

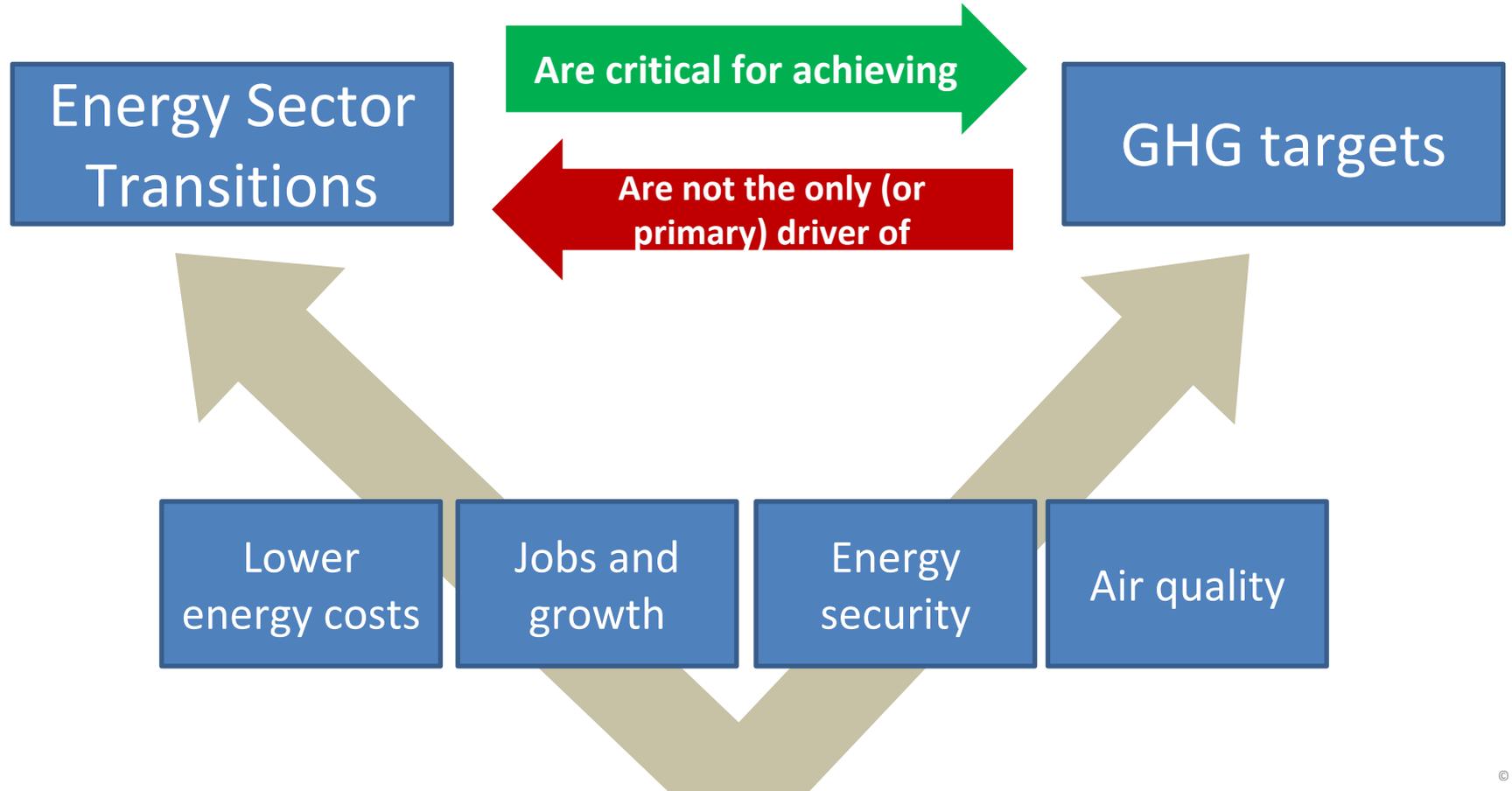


Policy packages for energy transitions

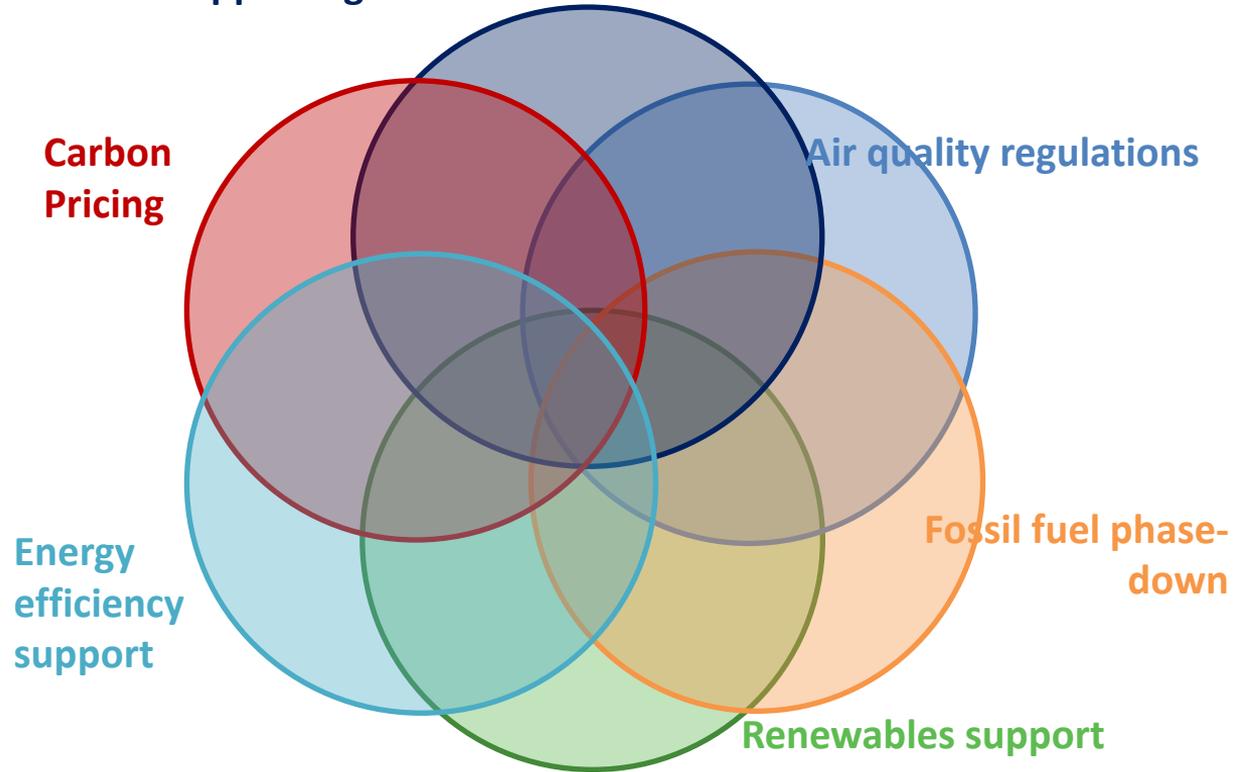
Peter Janoska, Environment and Climate Change Unit

COP 24 Katowice, 11 December

Multiple objectives of clean energy transitions



Supporting markets and infrastructure



A broad basket of policies is relevant for energy transition: policy overlaps and interactions need to be taken into account for effective implementation

... but real-world policymaking is more challenging!

