

METHANE

IN THE CONTEXT OF PARIS AGREEMENT

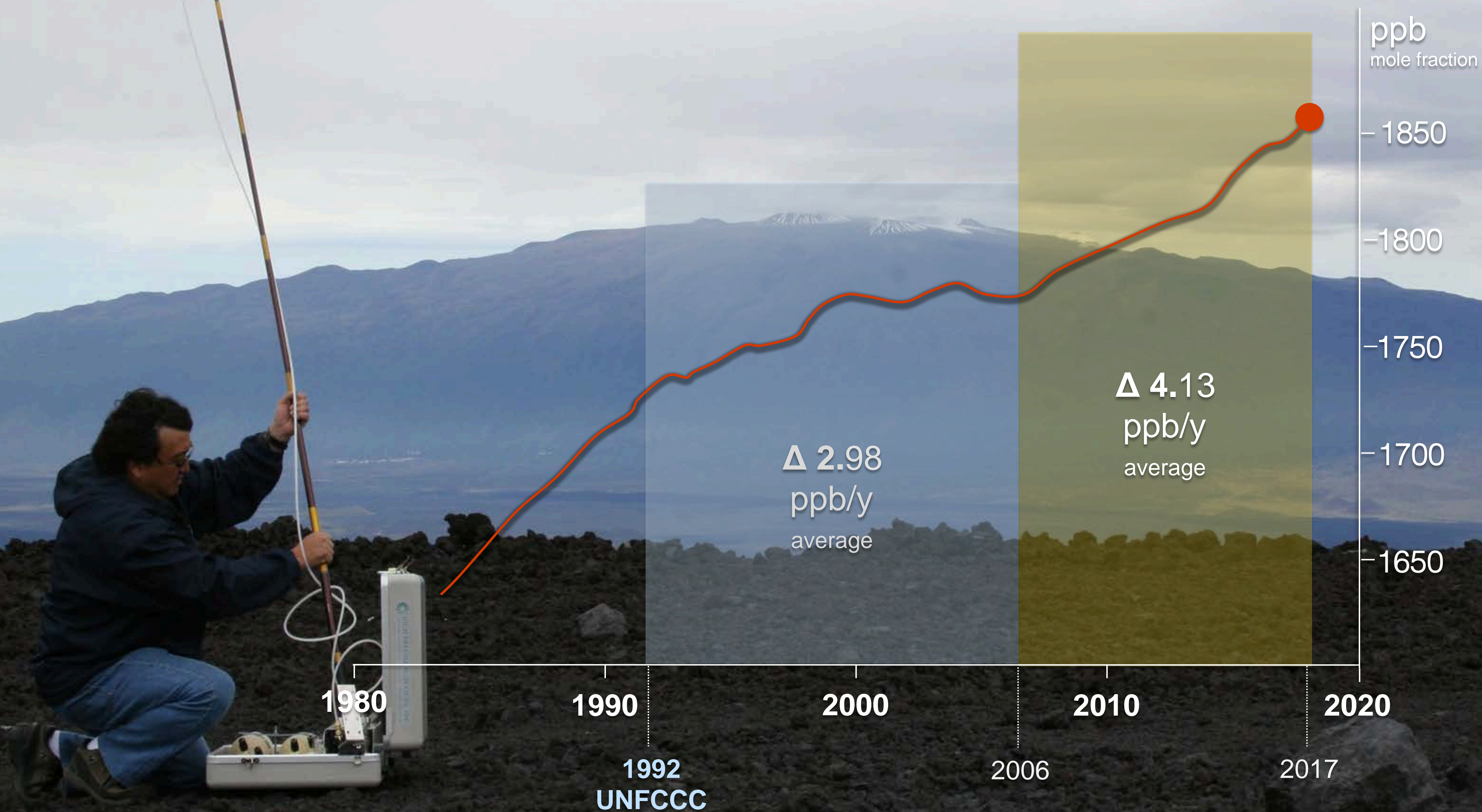
RODOLFO LACY

MÉXICO
PRESIDENCIA DE LA REPÚBLICA



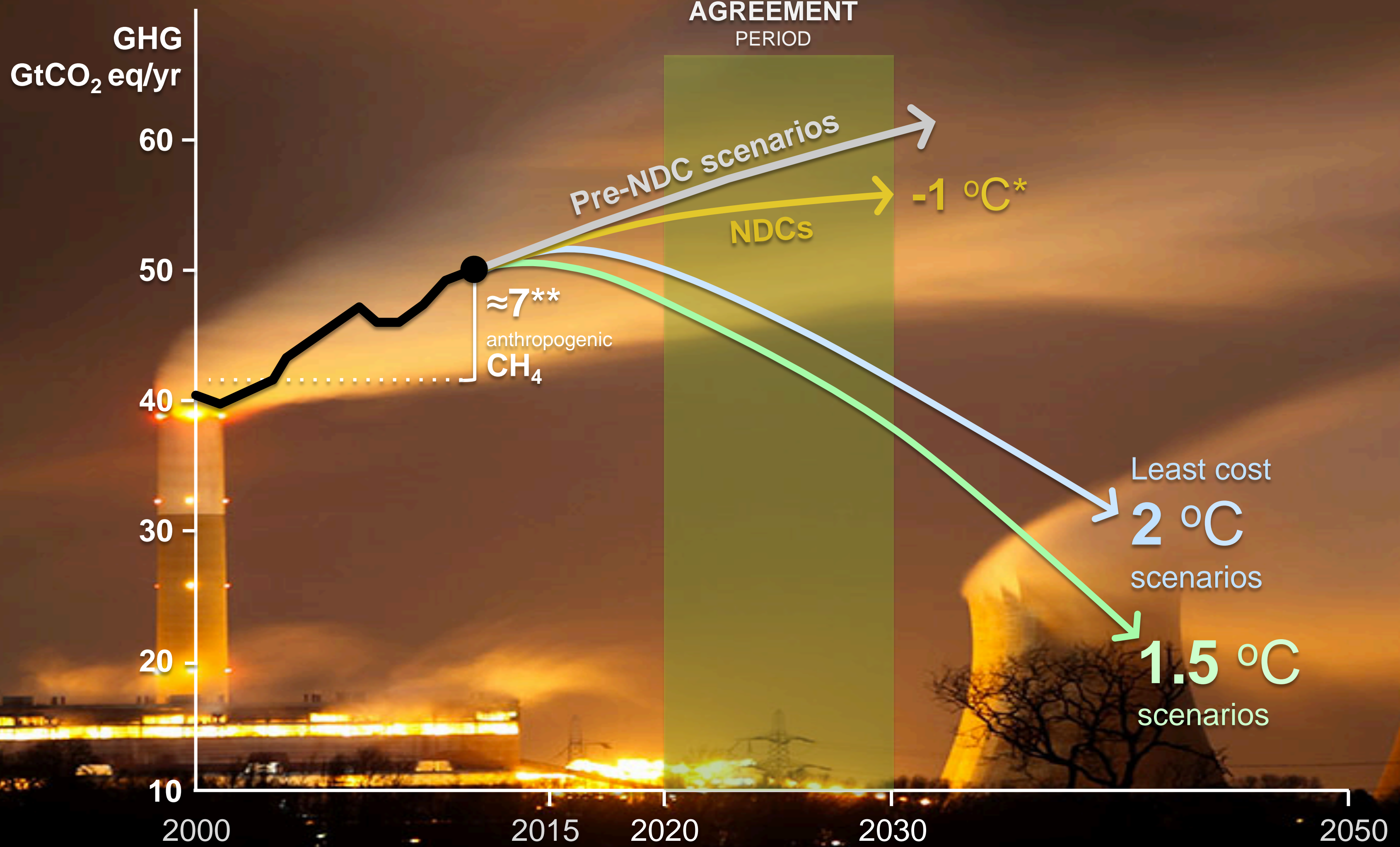
METHANE GLOBAL MONTHLY MEAN

CH₄



PARIS AGREEMENT AGGREGATE EFFECT OF NDCs

2020-2030



SOURCES: UNFCCC, 2016
*MIT, 2016
**GMI, 2017

PARIS AGREEMENT

ARTICLE 4

*“...Parties shall promote
**environmental integrity,
transparency, accuracy,
completeness, comparability,
and consistency”***

in their NDC's

CARBON NEUTRALITY

PARIS AGREEMENT
Art. 6

Parties aim to reach **global peaking** of GHG emissions as soon as possible... so to achieve a

