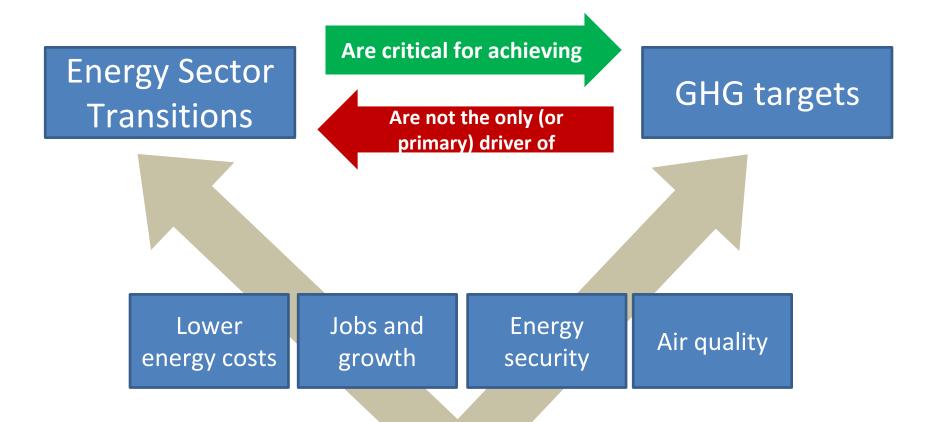


Policy packages for energy transitions

Peter Janoska, Environment and Climate Change Unit COP 24 Katowice, 11 December

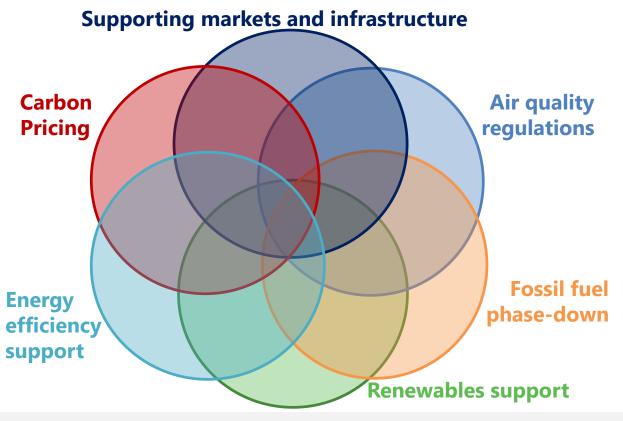
Multiple objectives of clean energy transitions





Policy packages

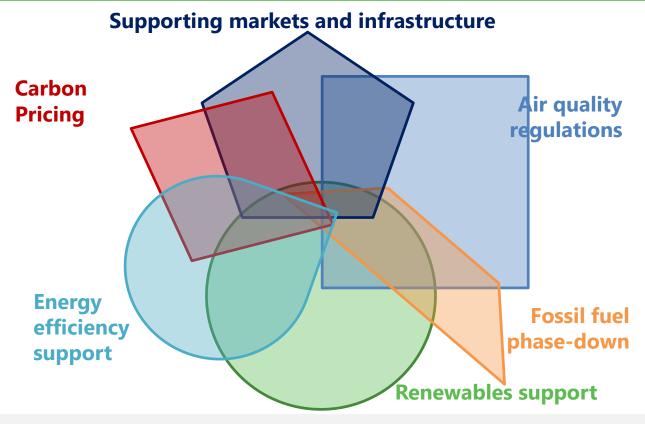




A broad basket of policies is relevant for energy transition: policy overlaps and interactions need to be taken into account for effective implementation

