



Methane Mitigation

UNEP CCC Article 6

Sep 2026

CLIMATE
TRACE

Comprehensive Emissions Insight

Track Global Emissions

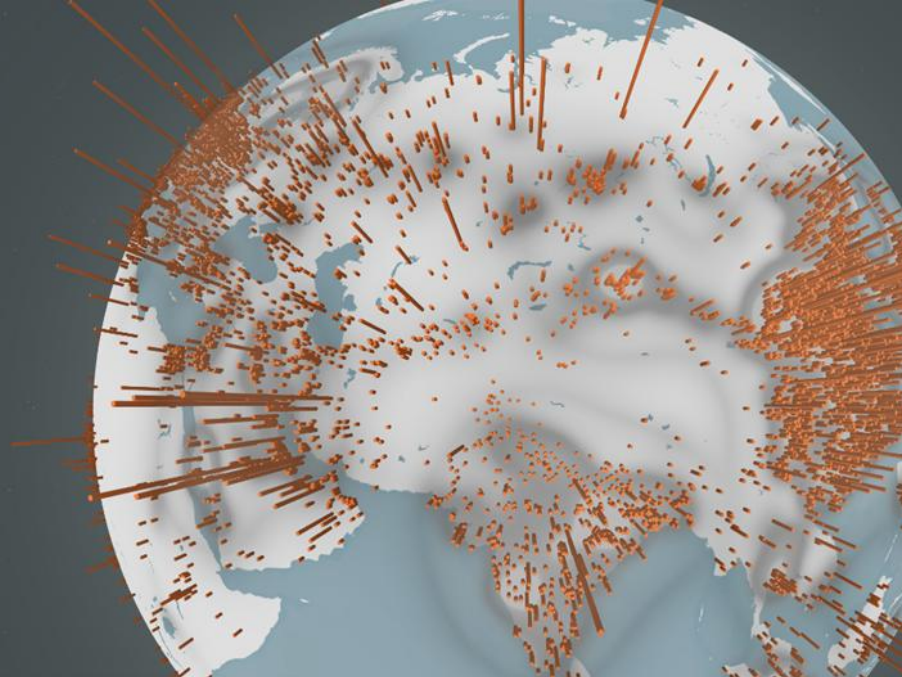
from 745 million sources of greenhouse gases and air pollutants worldwide.

See Pollution Plumes

and how they travel into communities all over the world.

Estimate Emissions Reductions

from specific, possible climate actions for every source on the planet.



Open Data

Built by a global not-for-profit coalition of over 100 universities, scientists, and AI experts.

- Examine **744,678,997 emitting assets** individually or aggregated by city, state, country, etc.
- Group emissions by **10 industrial sectors** broken into **67 sub-sectors**
- Follow **10+ years** of data (2015-2025) with monthly data available from 2021
- See the impacts of **3 GHGs** and 8 non-GHG air pollutants

36.26B

t CO₂e YTD in 2025

That's **0.39% higher** than 2024's year-to-date total at this time last year.

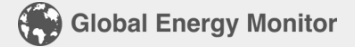
[Access Open Data](#)

Coalition Members

FORMER VP
AL GORE



Duke
UNIVERSITY



Hypervine.io

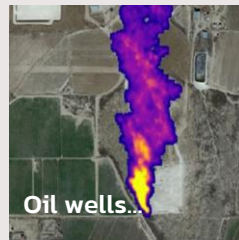
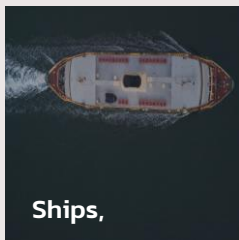


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How Climate TRACE estimates emissions

1. OBSERVE EMITTING ACTIVITY: apply AI to imagery from over 300 satellites and 60,000 sensors to locate and track activity at over 745 million emitting assets



2. CHARACTERIZE TECHNOLOGY: Experts from over 150 universities and NGOs train AI models using real-time emissions measurements and operational data (e.g., U.S. EPA CEMS) to identify technology type and distinguish low- and high-emitting operating conditions.



