Why we must reduce methane emissions?

Beyond the CO2: Methane emissions management
Quito, Ecuador

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Director Circular Economy
Global Methane hub
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The Science of Methane – Key Facts

AROUND

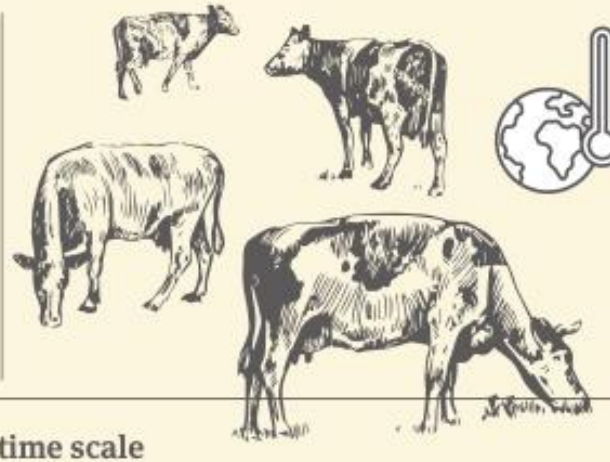
60%

of methane emissions come from human activities

Carbon dioxide emissions, to date, have caused global temperatures to rise

CO_2

0.8°C



Methane emissions have caused

CH_4

0.5°C

of warming

On a 20-year time scale

2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041

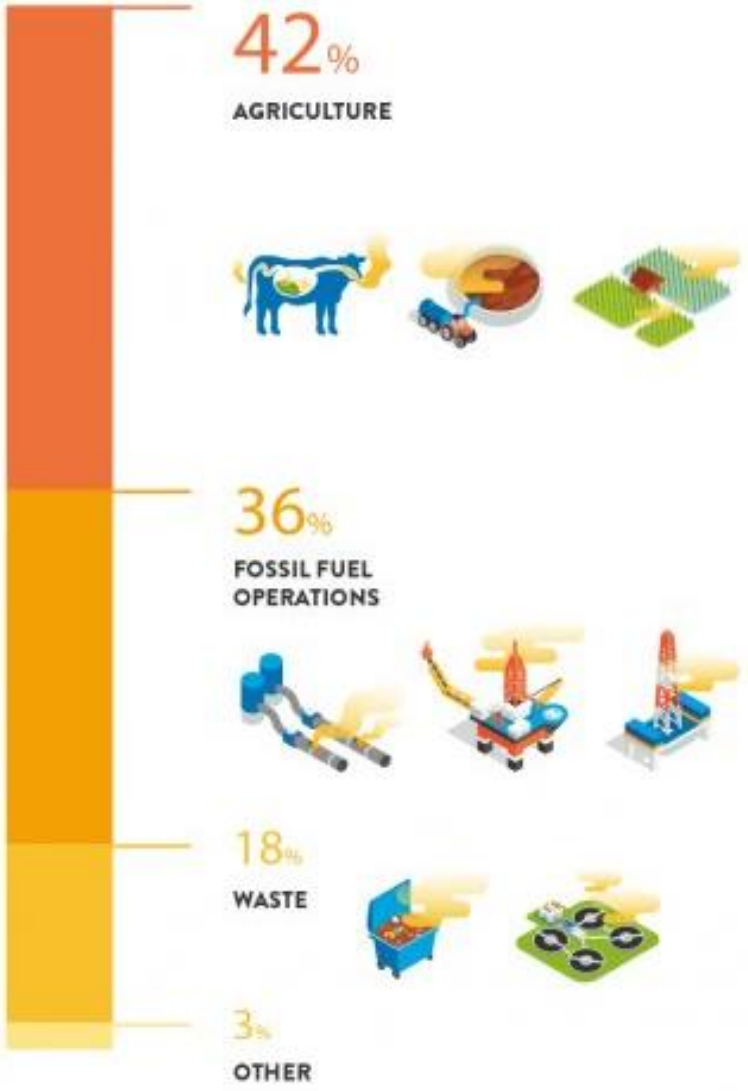
CO_2 METHANE'S GLOBAL WARMING POTENTIAL IS 86-TIMES STRONGER THAN CARBON DIOXIDE (CO_2)

86x

2021 ..... 28-times more powerful over 100 years 2121

SOURCES

Methane is one of the fastest growing greenhouse gases in the atmosphere. Human activity causes 2/3 of emissions.



% = global emissions

IMPACTS

CLIMATE

Responsible for 40% of warming since the industrial revolution

86x times more powerful than carbon dioxide over a 20-year period

HEALTH

Increasing emissions are driving a rise in tropospheric ozone air pollution, which causes 1+ million premature deaths annually. Methane is responsible for roughly 1/2 of these deaths.

AGRICULTURE & ECOSYSTEMS

METHANE (CH_4)

Methane emissions caused by human activities are one of the most significant drivers of climate change.

Methane is also the main precursor of tropospheric ozone, a powerful greenhouse gas, and air pollutant

