European Energy Transformations. The Bumpy Road to a Green Economy

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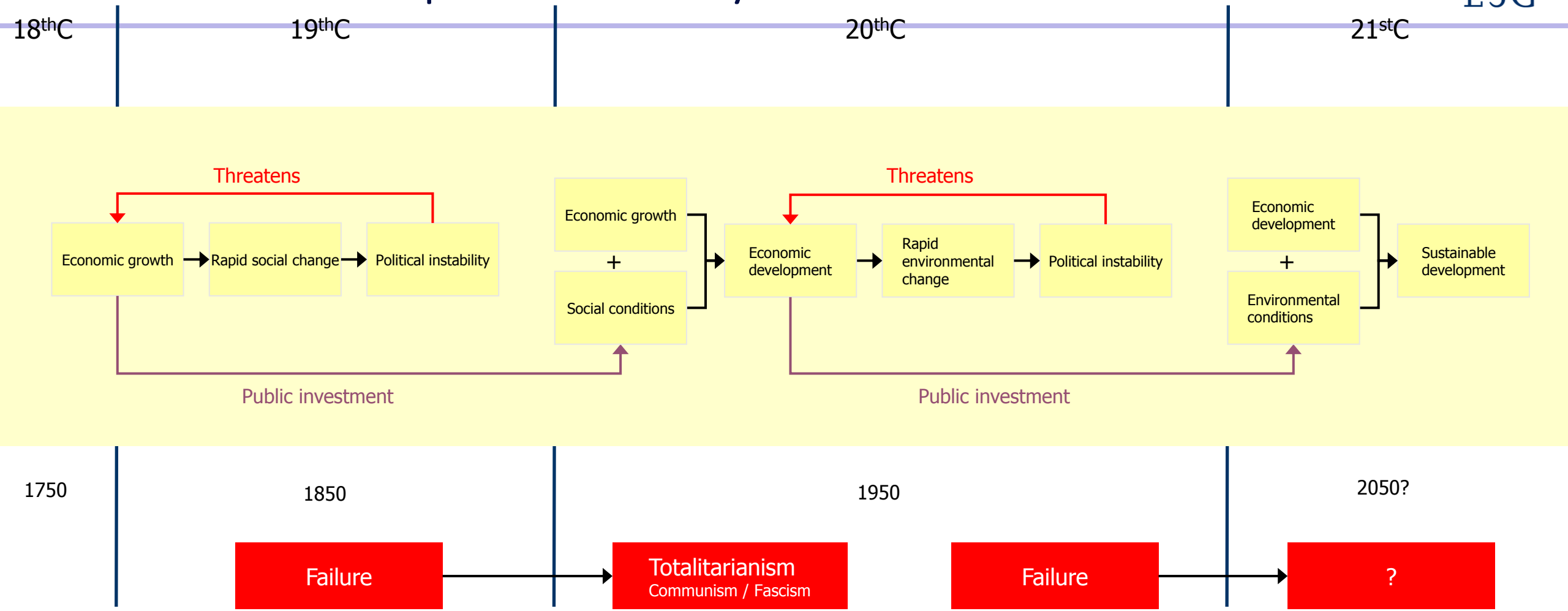
Why Does It Matter?

It’s not about
“the environment”!

Sustainable development is the preservation of the environmental and social conditions for prosperity. History shows that failure to manage these forces leads to political instability and conflict.



Four Propositions Defining Our Work

- **The future will not be like the past.**
- **Reaction is not an option.**
- **The pace of change must match the challenges.**
- **A new operating system is needed**:

  Barriers are not technical or economic but political and institutional – they lie in how people (do not) work together to solve problems.

Systemic Risks are Rising.
Energy and Climate Policies Can Lower Impacts

- High fossil prices mean EU economy is losing €300-400bn per annum in additional fuel import costs.
- Climate impacts are rising – extreme weather cost US 1.2% GDP in 2012.
- High demand for gas and oil will continue to be driven by emerging economies.
- Investment in infrastructure is already chilled by climate policy uncertainty: risk of stranded high carbon assets and shifting portfolios.

The choice is not between action or inaction, but between an orderly or disorderly transition to a zero carbon economy.

Why Do Progressive Policies for a Low Carbon Transformation Matter for Europe?

