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Transport

Alex Haffner, Dave Wagstaff & Angeliki Gkogka



System Operator

What we will cover today...

- Recent changes in transport sector
- Internal combustion engine reductions
- Annual energy demand from road transport
- Smart charging and engagement
- Questions

Recent developments...

Tesla Semi | **Electric buses rolled out to boost**

greenmotion
car and van rental

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The Telegraph

Shell plans UK's first 'no-petrol' station as journey towards clean motoring continues

UK Hybrid and EV sales grow in May

Release Date: 05 June 2018



HM Government



The Road to Zero

Next steps towards cleaner road transport and delivering our Industrial Strategy



MSE News

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New ultra-low emission zone in London to expand in 2021



By Callum Mason, News Reporter
8 Jun 2018



Ten electric cars we're excited about in 2018

Prepare for the rise of the EV as electrification comes of age in 2018

Jack Rix | 137

THE Government has allocated around £500million to encourage motorists to buy an electric car and to improve the infrastructure to support motorists who drive them.

Drop in new vehicle sales in March blamed on fresh taxes and confusion over potential bans

Demand down 3.5% but sales of petrol models rose by 12.3% last month

by Electric Tr

By Elisabeth Behrmann
October 25, 2017, 10:26 AM GMT+1 Updated on October 25,

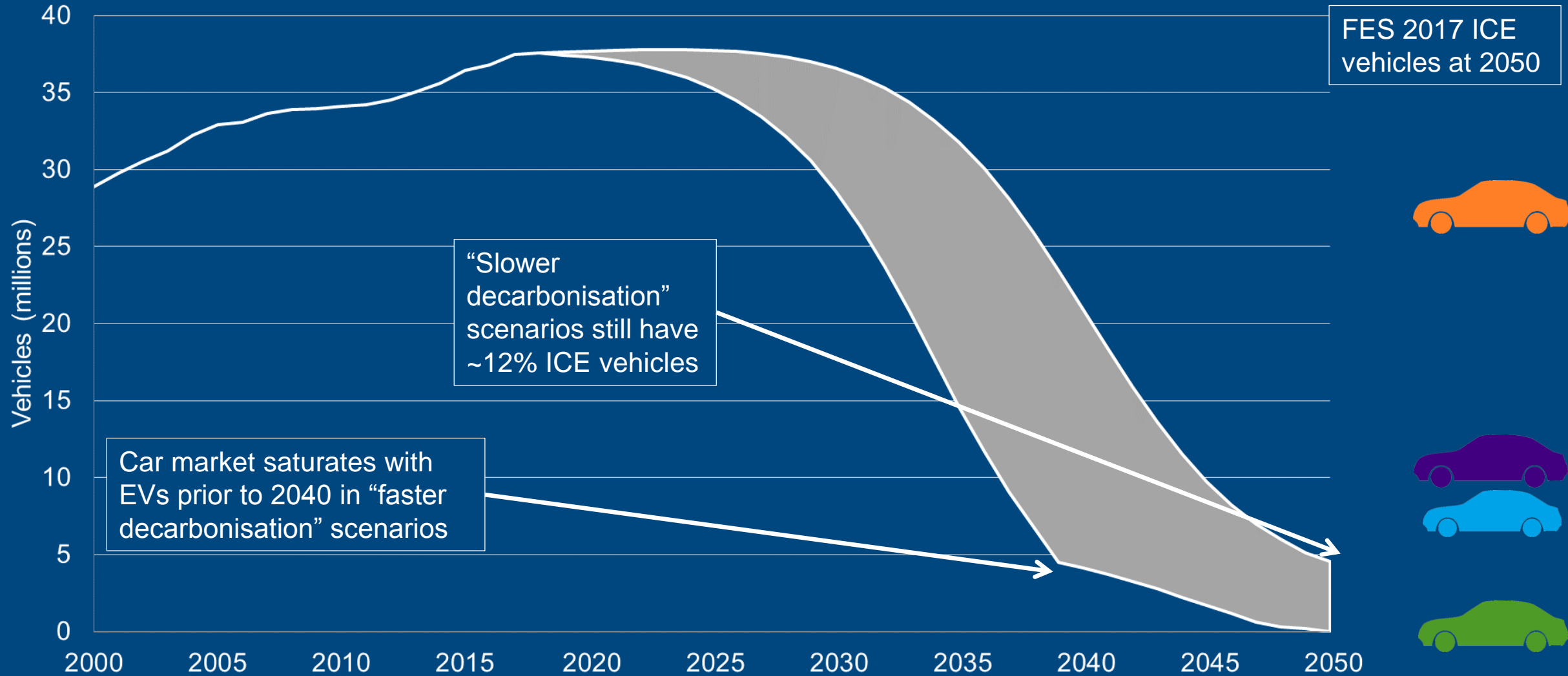
Number of new cars registered in February falls by 2.8% despite rises in petrol and electric sales

Mayor announces 'strong measures' to tackle pollution in Italy's traffic-clogged capital

