

# The Essential role of Wind and Renewables in delivering Net Zero

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**GREENPEACE**

**Wind Finance Europe, Dec 2022**

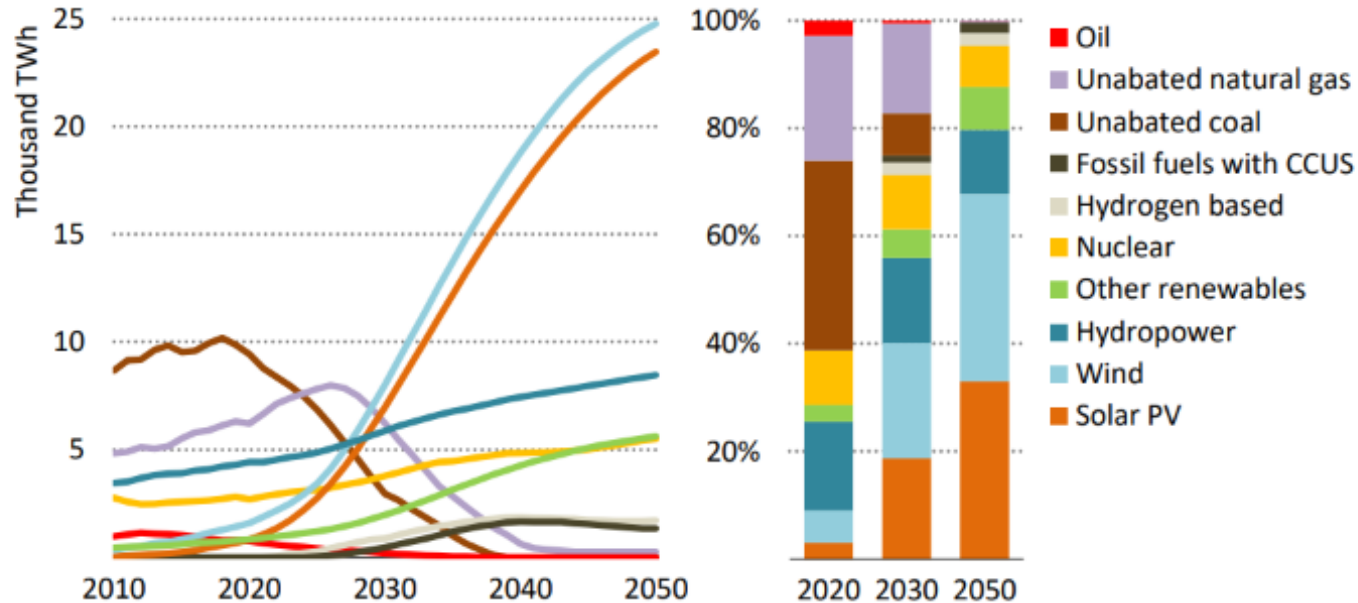
# What are the projections for renewables & wind growth?

- Global
- EU
- UK

## Obstacles to growth

- Grid
- Environment

**Figure 3.10** ▶ Global electricity generation by source in the NZE



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*Solar and wind power race ahead, raising the share of renewables in total generation from 29% in 2020 to nearly 90% in 2050, complemented by nuclear, hydrogen and CCUS*

