EFCA Conference 2017: 2 June 2017, DI, Copenhagen

Understanding systemic environmental challenges and potential responses

Jock Martin, European Environment Agency

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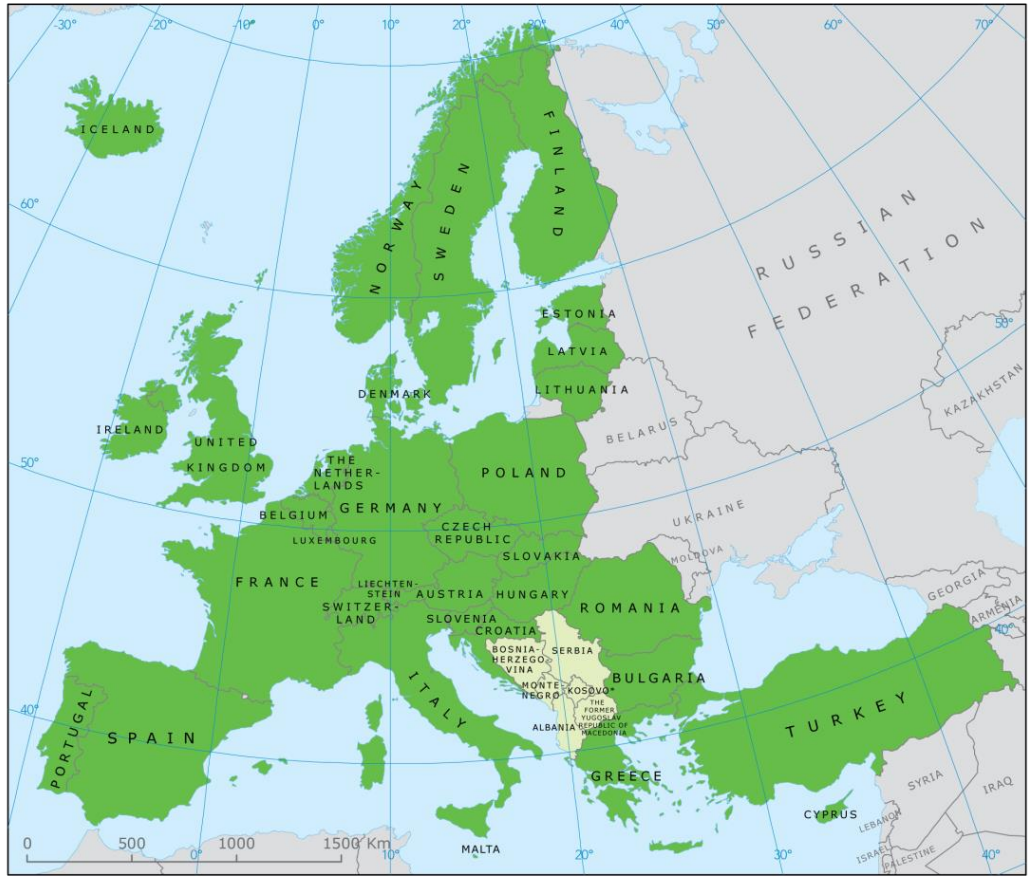


EEA: knowledge organisation with direct links to policies

The European Environment Agency (EEA) is an EU body that operates at the **interface of science and policy,** whose work is primarily aimed **at EU- and national-level policy-makers**.

With a **network of 39 European countries**, EEA gathers, synthesises and translates complex information to monitor progress on the environment and towards sustainable development.

EEA assessments address progress and problems within Europe as well as the influence of global developments e.g. megatrends, planetary boundaries.



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The EU 7th Environment Action Programme 2014-2020

'In 2050, we live well, within the planet's ecological limits' by:

1. Protecting, conserving and enhancing biodiversity and natural capital

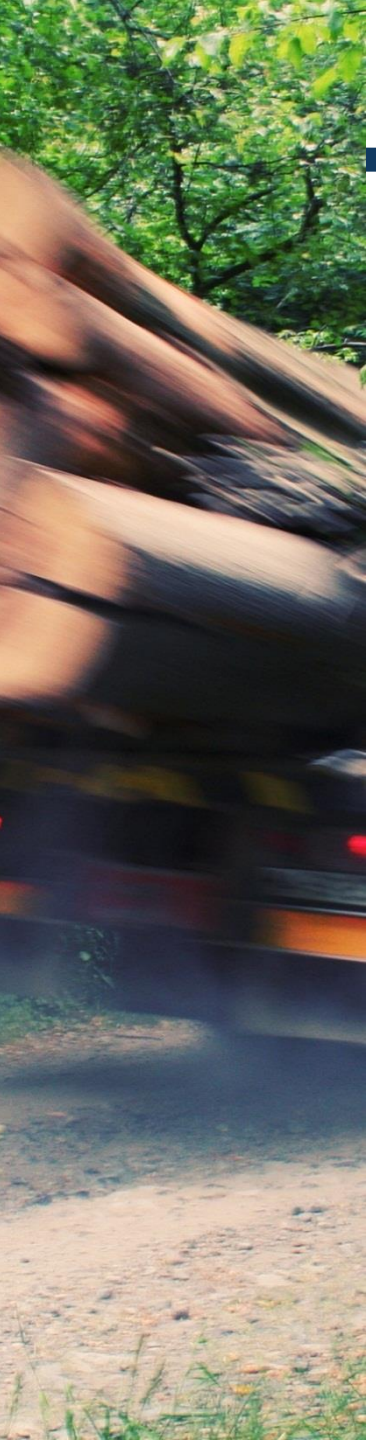
2. By transitioning towards a resource efficient, circular, low-carbon economy

3. By safeguarding people from environmental risks to their health and well-being

4. Through actions in Europe and globally: the 7th EAP objectives above link to 11 of the 17 UN Sustainable Development Goals



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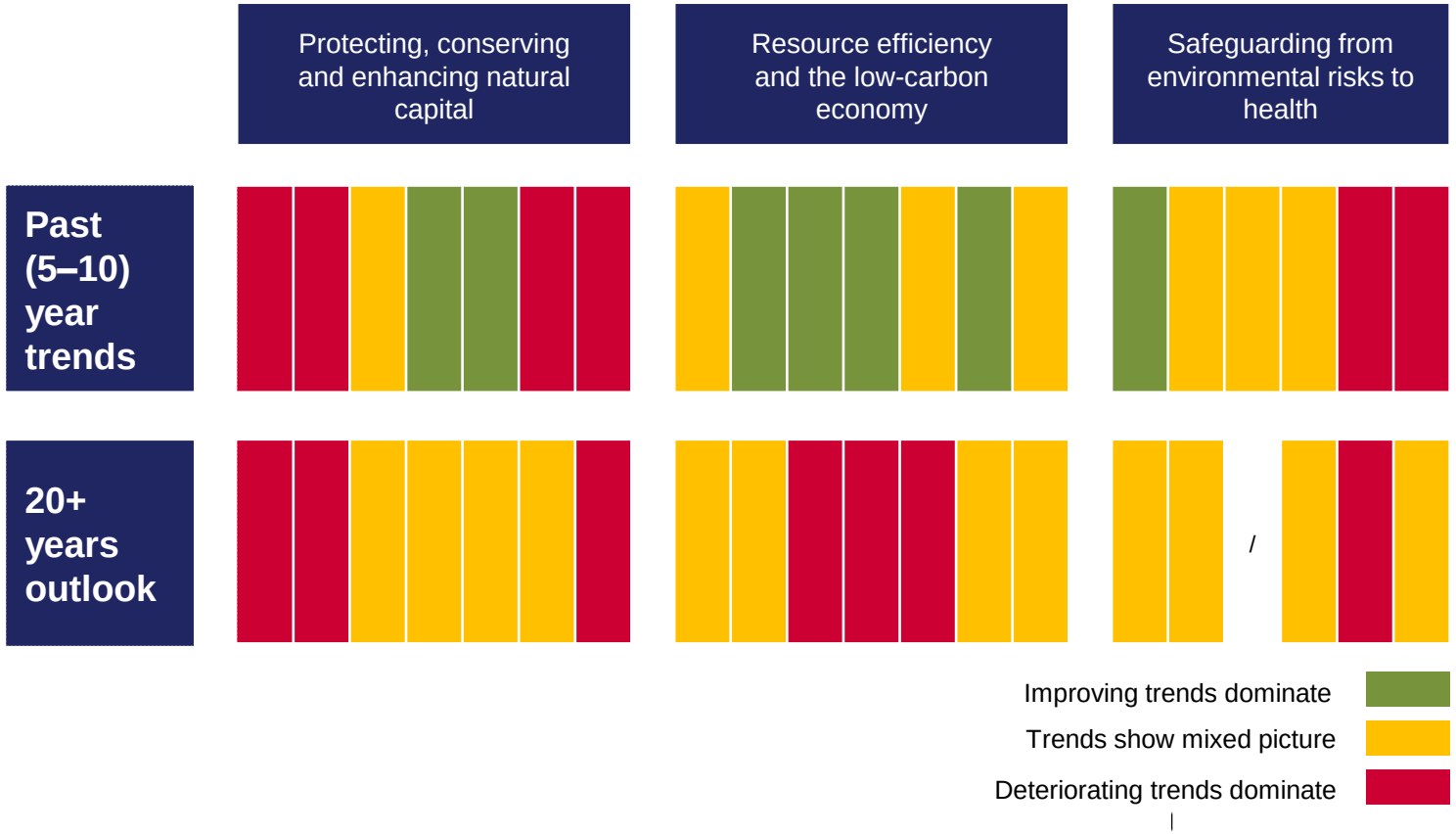