Supporting markets and infrastructure

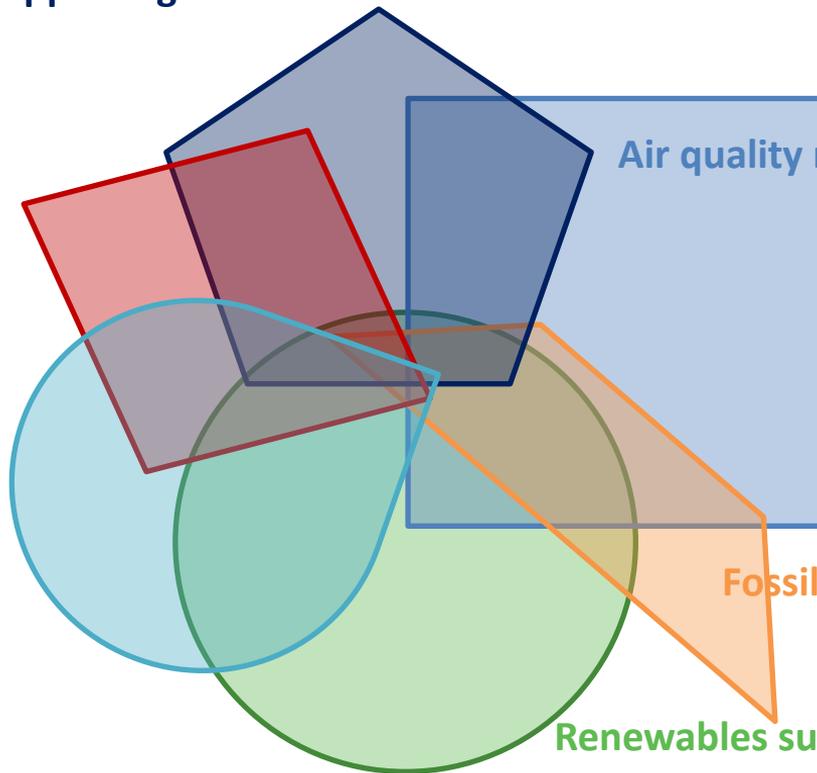
Carbon Pricing

Air quality regulations

Energy efficiency support

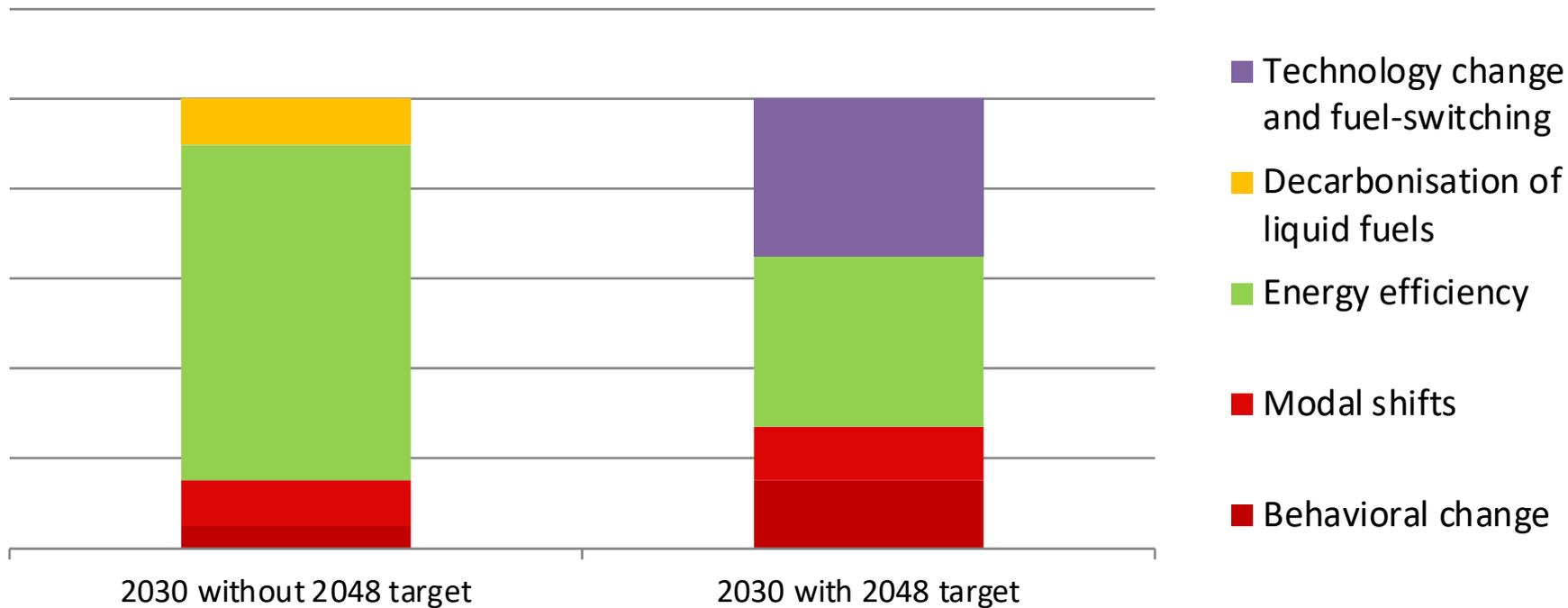
Fossil fuel phase-down

Renewables support



Different country contexts will lead to different policies playing different roles in line with policy priorities; their “size and shape” may vary and evolve over time

