Squaring the circular economy – the role of CCS in the Waste and Resources Sector

Tim Rotheray Chair ESA Climate Change Strategy Group

21 April 2021

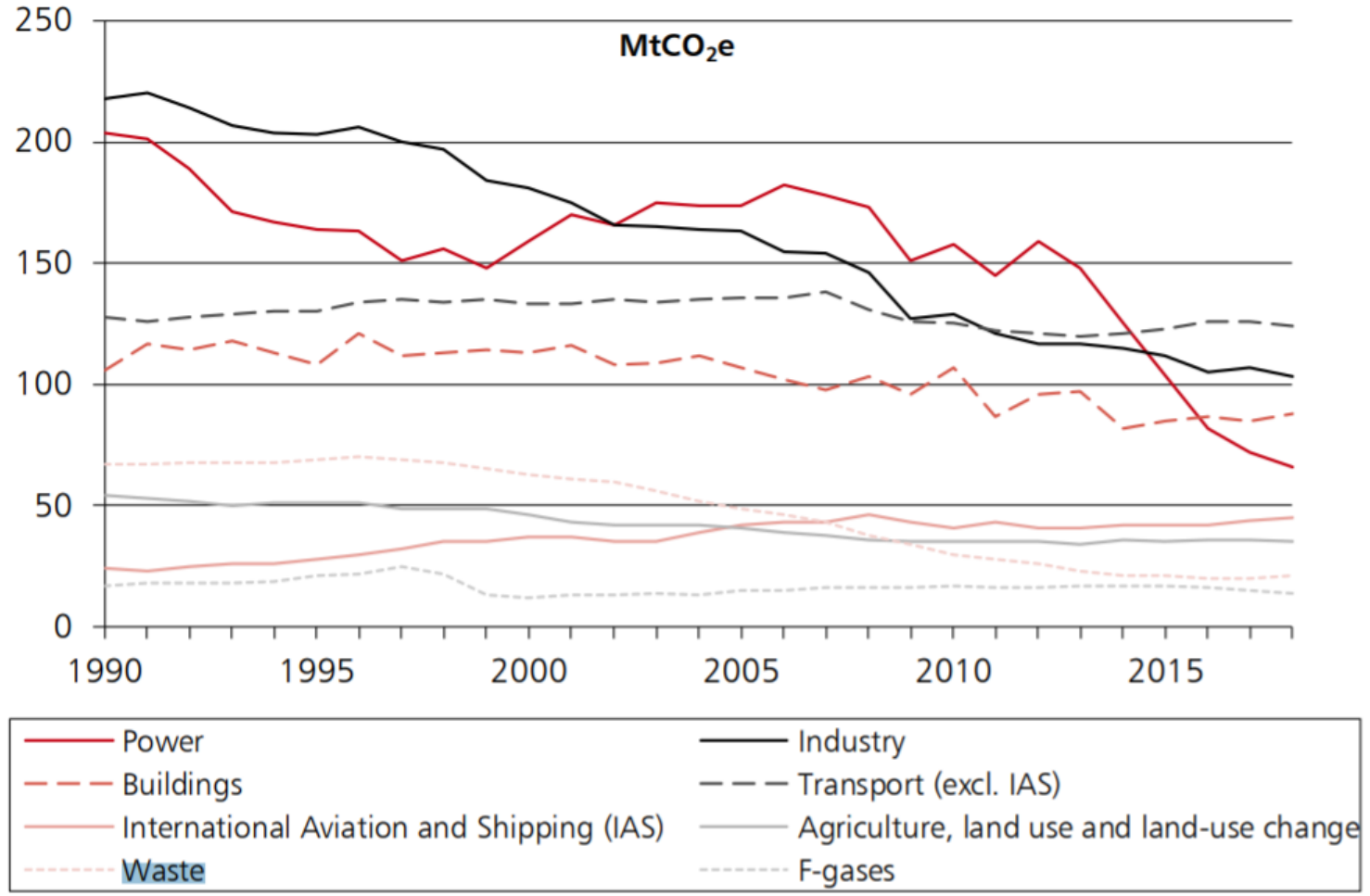
environmental services association

Agenda

- Waste sector context
  - Trends
  - Emissions sources now
- Policy levers and who controls what
- BAU scenarios
- Getting to net Zero
  - The role of CCUS
  - Wider CCS Sector benefit

