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# The role of renewables in meeting the EU's long-term decarbonisation strategy

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30/09/2019

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# Overview

- Introduction to EU policy
- Renewables in the EU
- The long-term strategy
- Future developments

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# Introduction to EU policy

- In Europe, policy is determined at national level, unless there are grounds to set policy at European level (*subsidiarity* principle)
- If there is a need for policy at European level, it will be proposed and assessed by the European Commission
- It is then put before the European Council and the European Parliament

- These principles apply to renewables too:
  - targets for renewable shares are set
  - but countries choose how the targets are met

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# Introduction to EU policy (cont.)

EUROPEAN
COMMISSION

Strasbourg, 19.5.2015
SWD(2015) 111 final

**COMMISSION STAFF WORKING DOCUMENT**

**Better Regulation Guidelines**

{COM(2015) 215 final}
{SWD(2015) 110 final}

- For further information, see the *Better Regulation Guidelines*
- This describes how assessments should be carried out, as well as key guiding principles
- The European Commission proposes new policy; it consists of 20-30 DGs (Directorates General)
- Energy policy is determined by the DG for energy
- Climate policy (including EU ETS) is determined by DG CLIMA – but the two departments coordinate together

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# The EU's near-term targets

- After the Kyoto period, targets were set for 2020:
  - 20% reduction in greenhouse gas emissions (v 1990 levels)
  - 20% share of renewables
  - 20% improvement to energy efficiency

- Renewables targets were allocated to each country in the EU

20/20/20

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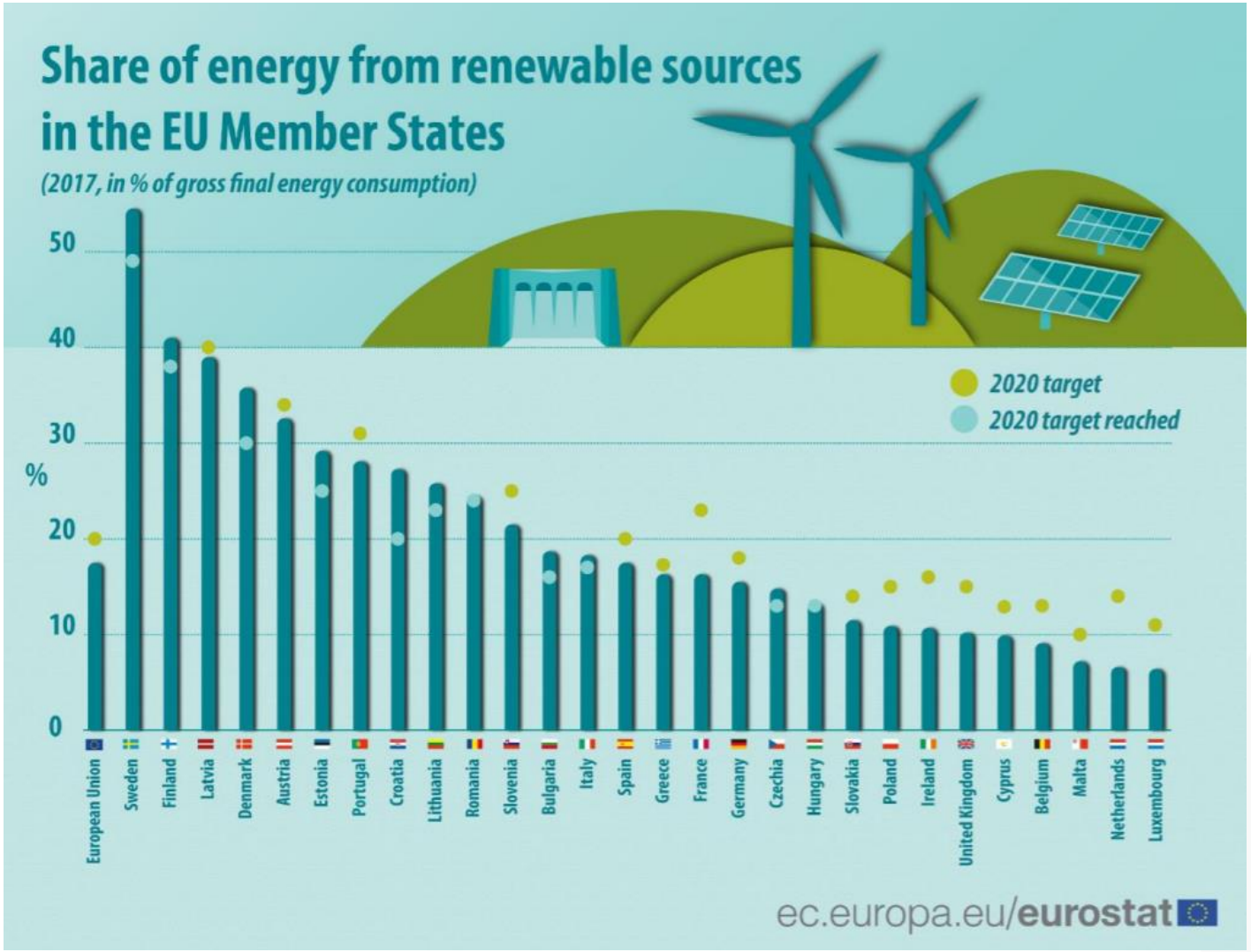
# The EU's near-term targets (cont.)