IEA Net Zero  
Scenario

<https://www.iea.org/reports/net-zero-by-2050>

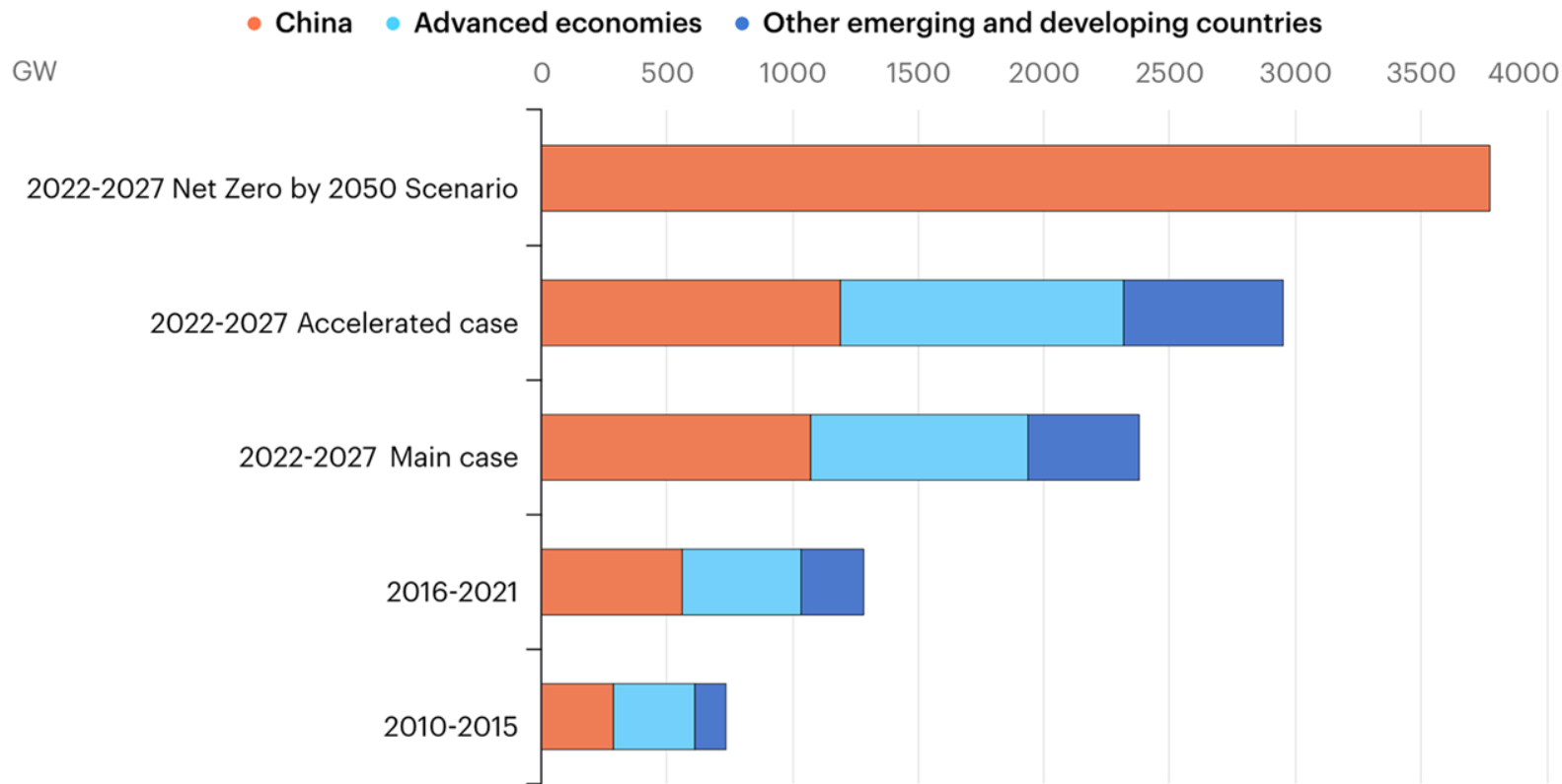
# IEA Forecast by 2027....