Recent trends and outlooks for 7EAP priority areas 1-3

Europe has made notable progress on incremental resource efficiency gains.

Challenges remain with ecosystem resilience and well-being.

The long-term outlook is worrying.



Achieving sustainability will require systemic transitions



"Living well within ecological limits will require fundamental transitions in the globaliised systems of production and consumption that are the root cause of environmental and climate pressures.

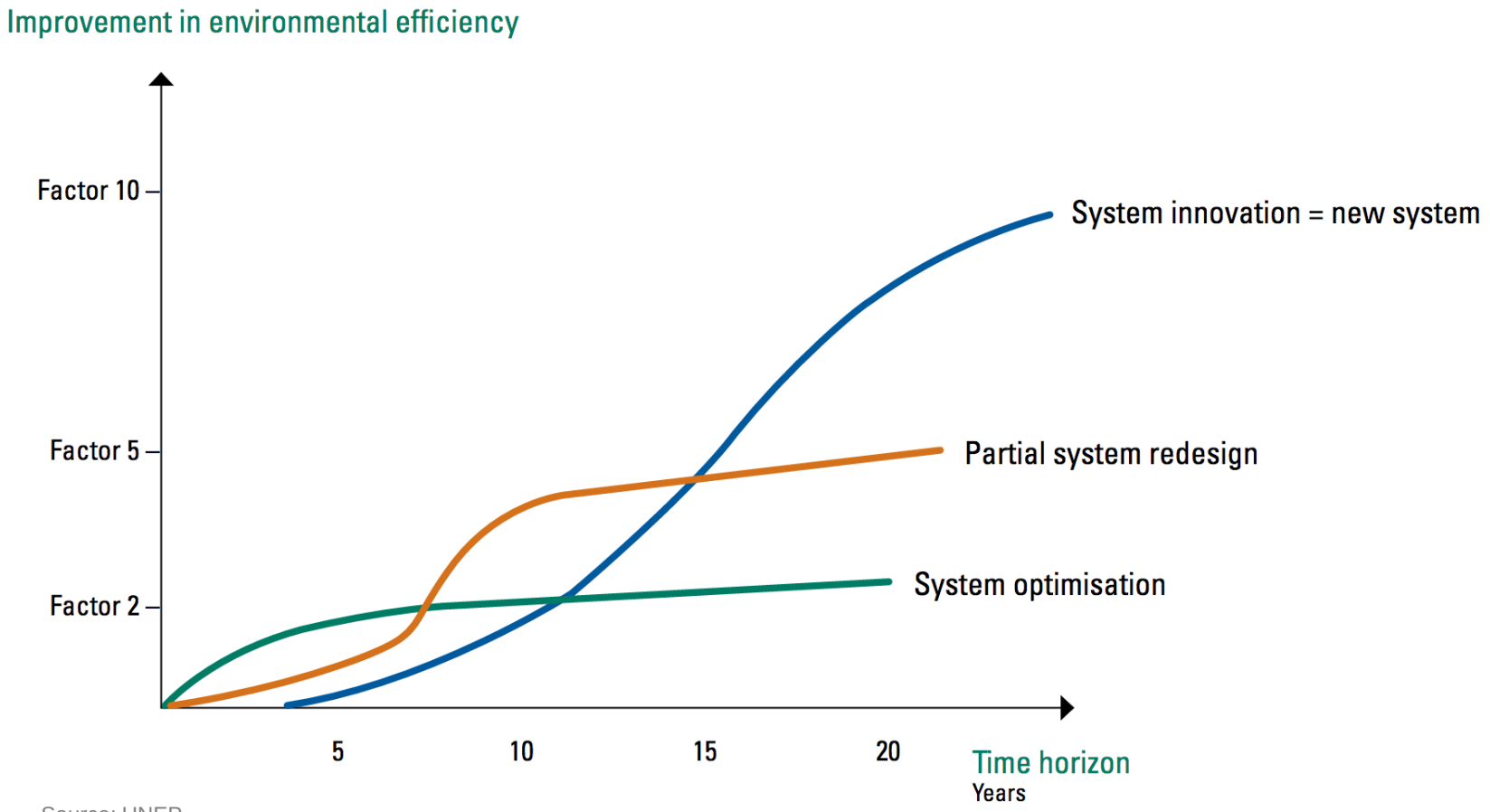
"The systems are food, energy, mobility and urban, finance and fiscal

"Such transitions will entail profound changes in dominant institutions, practices, technologies, policies, lifestyles and thinking."



