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Grantham Research Institute on
Climate Change and
the Environment

LSE/Statkraft Policy Research Programme

‘A Fit-for-Purpose EU Climate and Energy Policy’

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Oxford, 21 September 2016

Presentation overview

- ❖ Challenges in meeting the EU 2030 carbon & renewable electricity targets
- ❖ Key findings
- ❖ Current and future research



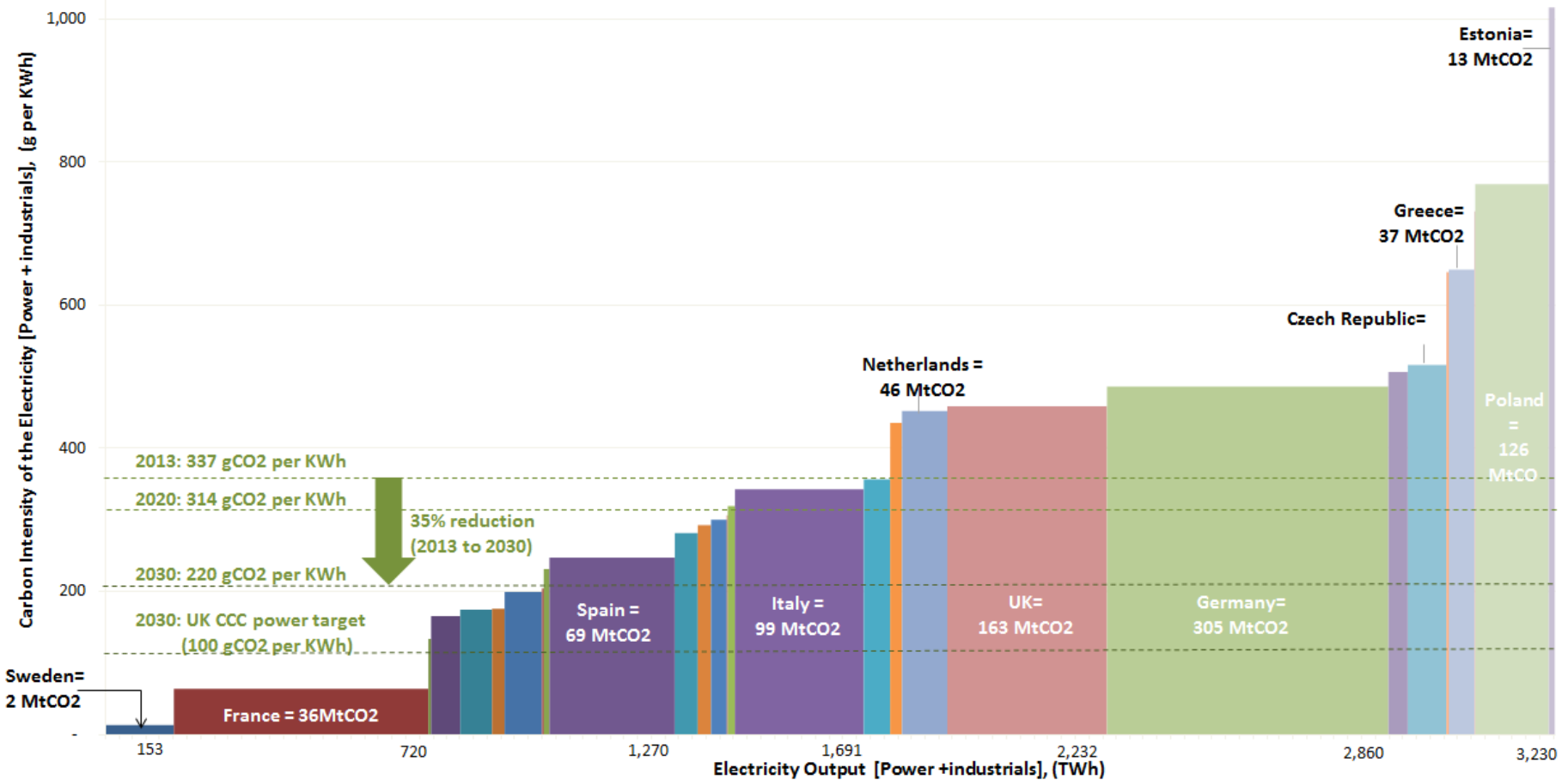
Challenges in meeting EU 2030 climate & RE targets

EU challenges	Key issues
Scaling up ambition	Acceptability of new policies
Affordability	Competitiveness
	Households
Level playing field	Harmonisation
	Differences across operators
Innovation	Patents, spillovers, RD&D
Investors' confidence	Long term framework
Wider energy context	Energy security: supply & intermittency
	Energy Union
	Game changers: Fracking, energy storage, EVs