- solar PV capacity almost triples
- wind capacity almost doubles,  
offshore is 1/5 of growth. Over 570  
GW of new onshore wind

<https://www.iea.org/reports/renewables-2022/executive-summary>

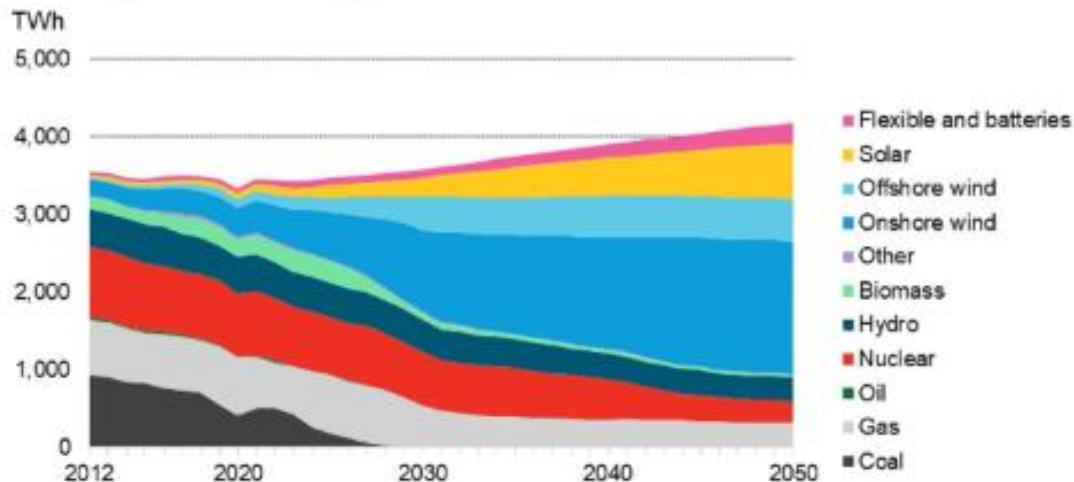
# Renewable capacity growth in the Main and Accelerated cases, 2010-2027

Renewables 2022



## European Electricity Sector Evolution

Electricity generation in Europe, Economic Transition Scenario



Source: BloombergNEF.