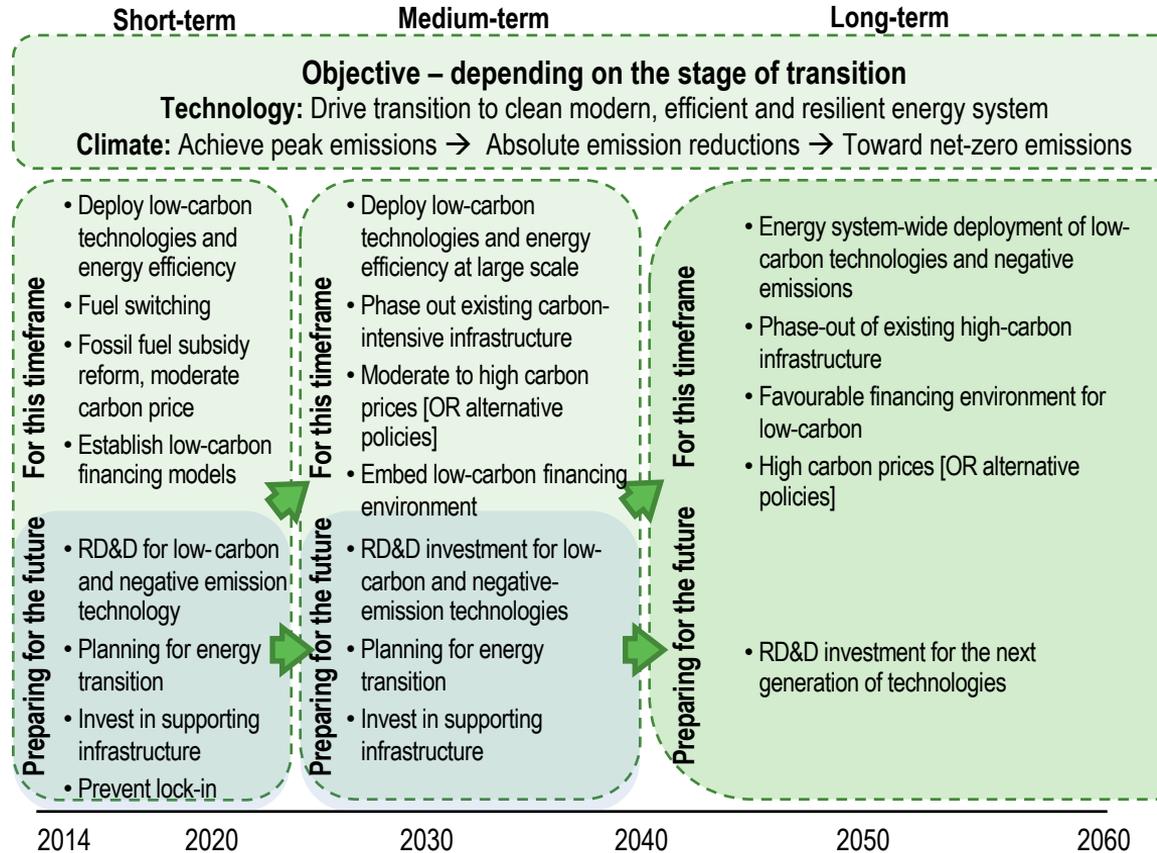
Optimising for short- and long-term reductions ?



