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Opportunities & challenges under the RED II – An update on UK policy

Chris Clarke CEnv - Low Carbon Fuels

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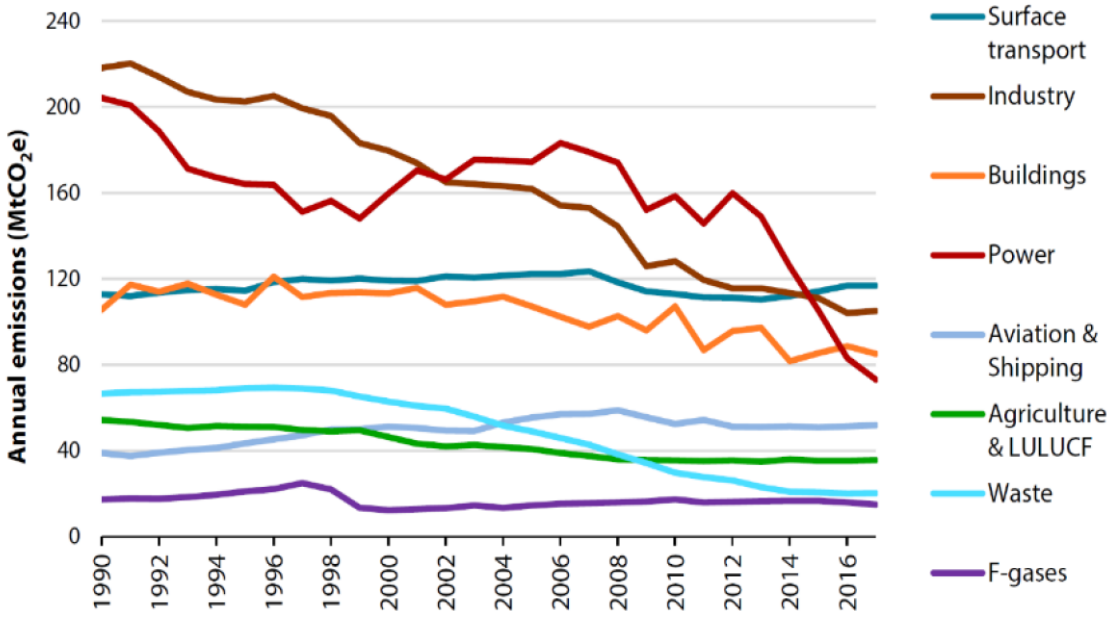
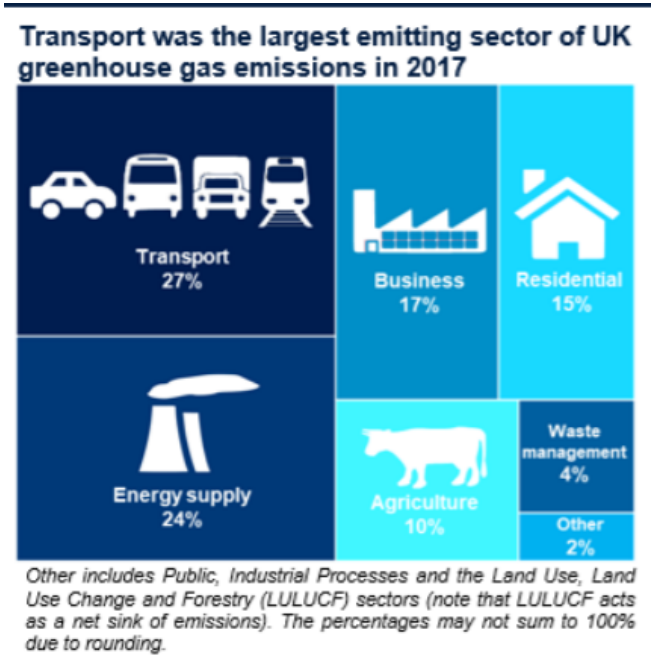
UK transport GHG emissions are not reducing



BEIS (2019) Final UK GHG emissions national statistics



Other includes Public, Industrial Processes and the Land Use, Land Use Change and Forestry (LULUCF) sectors (note that LULUCF acts as a net sink of emissions). The percentages may not sum to 100% due to rounding.