Bridging the gap between 2013 & 2030: Carbon targets

EU28: Electricity emissions profile in 2013

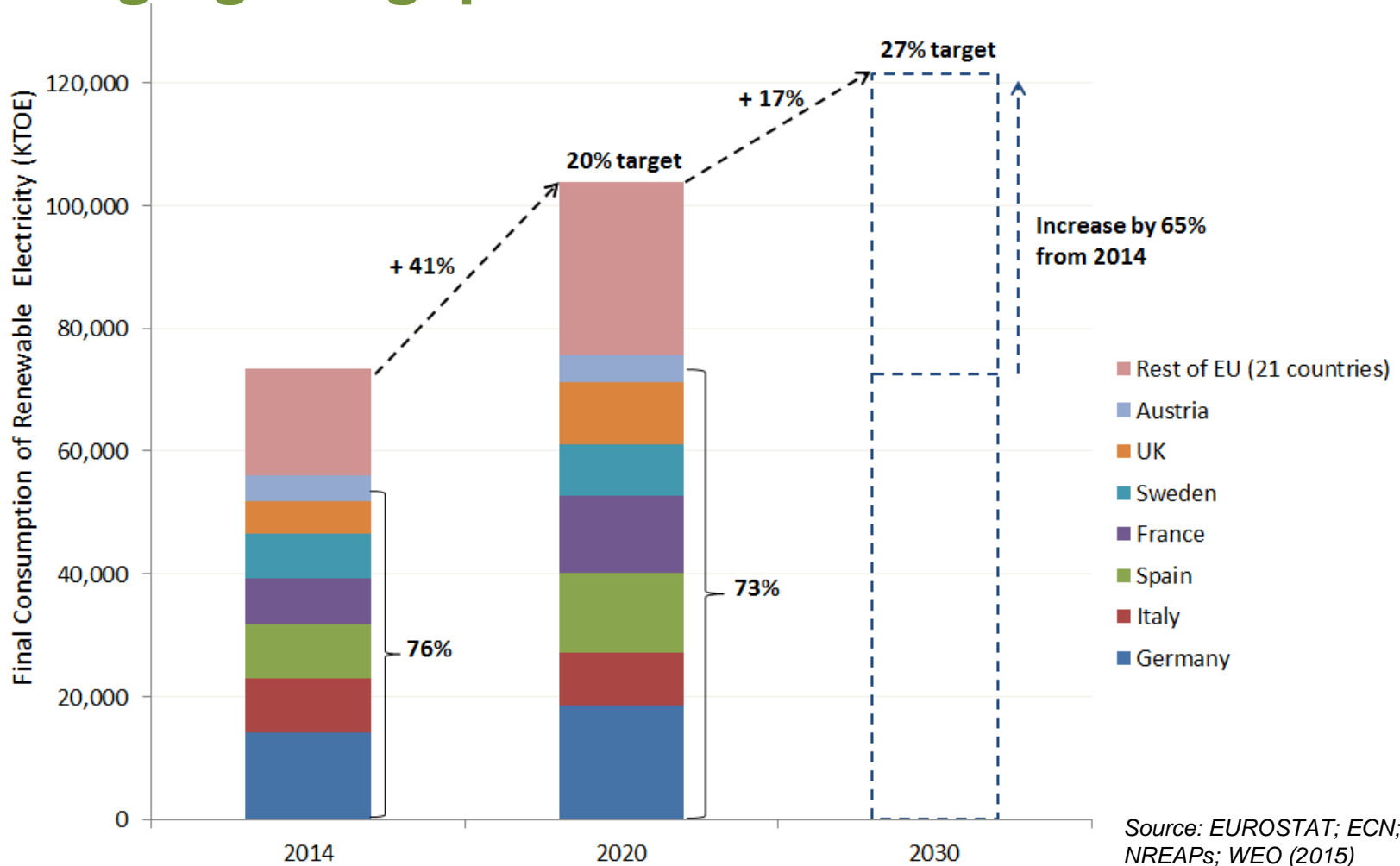


Source: IEA (2030 derived calculations)