4. VERIFY AGAINST OTHER DATA: validate against 30 peer-reviewed papers and 100s of existing datasets



3. APPLY EMISSIONS FACTORS: apply emissions factors to activity based on the appropriate technology type and operational practice

$$\text{Emissions} = \text{Activity} \times EF$$

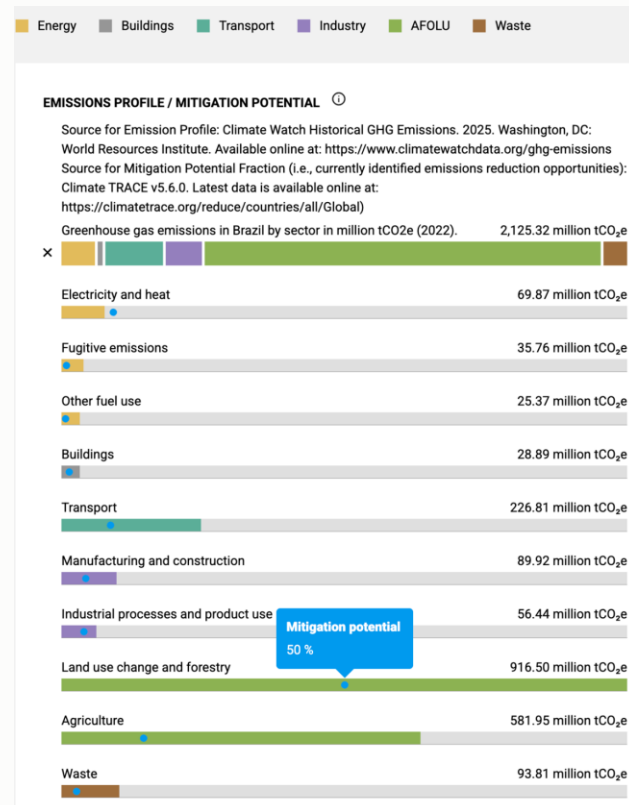
EMISSIONS ESTIMATES

UNEP-CCC Article 6

UNEP-CCC and **Climate TRACE** are working together to strengthen the data foundation for [Article 6](#). By combining Climate TRACE asset-level emissions intelligence and reduction strategies with the Article 6 Pipeline, countries can more quickly identify high-impact mitigation opportunities.

This collaboration establishes a foundation for exploring broader applications of independent emissions data within Article 6 ecosystem, supporting international climate cooperation and finance for mitigation projects.

Climate TRACE is a global coalition of 150+ organizations using satellites, remote sensing, and AI to provide independent, asset-level GHG and air pollutant emissions data for 745+ million assets worldwide. Learn more at www.climatetrace.org.



Existing Technologies can cut global methane by 24%

Methane (CH₄) is approx. 30x more potent than carbon dioxide (CO₂) over a 100-year timescale. Methane alone contributes to 16% of global GHG emissions. Addressing methane emissions is **key to reducing global warming**. The top-emitting methane sectors are **fossil fuel operations** (40% global methane emissions), **agriculture** (42%), and **waste** (15%). Climate TRACE estimates that we could reduce methane emissions globally by 24% using existing, proven strategies.

Fossil Fuel Operations

60.6M t CH₄ of 162.2M t CH₄ (37%)



Agriculture

24.5M t CH₄ of 172M t CH₄ (14%)



Waste

5.9M t CH₄ of 62.6M t CH₄ (9%)