Incremental change will not be sufficient

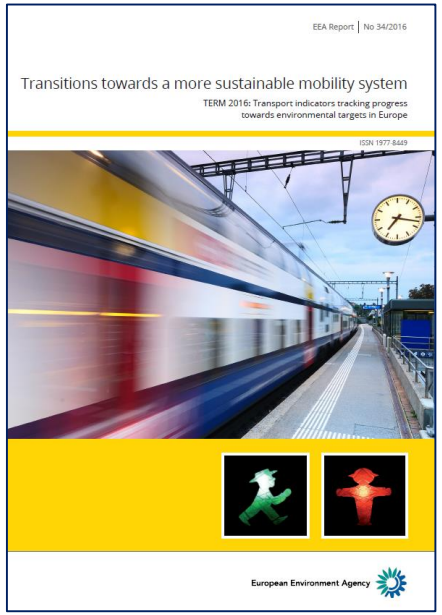
The scale of needed change necessitates system innovation



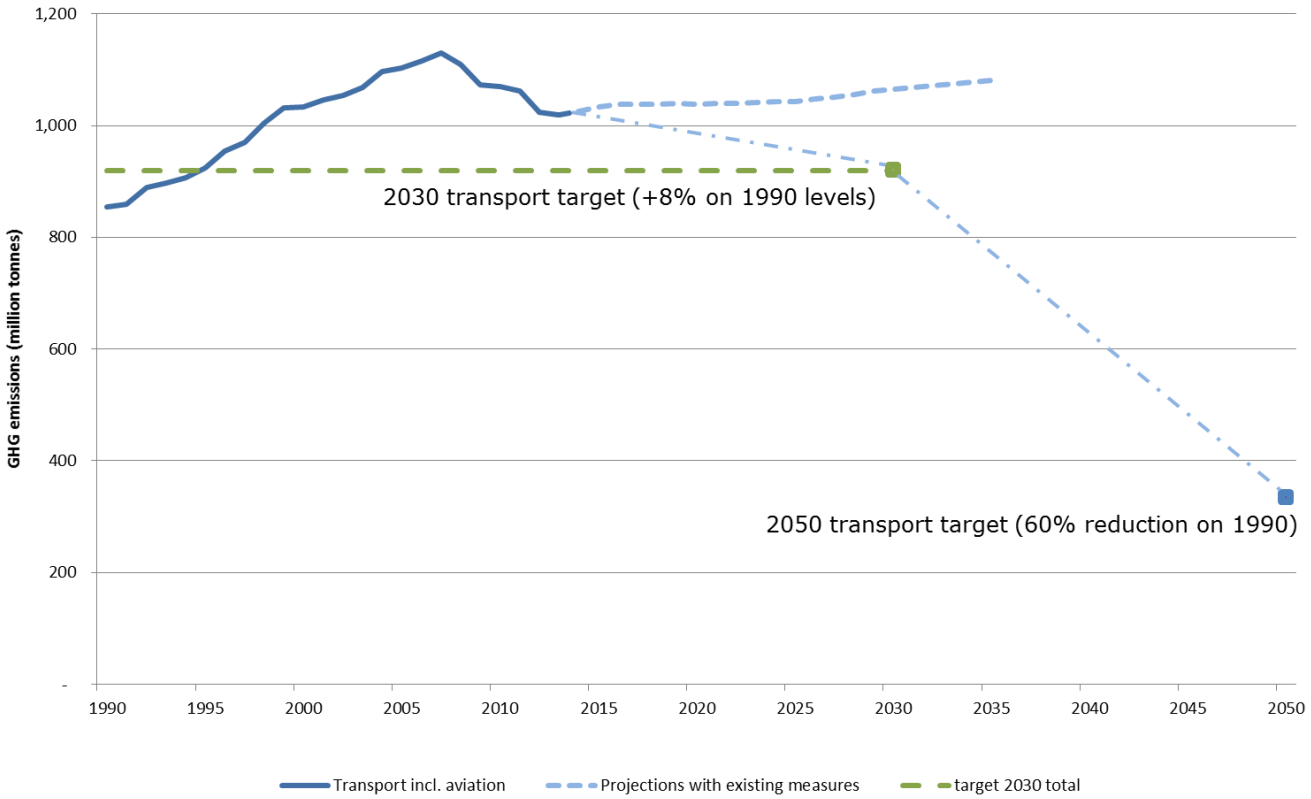
Source: UNEP

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Understanding systemic challenges: mobility