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- **The EU faces rising economic and security risks from energy and climate change.**
- **European energy and climate policy is driving a rapid transition in Europe's energy system**.
- The **macro-economic competitiveness benefits** of low carbon policies are **massively underestimated** in economic analysis.
- **Current EU climate and energy policy is not secure or cost-effective**.
- **Delivering "orderly transition" requires deep economic reforms** in governance, energy markets, infrastructure, supply-chains, finance and industrial innovation.
- Global opportunities are huge in resource efficient, low carbon and resilient infrastructure solutions.
- **European policy is too fragmented and insufficiently financed** to provide the necessary incentives to drive transformational changes in infrastructure, construction, smart networks and clean transport.

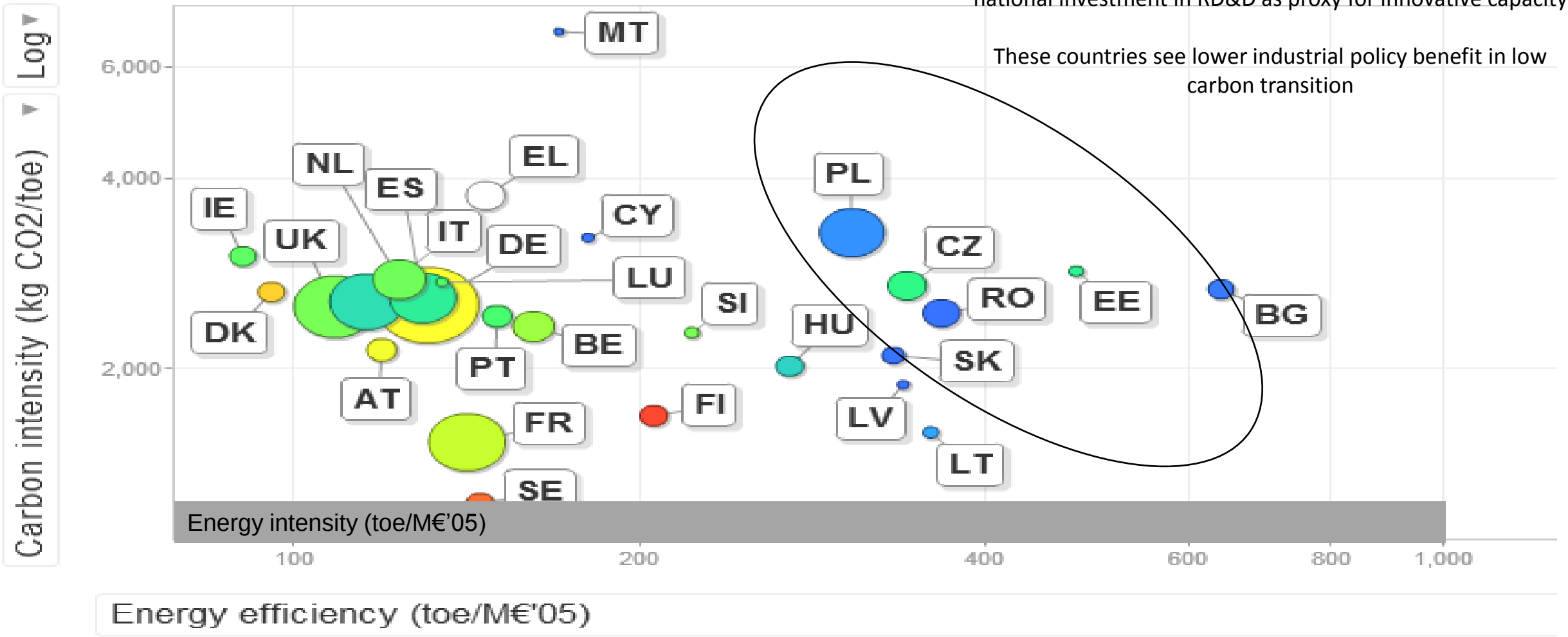
The Challenge I: Current industrial policy approaches will not support resource efficient growth