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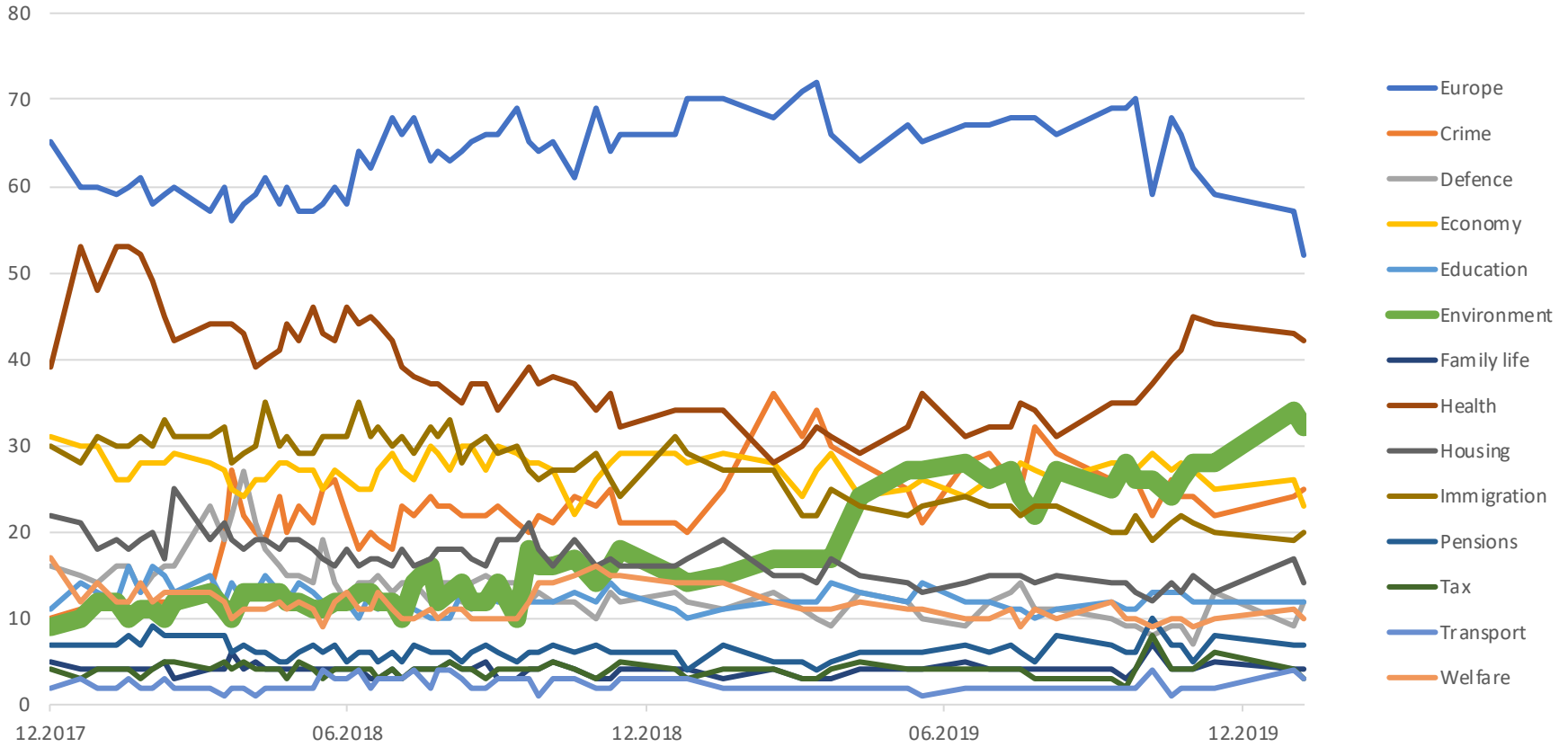
Climate change is an increasing concern (UK)