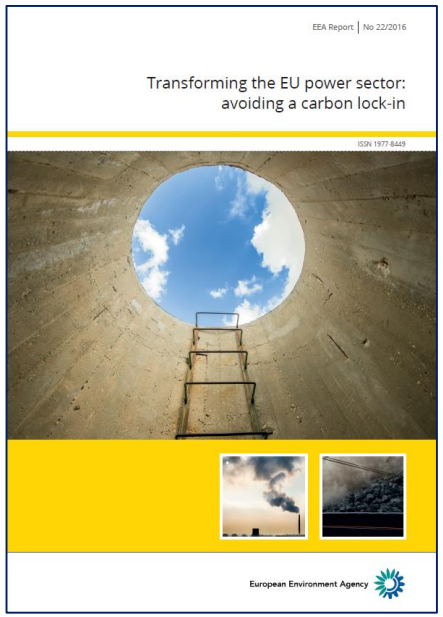
The EU has set ambitious GHG emission targets for the transport sector in 2050. But projections based on existing policies point towards increased emissions in coming years.



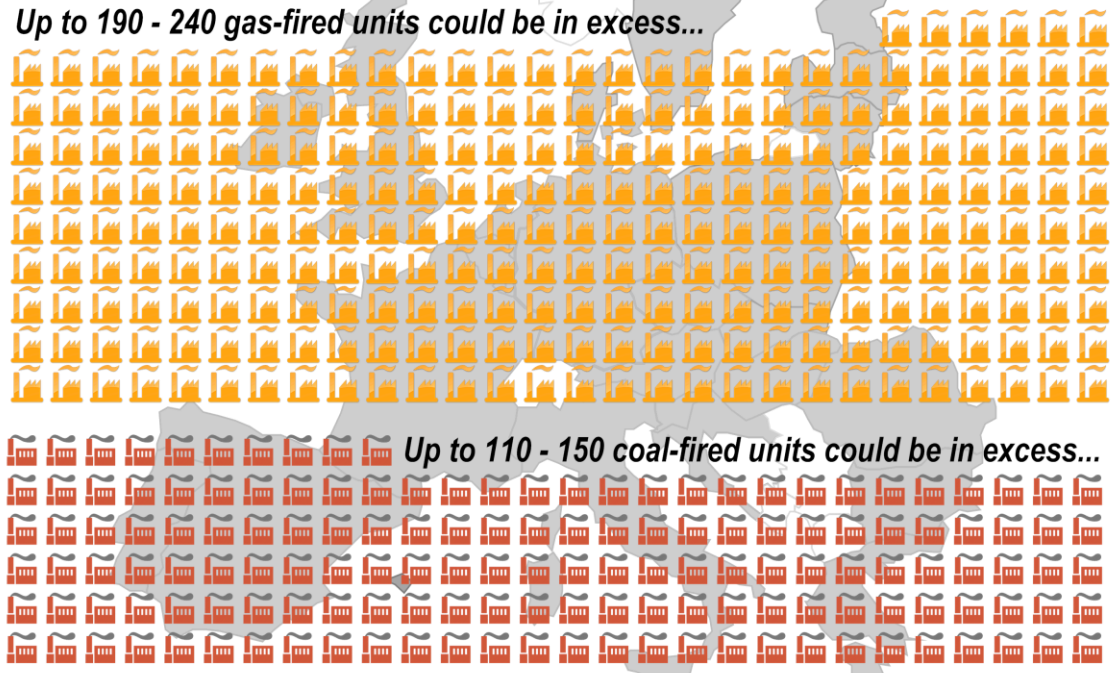
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Understanding systemic challenges: energy