Bridging the gap to 2030: Renewable electricity



Scaling ambition

Affordability

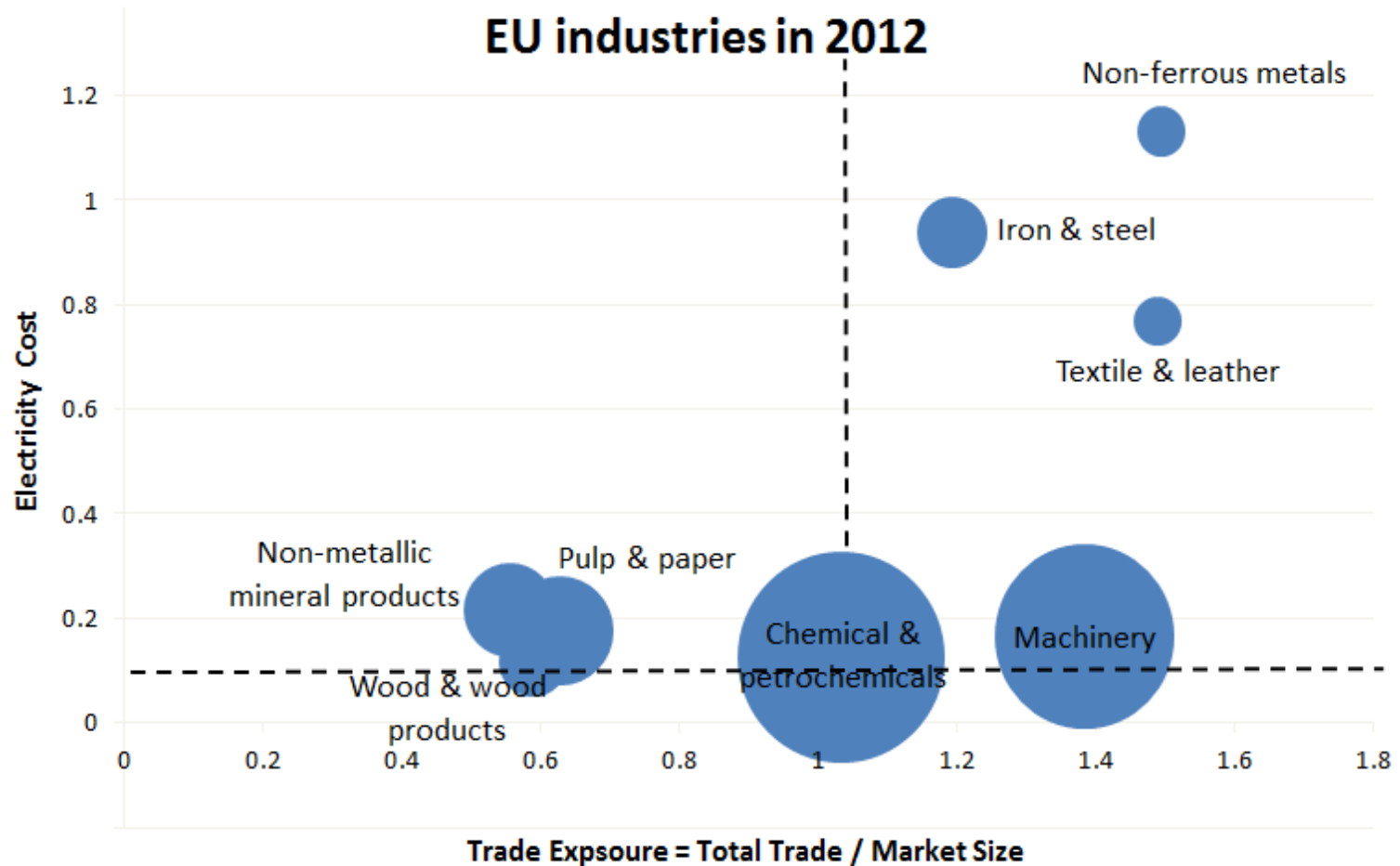
Level playing field

Innovation

Investor confidence



Affording the scale up of ambition to 2030



Source: for Y2012: UNIDO, OECD, Eurostat, IEA, World Bank

Scaling ambition