Source: you gov public opinions tracker

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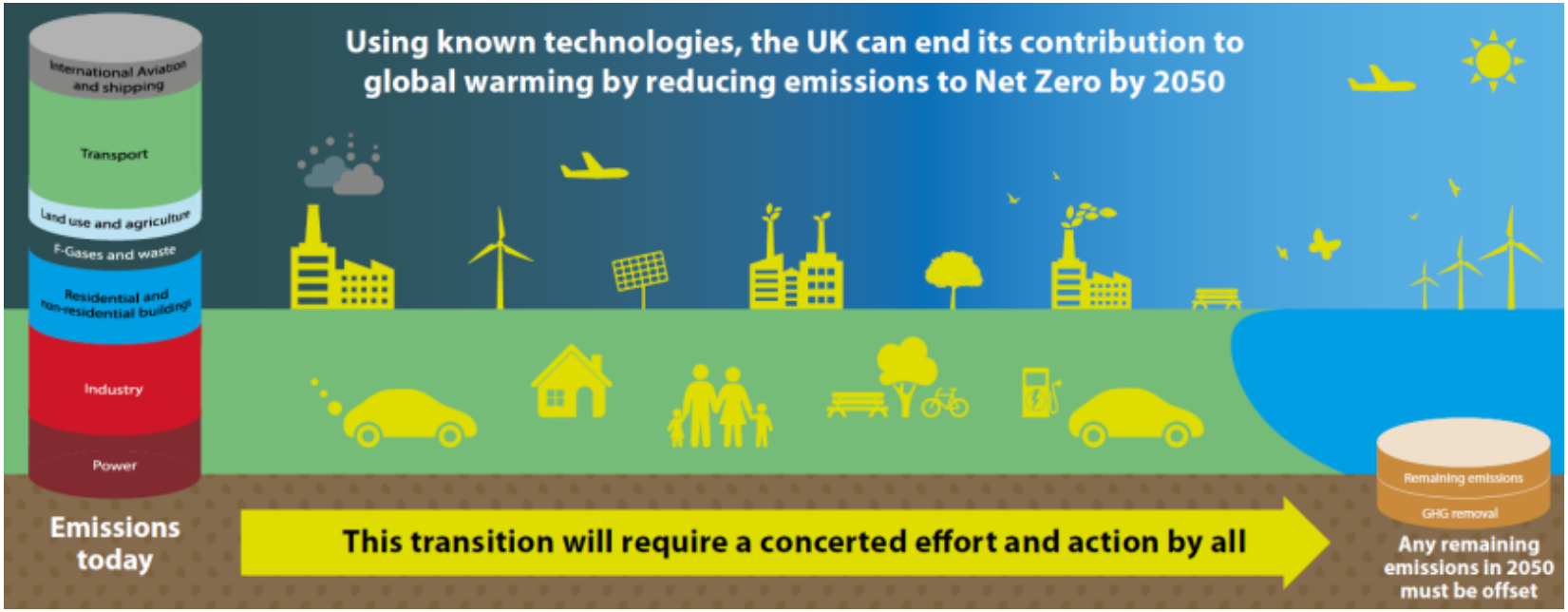
Net Zero

"We will end the UK's contribution to climate change in 30 years."



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How will Net Zero be achieved?

The Transport Decarbonisation Plan

- Announced on 15/10/2019, The Transport Decarbonisation Plan will bring together a bold and ambitious programme of coordinated action needed to end the UK's transport emissions by 2050.
- The plan, which is due to complete this year, will set out in detail what government, business and society will need to do to deliver the significant emissions reduction needed from all modes of transport.
- Different modes face different challenges and, whilst electrification is a partial and market ready solution for cars, the potential solutions for freight, maritime and aviation are less certain.
- Renewable fuels remain a key enabling tool.