BALANCE

between anthropogenic emissions by sources and removals by sinks and greenhouse gases

IN THE SECOND HALF OF THIS CENTURY



Artista **OLAFUR ELIASSON**
Artic Ice in Paris

MÉXICO.
PRESIDENCIA DE LA REPÚBLICA

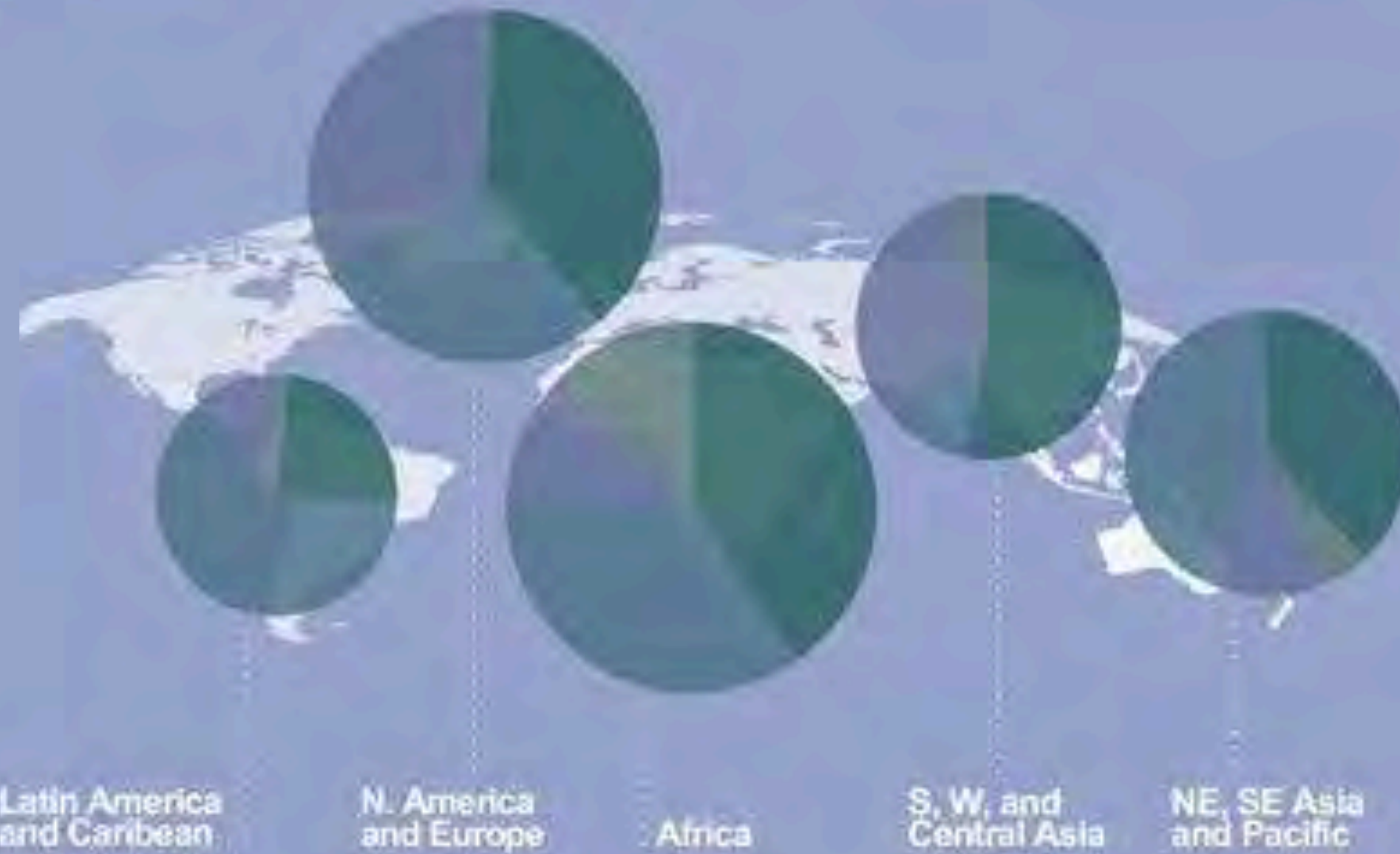


METHANE GLOBAL EMISSIONS

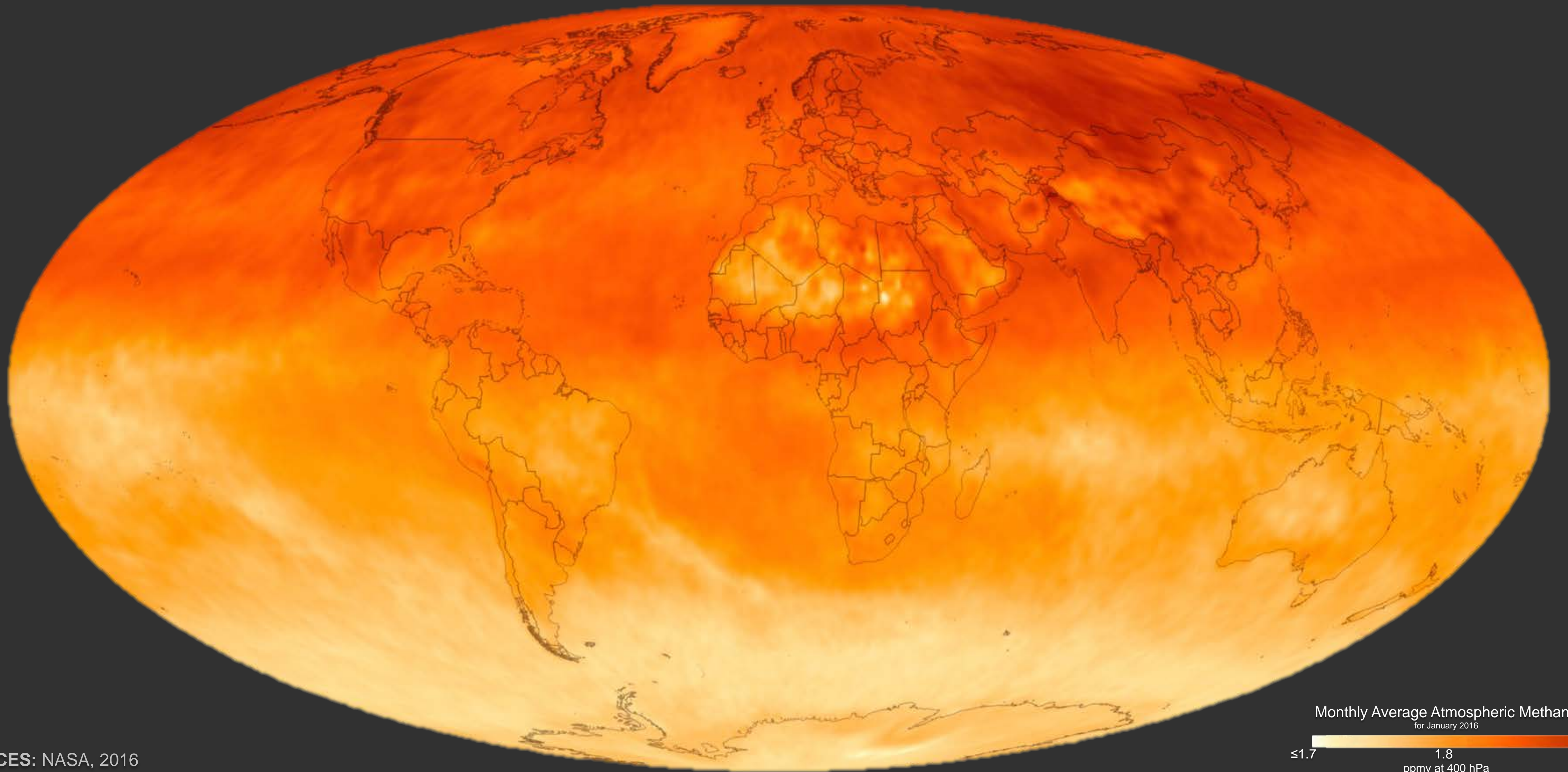
