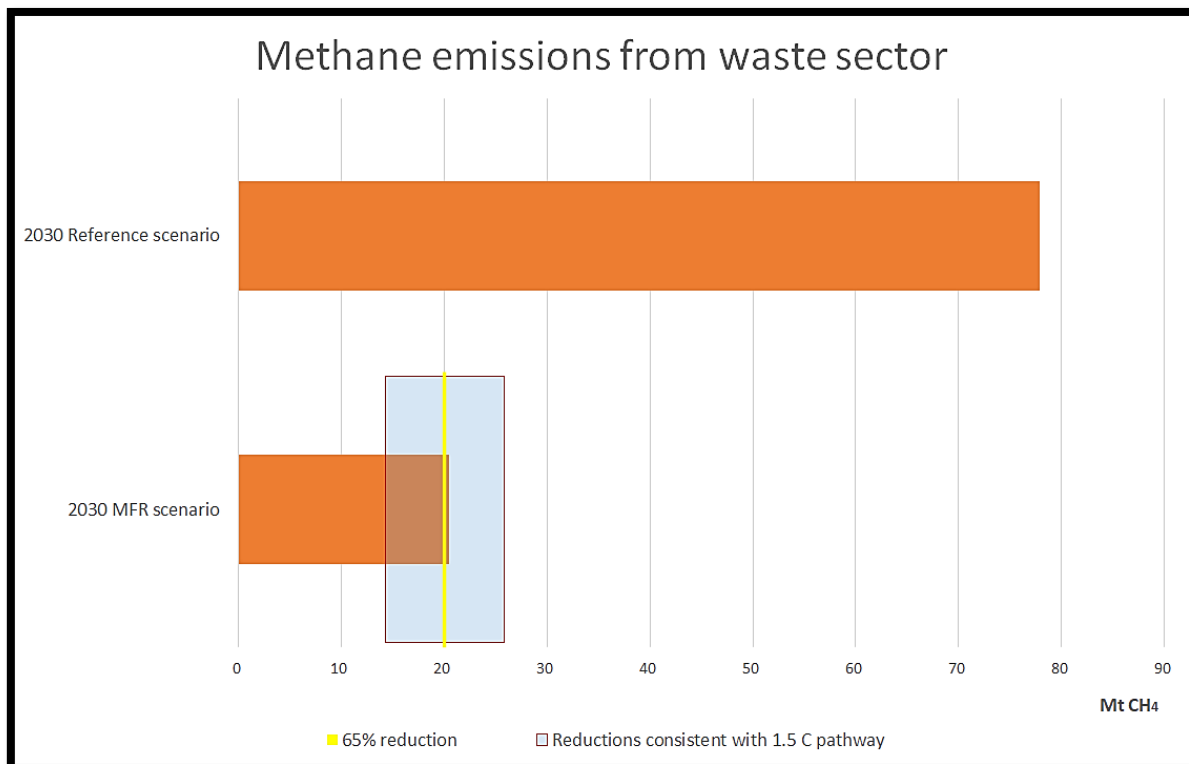


## OPPORTUNITIES FOR 1.5°C CONSISTENT METHANE MITIGATION: WASTE SECTOR

### (Key Messages)

- Waste sector methane emissions in 2010 were 57 Mt, which was approximately 18% of total anthropogenic emissions.
- Waste sector methane emissions are expected to increase to 78 Mt by 2030 without additional controls
- 2030 methane emissions could decrease by 57 Mt (74%) under IIASA's maximum technically feasible mitigation scenario, where the largest reductions come from municipal solid waste (-31 Mt) and wastewater (16 Mt).
- To be consistent with 1.5°C scenarios, by 2030 methane from the waste sector should be reduced by **65% (55-75%)** compared to 2010 levels.
- Maximum technically feasible mitigation could achieve a **64% reduction** compared to 2010 levels by 2030.
- Maximum technically feasible reductions will result in multiple-benefits for climate, air quality and public health. By 2030 reductions from the fossil fuel sector could **avoid 0.08°C** of additional warming and **prevent 86,080 premature deaths** due to reduced exposure to tropospheric ozone (benefits calculated based on unpublished results of the CCAC Global Methane Assessment).
- The main co-pollutants from the fossil fuel sector are: NO<sub>x</sub>, CO, NMVOC, SO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, BC, Ammonia



**Figure 1:** The upper bar shows projected 2030 methane emissions without additional mitigation. The lower bar shows projected 2030 methane emissions after maximum technically feasible reductions. The yellow line illustrates the average 2030 methane reduction in 1.5°C consistent scenarios reported in the IPCC 1.5°C Special Report (2018). (Reference and MTF scenarios provided by IIASA GAINS)

**Table 1 - Key Waste Methane Sources, Mitigation Potentials and Multiple-Benefits**

Sources	Emissions in 2030 (Mt)	MTF abatement in 2030 (Mt)	Warming Avoided (10-40 yr) (C)	Avoided Premature Deaths (annual)	Key Co-Pollutants	% reduction in 2030 compared to 2010
<b>Waste (All)</b>	<b>78</b>	<b>57</b>	<b>0.077</b>	<b>86,080</b>		<b>64%</b>
Solid waste - municipal	40	31	0.042	47,140	SO <sub>x</sub> , NO <sub>x</sub> , CO, NMVOC, PM <sub>10</sub> , PM <sub>2,5</sub>	-70%
Solid waste - industry	15	10	0.01	15,130	SO <sub>x</sub> , NO <sub>x</sub> , CO, PM <sub>2.5</sub> , PM <sub>10</sub> , NMVOC, OC, BC	-58%
Wastewater - domestic	9	2	0.003	3,610	NMVOC, Ammonia	-12%
Wastewater - industry	14	14	0.022	20,200	NMVOC, Ammonia	-98%

(Source: emissions and mitigation potentials calculated from IIASA GAINS scenarios. Benefits calculated based on unpublished results from the forthcoming CCAC Global Methane Assessment)