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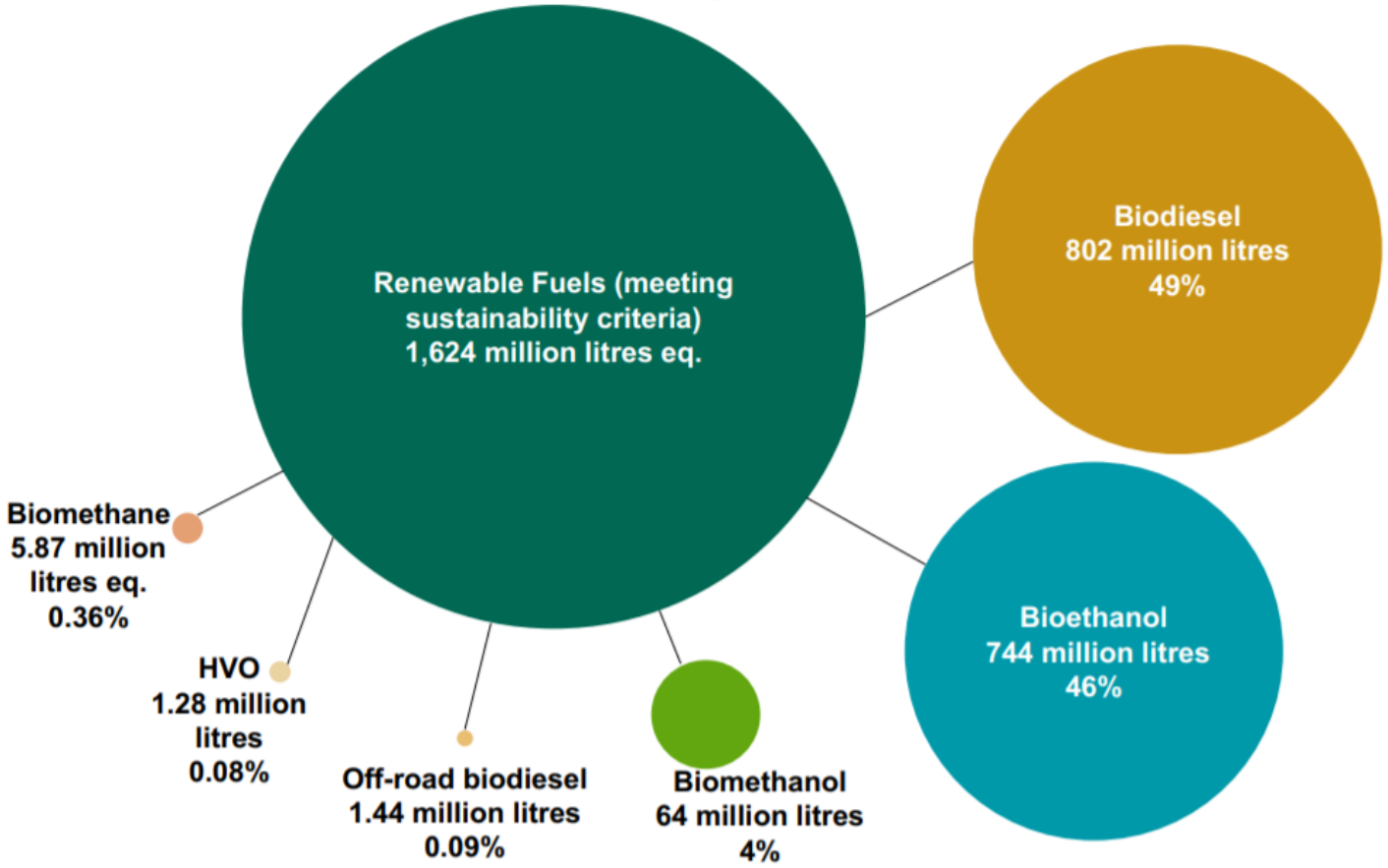
Renewable Fuels



5.1% of supplied road, GHG saving of **82%** (78% ILUC)