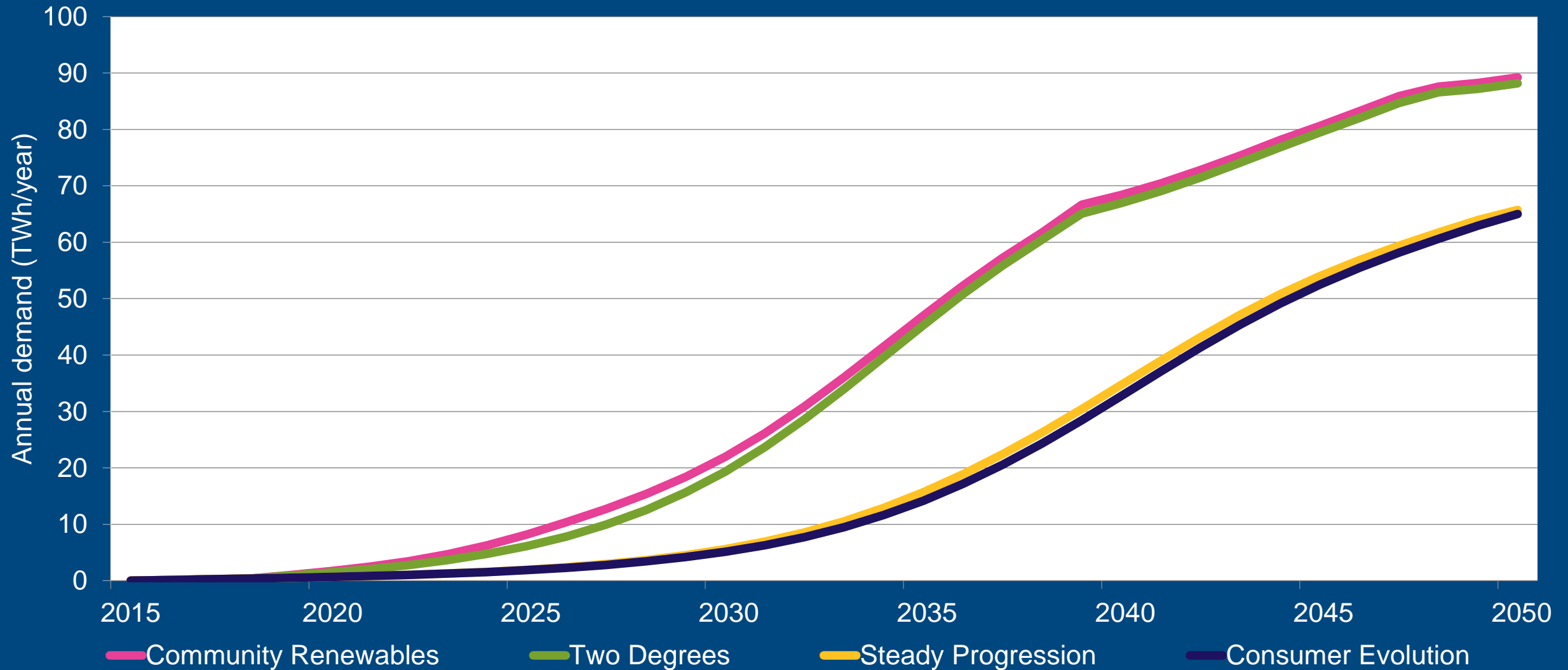
Family & Education

sales fall

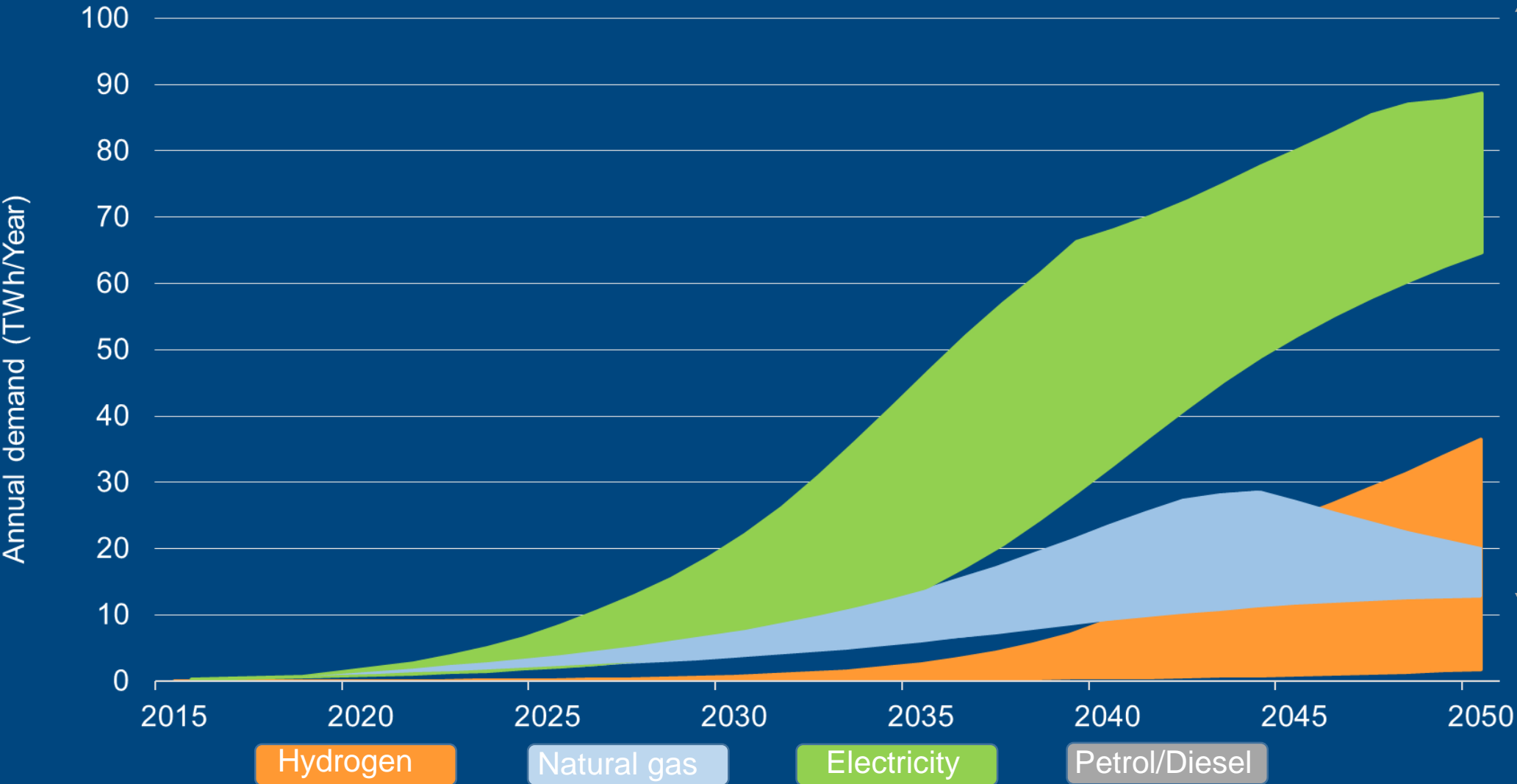
Transport – Numbers of ICE vehicles



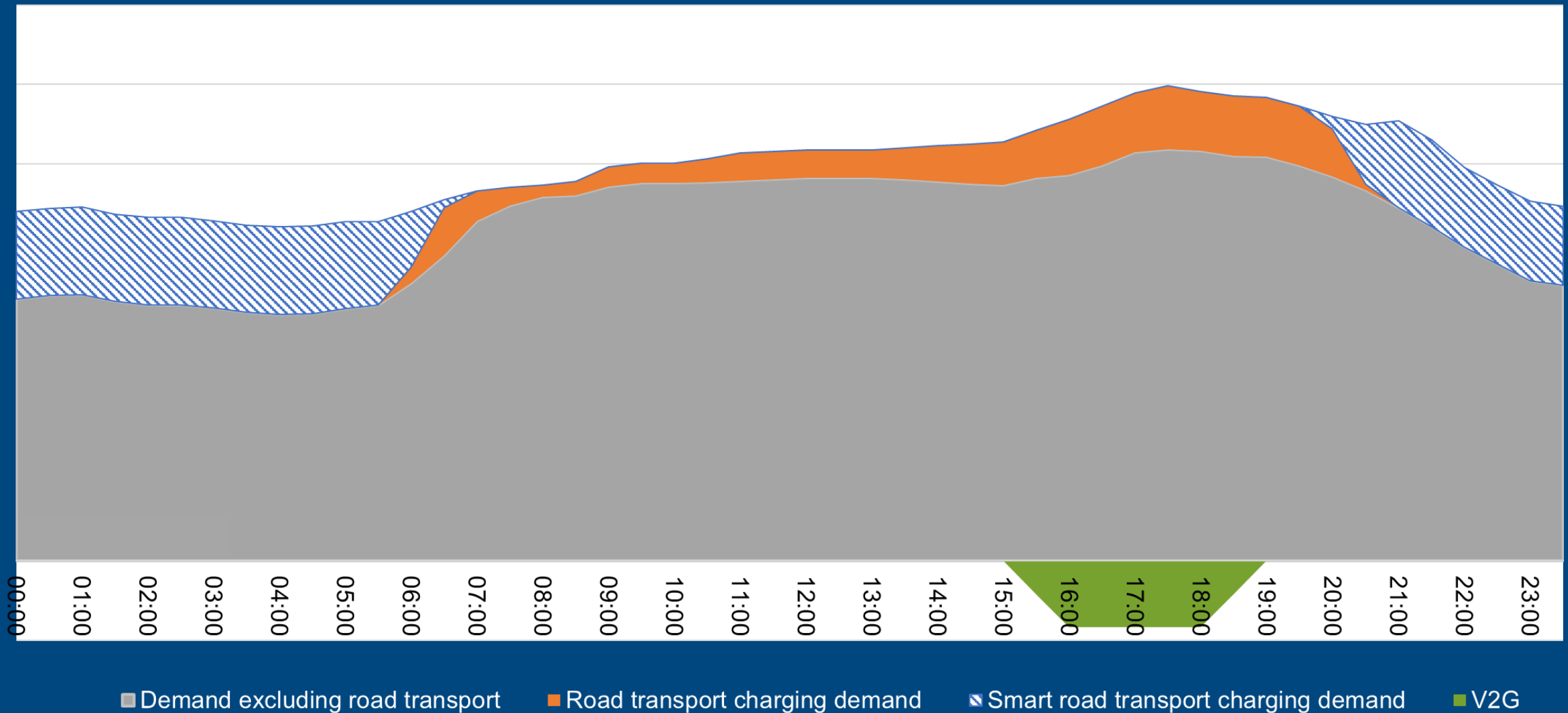
Transport – Annual electricity demand



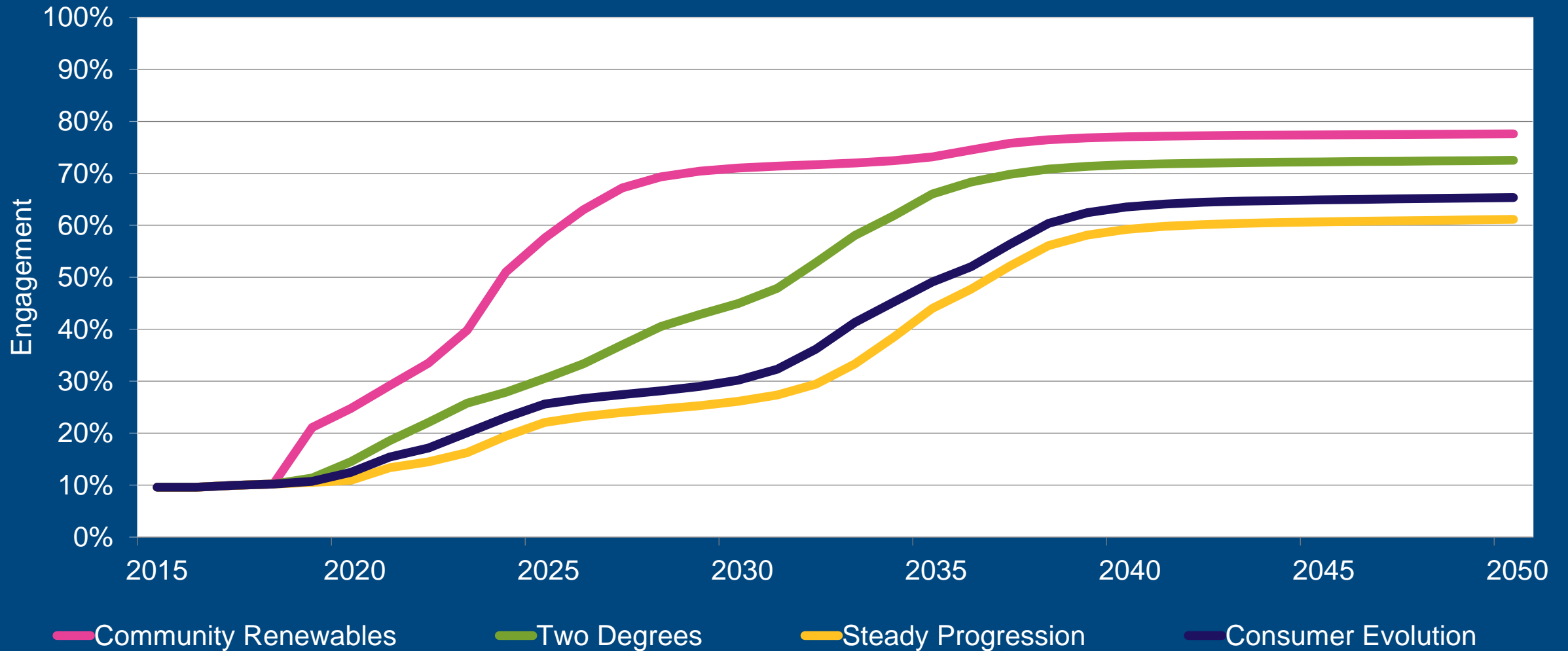