Affordability

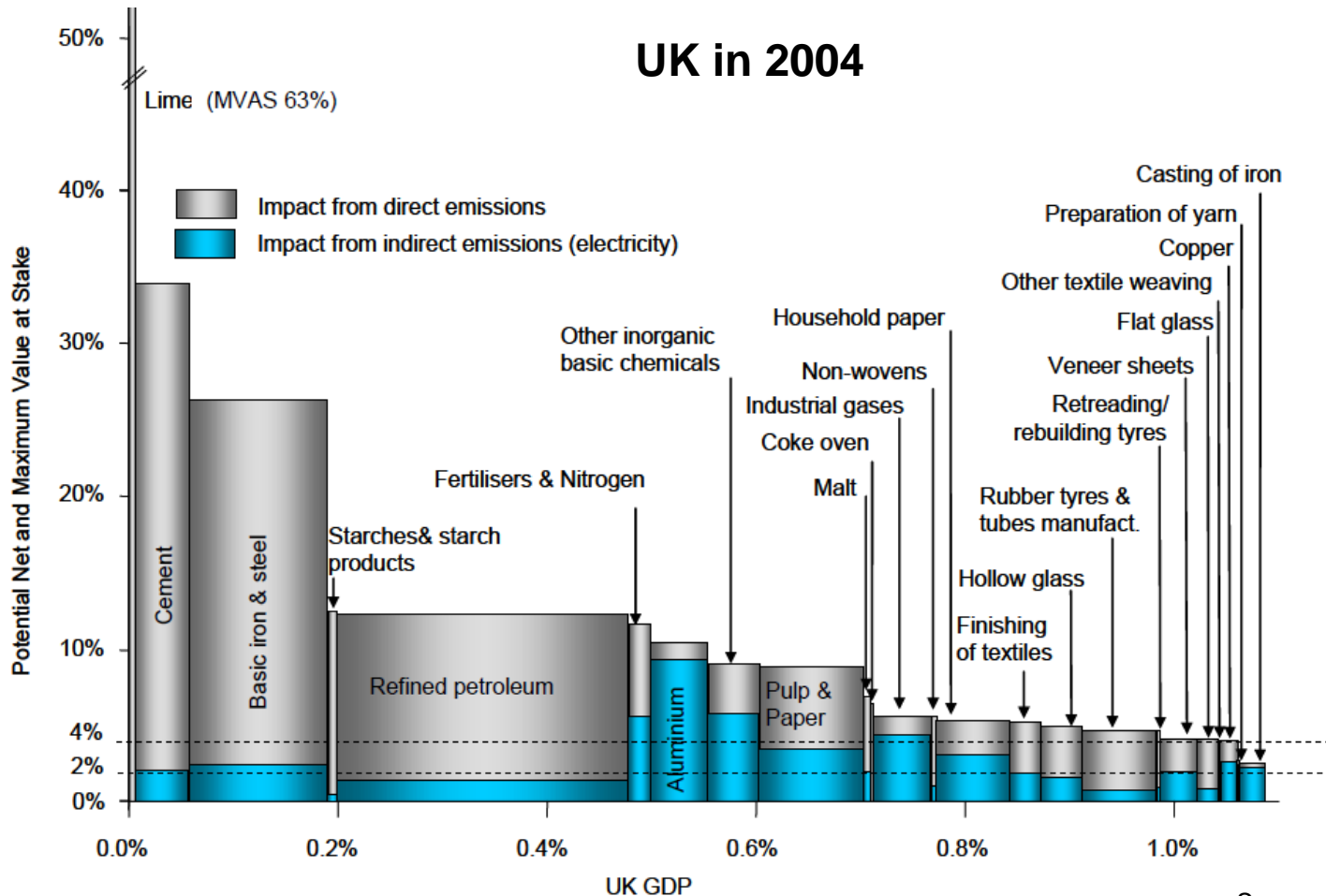
Level playing field

Innovation

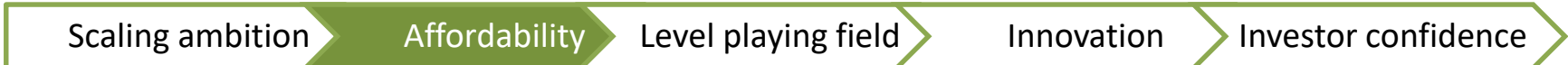
Investor confidence



Identifying sectors vulnerable to €20 CO2 per tonne tax

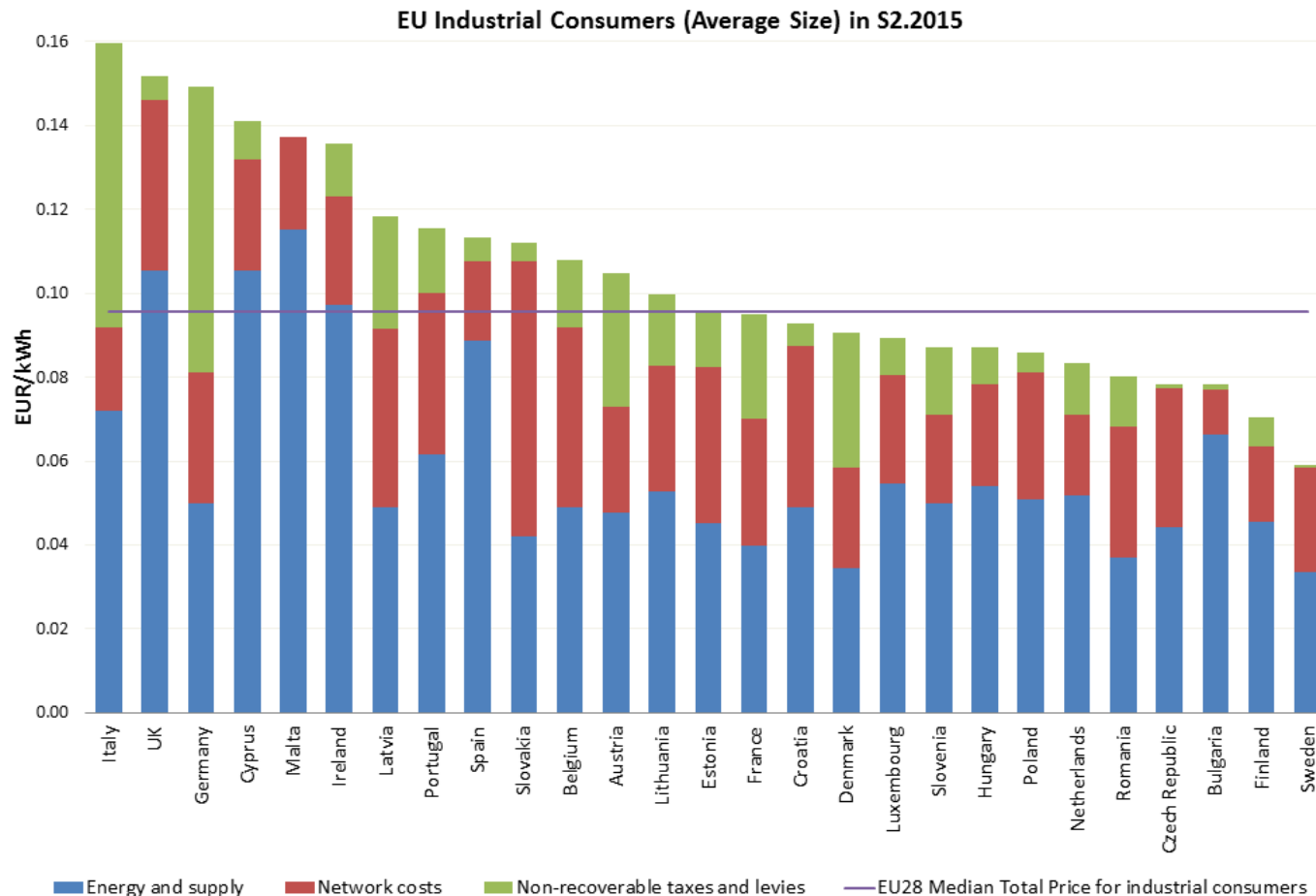


Source: Sato et al (2013)





Harmonising tax costs for a level playing field



**More than double
EU28 median taxes**

- Germany
- Italy
- Denmark
- Austria
- Latvia
- France

**Less than half
EU28 median taxes**

- UK
- Spain
- Croatia
- Poland
- Slovakia
- Czech Republic
- Bulgaria
- Sweden
- Malta

Source: Eurostat (S2.2015)