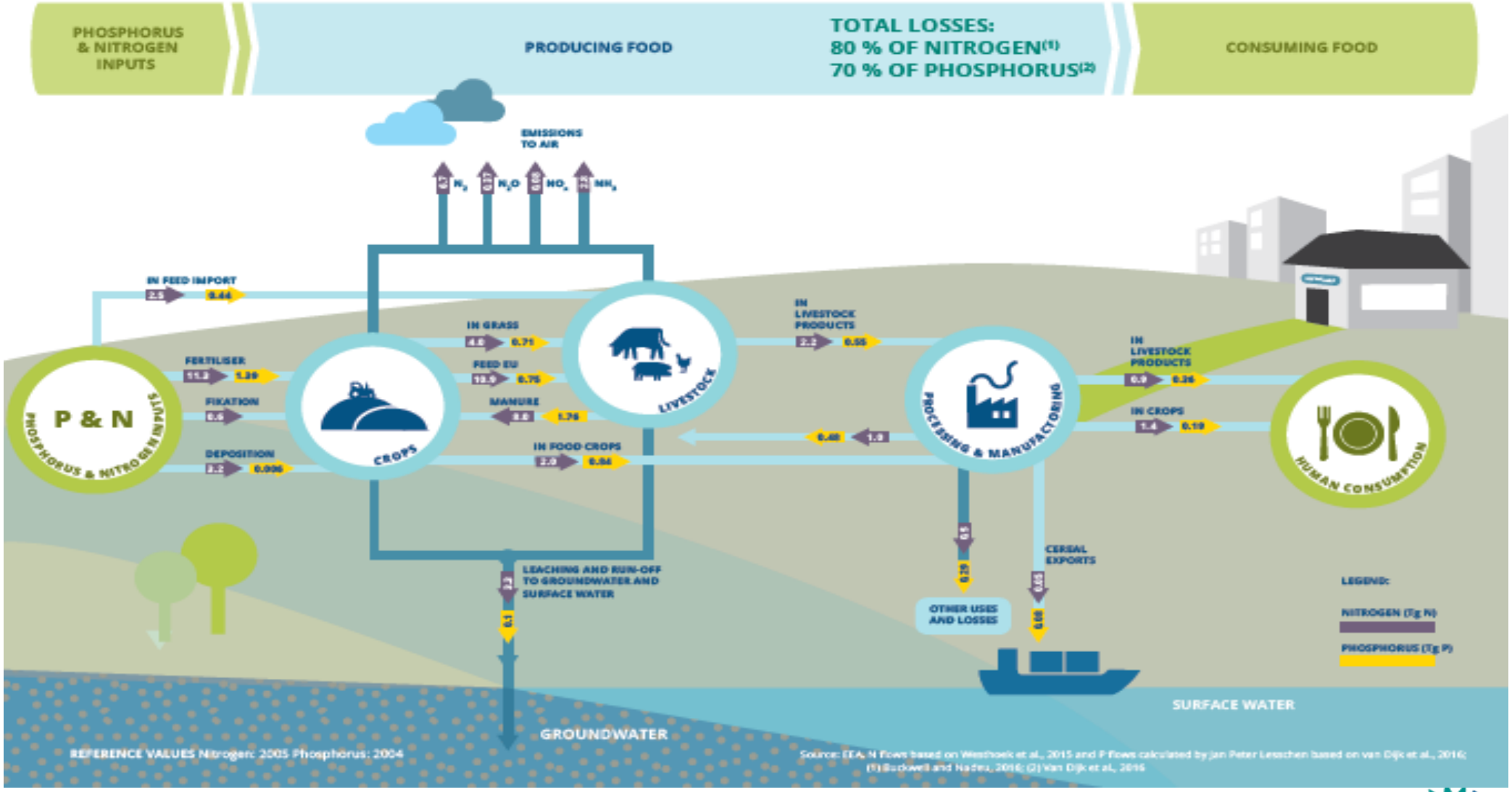


Extending the lifetime of existing energy infrastructure could result in total overcapacity of 278 – 347 units (56 – 69 GWe) in 2030, compared to EU decarbonisation targets



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Understanding systemic challenges: food



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Systemic change involves multiple innovations