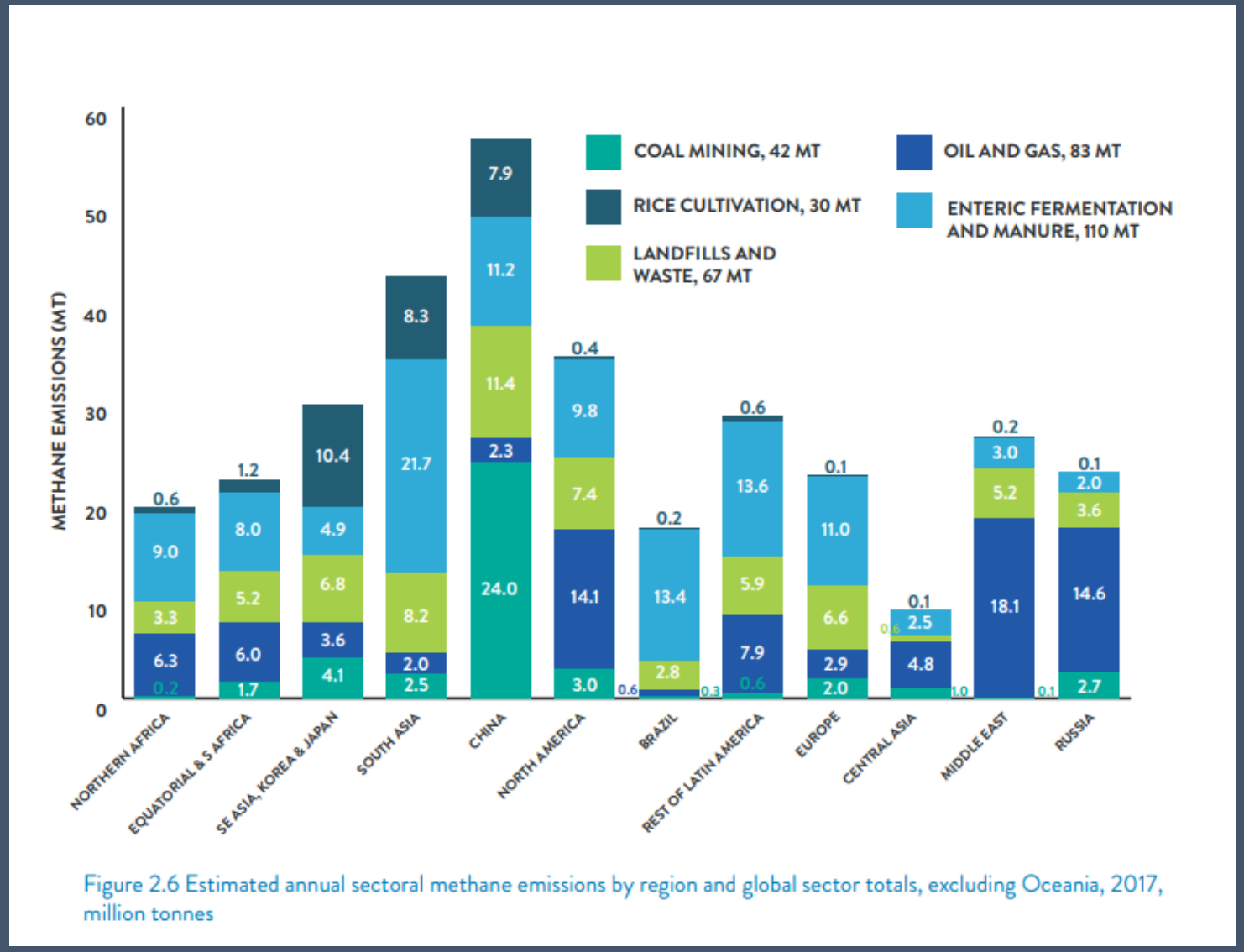
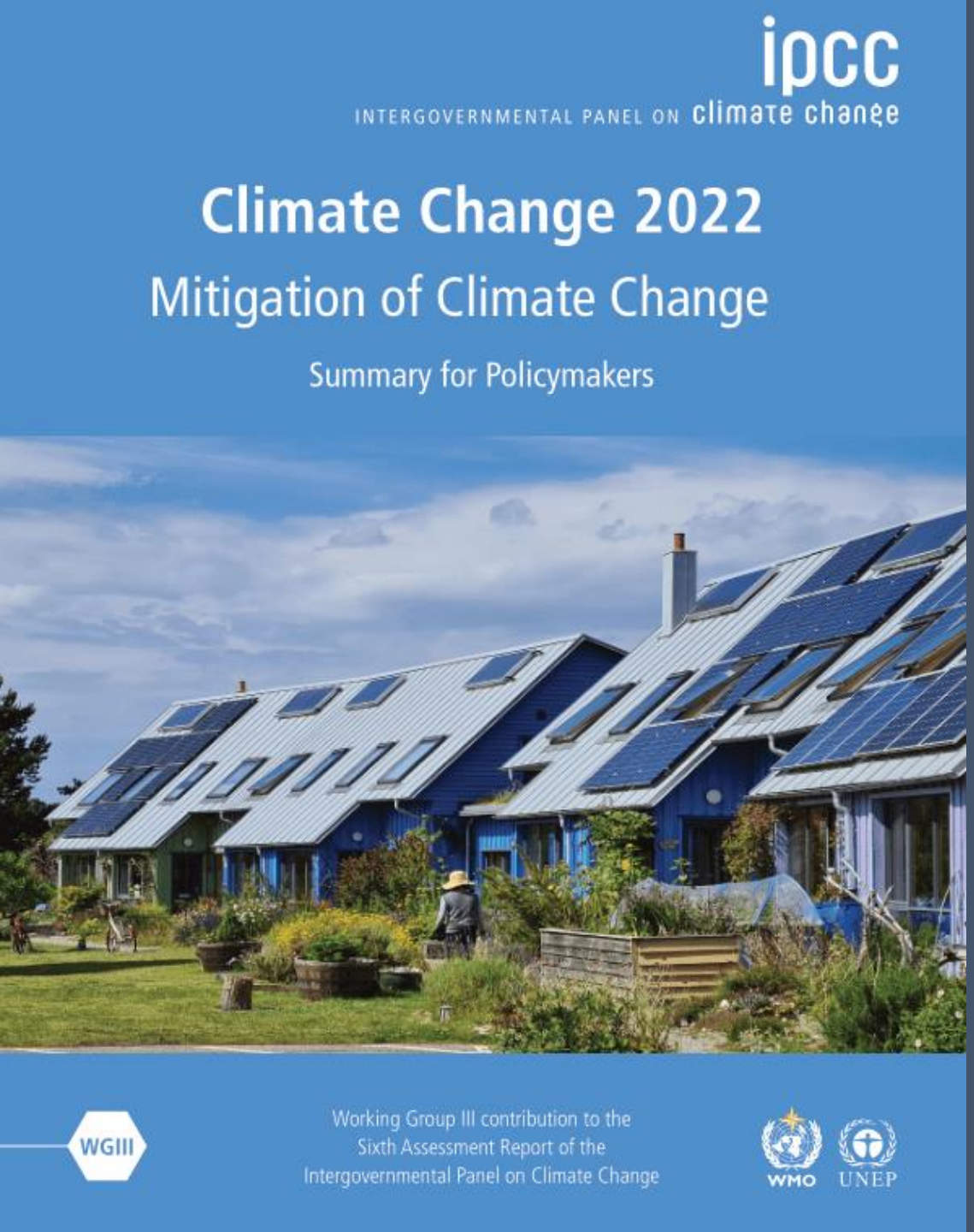