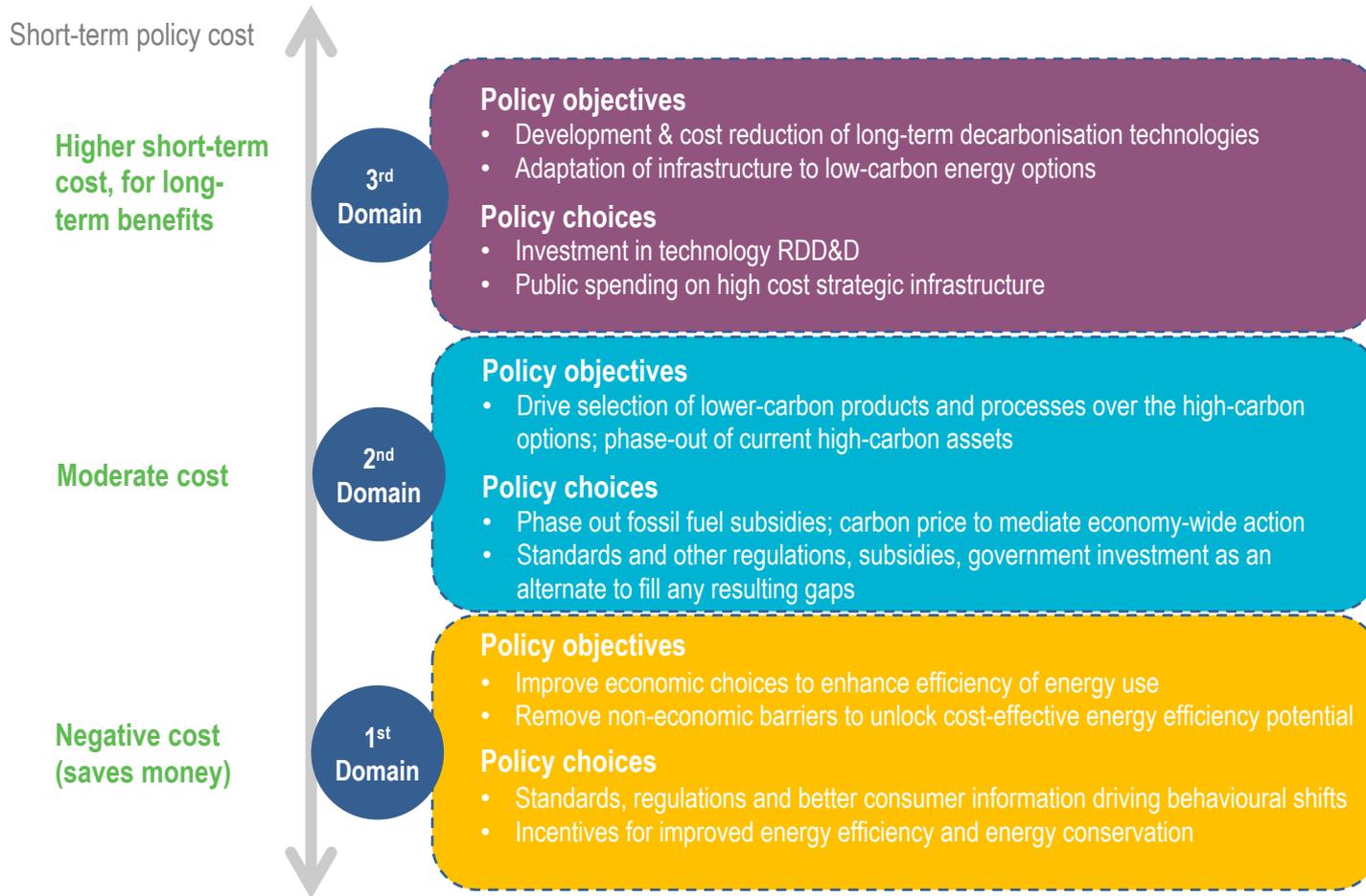
Source: Perrissin and Foussard., 2016

A policy package for long-term transition may contain different elements than one for a shorter timeframe

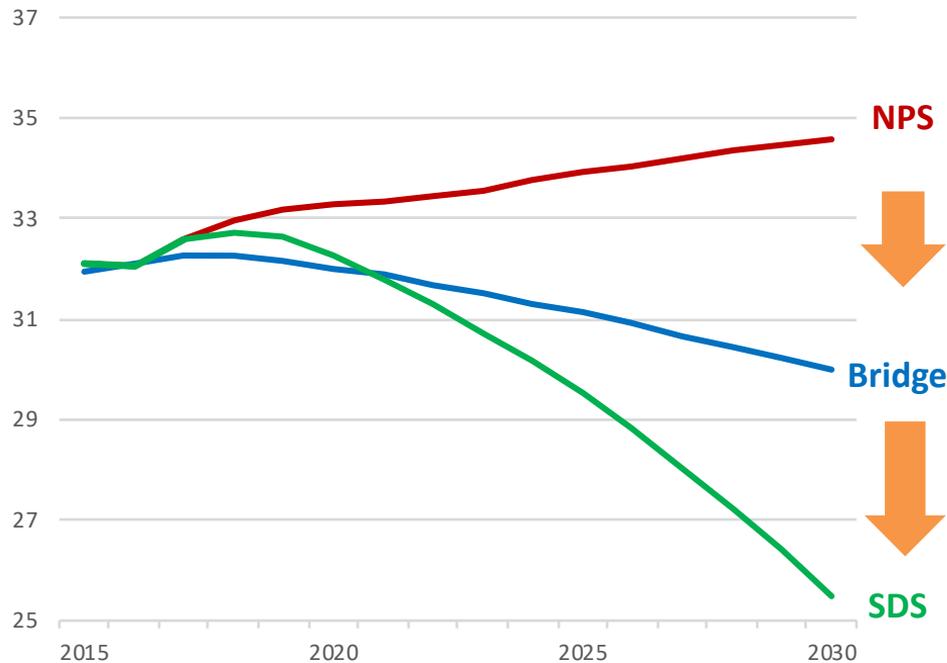
The time dimension of policy packages: Tailoring to timeframes