- The targets did not predict sharp falls in the cost of solar
- By the end of 2017, 11 countries had met their 2020 targets
- Others were still some way off though

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# Targets have also been set for 2030

- At EU level, by 2030:
  - 40% reduction in greenhouse gas emissions (v 1990 levels)
  - 32% share of renewables
  - 32.5% improvement to energy efficiency

- Renewables targets have not been allocated to each country in the EU

40/32/32.5

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# And for 2050

- At EU level, by 2050:
  - 80-85% reduction in greenhouse gas emissions (v 1990 levels)

- The European Commission has proposed to change the target to -100%; this could also mean a revision to the 2030 target for GHG emissions

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# Why have three targets?

- Many economists say that the EU should have a single target for emissions reduction
- But the other targets are important:
  - to provide incentives to develop renewable technologies
  - to implement regulation to increase uptake of efficiency measures

- However, there are clearly strong interactions between the targets

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# Here are my views… others may disagree!

## Carbon pricing is not a panacea: why I cannot support the EAERE's statement

**Posted by:** Hector Pollitt
**Publish date:** 3rd July, 2019 | 11:57am

x2


The European Association of Environmental and Resource Economists (EAERE) is the largest group of environment-minded economists in Europe. It has recently put out a statement on carbon pricing.

Although many people who I respect have given their support to the statement, it is not something I can do because it is a clear example of the misuse of neoclassical economics.

In short, the EAERE statement says that:

1. Carbon pricing is the most cost-effective way to reduce emissions

https://www.camecon.com/blog/carbon-pricing-is-not-a-panacea-why-i-cannot-support-the-eaeres-statement/

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# What are the policies to meet the targets?

- For GHGs, the main policy is the EU ETS
  - cap and trade scheme
  - it covers the power sector and large industrial emitters (and internal aviation)
  - current price around €25/tonne of $CO_2$ ($27-28)

- For energy efficiency there are various regulatory policies on buildings and appliances


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# For renewables?

- The EU policies in other areas are important:
  - a carbon price makes renewables more attractive
  - coal is largely being regulated out
  - energy efficiency reduces electricity demand

- But more generally, policies are set at national level
- Examples include Feed-In-Tariffs and Renewable Portfolio Standards
- Different EU countries have shown different ambition levels