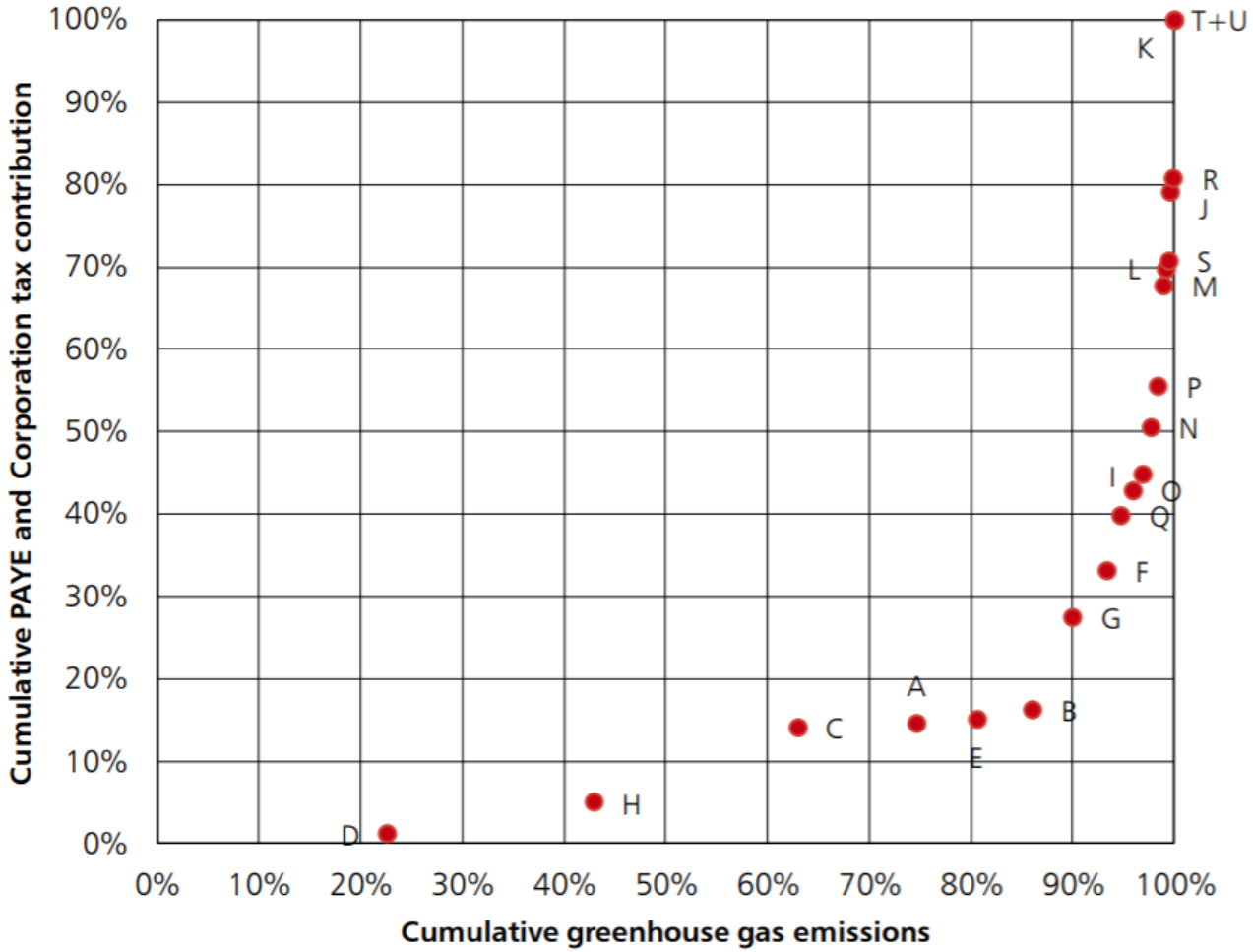
1. Context – sector emissions

Chart 1.C: UK emissions by sector



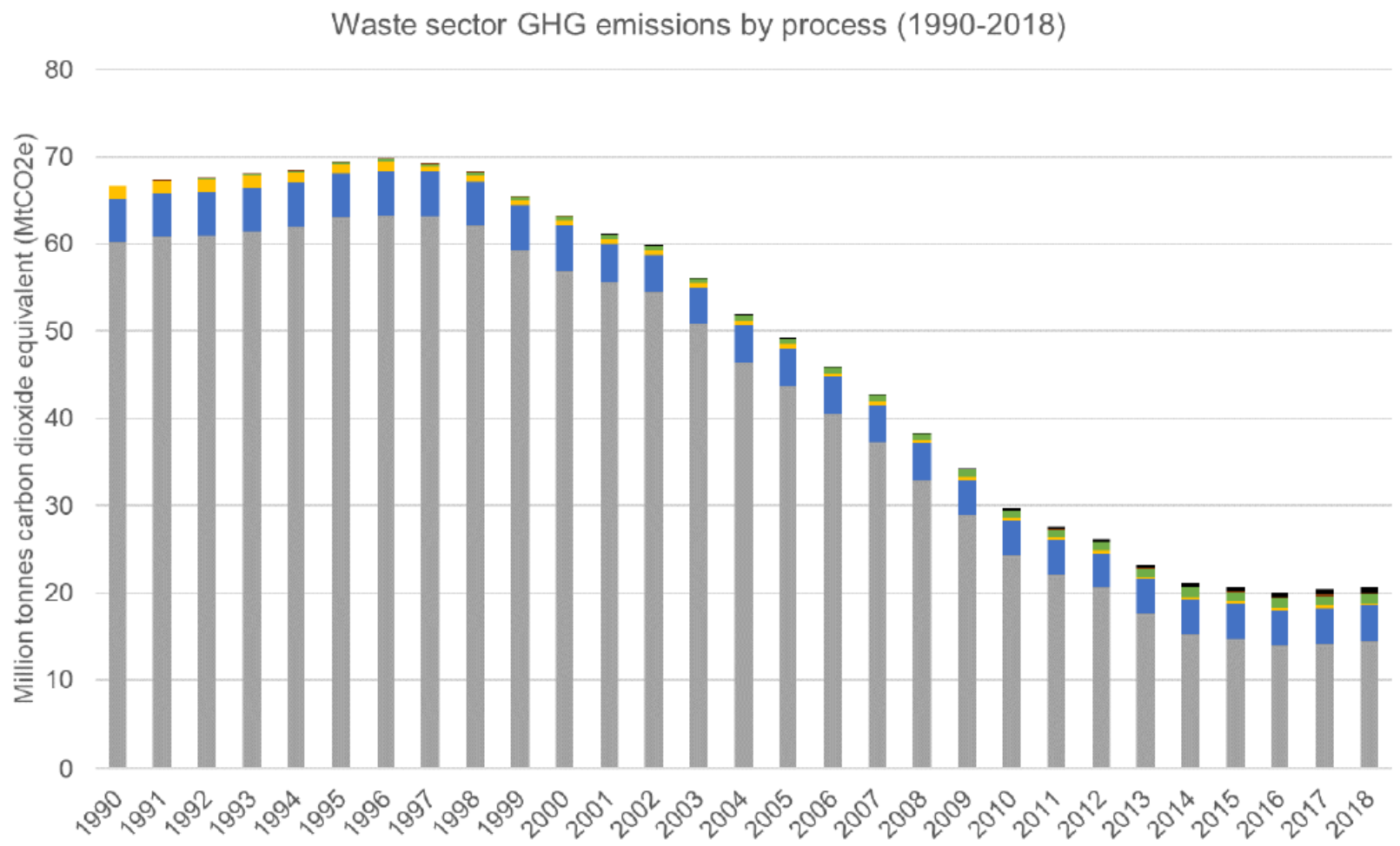
GHG vs Tax!

Chart 2.D: Industrial greenhouse gas emissions and revenue contributions by sector[a]



Waste sector context – a positive story

Figure 1: Waste sector GHG emissions by process (1990-2018)