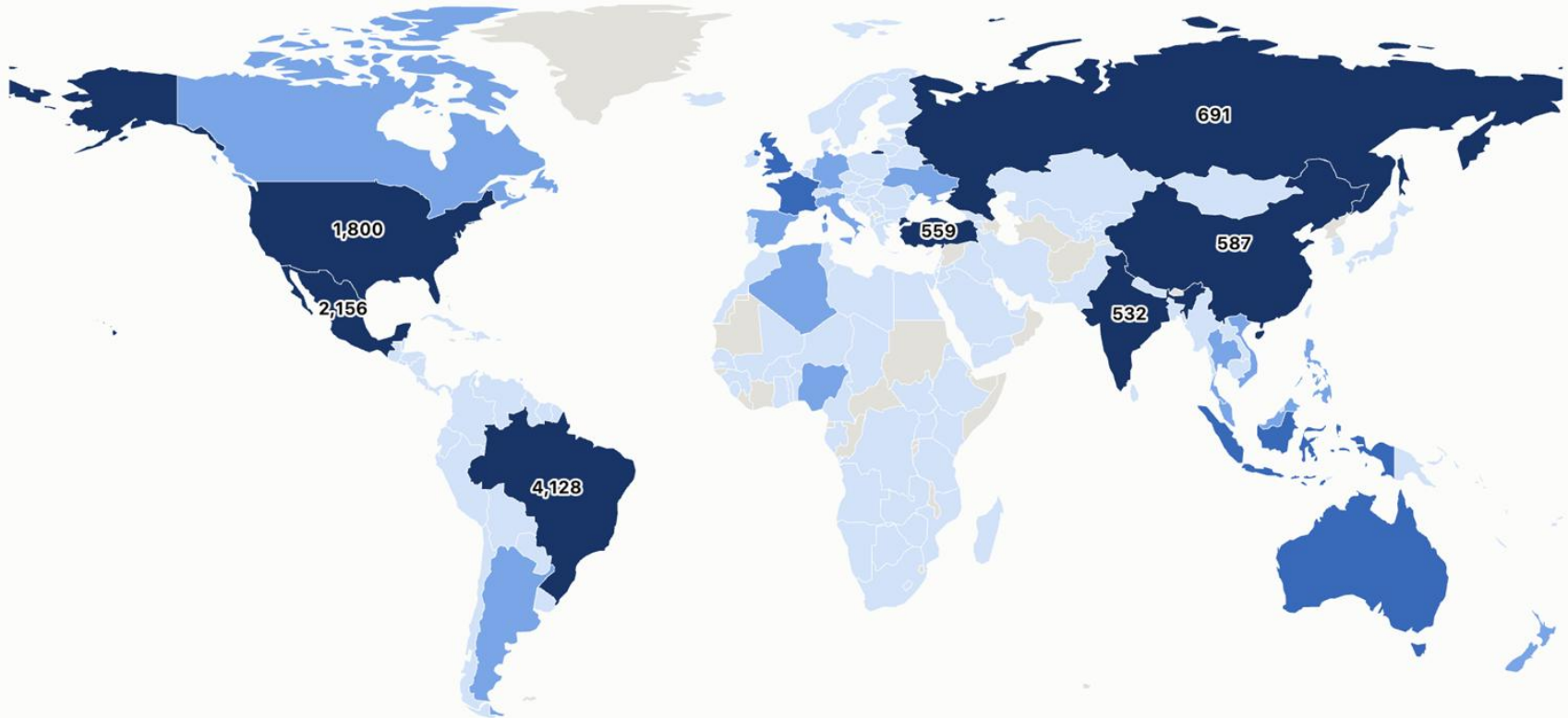
Other

6.4M t CH₄ of 12.8M t CH₄ (50%)