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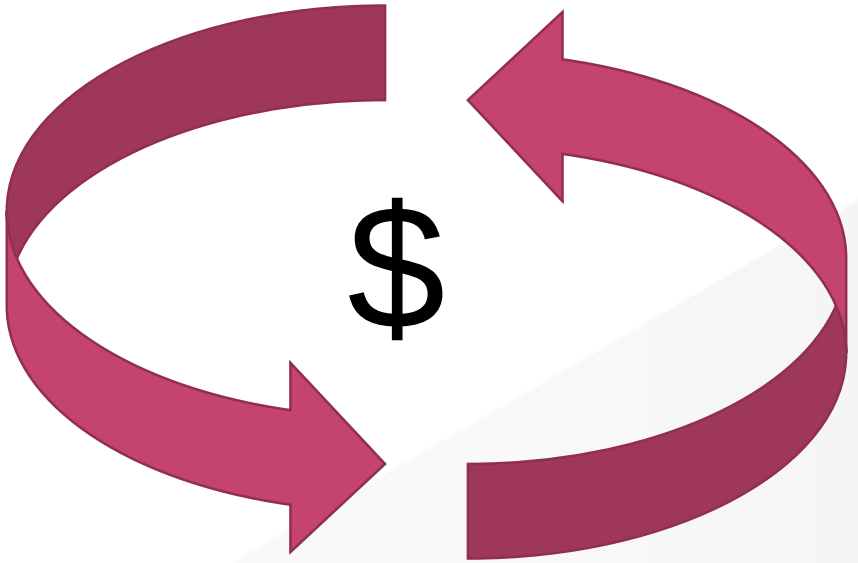
# The interaction with prices

- The 2020 renewables targets were set while prices were still higher
- But the targets helped to reduce prices – in the EU and for the rest of the world

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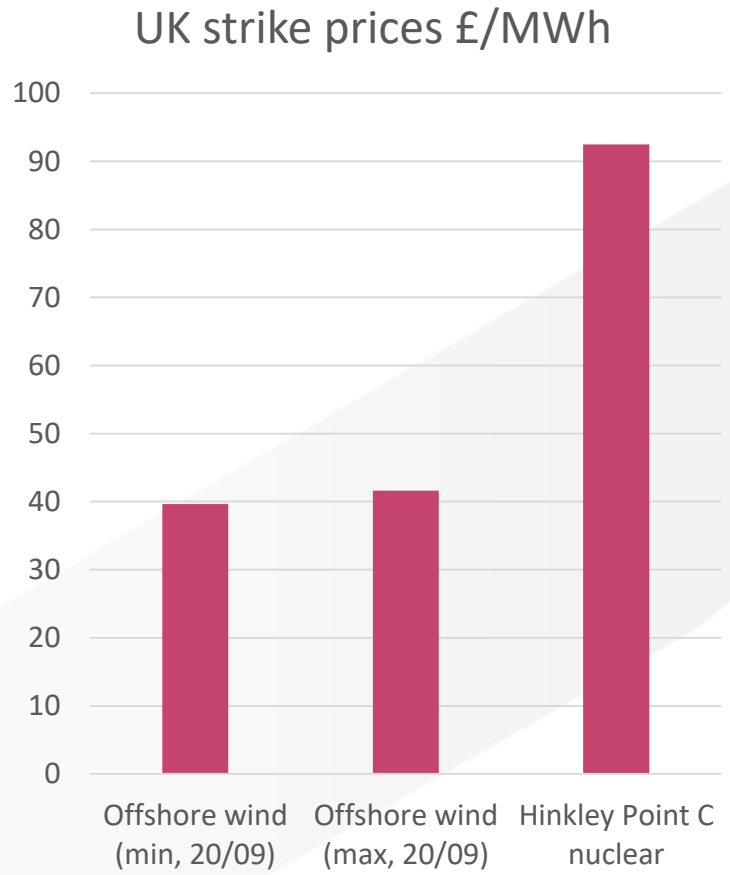
# Two examples

- Germany invested a lot in solar production, in part because it chose to phase out nuclear power
  - solar prices fell
  - more countries invested
  - prices fell further (~80% in a decade)

- The UK has tried to build a world-leading offshore wind industry
  - previously Denmark was most established
  - prices have fallen dramatically
  - offshore wind is now competitive without subsidy