Transport – Annual Demand



Smart charging - 2040 winter's day



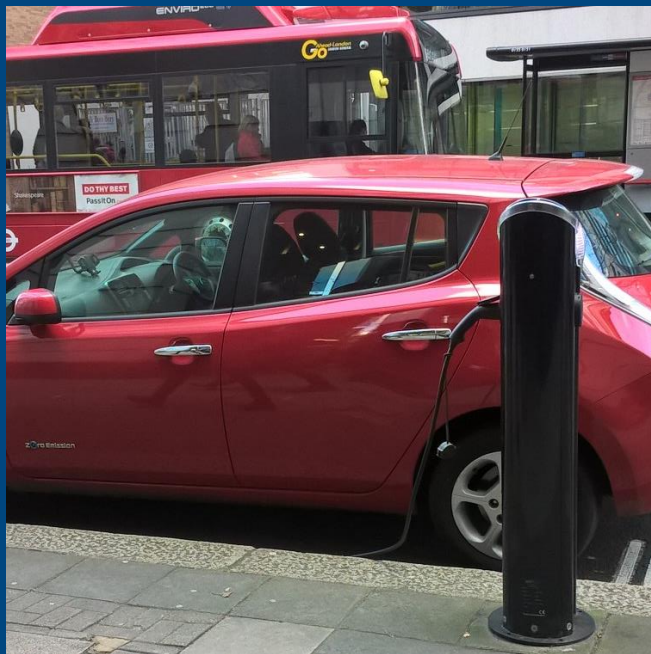
Smart charging and engagement



Non-residential charging

67% of houses have off-road parking; what about the other 33% of houses?