# EU projections

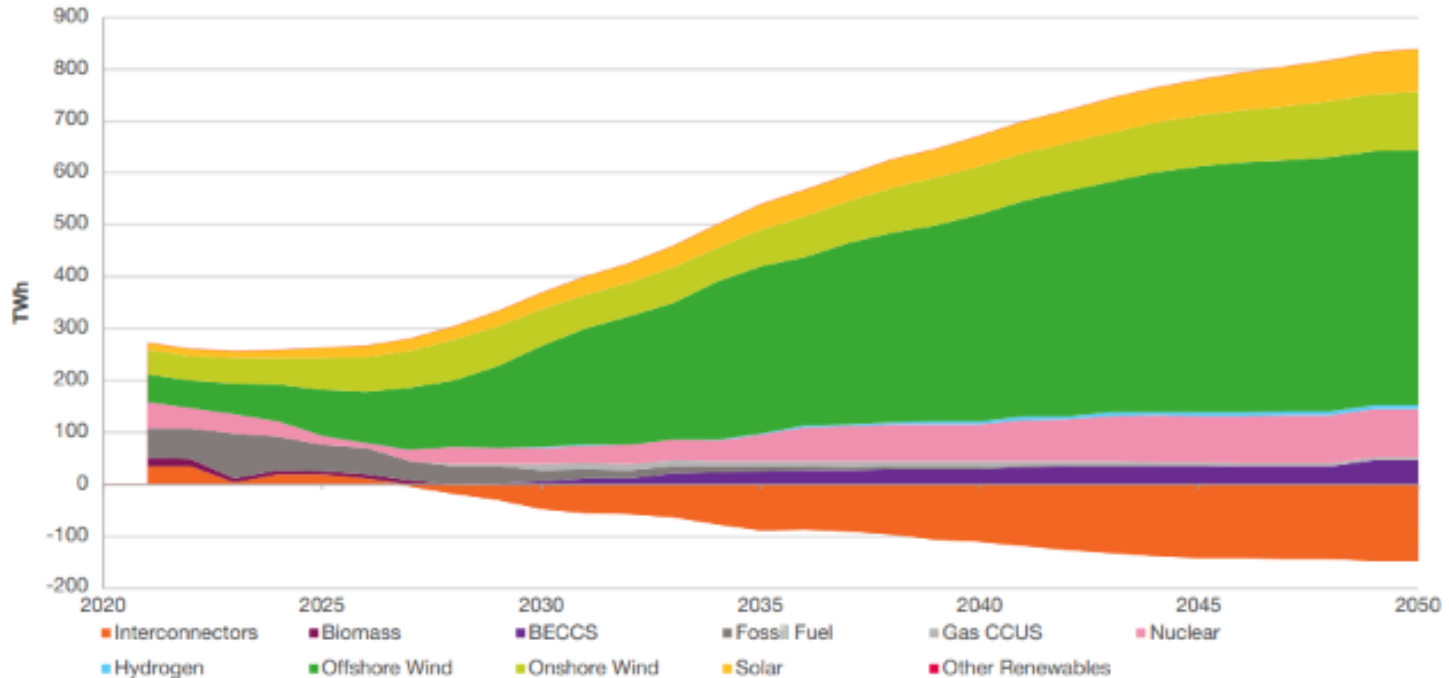
## Bloomberg

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