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

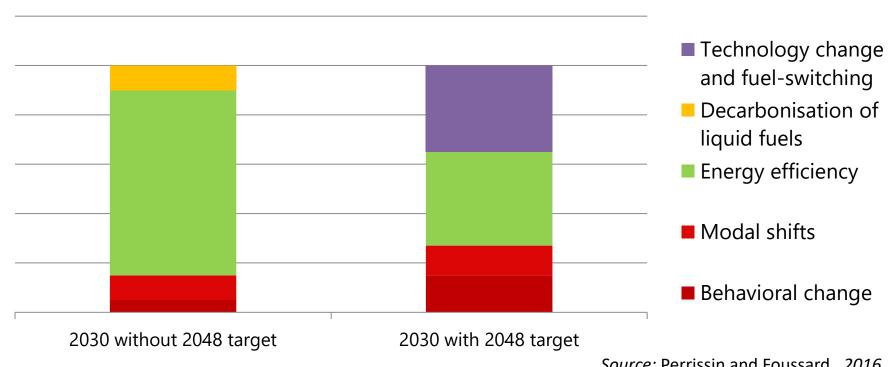




Different country contexts will lead to different policies playing different roles in line with policy priorities; their "size and shape" may vary and evolve over time

Optimising for short- and long-term reductions?



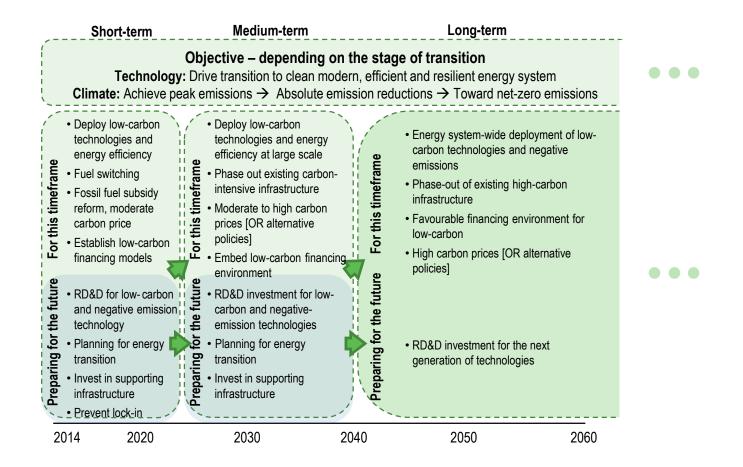


Source: Perrissin and Foussard., 2016

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



Short-term policy cost

Higher short-term cost, for long-term benefits

3rd Domain

2nd

Domain

Policy objectives

- Development & cost reduction of long-term decarbonisation technologies
- Adaptation of infrastructure to low-carbon energy options

Policy choices

- Investment in technology RDD&D
- Public spending on high cost strategic infrastructure

Moderate cost

1st

Domain

Policy objectives

• Drive selection of lower-carbon products and processes over the high-carbon options; phase-out of current high-carbon assets

Policy choices

- Phase out fossil fuel subsidies; carbon price to mediate economy-wide action
- Standards and other regulations, subsidies, government investment as an alternate to fill any resulting gaps

Policy objectives

- Improve economic choices to enhance efficiency of energy use
- Remove non-economic barriers to unlock cost-effective energy efficiency potential

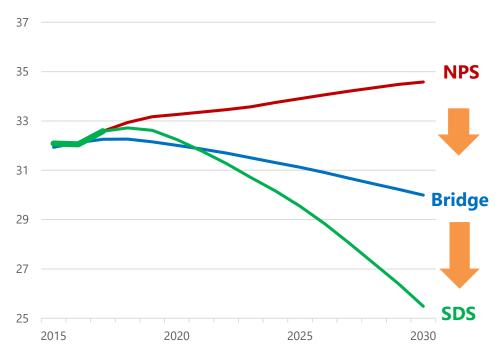
Policy choices

- Standards, regulations and better consumer information driving behavioural shifts
- Incentives for improved energy efficiency and energy conservation

Negative cost (saves money)

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

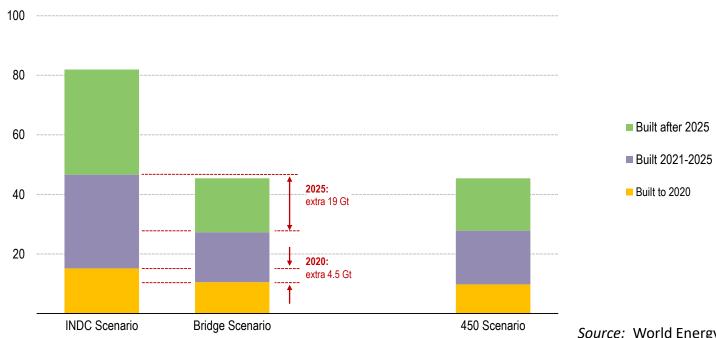
High carbon price plus early support for advanced technologies