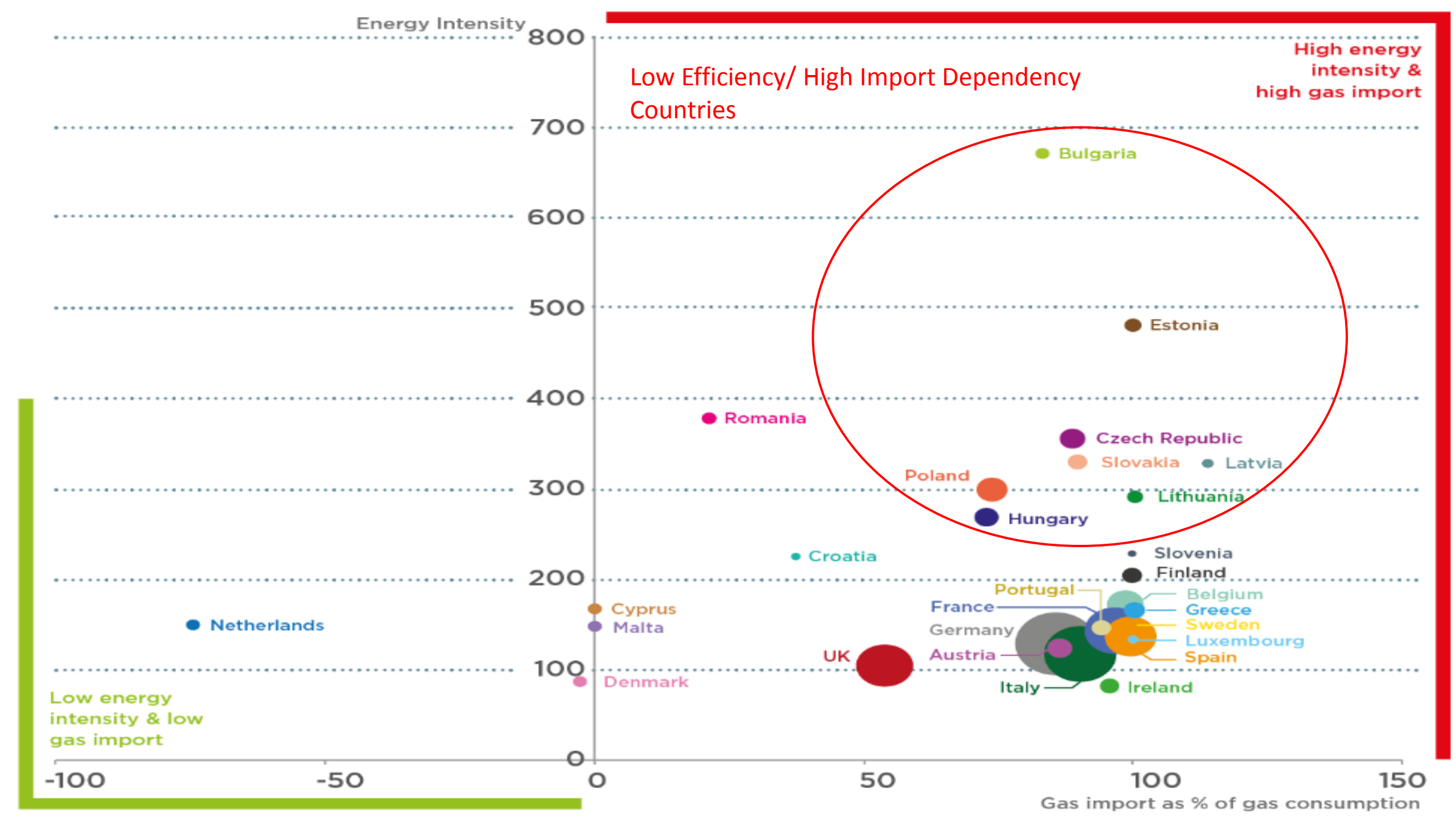
- Active industrial policy will only work if sufficient EU demand exists to **incentivise growth of new markets**.
- Policies needed to **drive supply chain transformation** in high growth sectors: construction; infrastructure; smart grids and transport.
- This requires current policy to shift in three areas:
  - Move focus from incremental change in “upstream” supply sectors – steel, cement, chemicals – to building “downstream” markets in efficient services, construction and infrastructure.
  - Incentivise transformational shifts to resource efficient solutions in supply-chains and business models through public purchasing/infrastructure tenders and taxation incentives.
  - Reform energy market and state aids regulation to build medium term value and resilience not just short term cost reduction.