Figure 2.6 Estimated annual sectoral methane emissions by region and global sector totals, excluding Oceania, 2017, million tonnes

Region	Methane emissions (MT)	
China	58	17%
Latin America	48	14%
South Assia	44	13%
North America	36	10%
SE Assia, Korea Japan	31	9%
Midle East	28	8%
Russia	25	7%
Europe	24	7%
Eq & South Africa	23	7%
Northen Africa	21	6%
Central Assia	8	2%



The time to slash methane emissions is now

- **Global Methane Pledge (2021).** 30% reduction by 2030
- **AR6 WGIII (2022)** 34% reduction by 2030, 44% by 2040
- **AR6 WG II (2022).** Methane's role in preventing warming crucial in reaching tipping points for dangerous impacts on people and ecosystems.
- Tackling methane is crucial to keep warming under 1.5 degrees and meet the **Paris Agreement Targets**

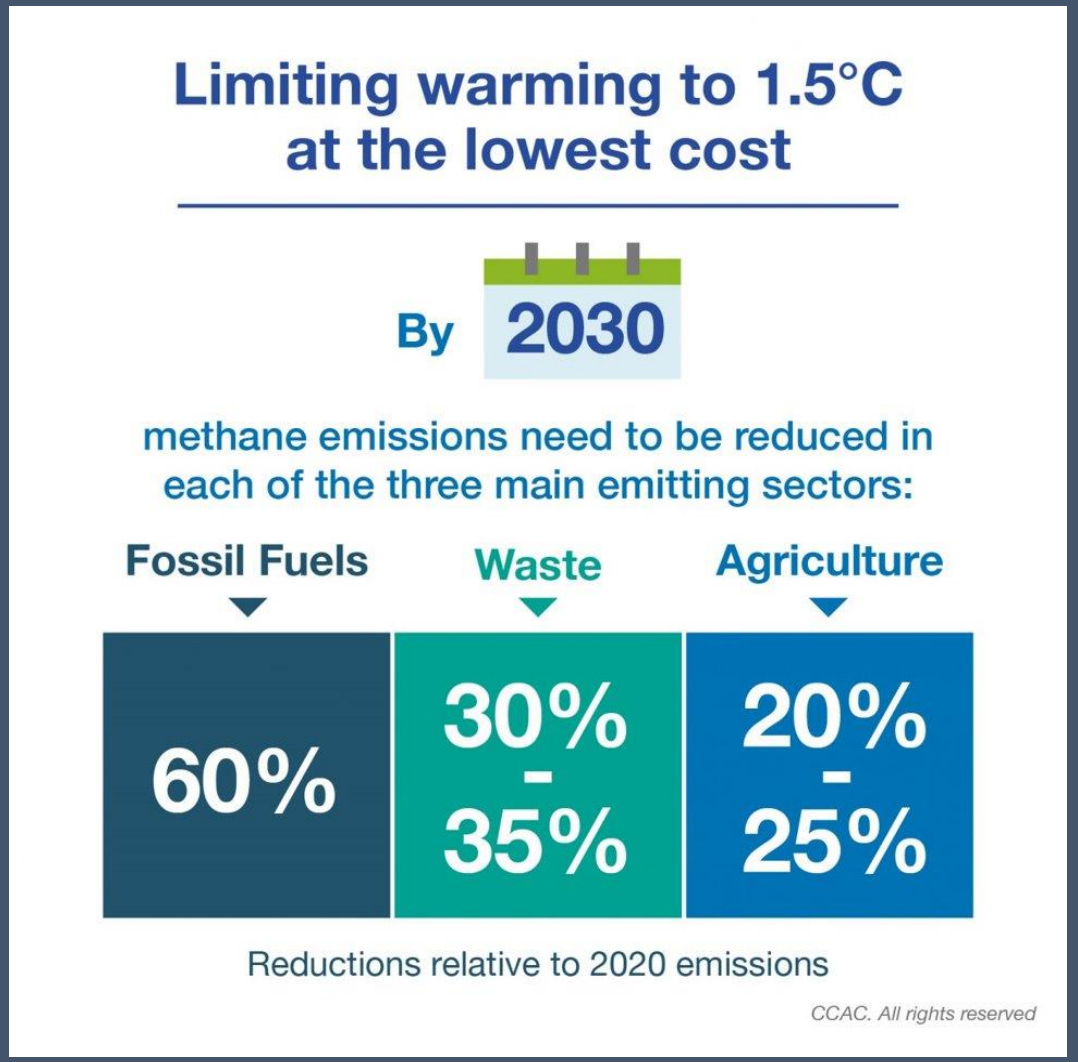
GLOBAL METHANE HUB

Global Methane Pledge

Global Methane Pledge has put together over 110 countries to reduce emissions by 30% by 2030.

We must implement out-of-the-box solutions for food system emissions.