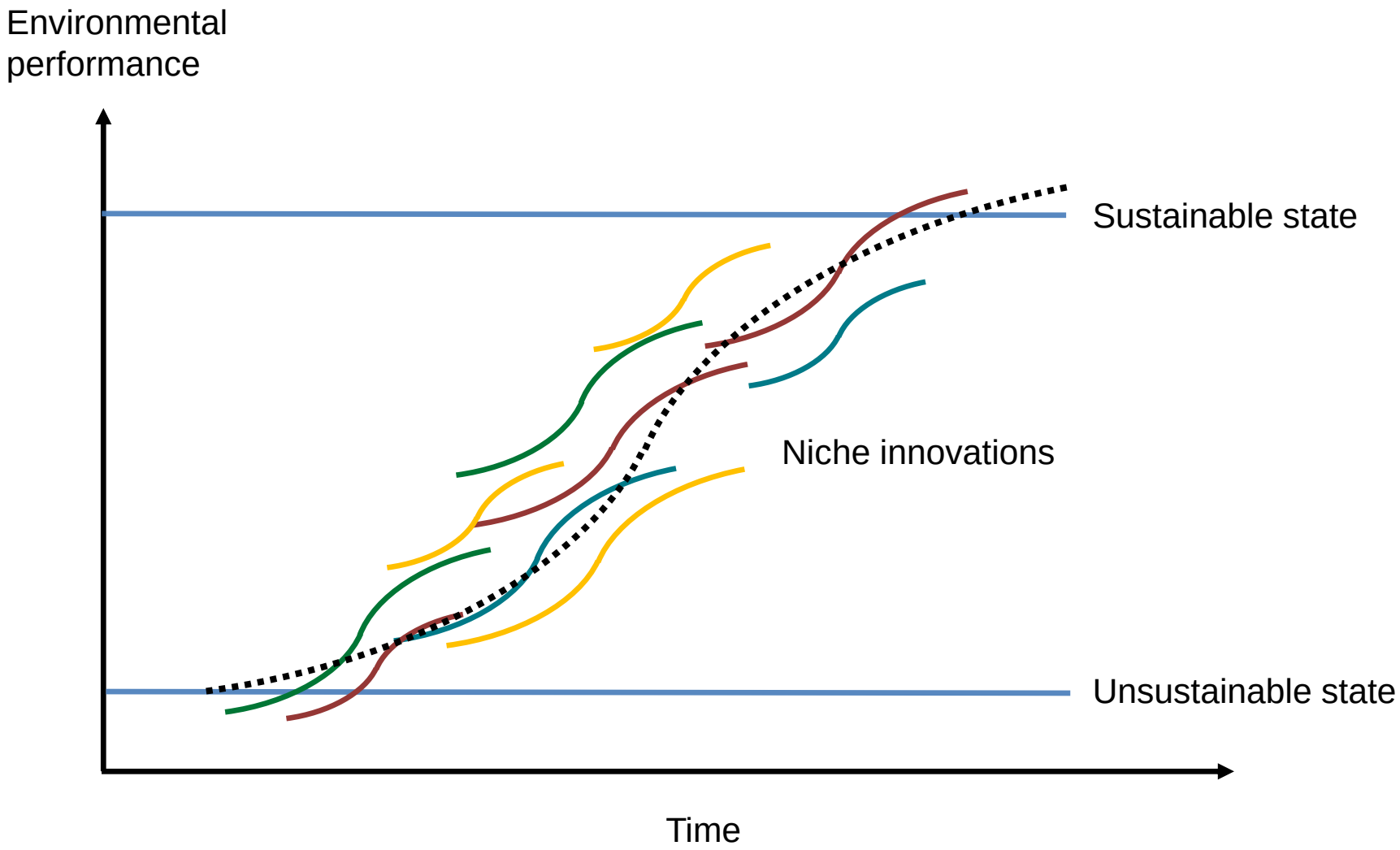










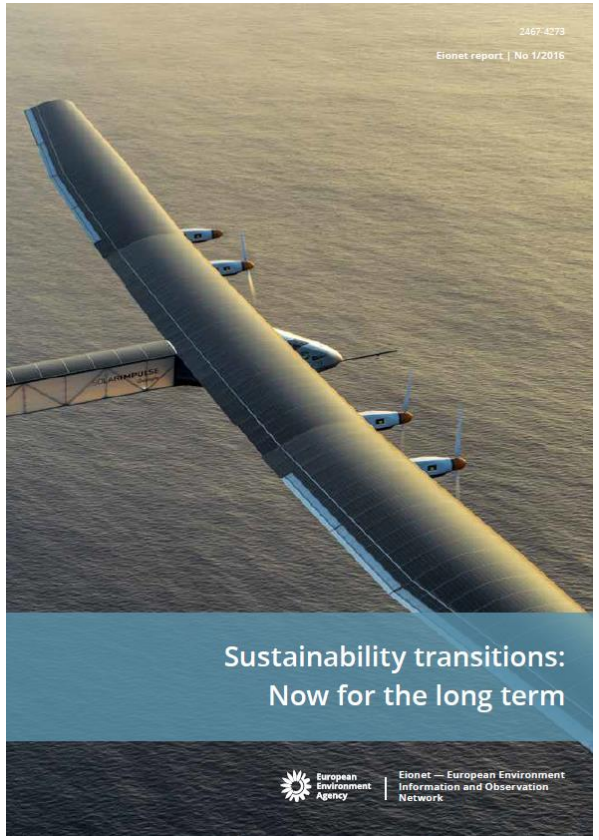


Source: Loorbach

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Transitions are happening



Exploratory work in 2016 has identified transition activities at multiple scales across Europe:

- Public and private activities creating niches for innovation
- Experimentation, learning and networking
- Diverse innovation in technologies, social practices, business models, etc.
- Changing behaviours, attitudes, lifestyles
- Efforts to coordinate system-wide transformation



Innovation in urban systems: green infrastructure

Air trees, Madrid



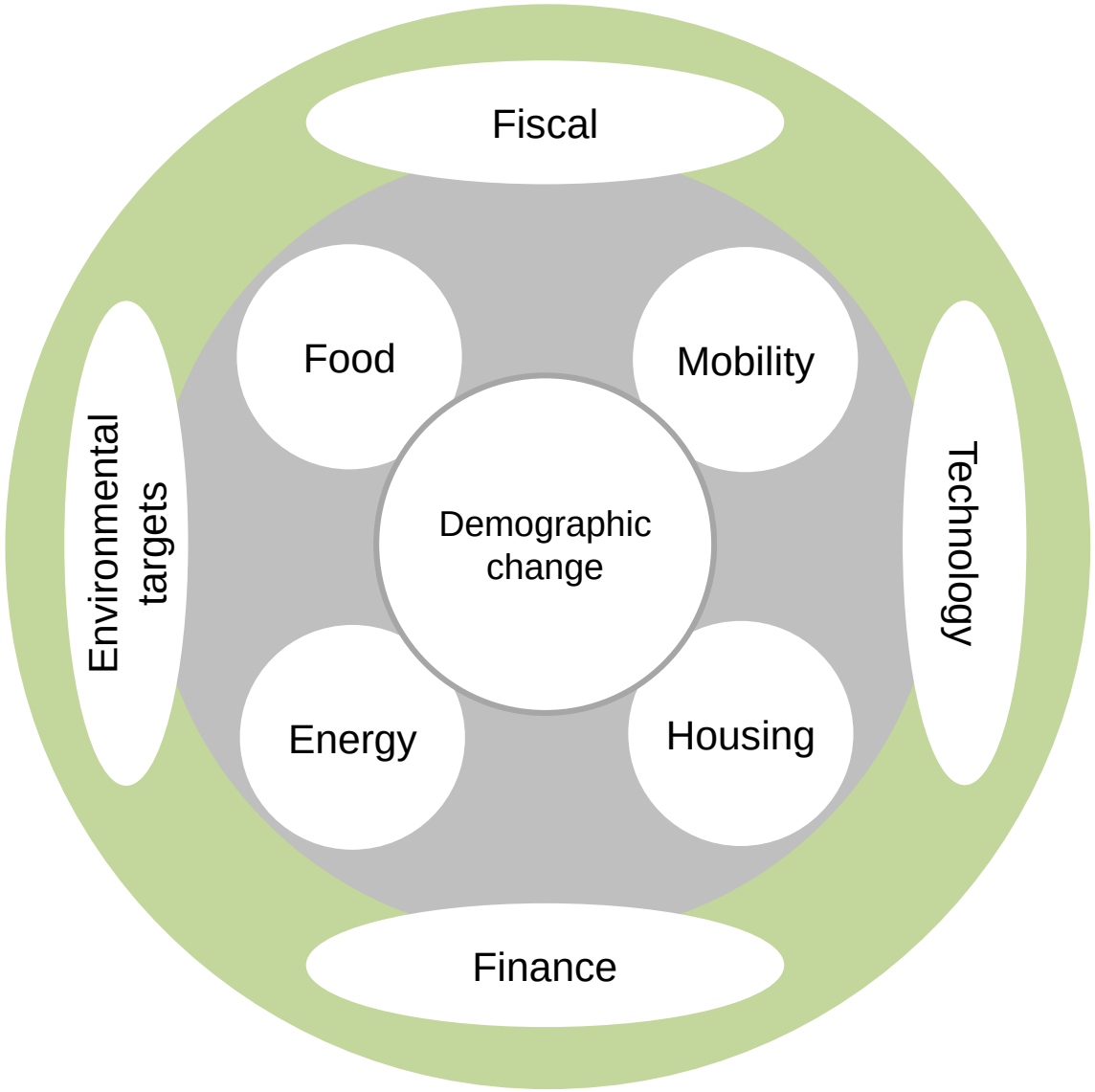
Urban forest, Milan



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Europe’s ageing population: challenge or opportunity?



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Thank you