The Challenge II: EU strategy needs to address "technology takers" as well as "makers"

Blue colour indicates "technology taker" - relatively low national investment in RD&D as proxy for innovative capacity

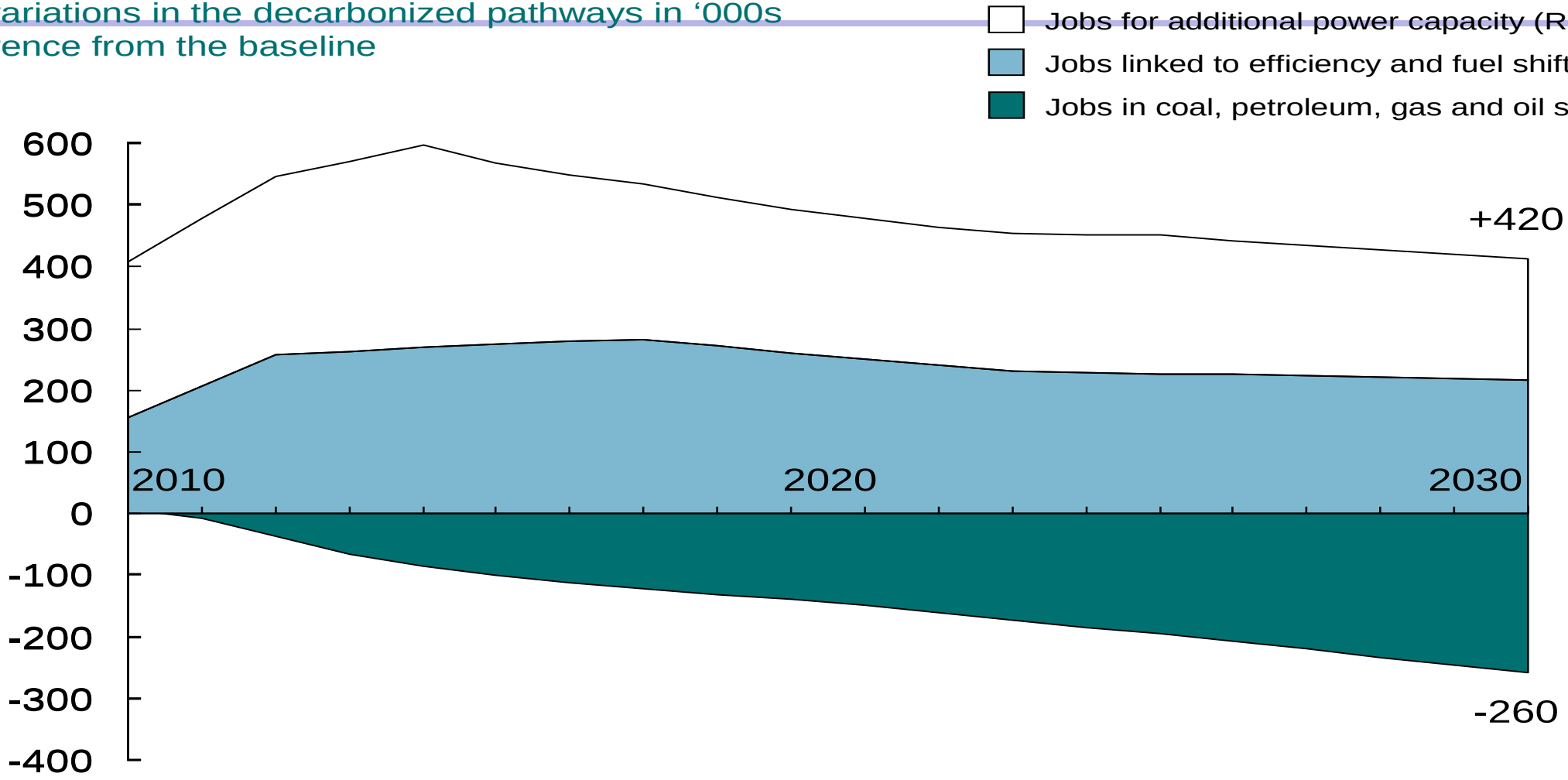
These countries see lower industrial policy benefit in low carbon transition