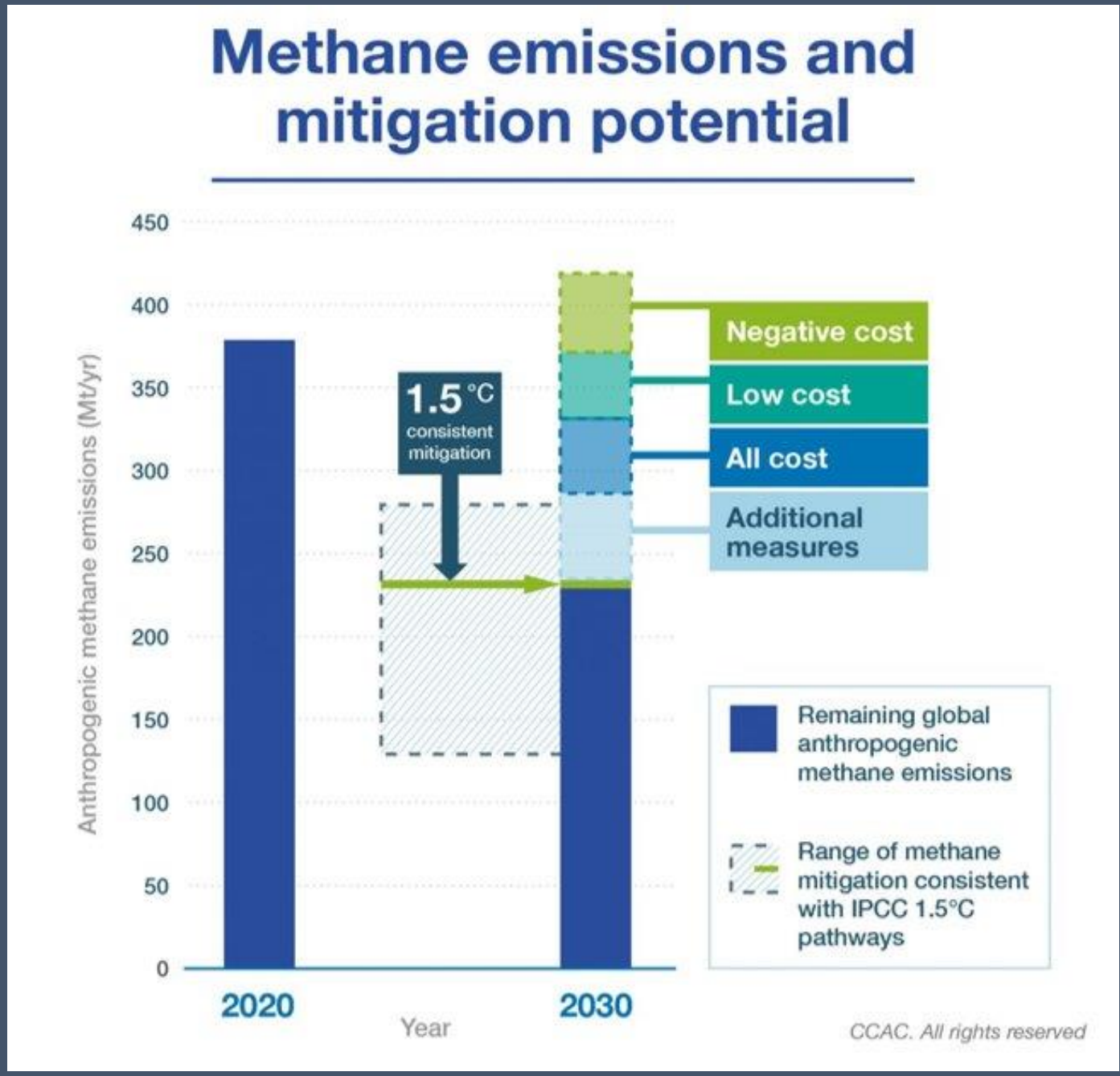
BAU won't cut it.