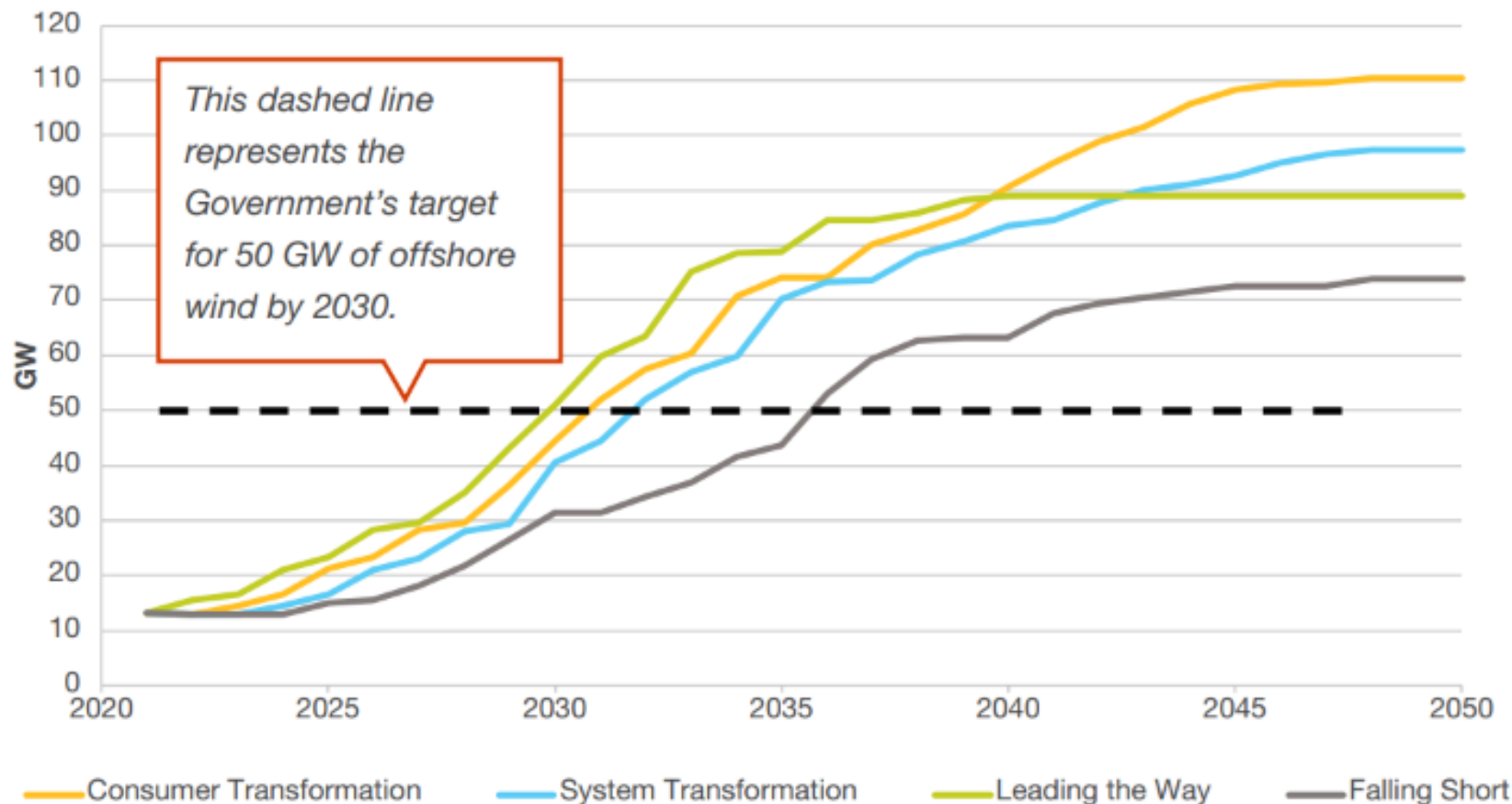
Segment	RePowerEU benchmarks, 2030*
Electricity**	69%
Solar capacity	592 GW
Wind capacity	510 GW