*2019 provisional figures, average saving

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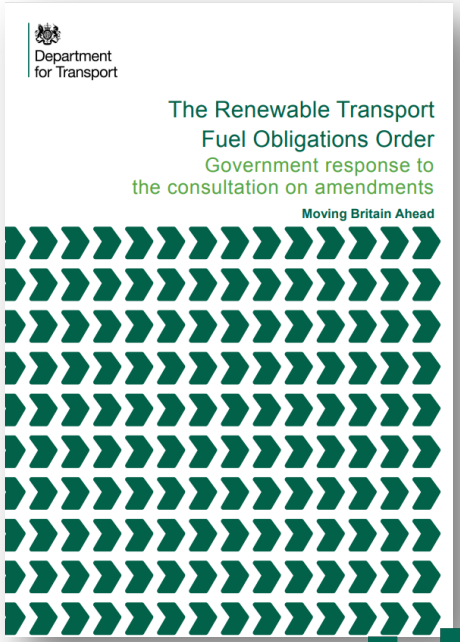
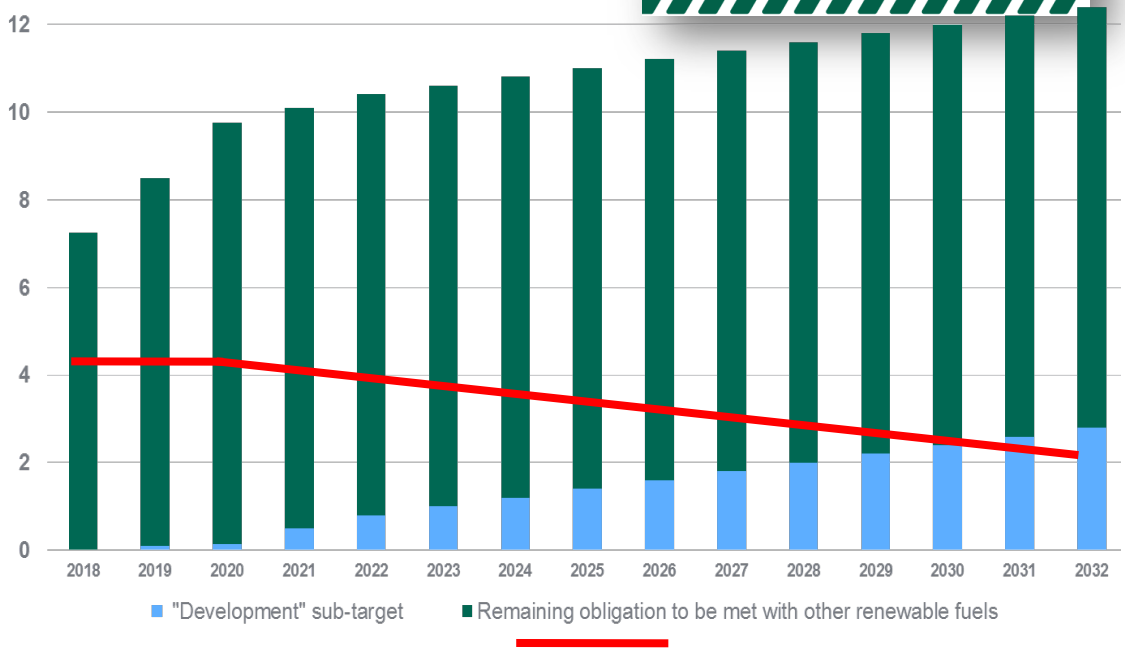
Our 15 year strategy



- Published in 2018
- Sets targets to 2032 and beyond
- Focus on waste:
  - Maintains double reward for wastes
  - Introduces a ‘development fuel’ sub-target to encourage advanced fuels made from novel wastes & processes
  - Sets a limit on crops
- Builds a platform for investment to develop sustainable advanced fuels for automotive, aviation and road freight