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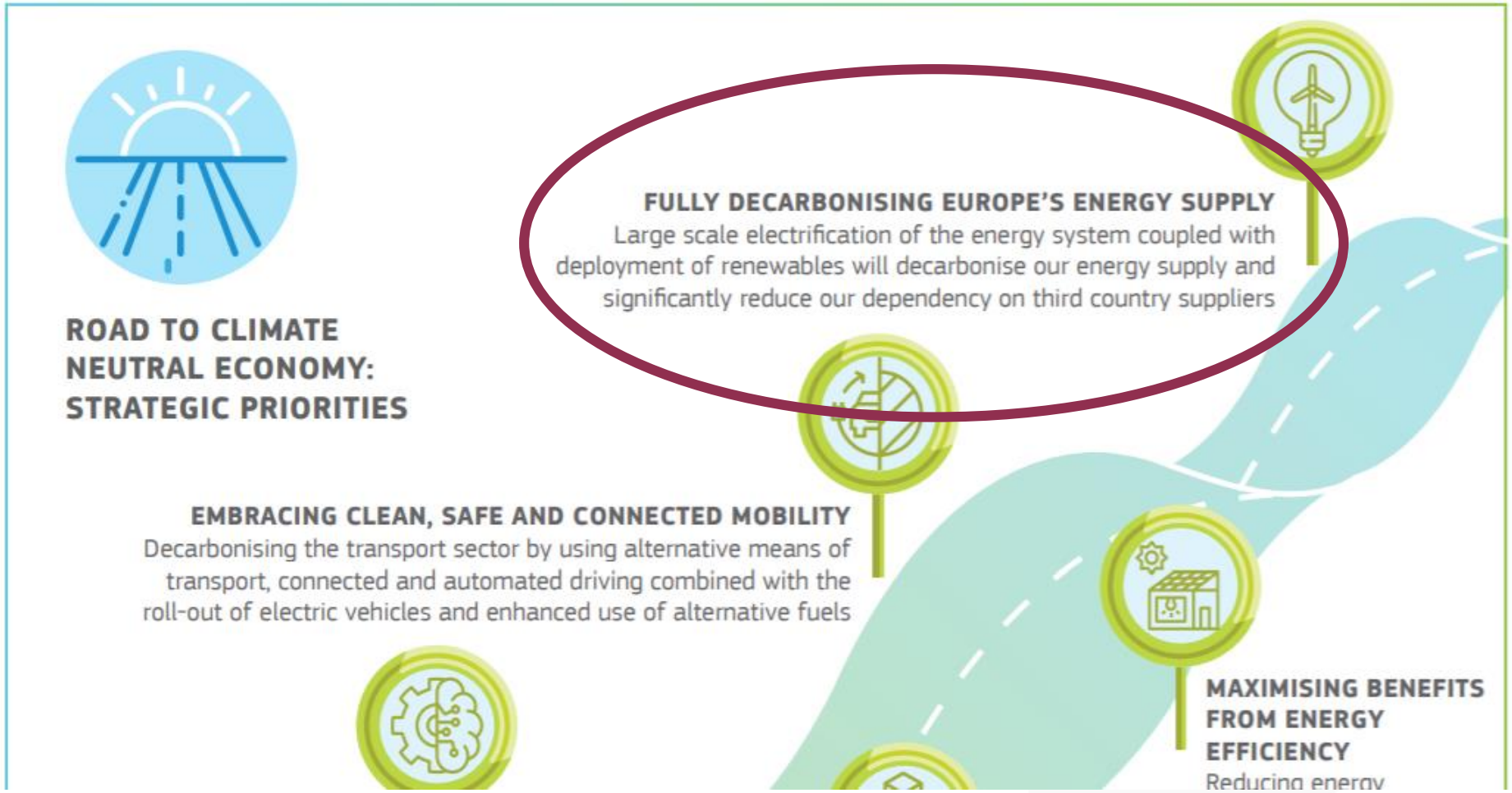
# Looking to the future…




https://ec.europa.eu/clima/sites/clima/files/docs/pages/vision_1_emissions_en.pdf