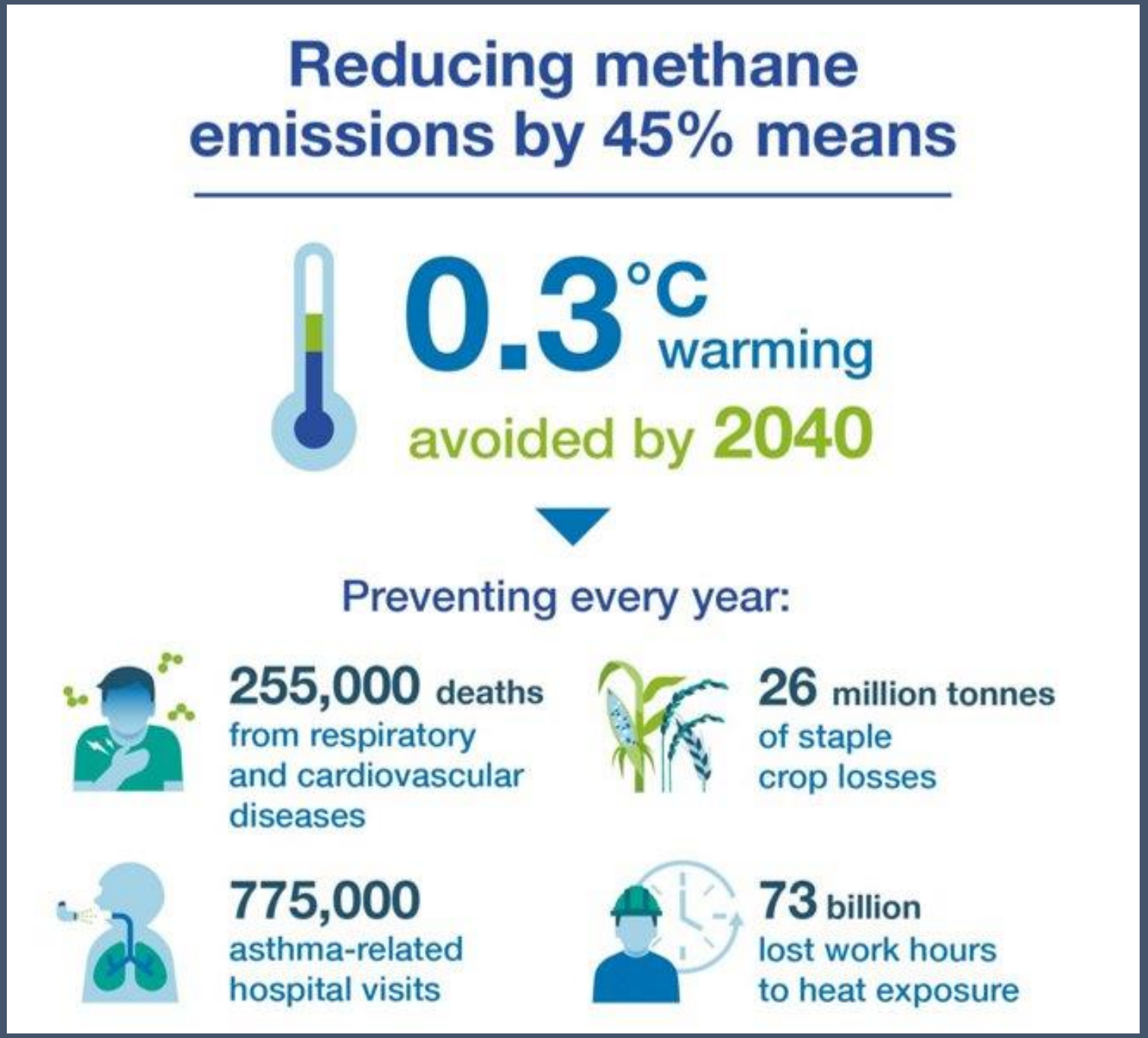


The opportunity ahead

Methane mitigation provides opportunities for quick wins for safer climate, cleaner air, better agricultural productivity.

IPCC AR6 WIII: We can reach 50-80% mitigation at under $50 /ton$CO_2$

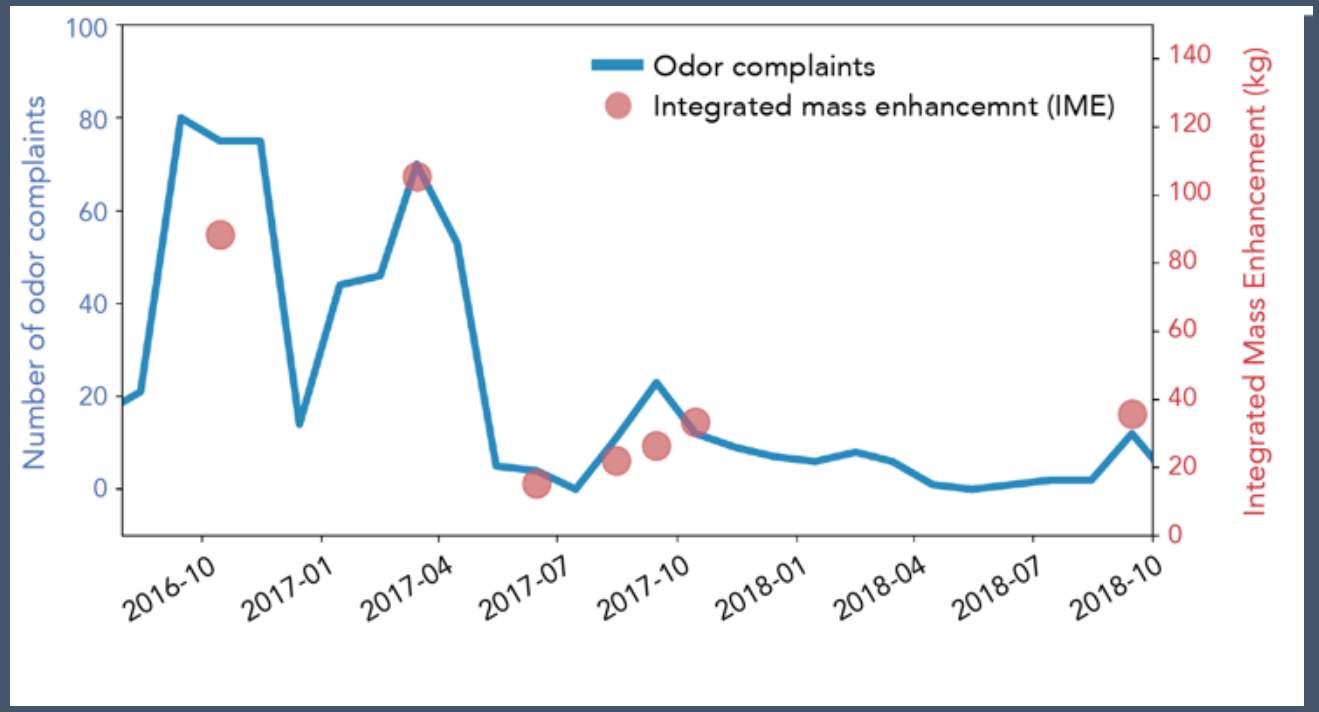




Co-benefits are significant!

Addressing leaking methane in landfills is a direct contribution to environmental justice.