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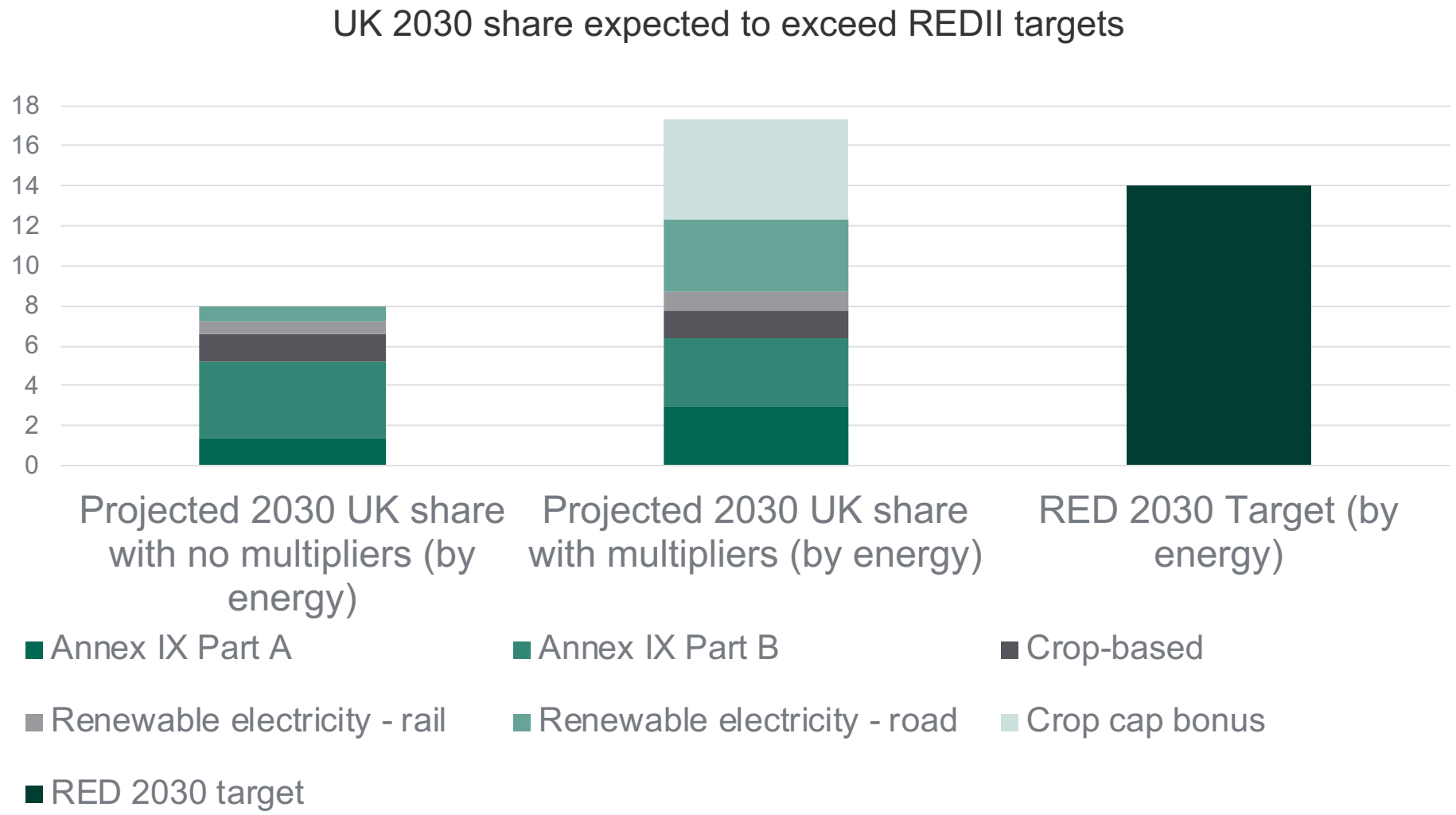
REDII: UK impact – 2030 target