# UK National Grid

Figure ES.E.07: Electricity generation output by technology (TWh) in Consumer Transformation



**Figure ES.E.13:** Installed offshore wind generation capacity (GW)



**Figure ES.E.14: Installed onshore wind generation capacity (GW)**

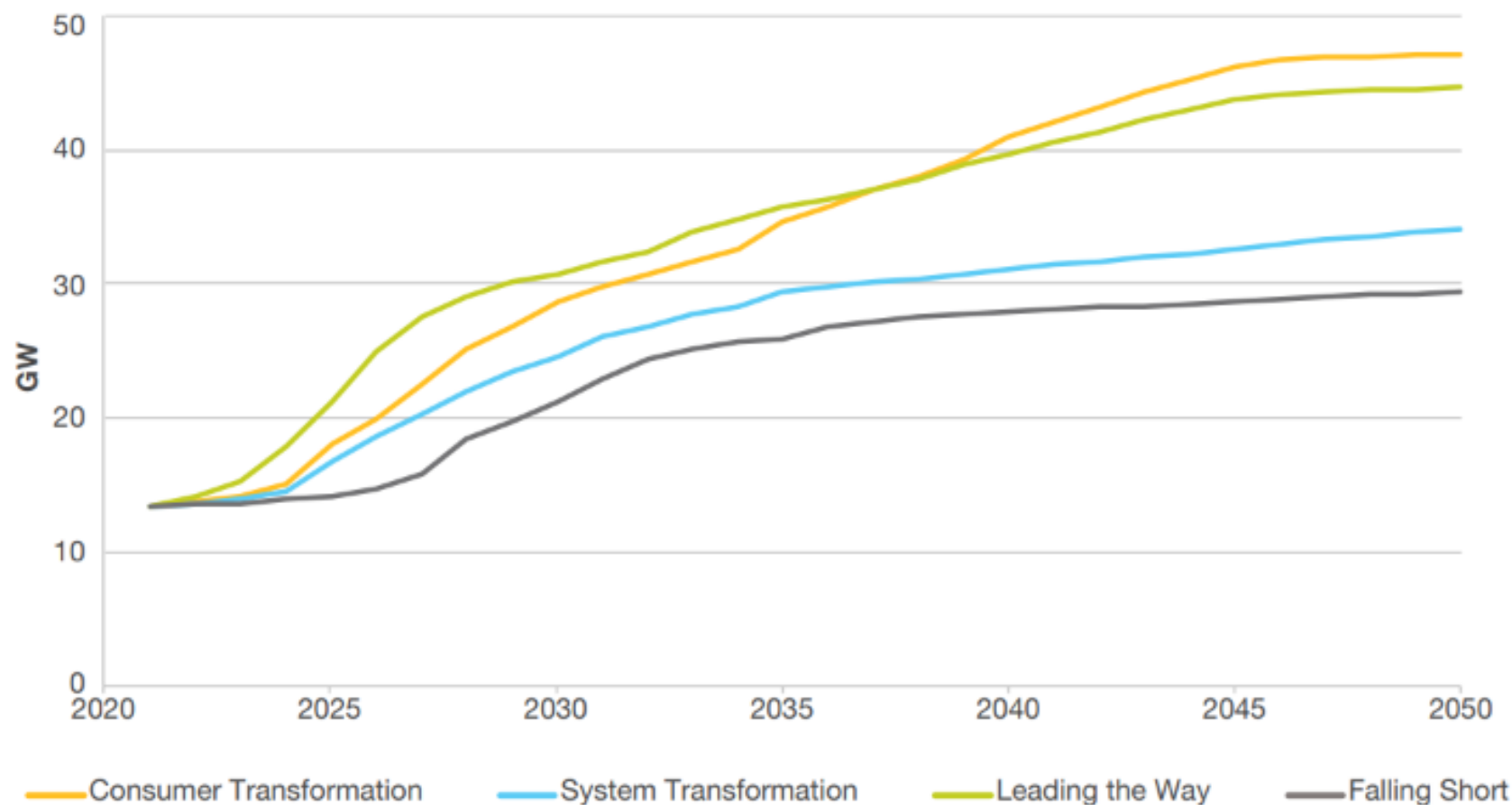
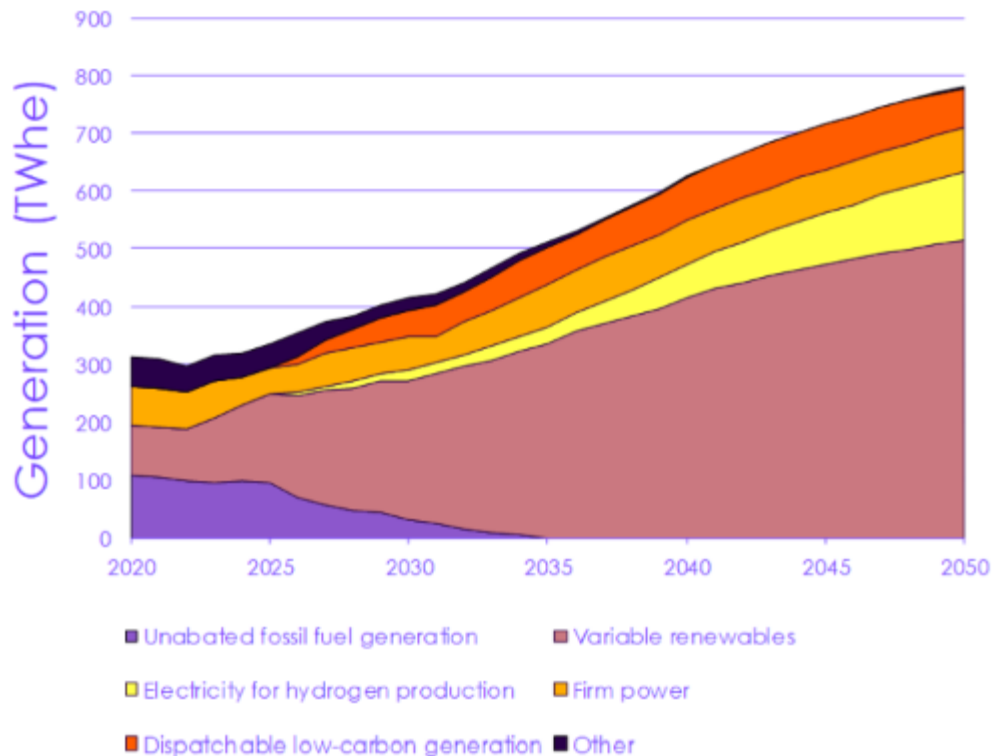