■ Known reduction opportunity (color = sector) ■ Remaining emissions

Landfills Globally



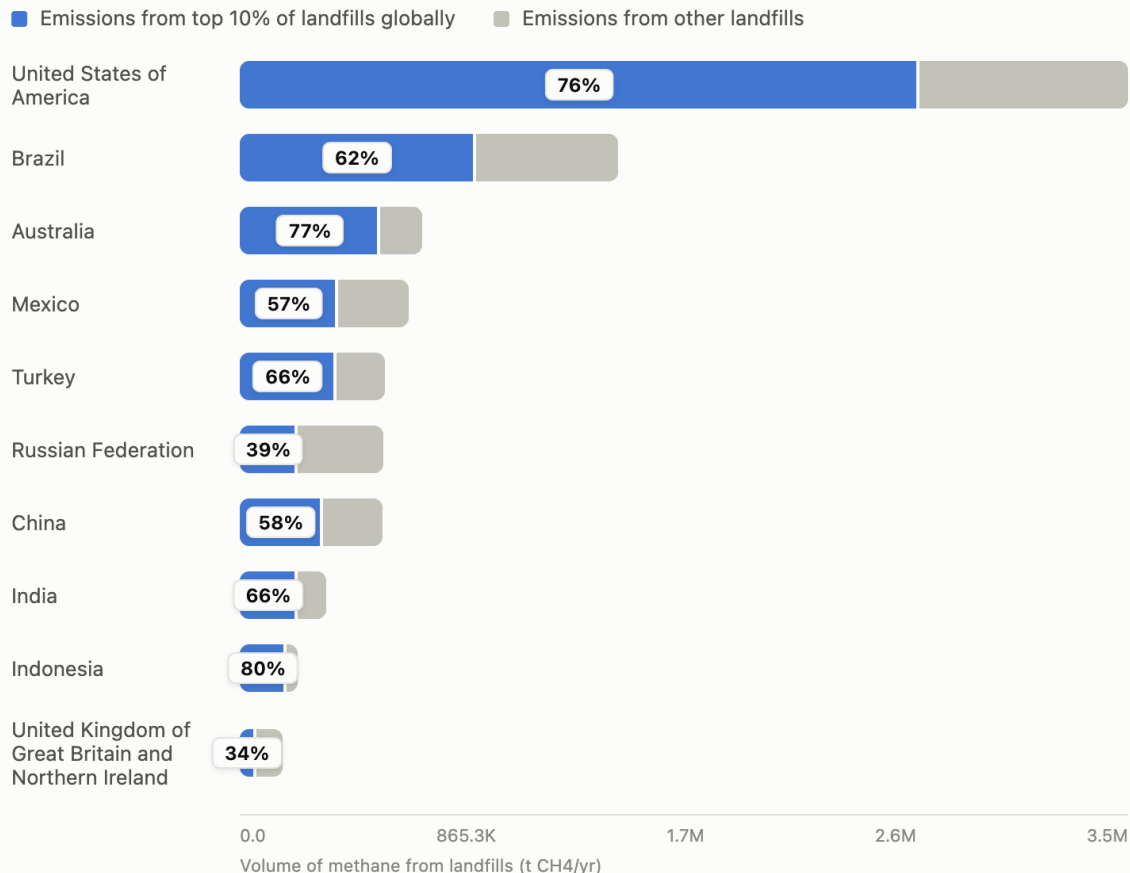
Landfills globally by count

1-50 51-150 151-300 300+ No data

Top Landfills to Prioritize

A small number of landfills offer outsized methane wins. The **top 10% of landfills together account for 70%** of all global landfill emissions.

Addressing this smaller subset of high-priority landfills (1,366 landfills total) would make a major impact in methane reductions.