Case Study at Sunshine Canyon Landfill (Los Angeles)



Before

After

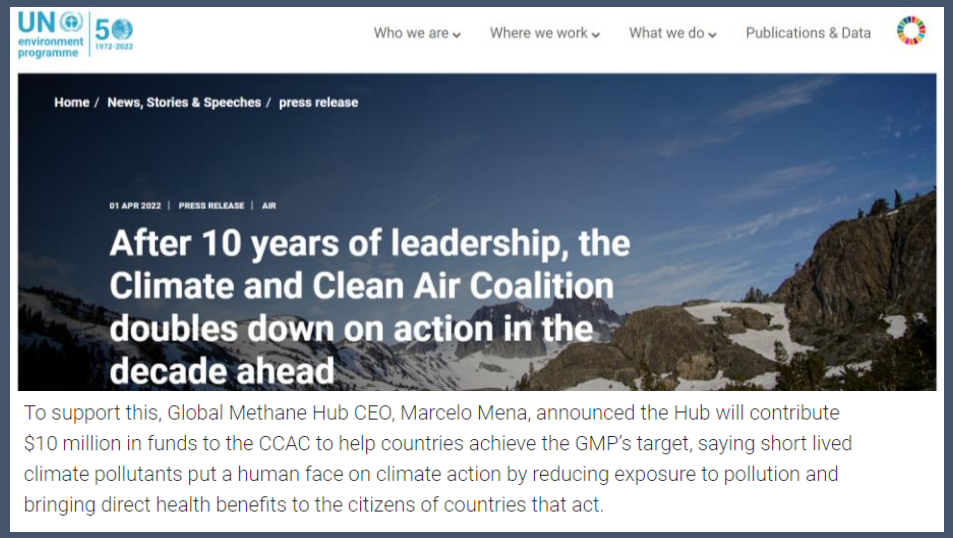
CARBON MAPPER

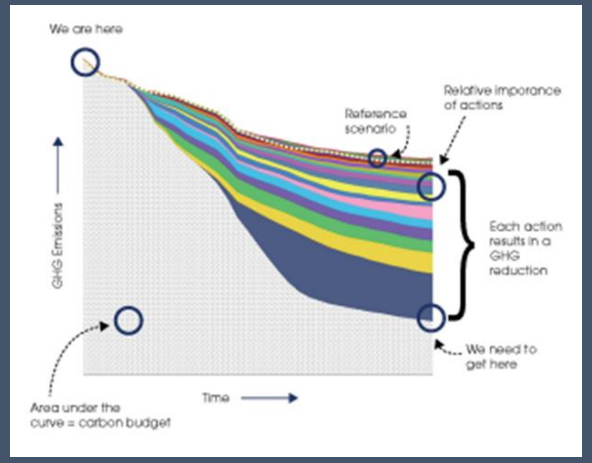
GLOBAL METHANE HUB
What do we do?

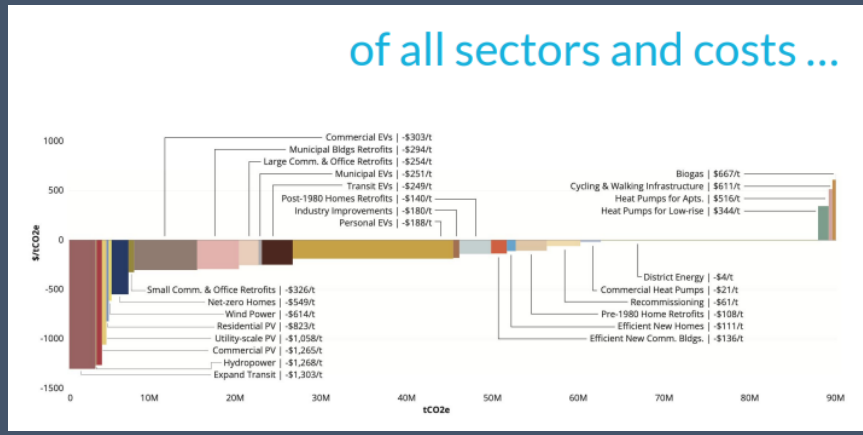
- 330 million dollar philanthropic effort to align funding on methane mitigation
- Supporting Global Methane Pledge signatories and potential signatories in meeting the pledge and go beyond.
- Focus on oil, gas, agriculture and waste
- Drive coordination and collaboration on methane advocacy
- Granting areas with the highest impact, cutting across sectors.
- Offices based in PUCV, Santiago, Chile.

Collaboration and Coordination for Methane Reduction Ambition

- Policy updates, regulations, and laws.
  - National and local governments
  - Studies, Analysis, Inventories, Projections, and Capacity Building, among others
  - Methane mitigation actions plans/pledge, cost-effective analysis, etc.







Collaboration and Coordination for Methane Reduction Ambition

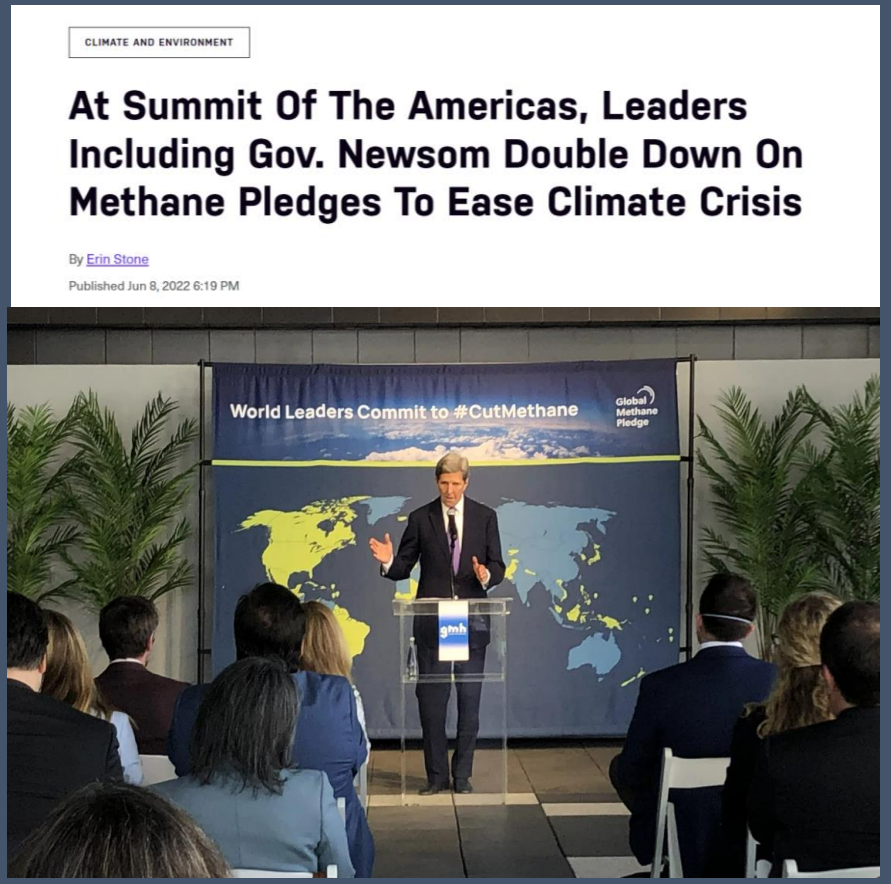
- Catalitic Implementation and finance leverage
  - Prefeasibility studies, finance analysis, development Banks collaborations, among others