On the street



At a destination



In a charging forecourt



....and possibly a few more options....

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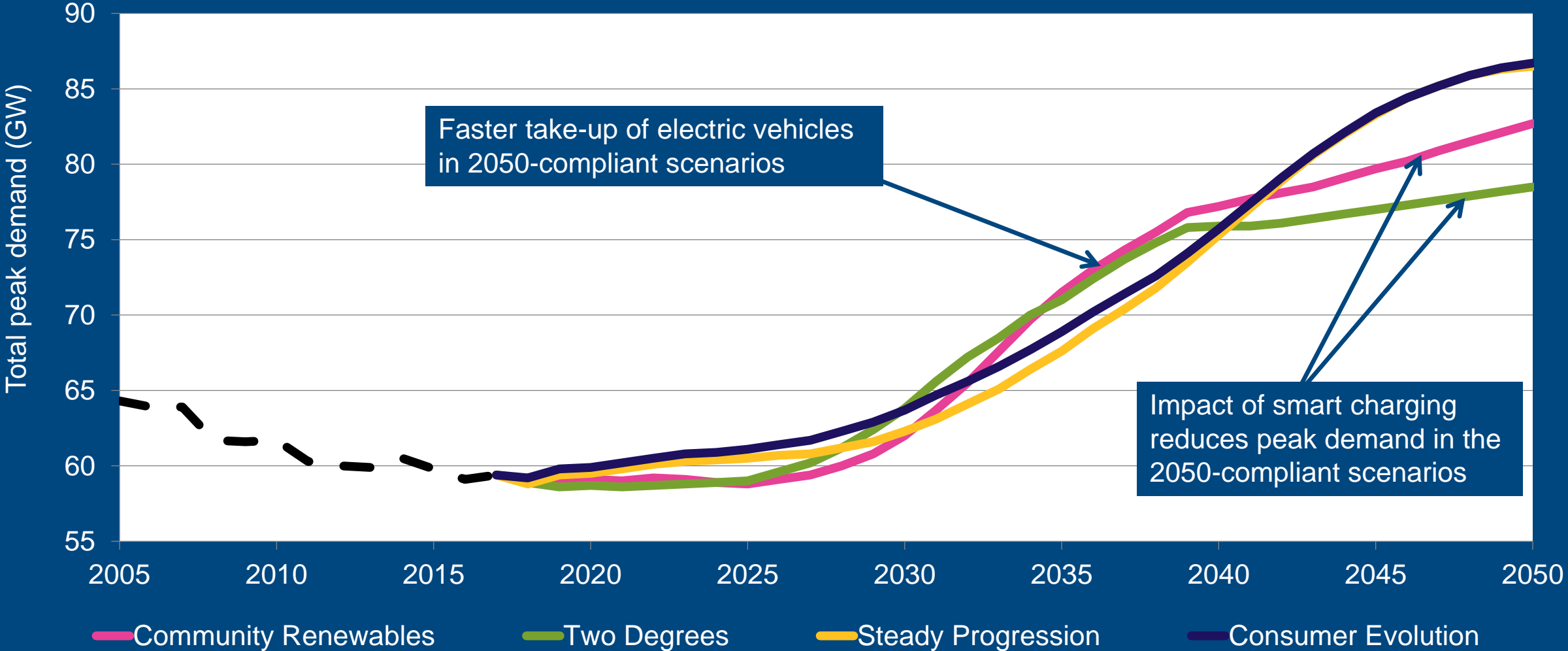
Electricity supply & demand