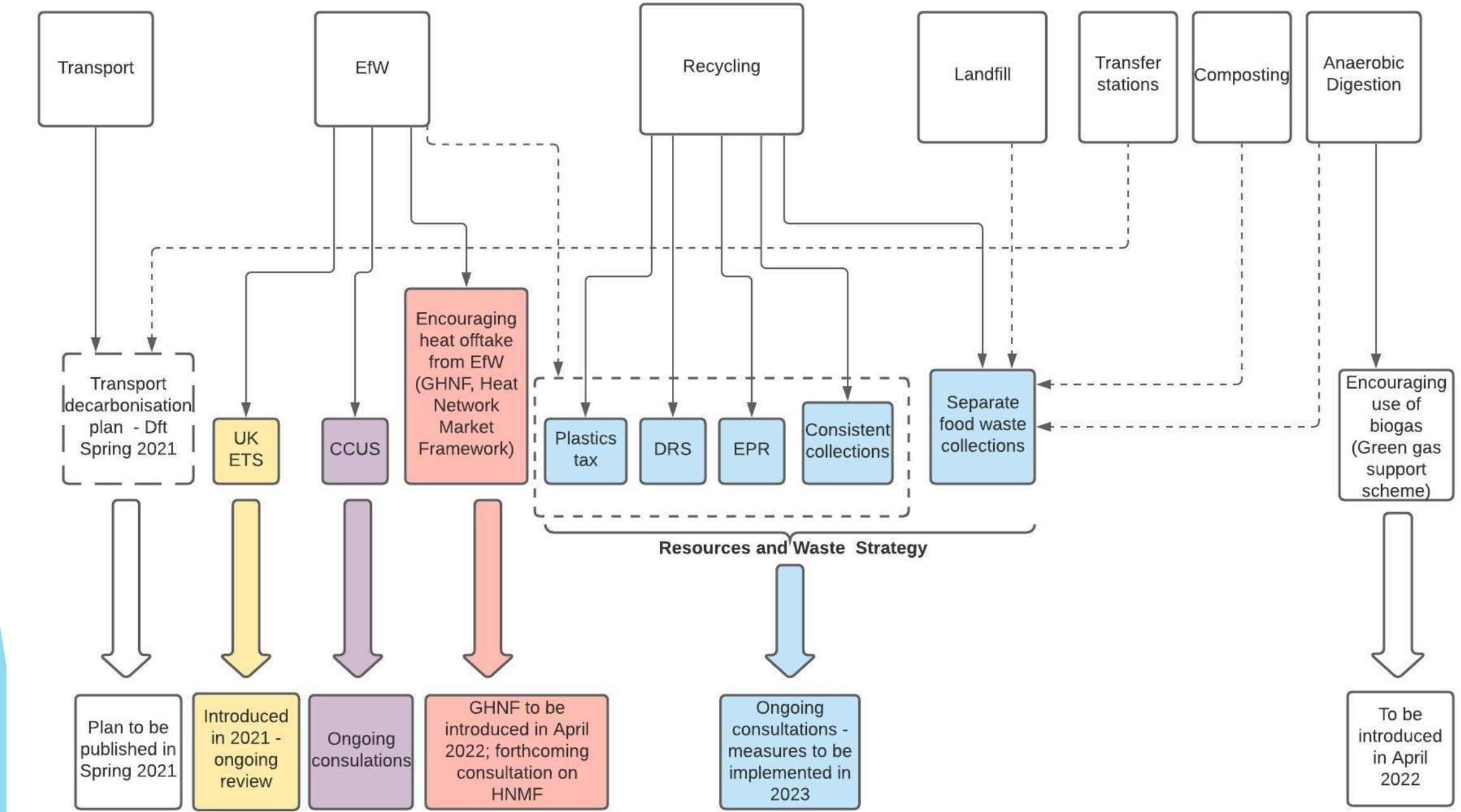


Sector breakdown

Table 4: Direct (Scope 1) and Indirect (Scope 2) emissions

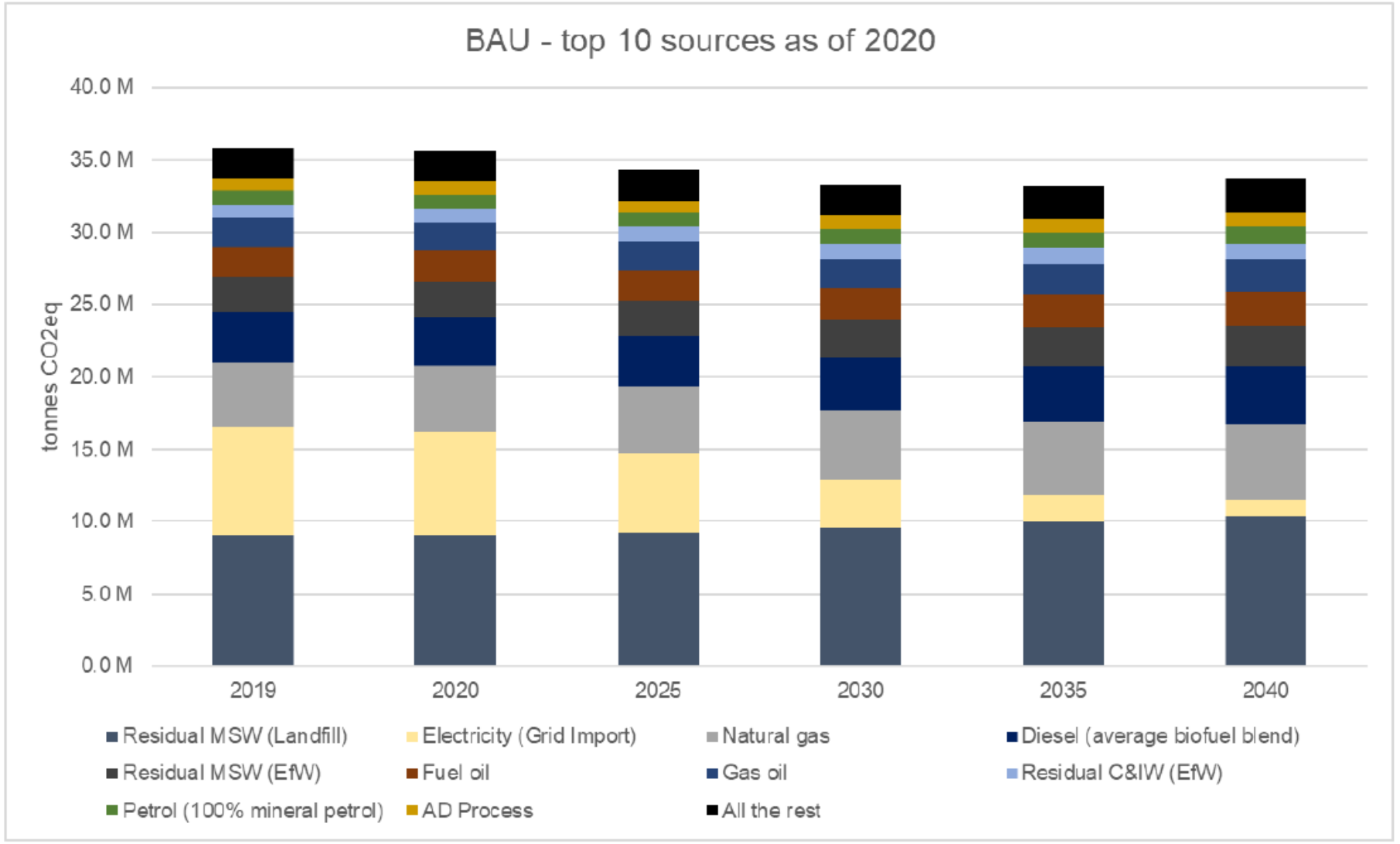
Source	Direct emissions (scope 1) ktCO2e	Indirect emissions (scope 2) ktCO2e	TOTAL ktCO2e
Transport	4,581	-	4,581
Sorting - Transfer	8,979	5,739	14,718
Anaerobic Digestion	69	64	133
Composting	952	47	999
MBT	10	21	31
Landfilling	10,701	24	10,725
Thermal treatment	4,474	105	4,578
Total	**29,765**	**5,999**	**35,764**

Current Policy Landscape



BAU – we have a problem!

Figure 15: Emissions timeline with top 10 contributors - Business as Usual scenario



Negative emissions critical

Table 6: Biogenic emissions $ktCO_2$

Source	Biogenic CO2 emissions ktCO2
Anaerobic Digestion	382.2
MBT	0.2
Landfilling	1,303.2
Thermal treatment	8,271.8
Total	9,957.4

CCS is a sector lynchpin

Adopting an ambitious policy that brings forward (i.e. before 2030) the retrofitting of CCS units to existing EfW plants and ensures all new and planned facilities are fitted with CCS units as standard, is the single biggest gain the industry can influence to its own infrastructure.

Thank you, and any questions?