RECICLO ORGÁNICOS

GMH

Collaboration and Coordination for Methane Reduction Ambition

- Improve monitoring, report and verification



CLIMATE AND ENVIRONMENT

At Summit Of The Americas, Leaders Including Gov. Newsom Double Down On Methane Pledges To Ease Climate Crisis

By Erin Stone

Published Jun 8, 2022 6:19 PM

- Special Secretary John Kerry.
- Minister level participants (Ecuador, Uruguay, Argentina, Barbados, Trinidad y Tobago, Chile, etc).
- Governor Newsom commit to US$100 million on the Methane Accountability Program.

CARBON MAPPER

GMH

Quick update on funding.

Approved

- **$10M** on energy sector in North America and Europe (November-December 2021)
- **$10M** (3 year) to support 30 countries in methane reduction.
- **$3M** in energy sector for Europe transition.
- **$2M** to work in Australia and Latin America.

In progress

- **$20M** for Asia.
- Later this year:
  - Landfill focus
  - Oil and Gas
  - Agriculture

Feedstocks for Biogas: Agriculture and waste (Circular economy)

Crop residues

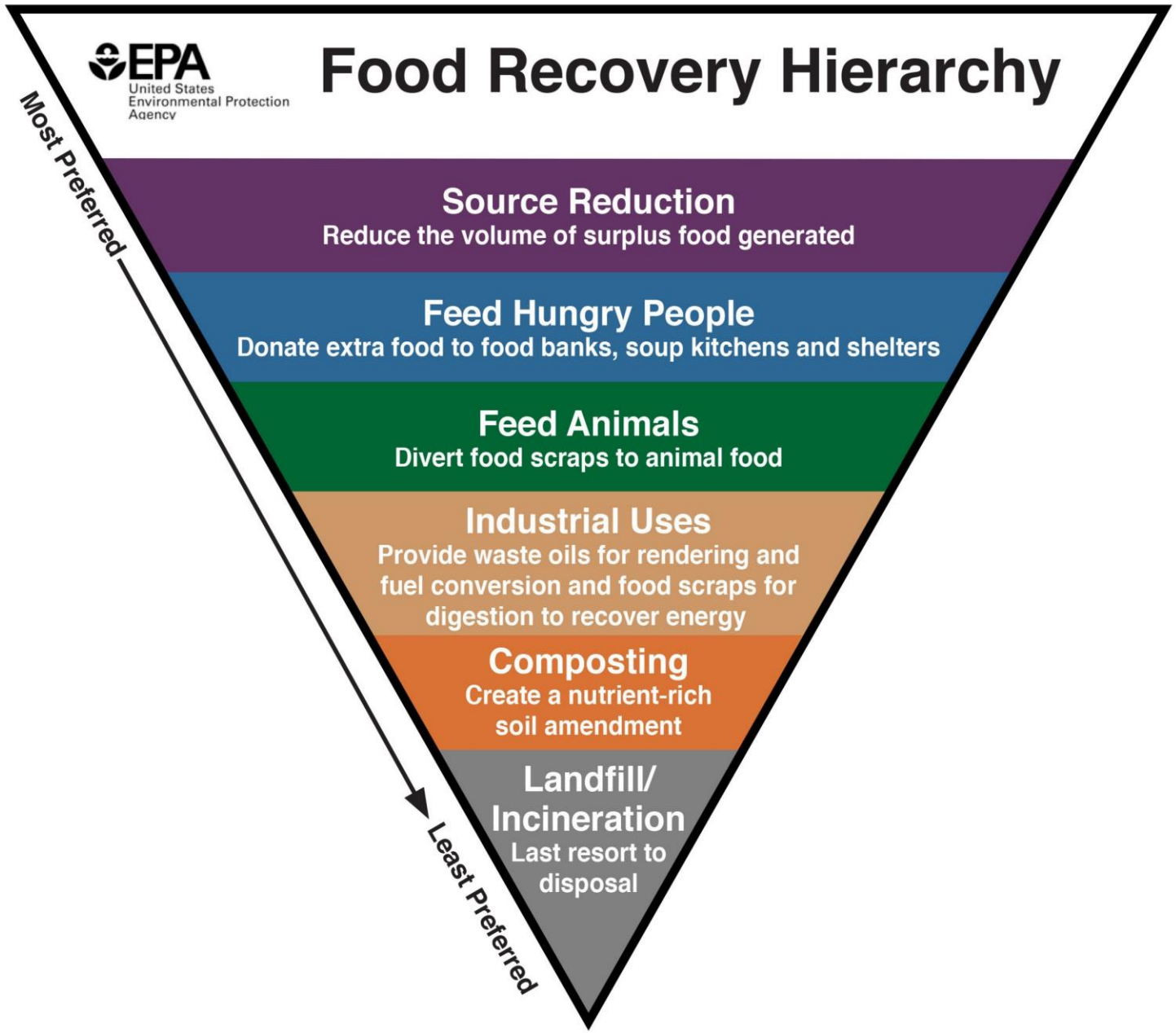
Animal manure

Organic fraction of MSW

Wastewater sludge

Our approach to organics

Organic waste prevention is a powerful tool for reducing methane emissions, including preventing upstream emissions involved in its production, management and transport