Sustainable energy transition: Domains of policy packages



Comparing the role of carbon price and policies in IEA scenarios



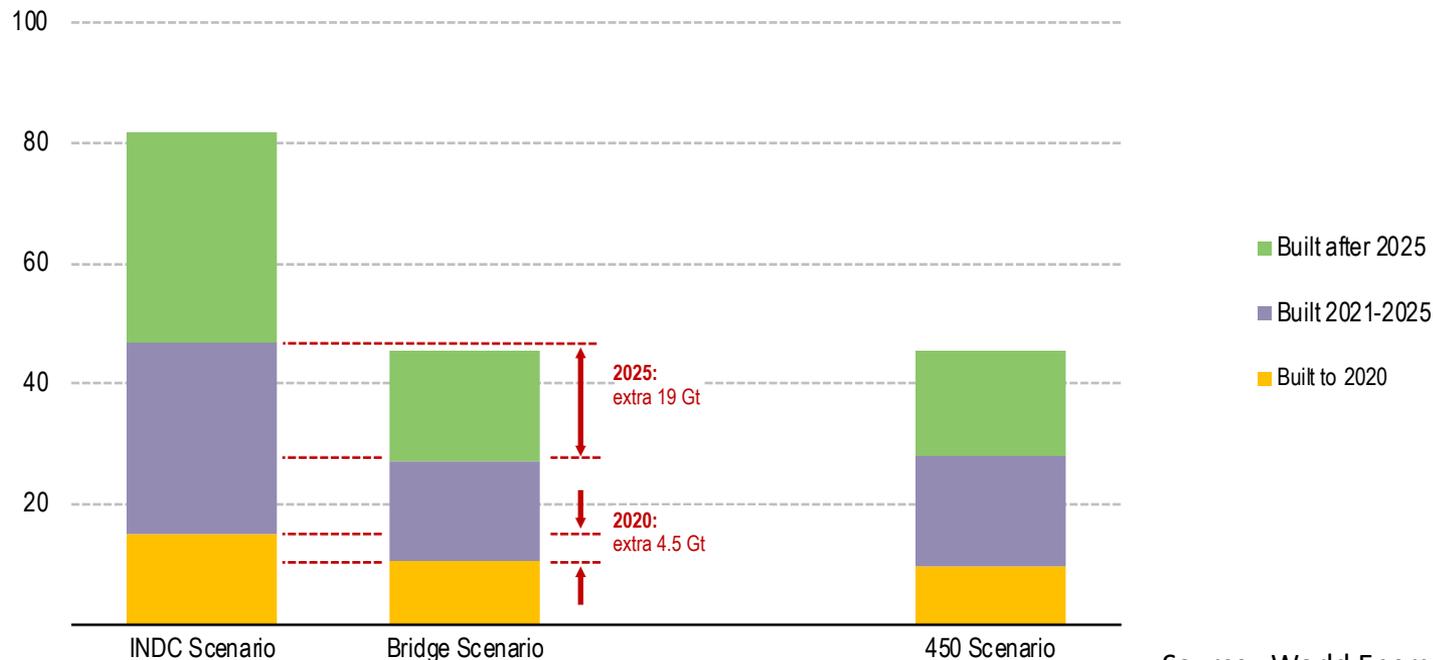
Five policies that deliver cost-effective short-term emission reductions to peak global emissions

High carbon price plus early support for advanced technologies

Source: WEO2018 & [Insights series 2017 - Real-world policy packages for sustainable energy transitions](#)

Targeted policies can peak emissions, but high carbon prices and advance technologies give deeper reductions consistent with climate goals.