Andy Dobbie, Rob Nickerson & Mark Perry

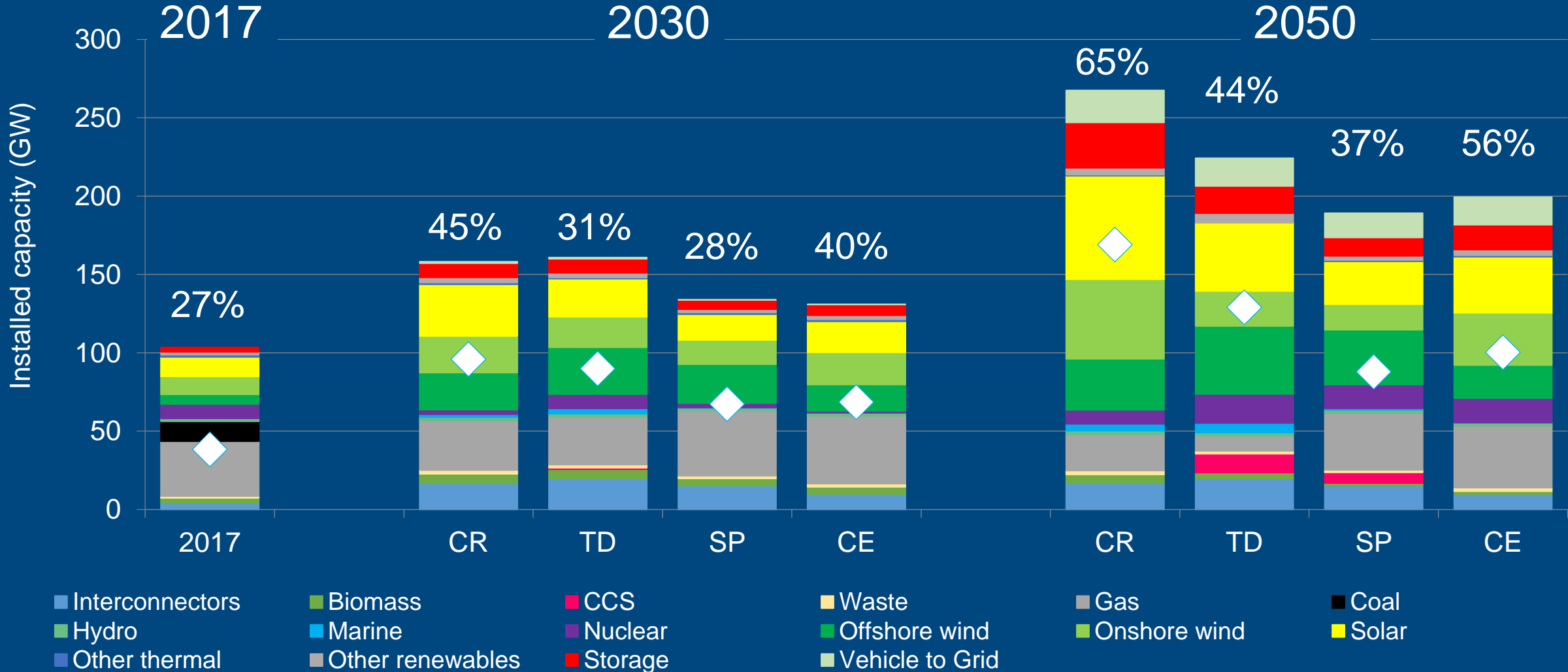


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Total peak demand

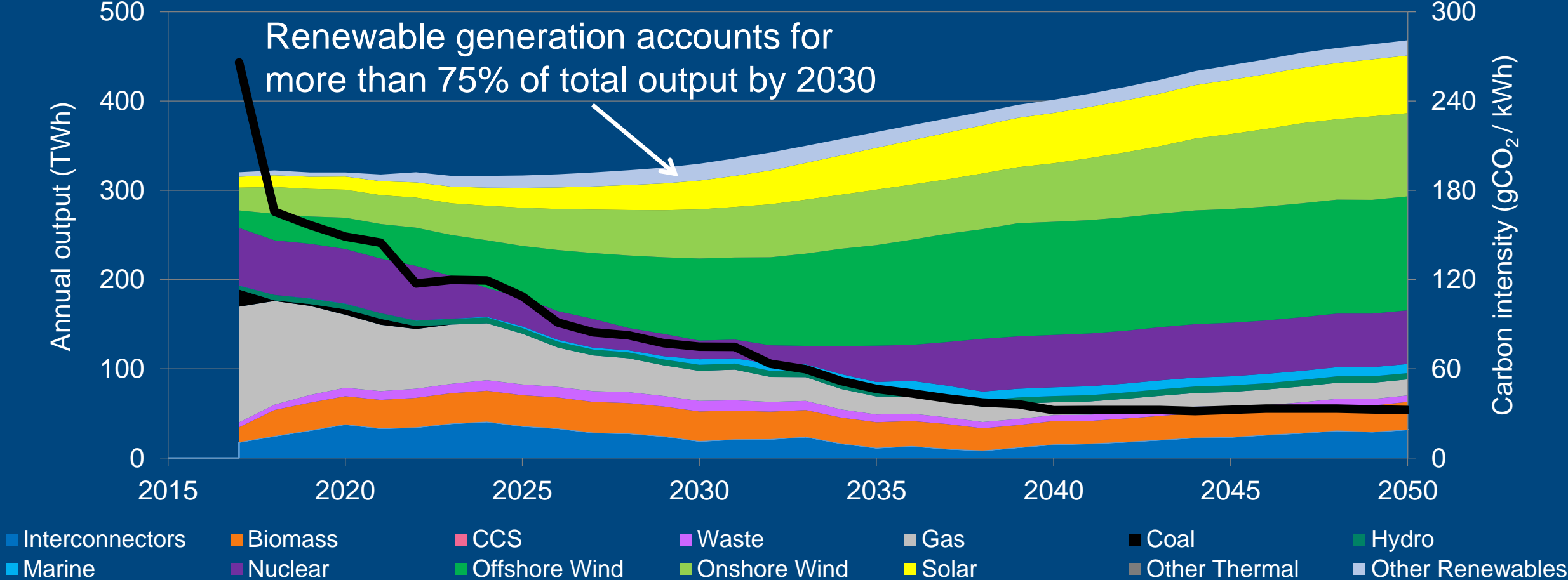


Installed generation capacity



Generation output

Community Renewables



Growth of flexibility by 2050

0 GW

10 GW

20 GW

30 GW

40 GW

50 GW

Storage and
vehicle to grid

2017

SP

CR

Interconnectors

2017

CE

TD

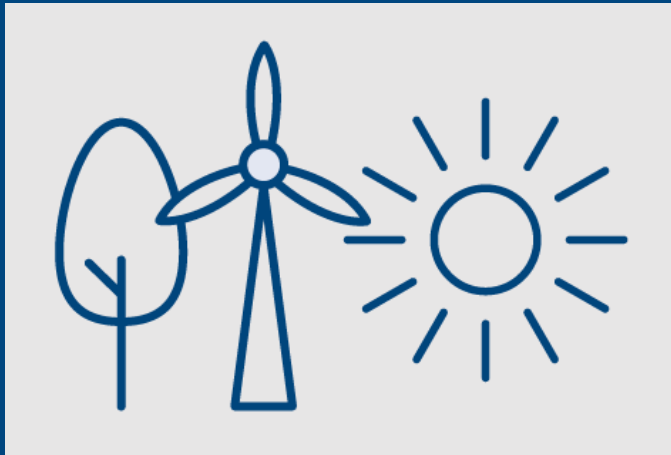
Gas

TD

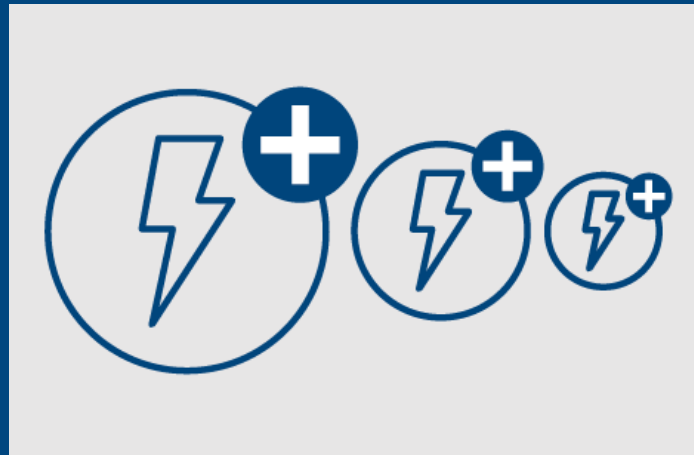