Energy Intensity
800
700
600
500
400
300
200
100
0
-100
-50
0
50
100
150
Gas import as % of gas consumption
Low Efficiency/ High Import Dependency Countries
High energy intensity & high gas import
Low energy intensity & low gas import
Bulgaria
Estonia
Romania
Czech Republic
Slovakia
Latvia
Poland
Lithuania
Hungary
Croatia
Slovenia
Finland
Portugal
Belgium
France
Greece
Germany
Sweden
Luxembourg
Austria
Spain
UK
Italy
Ireland
Cyprus
Malta
Netherlands
Denmark

The Challenge III: Strong clean job growth will not create "just transition" for high carbon job losses

Job variations in the decarbonized pathways in '000s
Difference from the baseline



NOTE: Efficiency and fuel shift investment includes all efficiency levers from McKinsey cost curves (excluding what already in the baseline), further penetration of heat pumps in residential and industry and the slow penetration of EVs

SOURCE: Oxford Economics

EU Climate and Energy Policy for 2030

- 2020 Package: focused political attention on delivering climate and energy leadership ahead of Copenhagen climate conference
  - GHG (ETS + Effort Sharing) + RES + CO2 Storage + Cars + EE

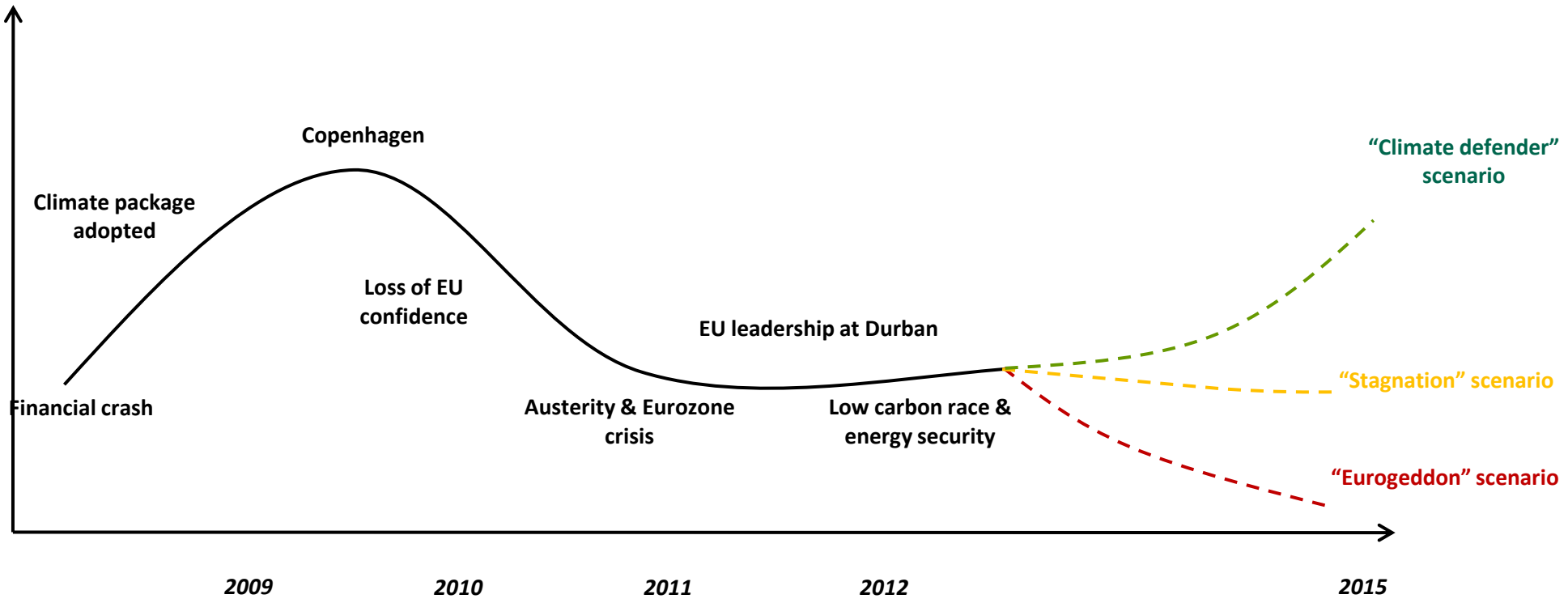
- 2030 Package: released alongside papers on shale gas, industrial renaissance and energy costs – framings of reducing costs for industry/competitiveness, energy security, but nothing on climate risk, carbon lock-in, stranded assets etc
  - GHG (weak) + RES (weak) + ?
  - Paris 2015 influence?