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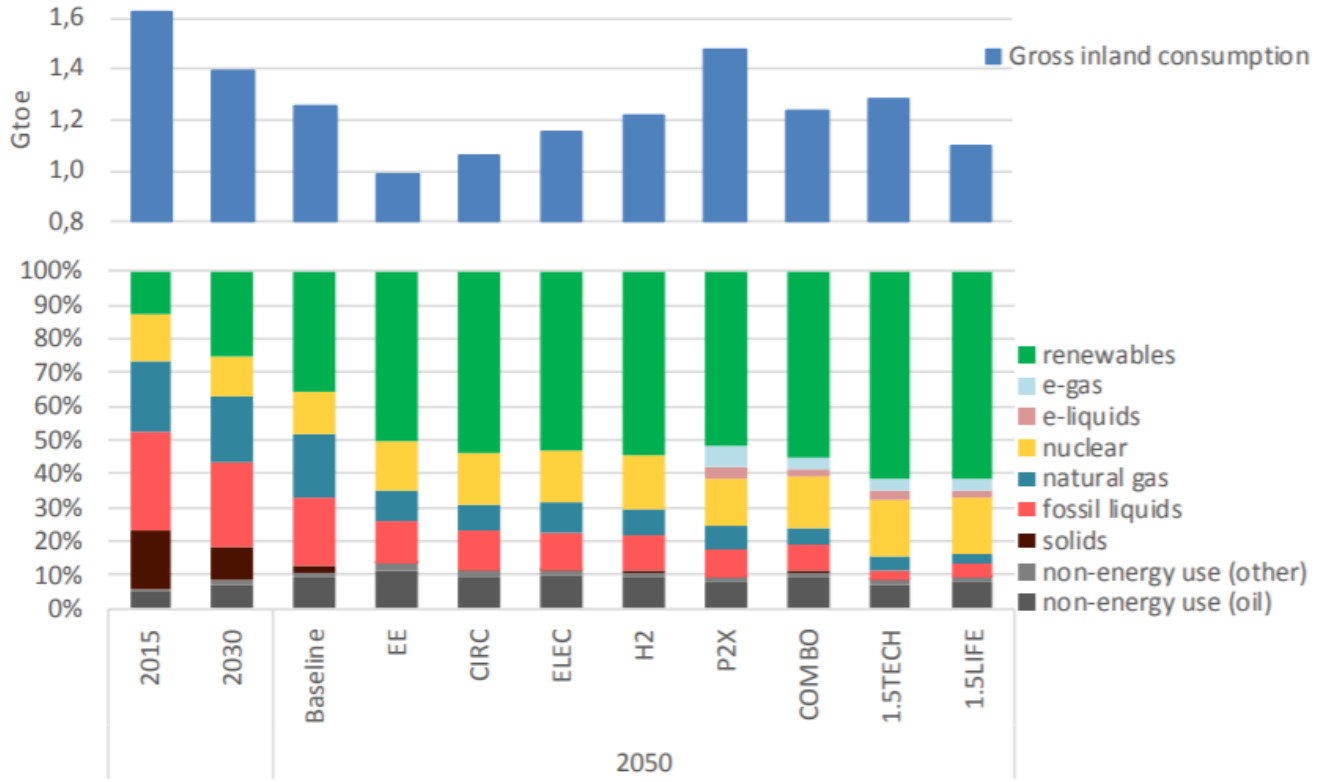
# 2050 – no explicit renewables targets but…

**Figure 18: Gross inland consumption**




*Source: Eurostat (2015), PRIMES.*

https://ec.europa.eu/clima/sites/clima/files/docs/pages/com_2018_733_analysis_in_support_en_0.pdf p69.

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# And good for the economy too…


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# And good for the economy too… (cont.)

- Recent European policies have been assessed through modelling – this is almost a requirement of the Better Regulation Guidelines
  - the PRIMES model has been used for the energy system
  - the E3ME and GEM-E3 models have been used for economic analysis

- E3ME results suggest positive impact from renewables (and energy efficiency) because they lead to a reduction in fuel imports, with spending redirected to domestic production

# Conclusions

- The EU has always been very favourable towards both environmental targets and renewables specifically
  - cheap solar is a result of actions that started in Europe
  - offshore wind now following a similar trajectory
- Most, but not all, EU countries are likely to meet their targets for renewable share in 2020
- Renewables will be important for meeting GHG targets in 2030 and 2050

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