2017

CE

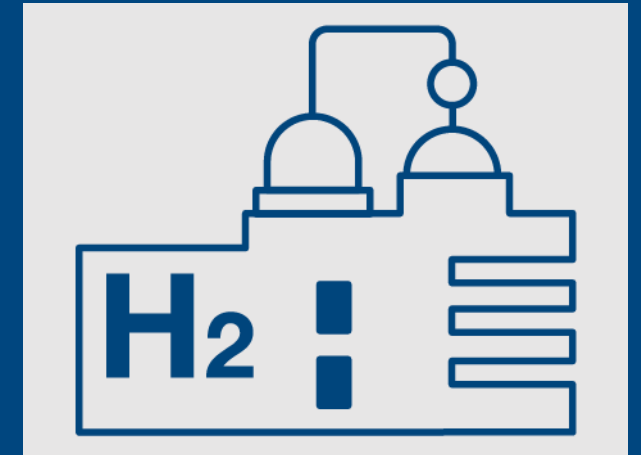
Key insights



Low carbon technologies
will grow at pace



Markets will need to adapt



New business models

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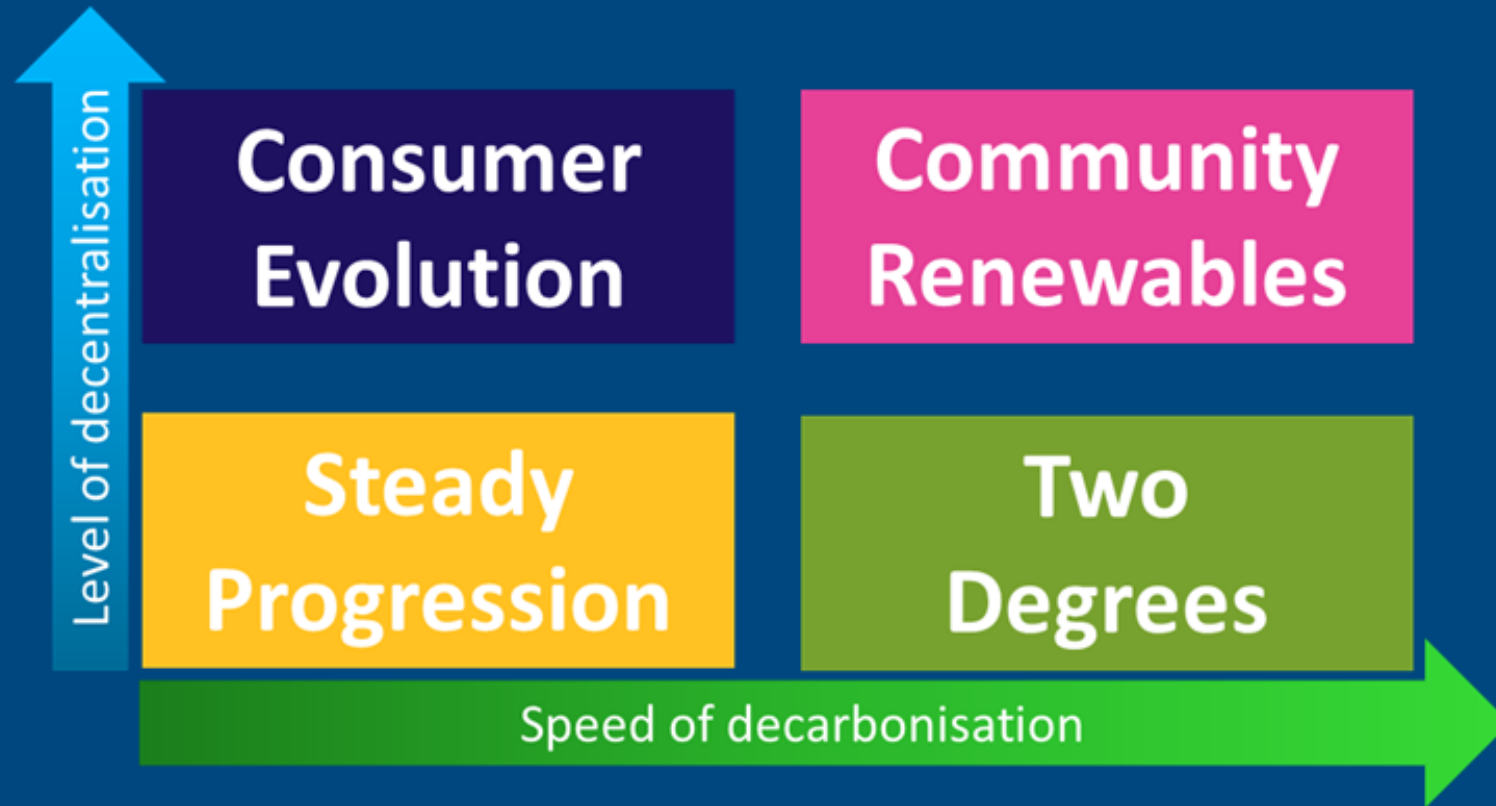
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Gas supply & heat

Neil Rowley, Usman Bagudu & Nigel Bradbury



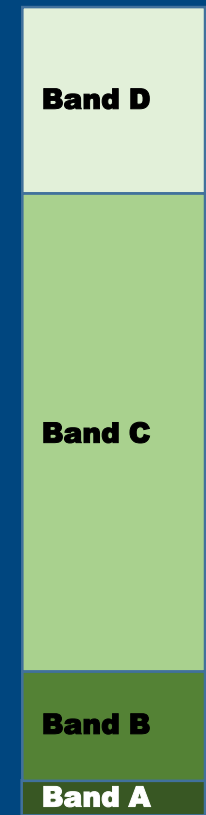
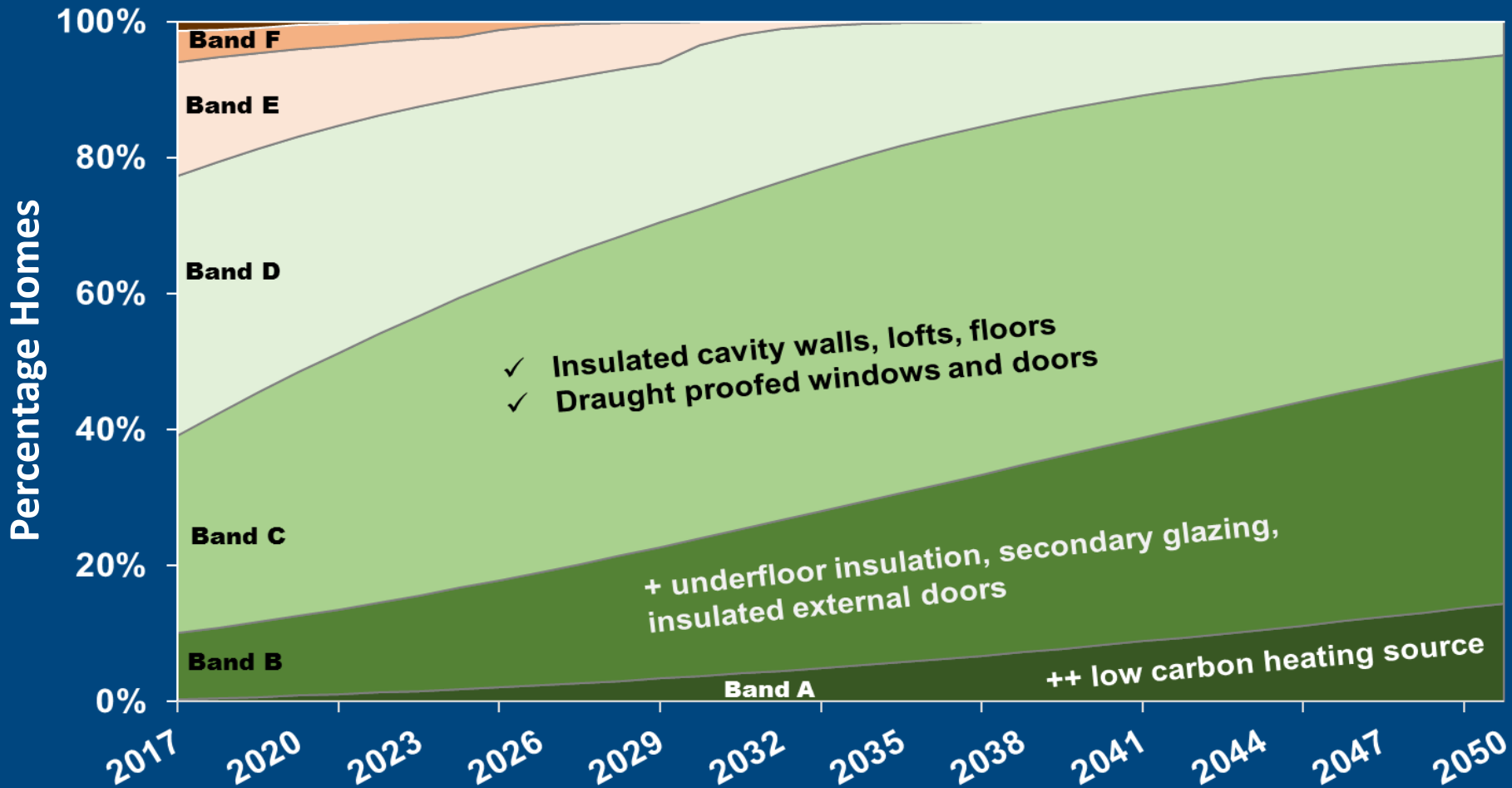
FES 2018 gas supply and heat presentation



