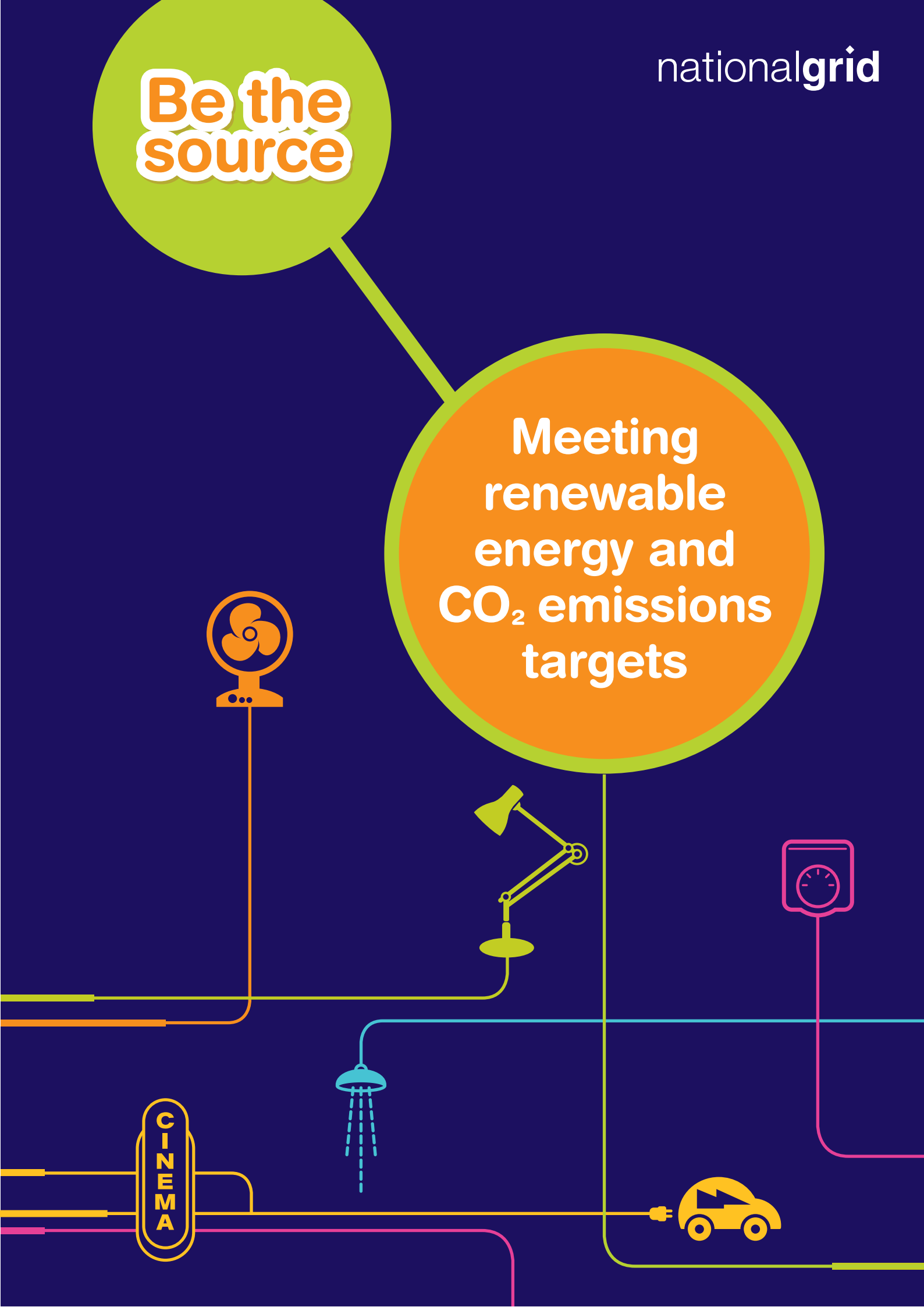
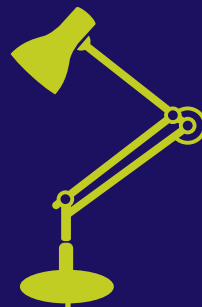


