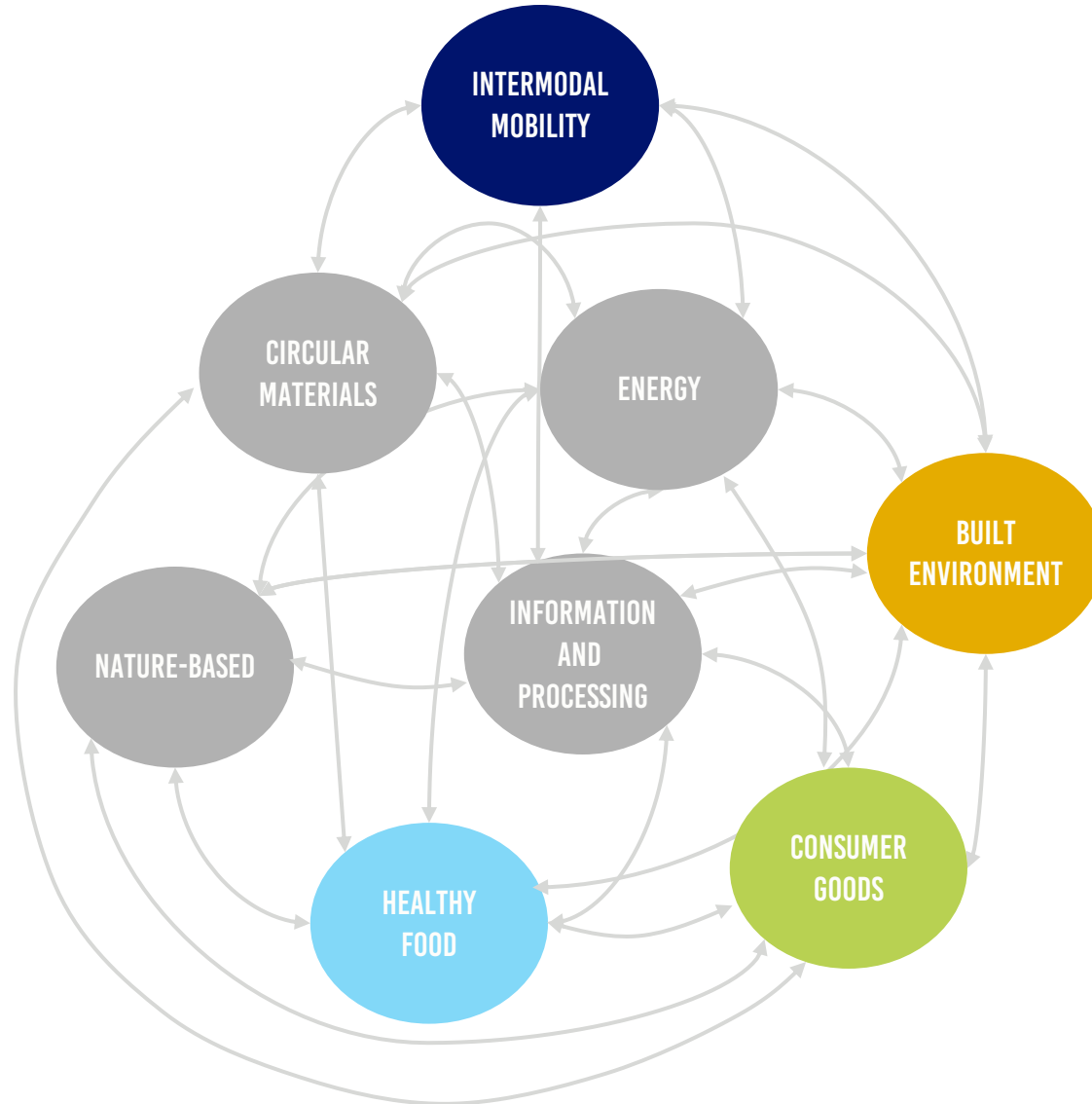
REDEFINING PROSPERITY:

01

*Embracing social
fairness for real
prosperity*

1. Balance policy attention from income and *wealth creation to income and wealth distribution*, and ensure that *economic transition contributes to equality and social fairness* by guaranteeing universal basic services and minimum levels of income
2. Create *conditions for social acceptance of the necessary transition* through enhancing reskilling and educational programmes; introducing funding mechanism to support transition and supporting lower- and middle-income groups to help them *absorb full-costs introduced through all economic ecosystems*
3. Replace part of the *income-based taxes* with *resource-based taxes* to address *resource as well as social policy targets*