EU Climate and Energy Policy for 2030: Where Do We Stand?

1. Decide on 2030 targets on
    - GHG reduction – (at least?) minus 40%
    - Renewables - 27% EU wide binding
    - Energy Efficiency – 30% EU wide (binding?)
2. ETS Reform
3. New Governance Structures

The International Context and Scenarios to 2015: Low Carbon leadership will not be underpinned by high economic growth rates

Relative importance of climate politics



Showcase Energy Efficiency

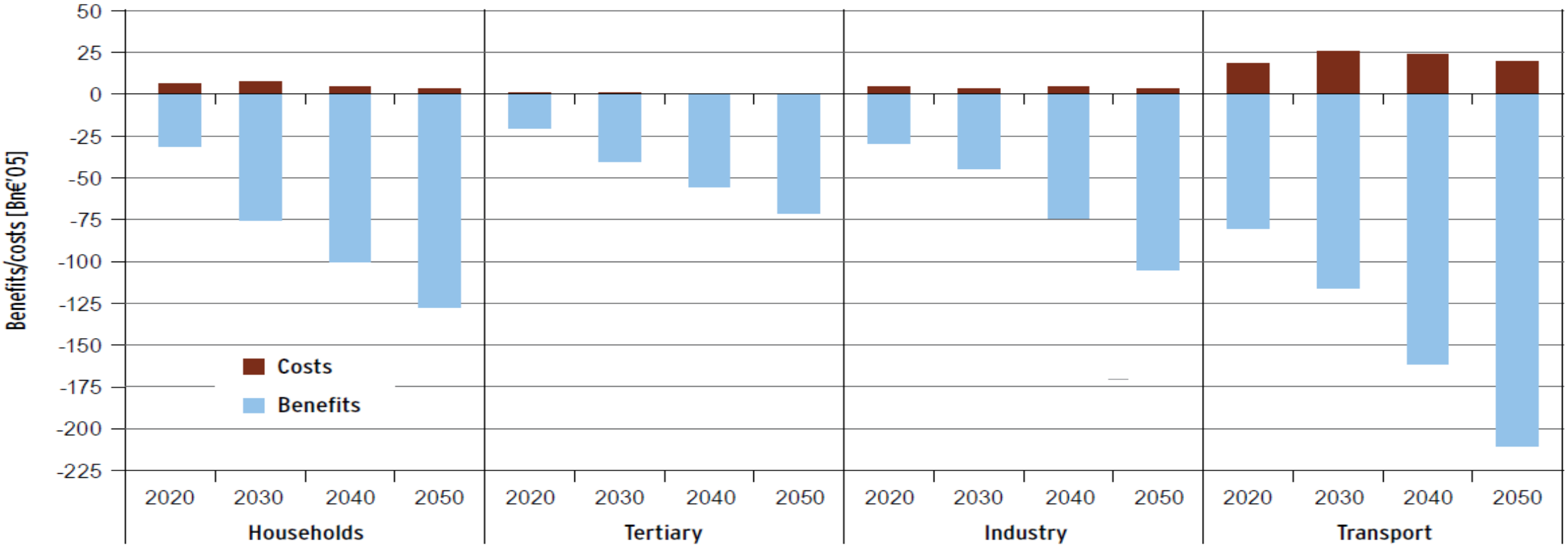
- **EU will not deliver 2020 EE goal** – due to economic crisis headline target reached with 2/3rds of real energy saving measures implemented

- **Definition of EE target matters** – a 30% 2030 EE primary energy target against 2007 baseline is only 9% "real" reduction

- A **40% final energy saving target against the PRIMES 2009:**
  - Would reduce gas demand equivalent to Russian gas imports by 2030
  - Increase EU GDP by at least 4.5% GDP (€457 billion per annum 2030)
  - Jobs: construction (+20%), engineering (+4%) & manufacturing (+2%)

- **Binding targets** for energy efficiency in 2030 are needed to create a avoid "free riding" by import dependent countries, drive national market and policy reforms and send strong signals to private investors.

Benefits from Energy Efficiency



Source: Fraunhofer ISI

Thank You

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Further information and materials can be found at www.e3g.org