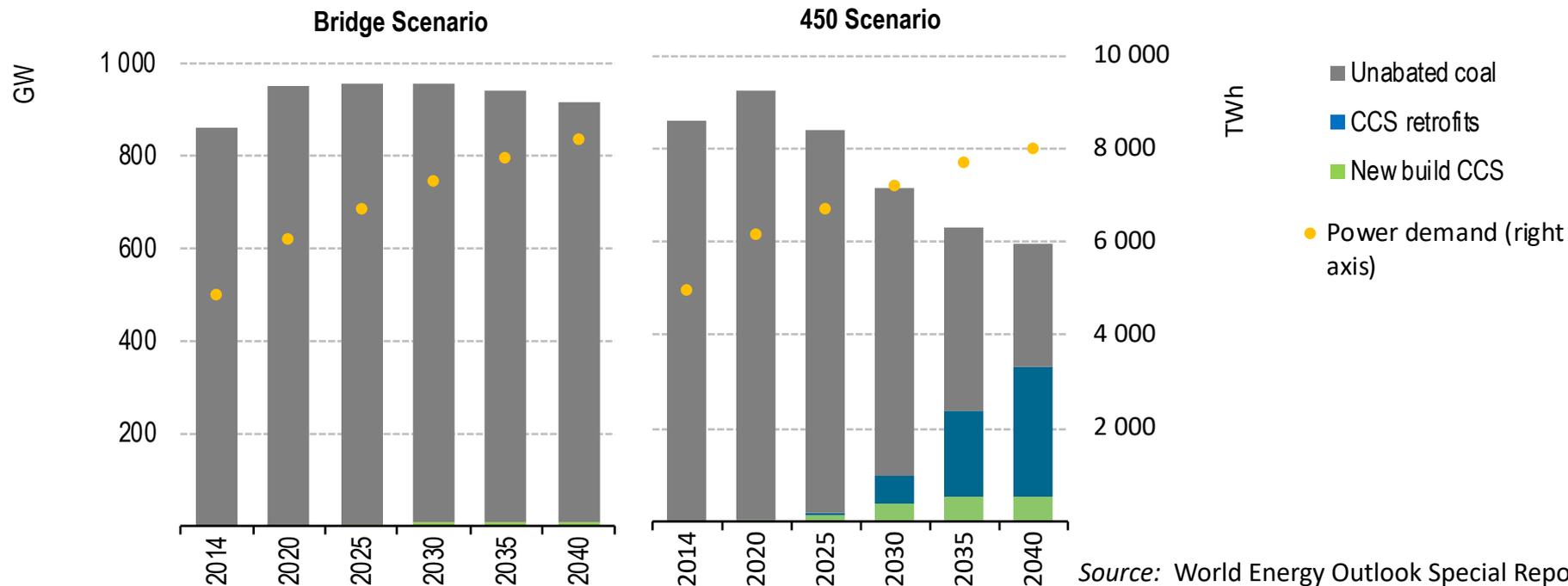
Emissions from new investments in power generation



Source: World Energy Outlook Special Report: Energy and Climate Change, 2015

The targeted policies of the Bridge Scenario do a good job of aligning new power sector investment with a 2C Scenario