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



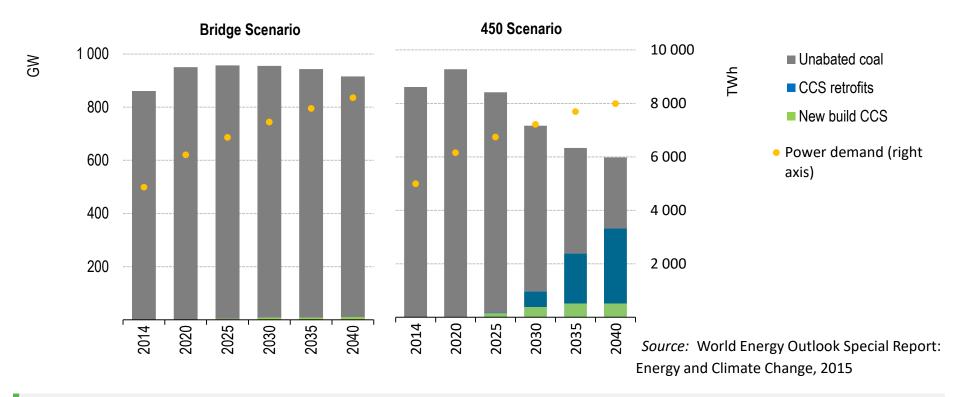


Source: World Energy Outlook Special Report: Energy and Climate Change, 2015

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

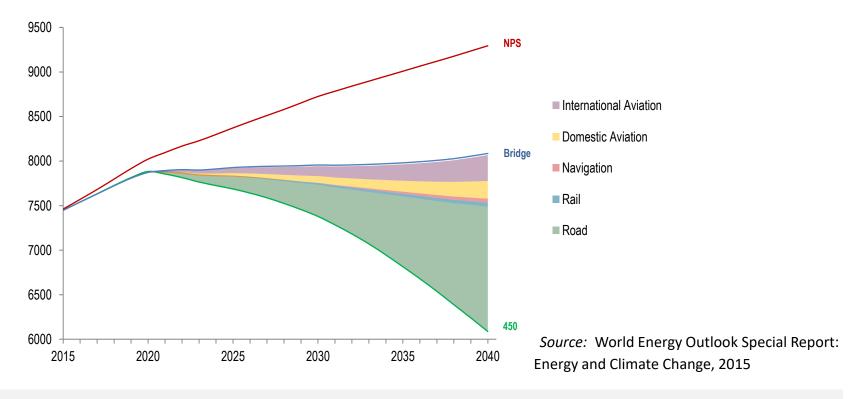




High carbon prices in the 450 Scenario are needed to drive early retirement of coal plant and retrofit for carbon capture and storage.

Transport sector: Comprehensive policy packages needed

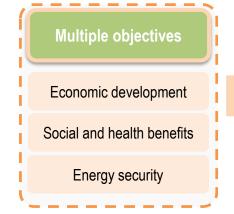


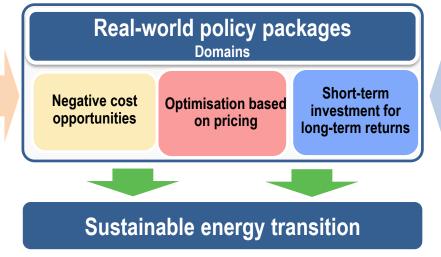


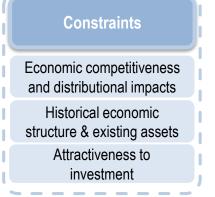
Carbon pricing itself cannot unlock more substantial technology shifts such as electrification or advanced biofuels development.

Domains of policy packages











Thank you

Peter Janoska peter.janoska@iea.org

www.iea.org/topics/climatechange/ https://twitter.com/iea