Anaerobic Digestion Facts

- Biogas from agricultural waste or residues can cost-effectively mitigate methane emissions.
- It allows farms to generate additional revenue streams and provide opportunities for development and investment in rural areas.
- Biogas is a useful renewable energy with applications in electricity generation and alternative-fuel vehicles.
- Digestate can be used as a soil improver, thus, reducing the requirement for alternative products, such as fertilizers.
- AD is used on livestock farms as part of an integrated manure management approach providing a way to minimize odors and pathogens.

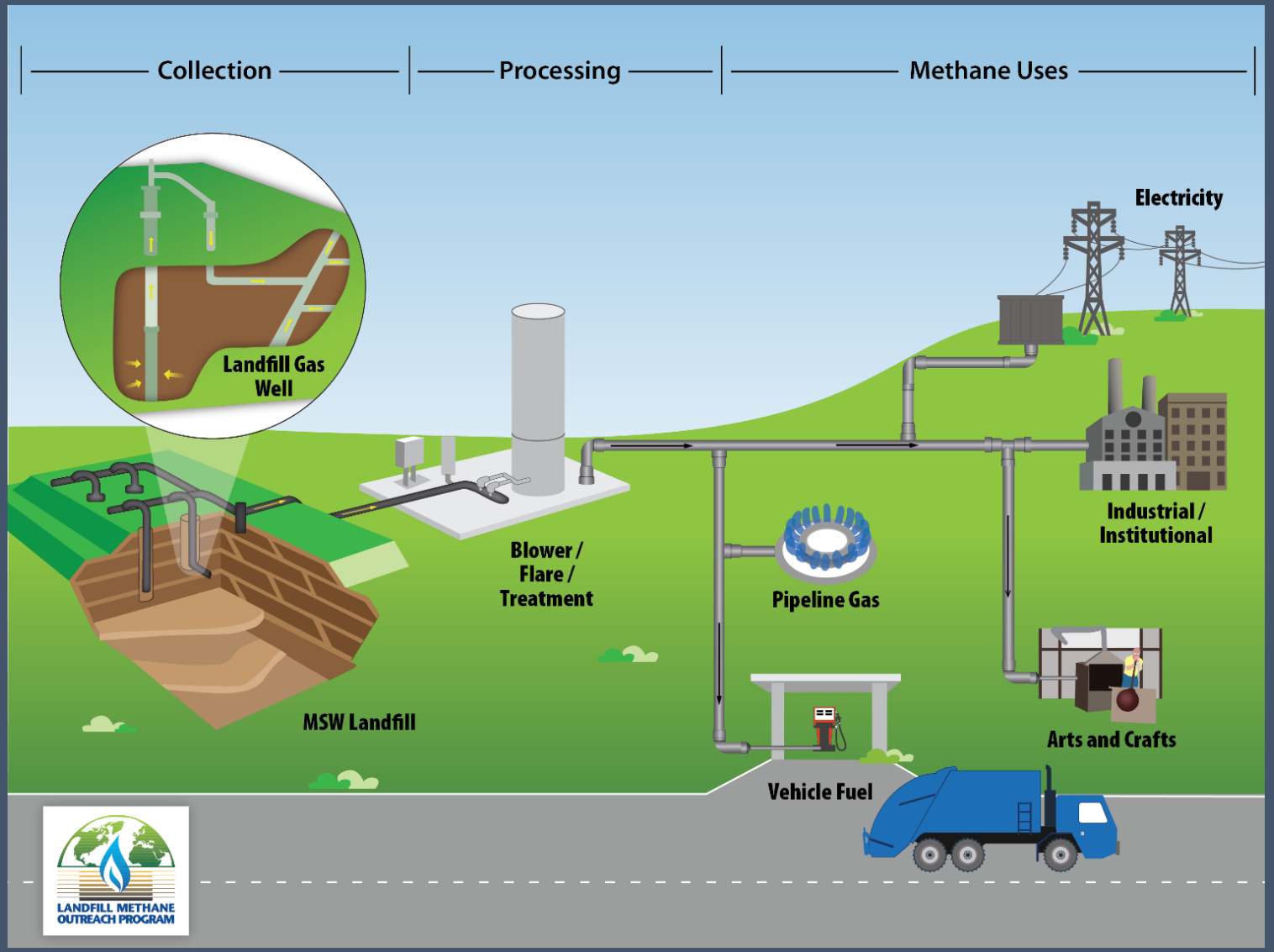
EU Methane Strategy

The case for biogas and biomethane

- Unlike wind and solar PV, biogas plants can operate in a flexible manner and so provide balancing and other ancillary services to the electricity network
- Certain industrial subsectors, such as the food and drink and chemicals, produce wet waste with a high organic content, which is a suitable feedstock for anaerobic digestion.
- Biogas production can also have the co-benefit of providing treatment for waste while also supplying on-site heat and electricity.
- Currently around 3.5 Mtoe of biomethane are produced worldwide. The vast majority of production lies in European and North American markets

Landfill gas (LFG)

Using LFG helps to reduce odors and other hazards associated with LFG emissions



We know what works

We know how it works

We know we must act

The time is now

Thanks!