Economic Eco-Systems

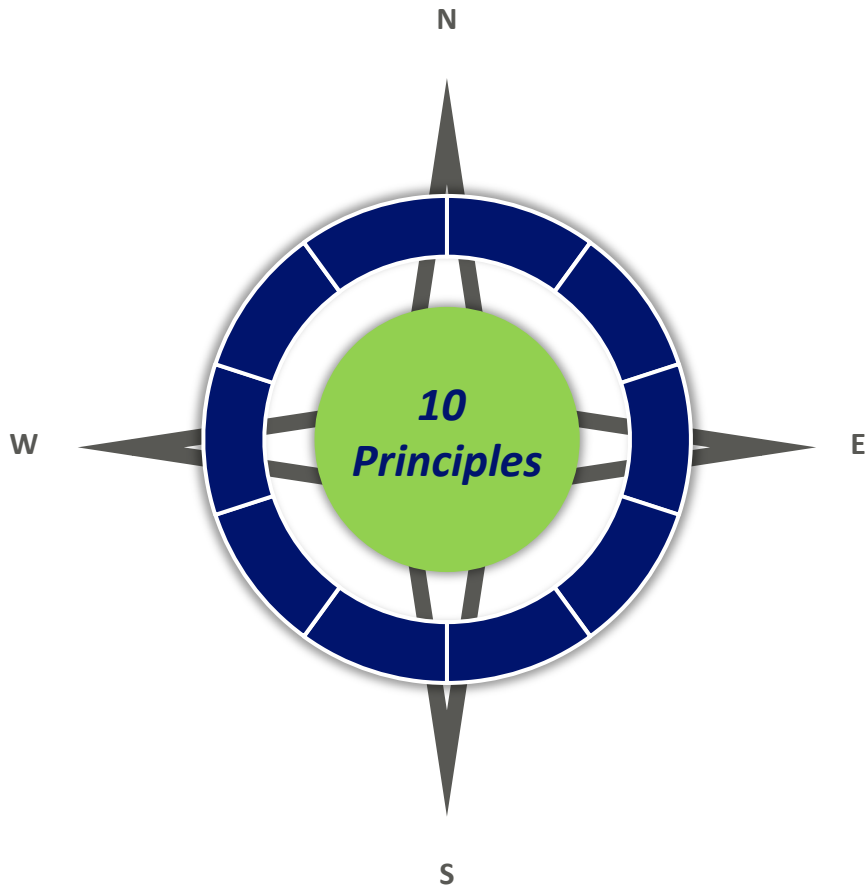


Related to resource intensive human needs

■ Nutrition ■ Mobility
■ Housing ■ Daily functional needs

Supporting the other economic ecosystems in their delivery of societal needs

3-5 ecosystem-level orientations



Example: Ecosystem-level policy orientations for the mobility ecosystem

intermodal
mobility

INTERMODAL MOBILITY ECONOMIC ECOSYSTEM				
ECOSYSTEM-LEVEL POLICY ORIENTATIONS	IMPACT			
	ECONOMIC	SOCIAL	ENVIRONMENTAL	RESILIENCE
• Reduce the need for motorised trips through ... • Prioritize medium of transport that is easiest to electrify and maximise utilisation through ... • Maximize the utilisation per vehicle and trip for freight and passengers through ... • Reduce energy intensity and consumption of fuel made of mineral oil by ...	✓		✓	✓

3-5 for each ecosystem

50+ nascent industrial champions that should be supported to built ecosystems based on compass orientations