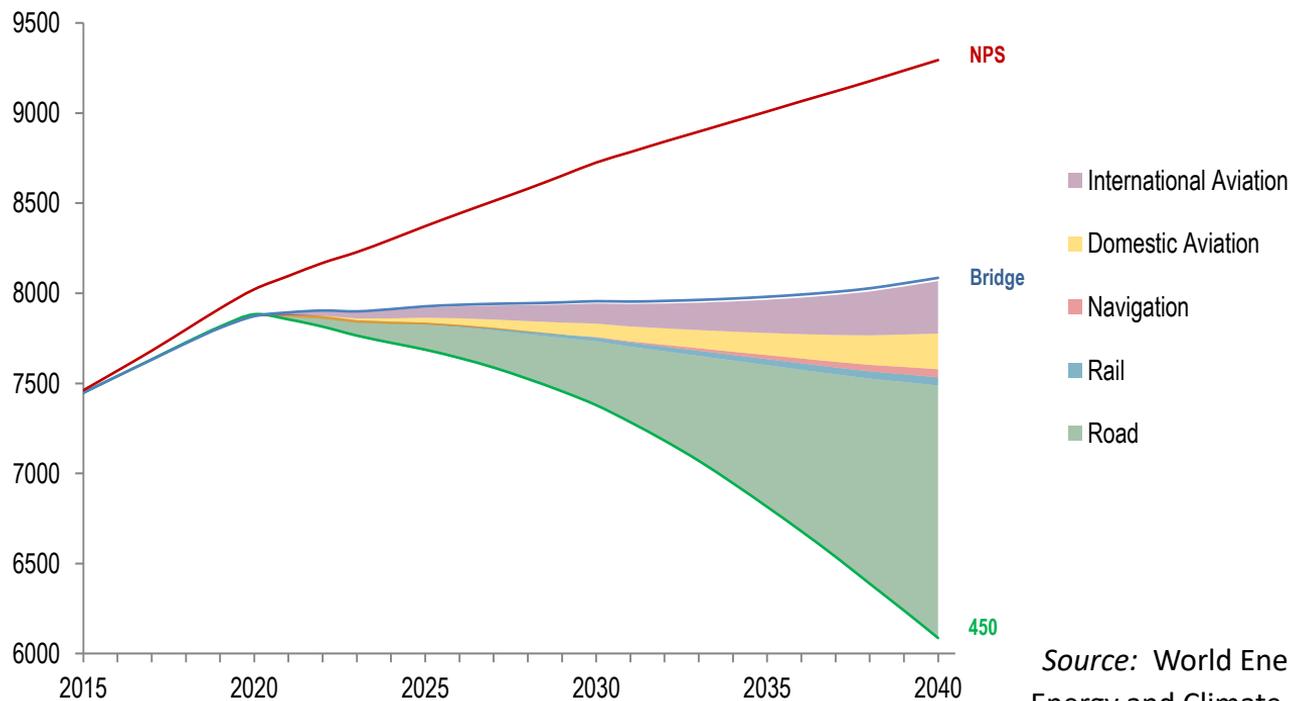
What's missing? Coal retirement and CCS retrofit



Source: World Energy Outlook Special Report: Energy and Climate Change, 2015

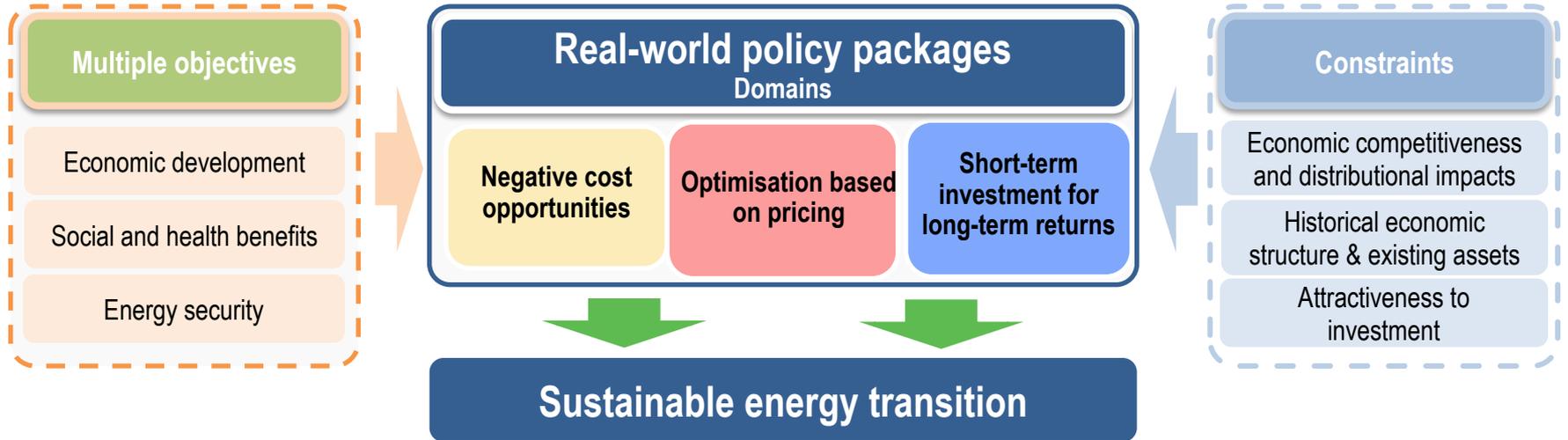
High carbon prices in the 450 Scenario are needed to drive early retirement of coal plant and retrofit for carbon capture and storage.

Transport sector: Comprehensive policy packages needed



Source: World Energy Outlook Special Report: Energy and Climate Change, 2015

Carbon pricing itself cannot unlock more substantial technology shifts such as electrification or advanced biofuels development.





Thank you

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