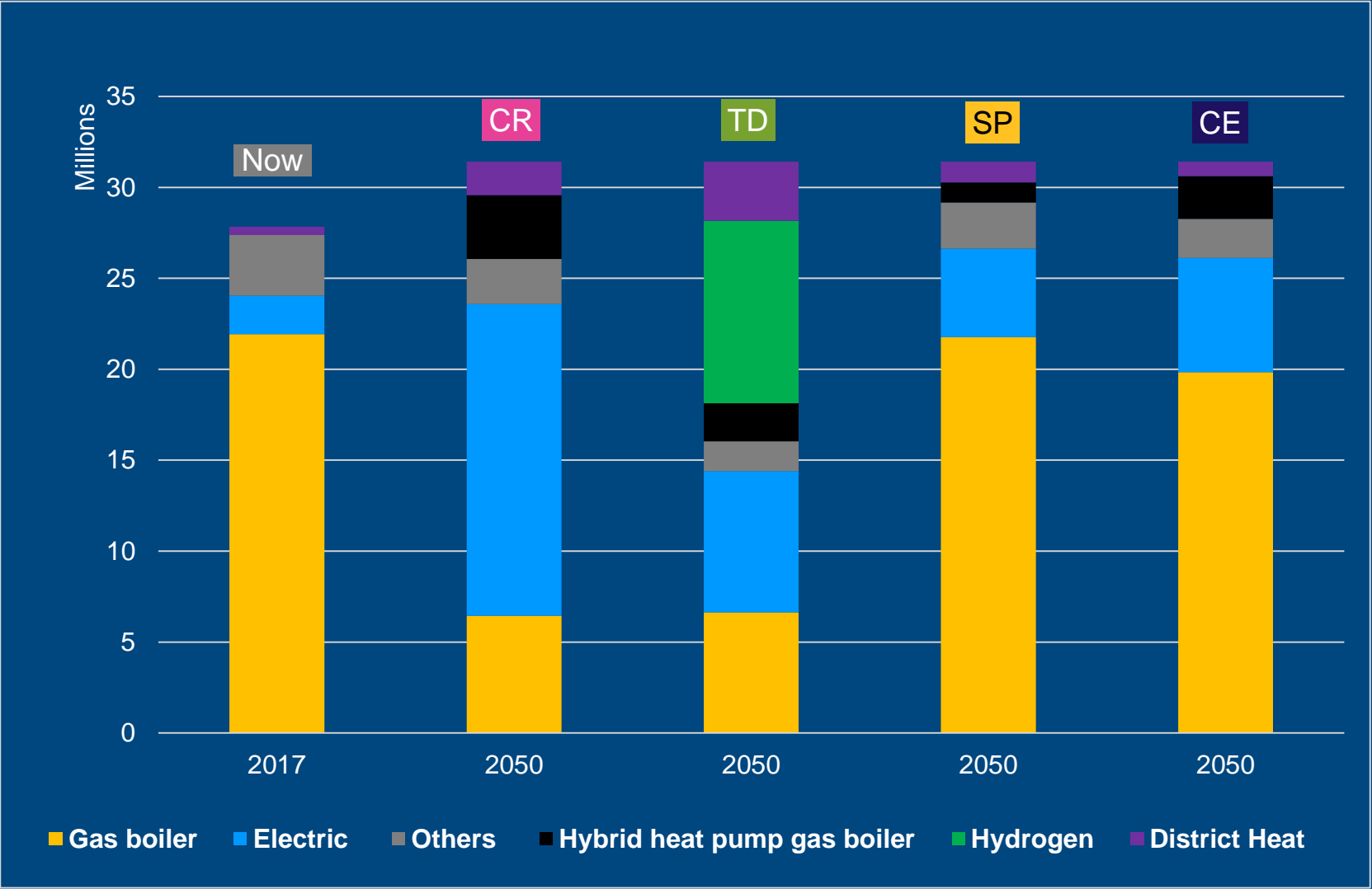
Residential heat: thermal efficiency

High case: CR & TD

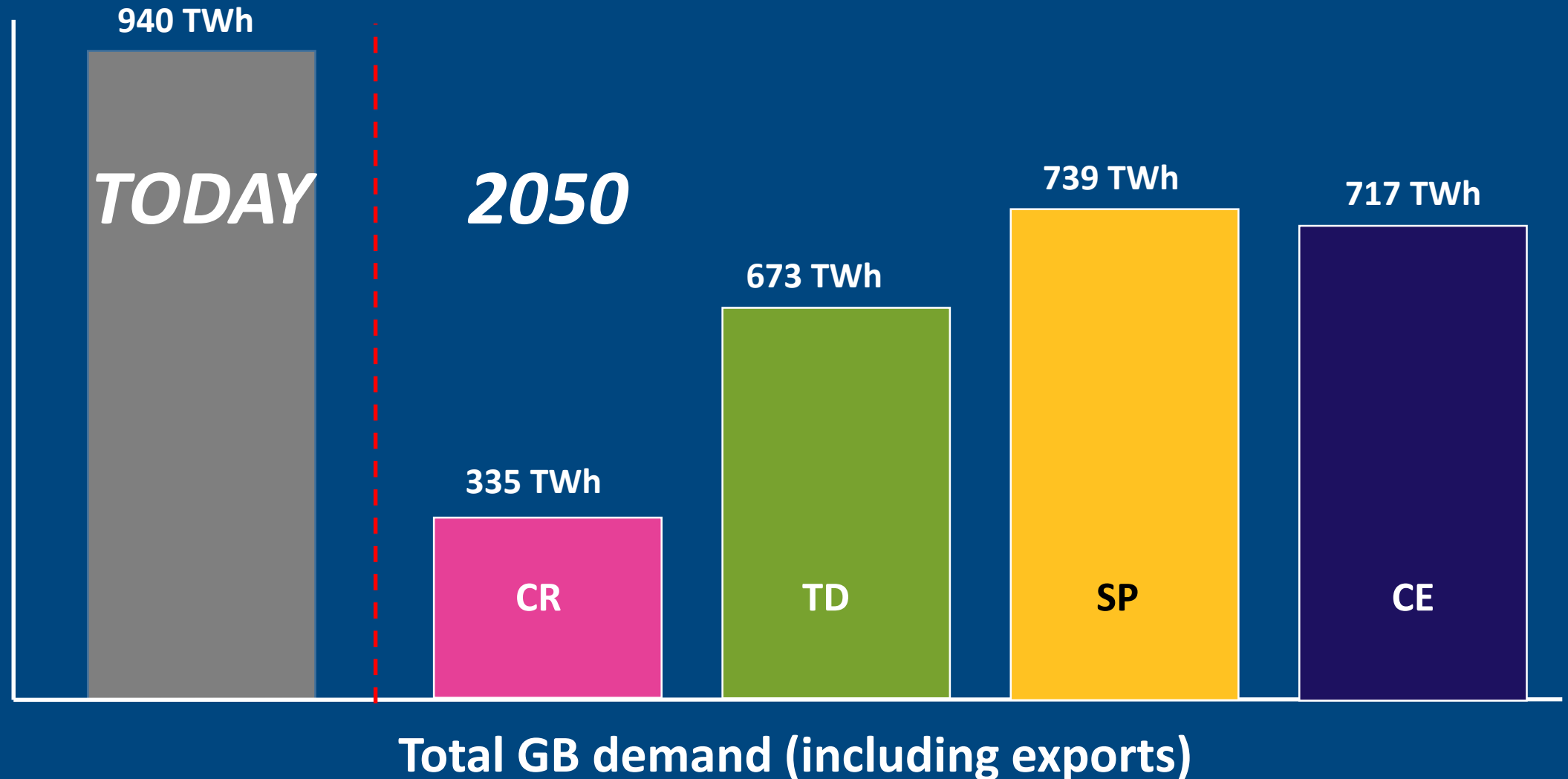
Low case: SP & CE