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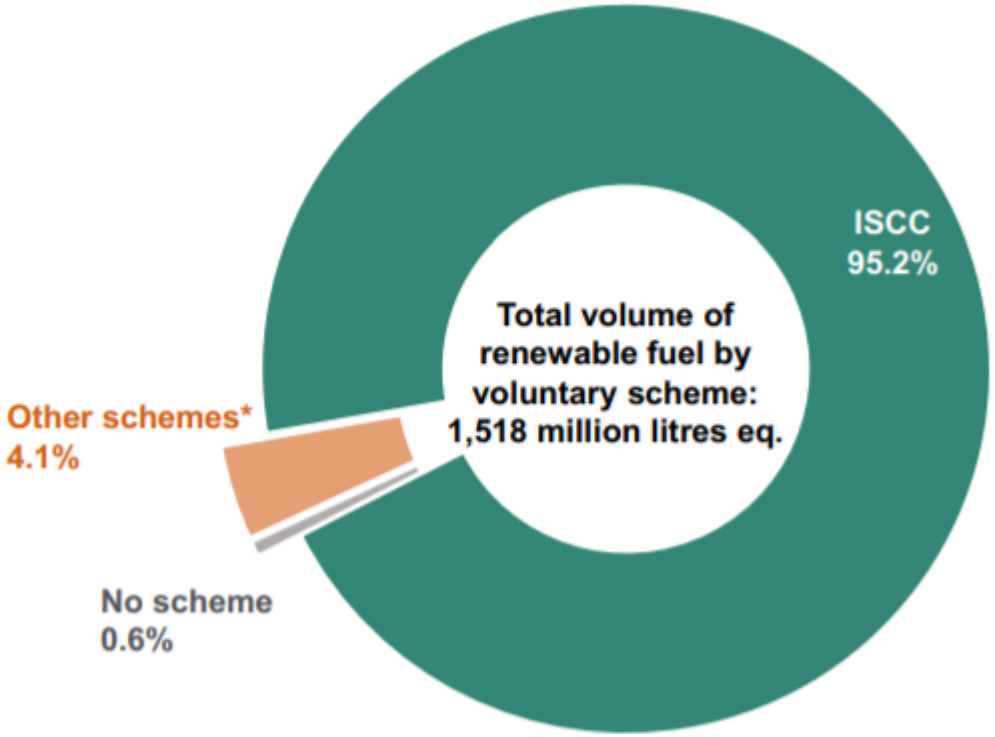
Remaining challenges under RED II

- Compatibility
- Supervision of certifiers
- Adoption dates
- GHG methodologies
- GHG thresholds
- RFNBOs & RCFs



Certification of renewable fuel supplied under the RTFO

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Supervising certification bodies

This is relatively easy for home produced feedstock and fuel.

The UK regulator has already:

- Accompanied/observed several audit visits
- Organised a workshop with several auditors and verifiers

How can we collaborate further?

- Across the EU?
- Across the rest of the world?

How do we identify the certification bodies deep in the supply chain?

What more could the voluntary schemes be doing to help?

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Different adoption dates?

- Will the new sustainability requirements (e.g. GHG thresholds / land criteria) be adopted by all authorities at the same time?
- How will the voluntary schemes deal with the possibility of two different sets of criteria which exist at the same time?
- What happens if the voluntary schemes have not received REDII recognition prior to adoption of the new criteria?

GHG methodologies / thresholds

- What will these look like?
- Which voluntary schemes will be approved

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What's next?

Net Zero requires increased ambition – How can greater savings be achieved?

- Modal shift?
- Faster electrification?
- Higher targets?
- Higher blends?
- RFNBOs?
- Hydrogen?
- Recycled carbon fuels?
- CCS?

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Higher targets and higher blends

- 2020 supply target was doubled in the 2018 RTFO amends
- Further increases in the overall RTFO obligation may require new fuels and blends
- Proposed target increases would need to consider a number of potential challenges / barriers:
  - Availability of sustainable biomass
  - Costs for adaptions to vehicles and infrastructure
  - Competing demand for feedstocks (heat / transport / electricity)
- Heavy goods vehicles could be a potential route to higher blends.
- Freight companies sometimes operate their own fuelling infrastructure and in the UK some buses and trucks already run on B30, B100 or Biomethane (however overall numbers are unknown).
- Drop in fuels circumvent some of the barriers and are therefore a key strategy supported by the development fuel targets.

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What are ‘Development Fuels’?

Fuel	A development fuel must be either:	or:
	Renewable hydrogen, *BioSNG, or aviation fuel	A petrol or diesel substitute that can be blended at 25% or more
Feedstock	**and:**	**or:**
	Made from a double counting waste material that is not a segregated oil or fat	A renewable fuel of non-biological origin

How are they stimulated?