Figure 3.4.c Illustrative generation mix for the  
Balanced Net Zero Pathway (2020-50)



## UK Climate Change Committee 6th Carbon Budget

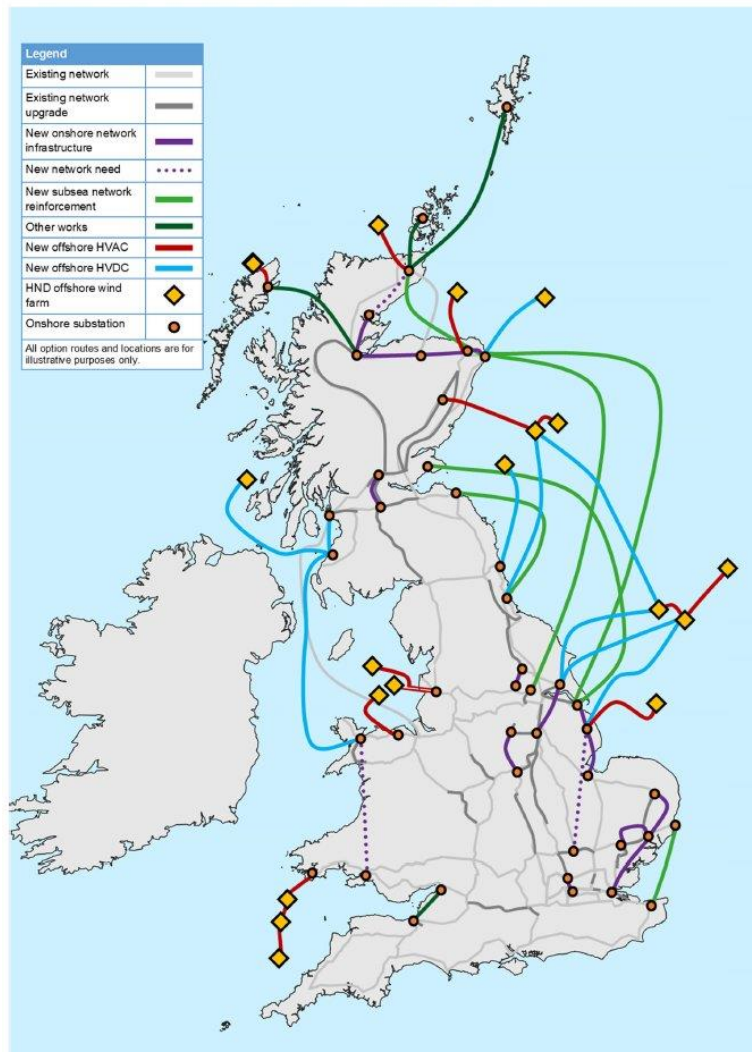
In 2050, 125GW wind,  
85GW solar

<https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf>

# Obstacles to growth in UK

- Connection at reasonable cost and minimising infrastructure
- Biodiversity risks esp offshore
- (Planning/Onshore wind ban in England)

Figure 9 - Full HND including major onshore and offshore recommendations



Network design for offshore to tap into wind resource - shows additional kit required to 2030, £7.6bn capital

<https://www.nationalgrideso.com/document/262681/download>

# Connections

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UK energy

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### Renewables projects face 10-year wait to connect to electricity grid

UK's net zero targets at risk due to delays caused by poor planning and investment in infrastructure

# The offshore environmental challenge



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# “Nature positive” offshore wind

- avoidance, mitigation, compensation
  - Proper marine spatial planning
  - Best design techniques
  - Wider environment including feeding grounds, nesting sites/islands

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