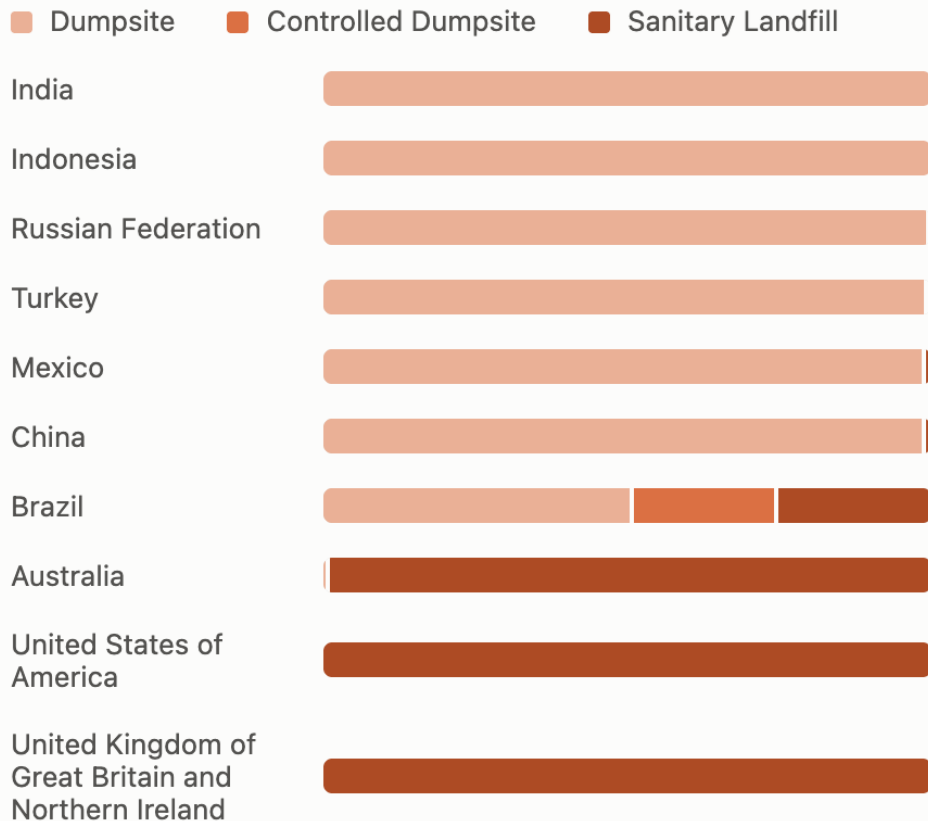


Different solutions for different types of sites

Dumpsites are unmanaged, open piles of waste, while **sanitary landfills** are engineered, regulated facilities.

On top of pollution, dumpsites can be a health hazard to local communities.

Countries with a higher percentage of dumpsites could add **biocovers** as a cost-effective solve to reduce methane emissions.



Solid Waste Disposal Strategies

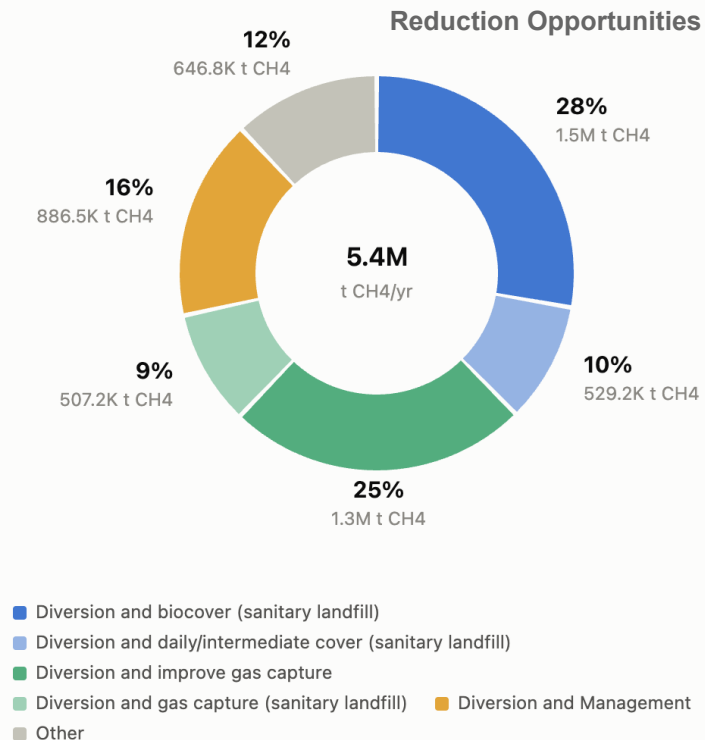
Landfills generate methane through anaerobic decomposition: when organic waste is buried and oxygen is depleted, microbes break it down, producing gas that includes methane and carbon dioxide. Globally, **13.1 million tonnes of CH₄** are produced annually by known assets. **5.4 million tonnes** or 41% of these emissions could be reduced with practical reduction strategies.