Be the
source

Meeting
renewable
energy and
CO₂ emissions
targets

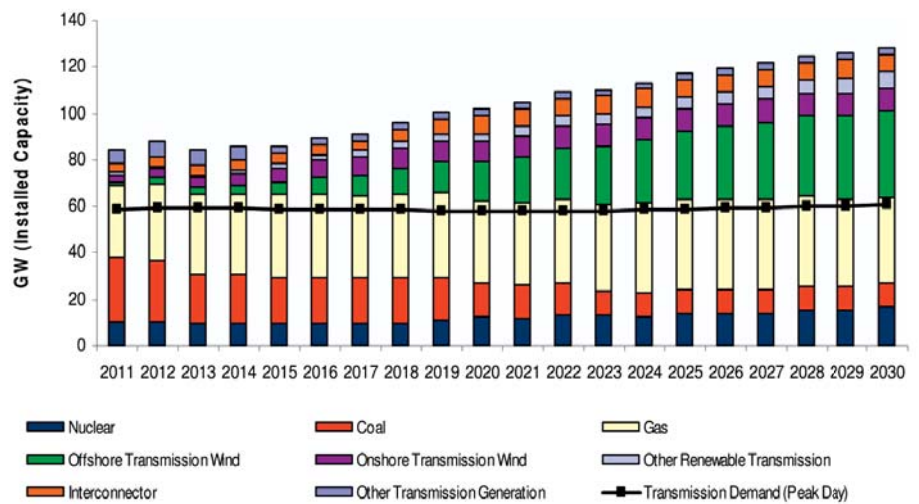


Key facts and figures

Electricity

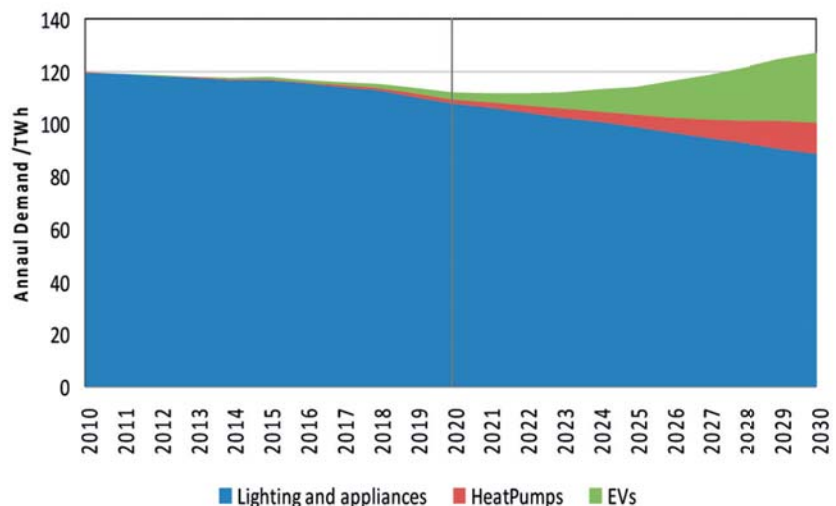
Supply

- First new nuclear plant connects in 2019-20
- 4 GW of coal with CCS connects post 2023 in addition to the development of CCS at Longannet
- Existing gas-fired plant assumed to close at around 25 years of age
- 7.0 GW of new gas plant with CCS is included in the forecast from 2023
- 26 GW of wind capacity in 2020 (17 GW offshore) and 47 GW (37 GW offshore) in 2030
- 4 GW Marine generation in 2030
- 31% of electricity from renewable sources in 2020, 48% in 2030



Demand

- Savings will be achieved from more efficient lighting and appliances
- Increased demand from domestic heat pumps and electric vehicles