Scaling ambition

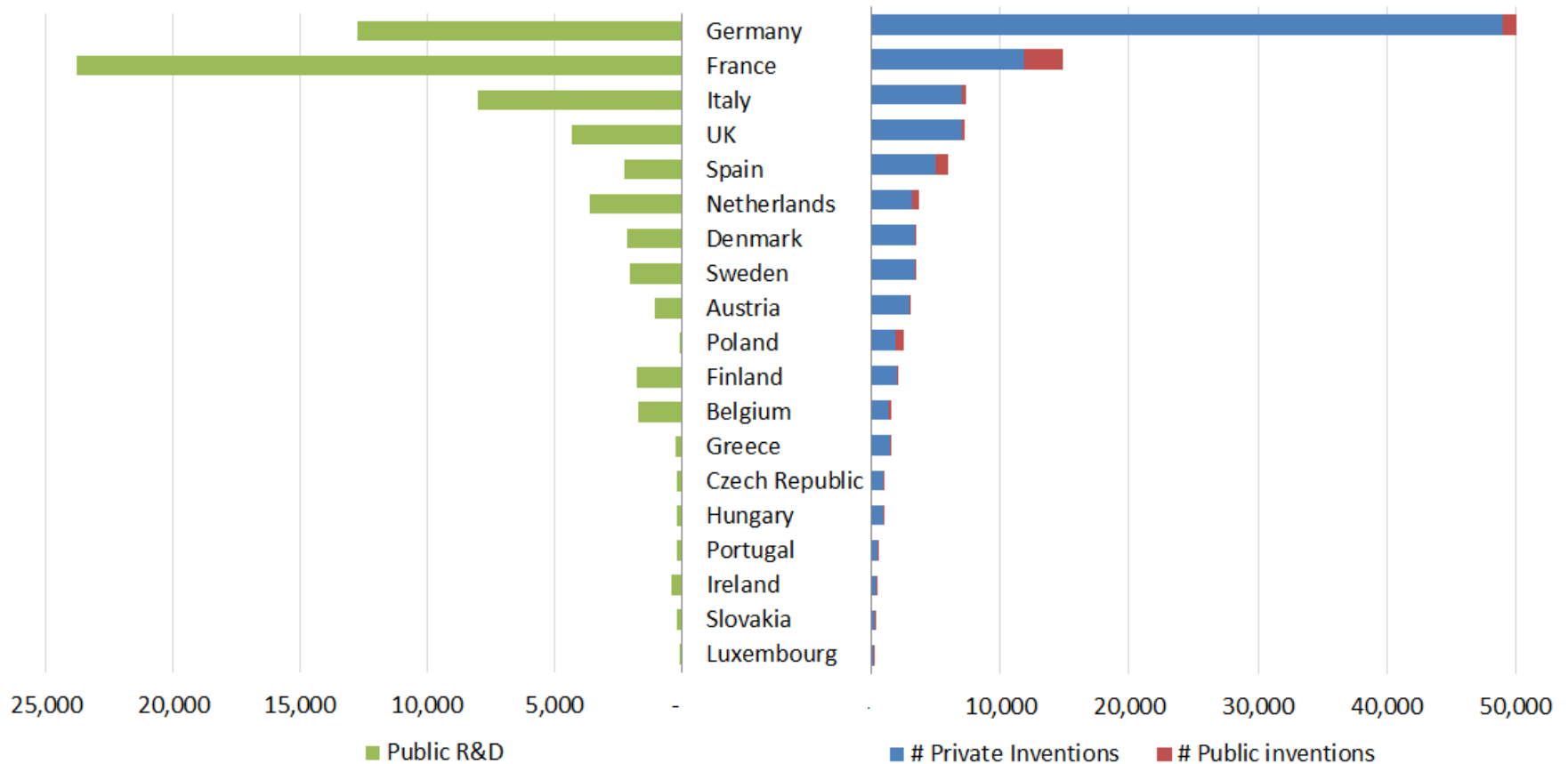
Affordability

Level playing field

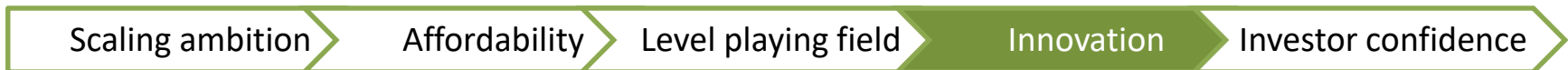
Innovation

Investor confidence

Public R&D to support EU innovation efforts

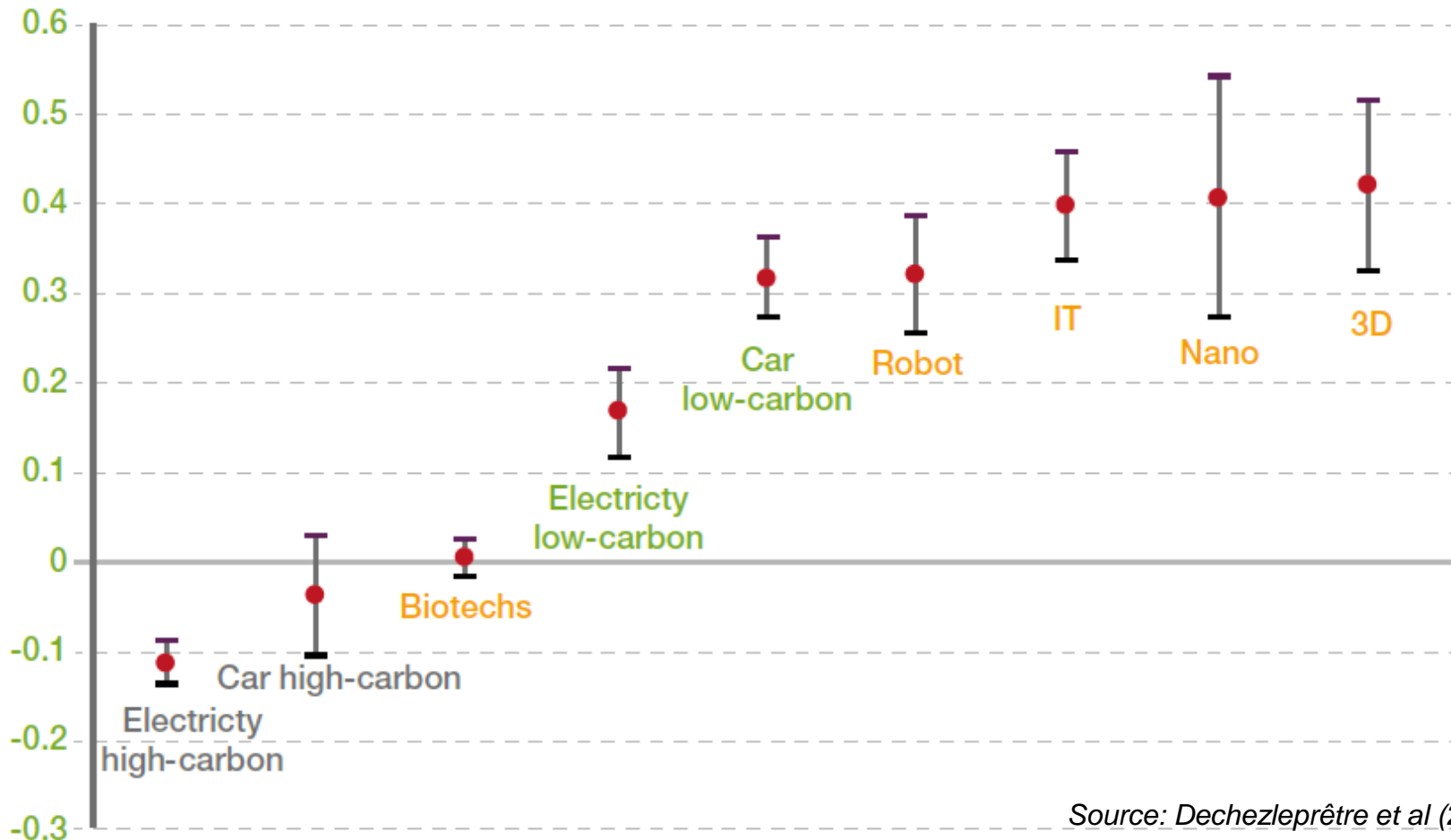


Source: Dechezleprêtre et al (2014), PATSTAT, IEA

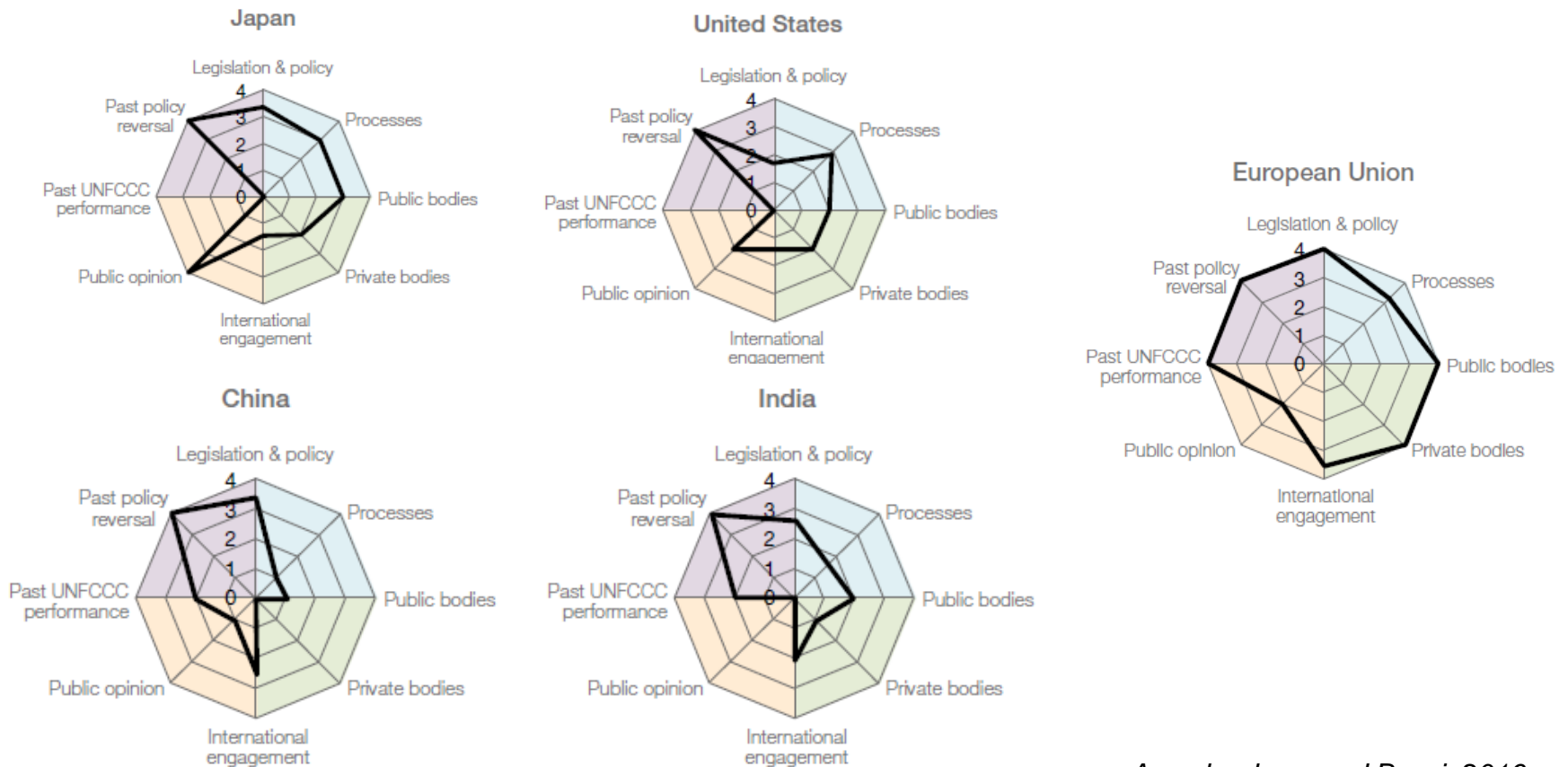




Greater spillovers from green energy innovation



Determining credibility to meet 2030 targets



Source: Averchenkova and Bassi, 2016

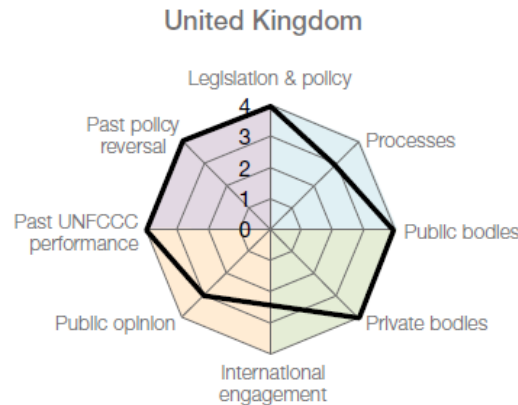
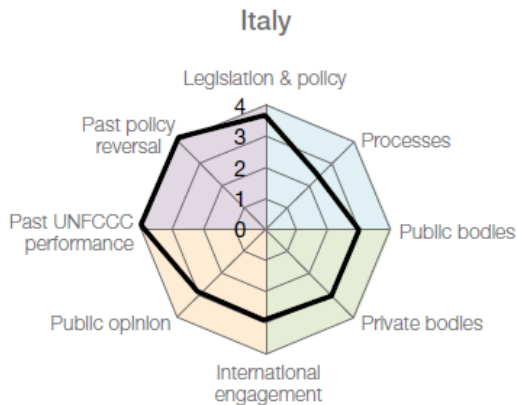
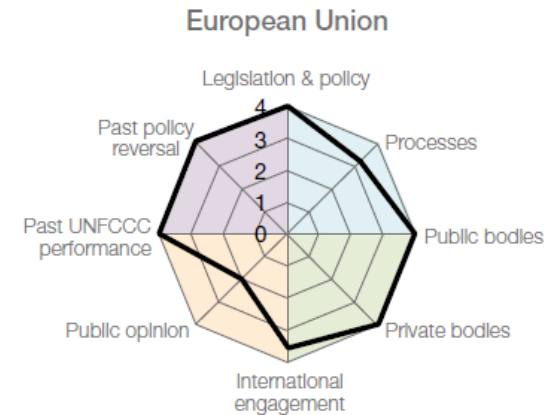
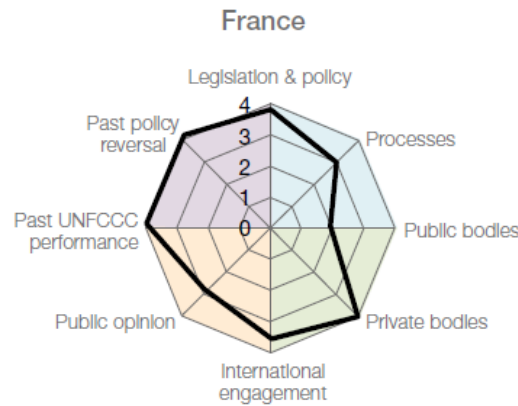
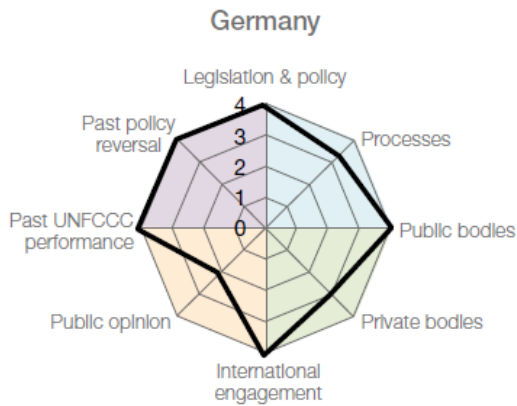


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Credibility is important for investor confidence



Source: Averchenkova and Bassi, 2016

Scaling ambition

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Research program questions

- What will the **distributional incidence and impact** on different electricity generators be with different policies (taxes, subsidies, and a mix of the two)?
- What design features can foster **acceptability** of more ambitious policies?
- What is needed to increase policy **credibility** and therefore investment?

EU challenges and GRI research

EU challenges	Key issues	Indicators (examples)	Ongoing research
Level playing field	Harmonisation	- Stock-take of policies	Statkraft: Policy stock-take
	Differences across operators	- Carbon pricing - RES subsidies	Statkraft: Distributional impacts
Affordability	Competitiveness	- Compliance cost - Trade openness	GRI research on competitiveness
	Households	- Electricity prices	Statkraft: Policy acceptability
Scaling up ambition	Acceptability of new policies	- CO2 levels - Carbon intensity	Statkraft: Policy acceptability
Investors' confidence	Long term framework	- RES attractiveness index	Statkraft: Credibility
Innovation	Patents, spillovers, RD&D	- Patents number - R&D spending	GRI research on innovation



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Thank you

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