*Strategies for reduction: **diversion**, **biocovers**, **gas capture***

Known opportunities for reduction



■ Potential reduction **5.4M t CH₄** (41%) ■ Remaining emissions **7.7M t CH₄** (59%)

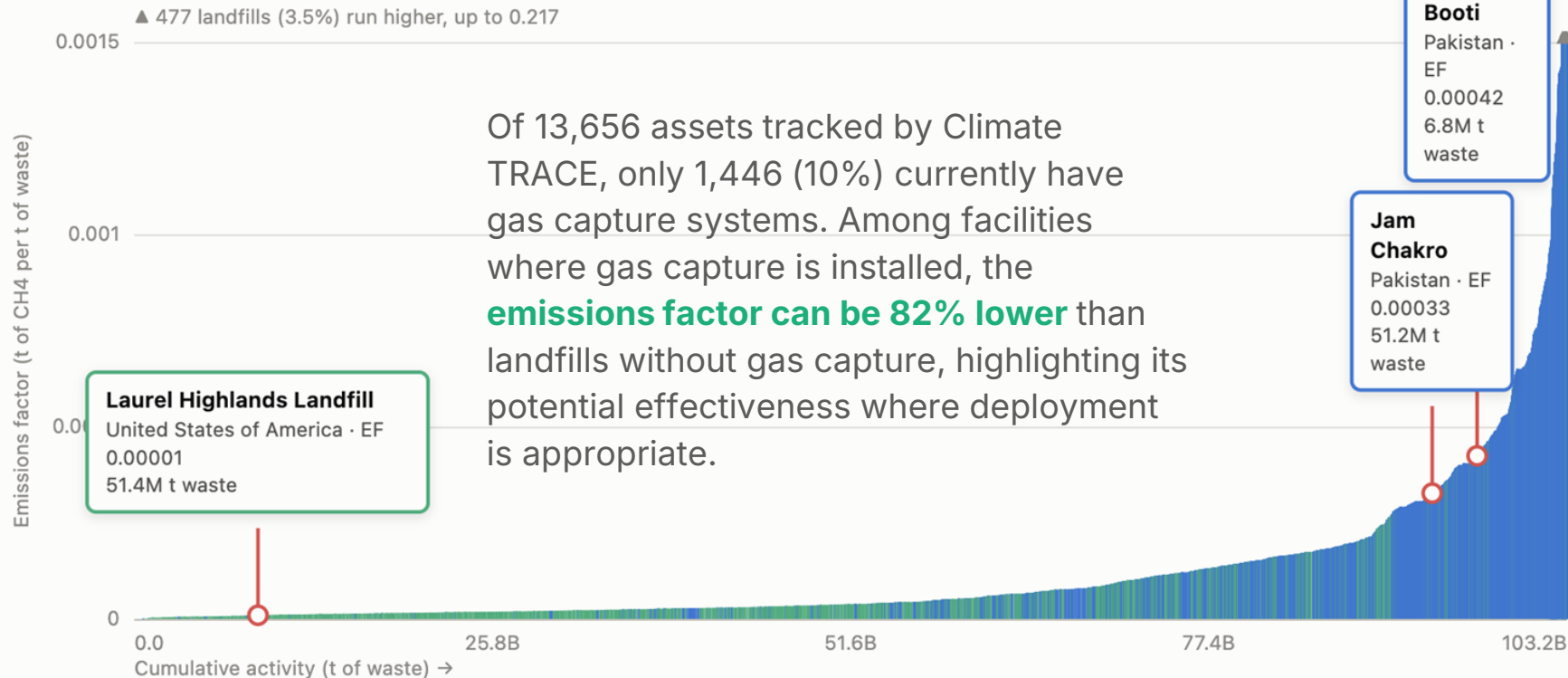