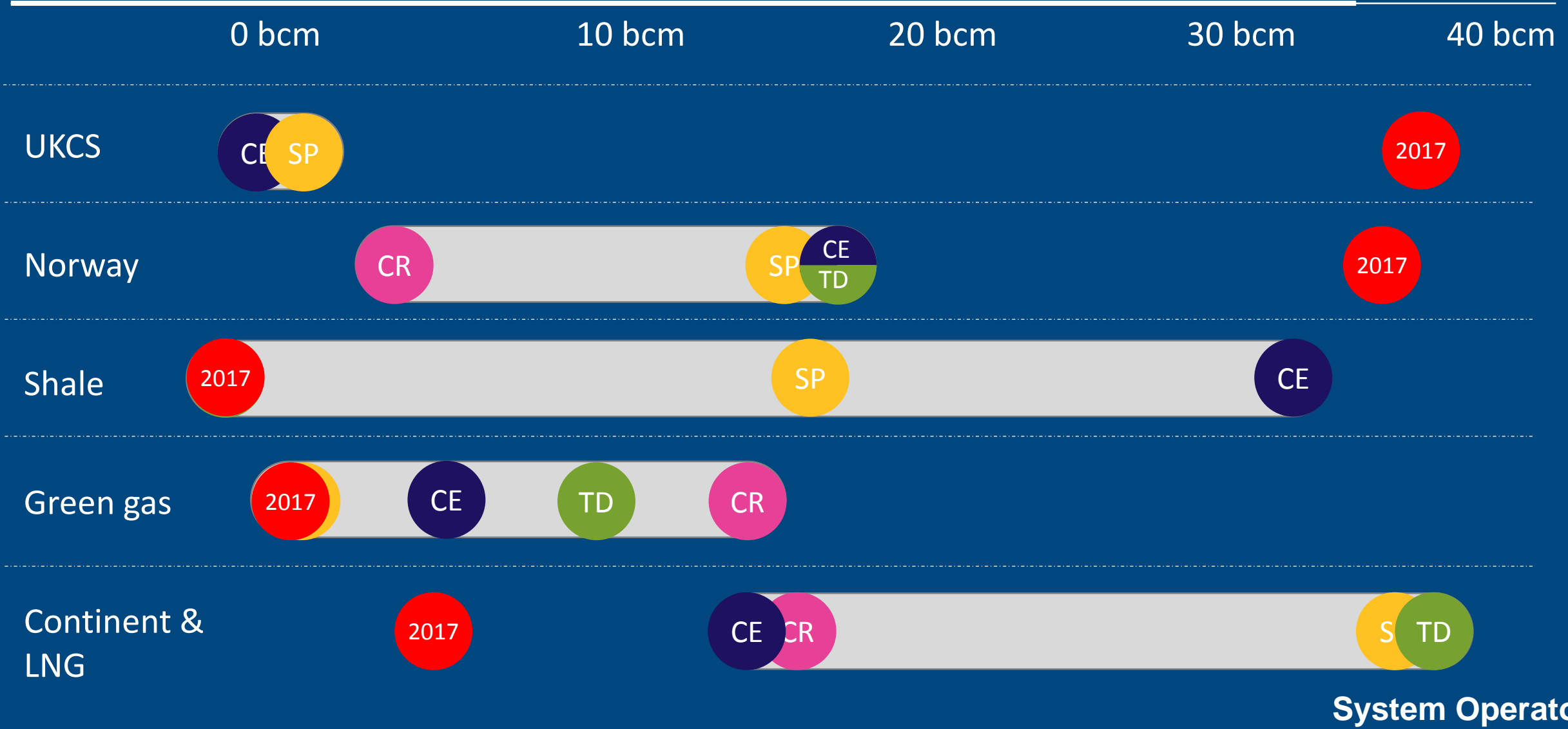
Residential heat: low-carbon technology



Gas supply: demand requirements



Gas supply: energy volumes provided in 2050



Gas supply: import dependency 2050