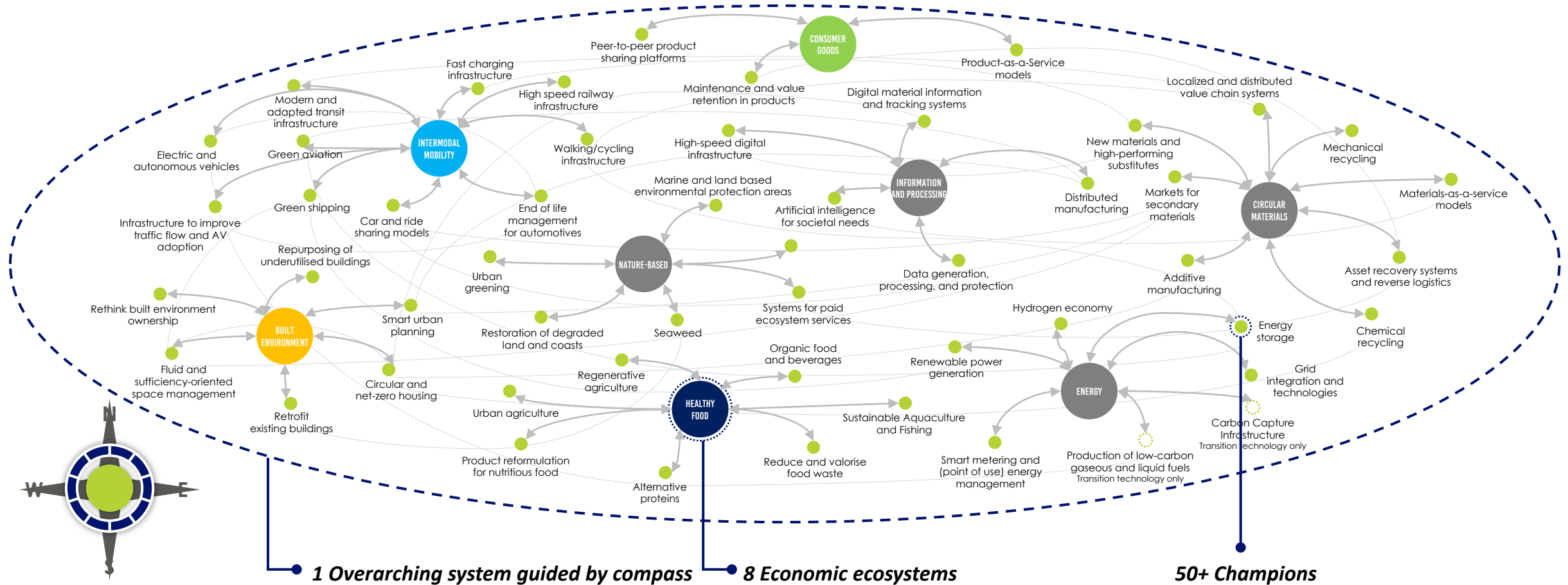
Healthy food  • Organic food and beverages • Regenerative agriculture • Sustainable aquaculture and fishing • Reduce and valorise food waste • Urban agriculture • Product reformulation for nutritious food • Alternative proteins	Built Environment  • Smart urban planning • Rethink built environment ownership • Repurpose underutilized buildings • Retrofit existing buildings • Fluid and sufficiency-oriented space management • Circular and net-zero housing	Intermodal Mobility  • Fast charging infrastructure • High speed railway infrastructure • Modern and adapted transit infrastructure • Car- and ride-sharing models • End-of-life management for cars • Electric and autonomous vehicles • Infrastructure to improve traffic flow and AV adoption • Green aviation • Green shipping • Walking/cycling infrastructure	Consumer goods  • Product-as-a-Service models • Maintenance and value retention in products • Peer-to-peer product sharing platforms
Nature-based  • Restoration of degraded land and coasts • Smart forest management • Urban greening • Systems for paid ecosystem services • Seaweed • Marine and land-based environmental protection areas • Ecotourism	Energy  • Renewable power generation • Energy storage • Hydrogen economy • Smart metering and (point-of-use) energy management • Grid integration and technologies • Production of low-carbon gaseous and liquid fuels (transition technology only) • Carbon capture infrastructure (transition technology only)	Circular Materials  • Localised and distributed value chain systems • Asset recovery systems and reverse logistics • Markets for secondary materials • High-value material recycling • Materials-as-a-Service models • New materials and high-performing substitutes • Additive manufacturing	Information and processing  • Distributed manufacturing • High-speed digital infrastructure • Digital material information and tracking systems • Data generation, processing, and protection • Artificial Intelligence for societal challenges

R&I European Partnerships (49 proposed)



S Y S T E M I Q

A new systems map to envision the system and its parts



New organization of economic activities

One overarching system that consolidates the European economy in its entirety.

Economic ecosystems can meet a specific societal need (e.g. intermodal mobility system) or support the fulfilment of multiple societal needs (e.g. new energy system).

"Champions" are economic subsystems which could become the new spearheads of the green, resilient and fair post-COVID economy Europe wants to build

Application of the compass on each level

30 System-level political orientations

3-5 economic ecosystem level orientations

50+ champion orientations

Impact the Renovation Wave



Summary: 5 Key Messages of the Compass

- 1** *The European Green Deal is an inspiring vision for Europe's future. The vision is clear and largely agreed – but the pathways to achieve this vision are not clear*
- 2** *Coronavirus recovery and achieving the EGD's visions are two sides of the same coin: To achieve the EGD's objectives and recover from the pandemic, we must address the drivers of natural resource use that cause the worrying environmental and health consequences*
- 3** *Ten principles are at the core of the Compass: They address how we think about prosperity and progress, the metrics we use to measure success, the way we govern and lead the transition to a sustainable future and the enabling role of finance*
- 4** *Economic activity should be reconceived as economic ecosystems: Ecosystems that are addressed through resource lenses and do not just produce wealth and prosperity, but rather deliver societal needs and human wellbeing*
- 5** *Within each economic ecosystem, the Compass directs us to a total of 50+ subsystems ("Champion orientations") that represent scalable sustainable industries that can grow into the economic backbone of Europe in the 21st century*



There has never been a better moment for

Europe to move from the history of “resource-driven imperialism” into an era of responsible use of natural resources, mitigating its resource fragility and strengthening preparedness and resilience

This would also clearly position EGD and give it a real historic and strategic weight.



*Johann Wolfgang
Goethe*



imdb.com

*Knowing is not enough; **we must apply.**
Willing is not enough; **we must do.***



SYSTEMIQ



THANK YOU!



S Y S T E M I Q