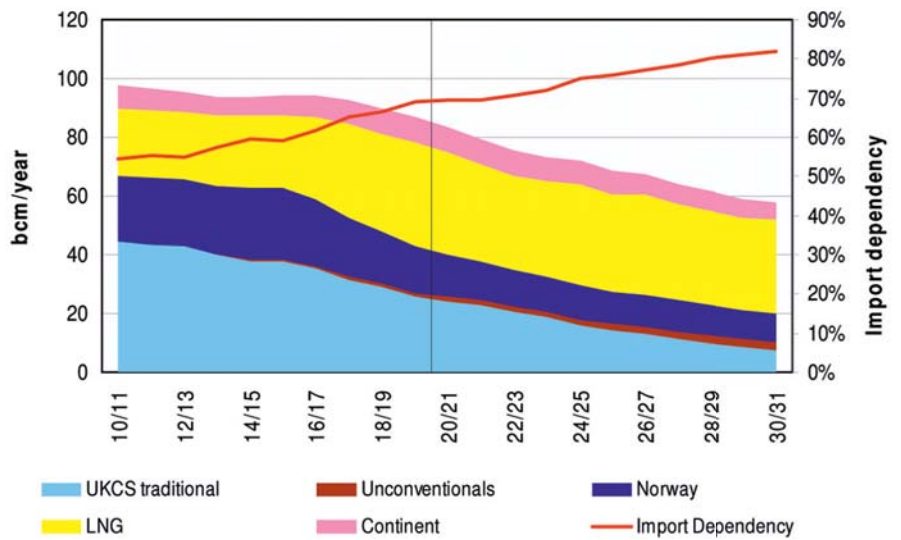
By 2050
electricity demand
is expected
to increase by

50%

Gas

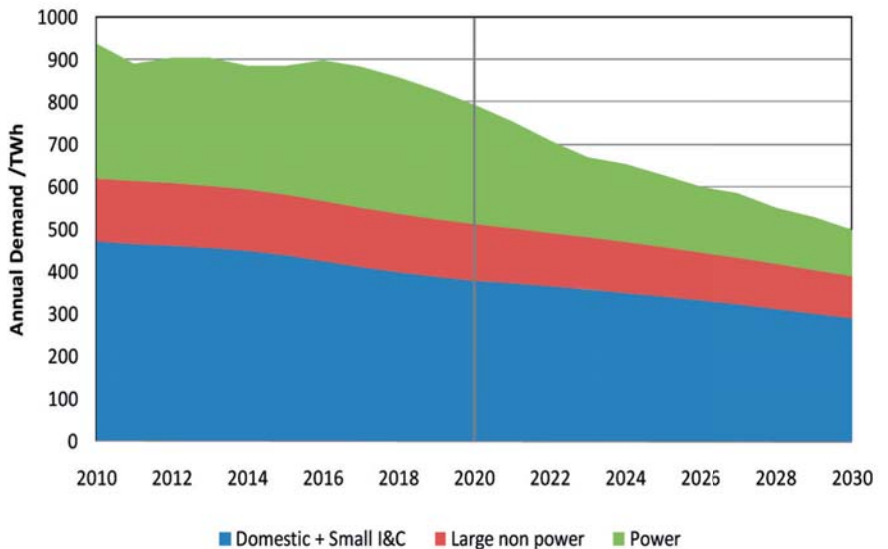
Supply

- Imports are not materially higher than today as decline in UKCS is comparable to decline in demand
- Unless new LNG facilities are built, supply flexibility from LNG could be reduced due to the need to operate close to peak flows for much of the time



Demand

- Domestic + I&C demands are lower due to energy efficiency
- Limited gas in new homes
- Power generation maintained initially due to coal closure then falls as more wind is installed



Supply and Demand Overview

Transport

- 1.8 million vehicles (EV and PHEV) by 2020, 13.5 million by 2030
- 17% of new car sales in 2020, 76% in 2030
- 40 TWh electricity demand by 2030 (CCCC4 has 31 TWh)
- No hydrogen vehicles before 2030
- Some CNG in HGVs
- 37 TWh biofuel in 2020 (Roadmap up to 48 TWh)
- On target for 10% of road and rail transport by 2020
- 7% of all transport energy from renewable sources by 2020

Heat

- Improved Insulation leads to lower demand: -8% by 2030. Committee on Climate Change 4th budget (CCC4) -15%
- 1.2 million domestic heat pumps by 2020, 8 million by 2030. CCC4 8 million by 2030
- Renewable heat 12% in 2020, 37% in 2030. CCC4 12% in 2020, 32% in 2030
- 20 TWh biogas in 2020, 50 TWh in 2030. CCC4 8 TWh in 2020, 27 TWh in 2030
- Heat demand is very peaky so full electrification of heat would be very expensive and difficult
- Using gas to meet the peak heat demand alongside heat pumps for baseload heat means that gas still makes up 63% of domestic space heating in 2030 (down from 83% today)
- 46 TWh total biomatter (biogas + biomass + waste) heating in 2020 DECC Roadmap 36-50 TWh
- Limited Micro CHP & some district heating

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