Mitigation: Methane Gas Capture

Emissions factor curve, by asset

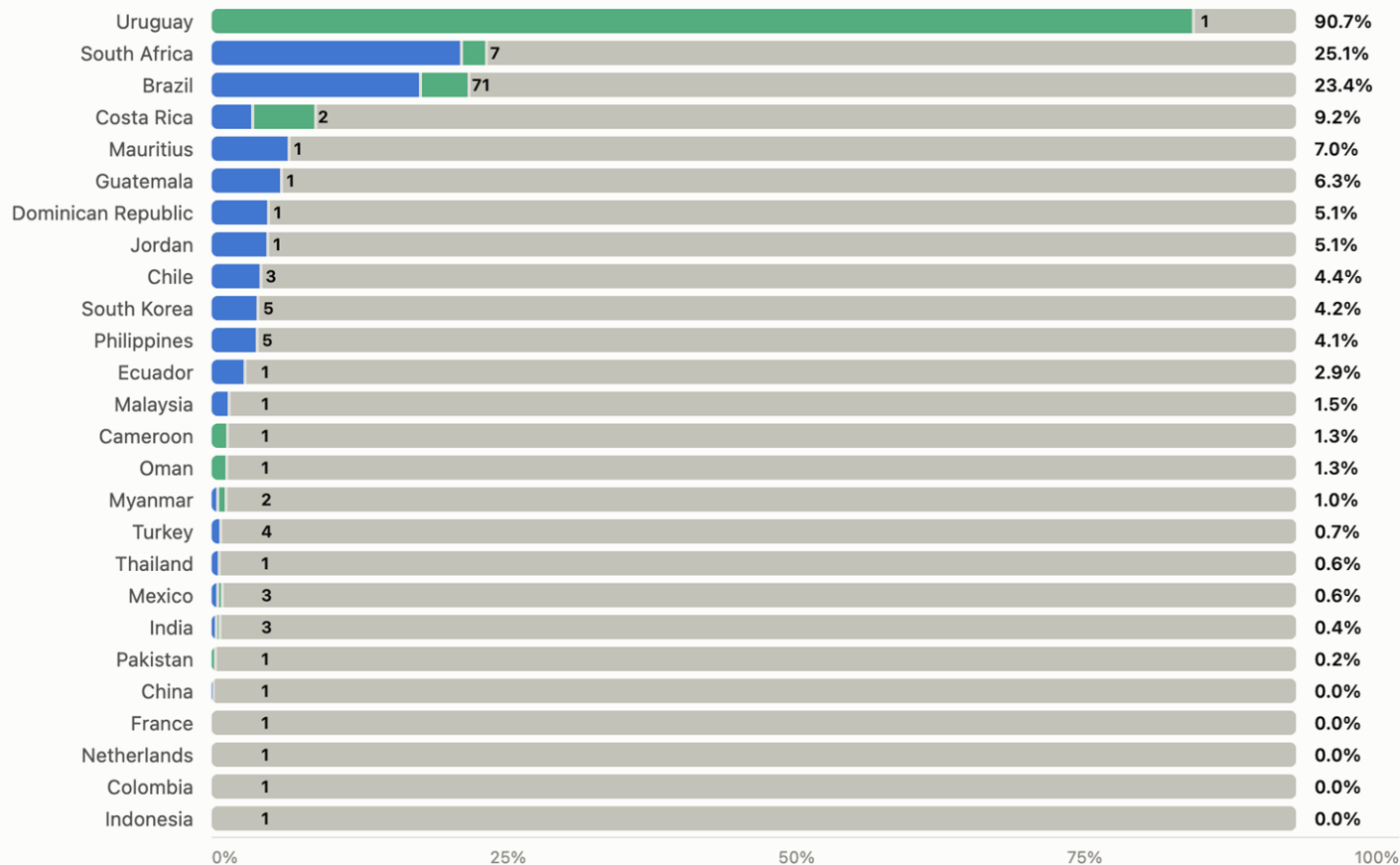
■ No gas capture

■ Gas capture



Article 6: Activities in Waste

■ Utilisation ■ Flaring ■ Remaining (not yet covered by planned mitigation)