- Increasing obligation from 0.1% in 2019 to 2.8% in 2032
- Demand a higher price – buyout 80p rather than 30p
- Start up funding obtainable through competitions e.g. ‘Future fuels for flight and freight’ (F4C)

Current status

- More than 45 applications
- 10 production pathways approved
- First certificates issued January 2020

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Projects supported by DfT competitions

Project-specific support has been provided for **innovative projects on advanced fuels selected through competition processes**

Advanced Biofuels derived from wastes and residues can:

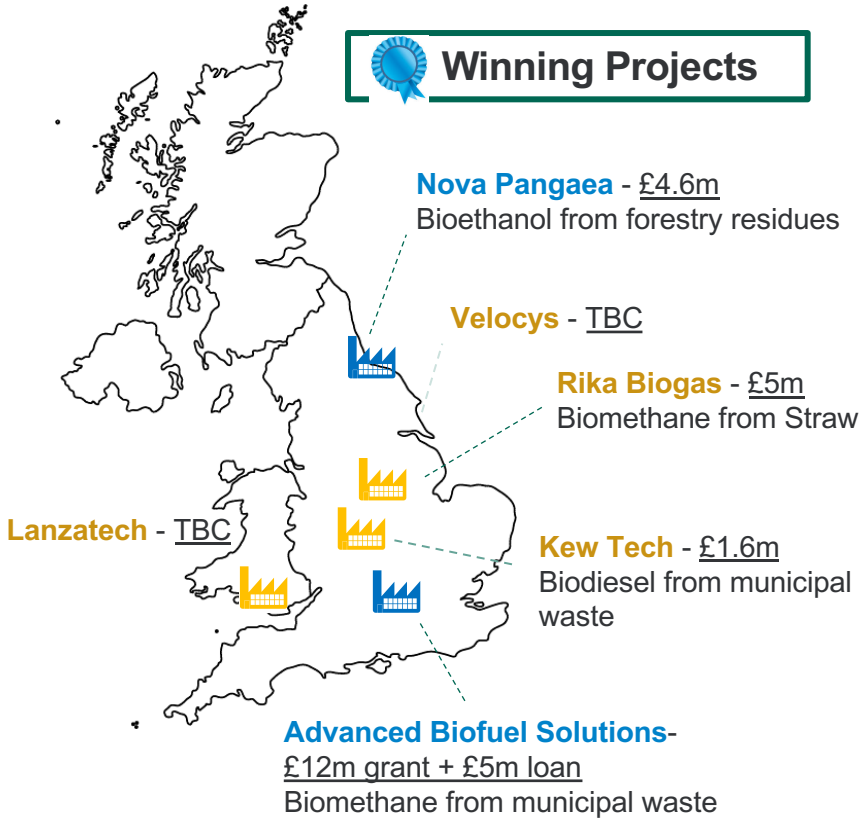
- turn low-value wastes into high-value, low-carbon fuels;
- tackle the hard-to-decarbonise aviation and HGV sectors; and
- underpin a world-leading UK industry, creating jobs and growth.

Competition 1– Advanced Biofuel Demonstration Competition (ABDC)

- winning projects underway
- first plant now operational

Competition 2 – Future Fuels for Flight and Freight (F4C)

- grants being arranged with projects
- 4 plants expected by 2022



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RFNBOs

- Double rewarded as no land use impact (like wastes)
- Methodology and GHG threshold in place (threshold currently the same as biofuels)
- Power used in production should be ‘additional’ i.e. power that is not diverted from any other destination

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What are Recycled Carbon Fuels?

Recycled **C**arbon **F**uels (RCFs) are transport fuels made from fossil derived wastes that are not suitable for reuse or recycling and cannot be avoided.

We are considering including RCFs in the RTFO- rewarding them **if** they offer a greater energy recovery route than incineration.

- We propose to use EfW with electricity generation as a comparison.
- **If** the RCFs recover more energy, they can displace fossil fuel use in other sectors.
- Fuels eligible for support might include aviation fuel, liquid road fuels and hydrogen.

We are comparing energy recovery in a RCF plant with R1 (efficiency) rated incinerator

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Any Questions?

Thank you for listening

RTFO statistics https://www.gov.uk/government/collections/biofuels-statistics

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