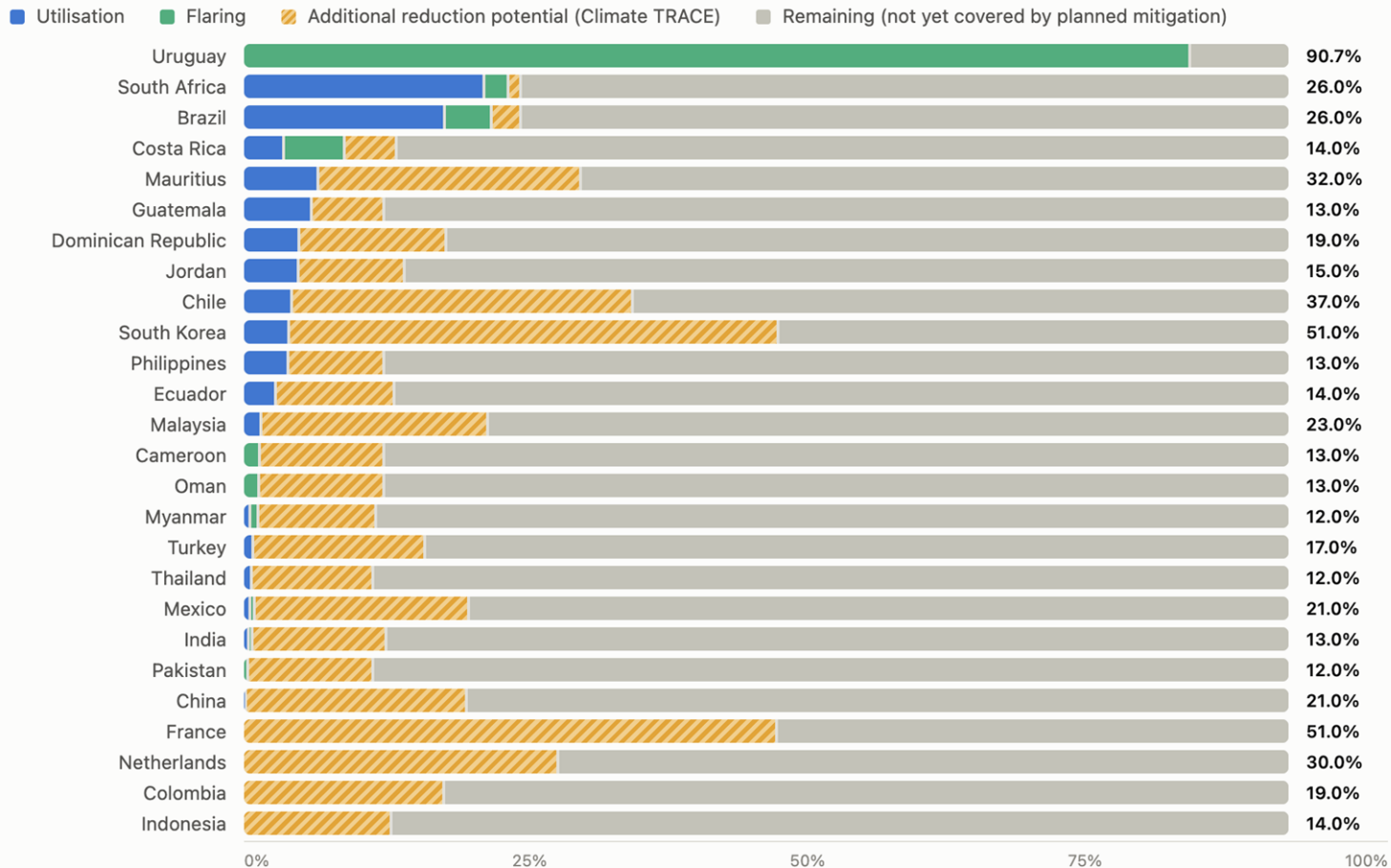


121
Planned mitigation
activities

26
Countries with
activities

>26.8
MtCO₂e
Planned methane
reductions

Global Methane Mitigation Potential in Solid Waste



13,656
Landfills with
reduction potential

157
Countries with
tracked landfills

>172.2
MtCO₂e
Potential methane
reductions