2005

60%

of global methane emissions come from **human activities**



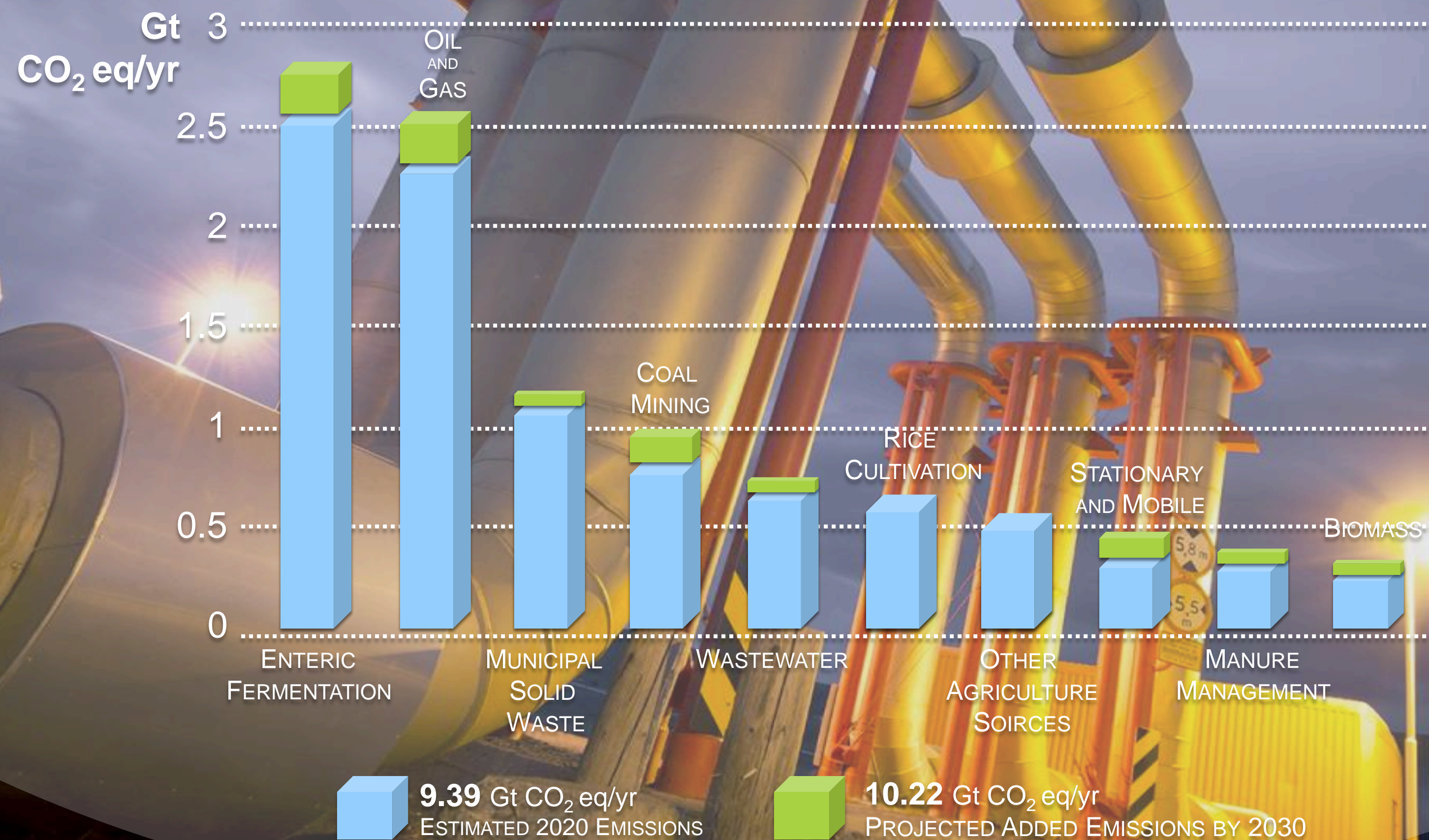
METHANE



SOURCES: NASA, 2016

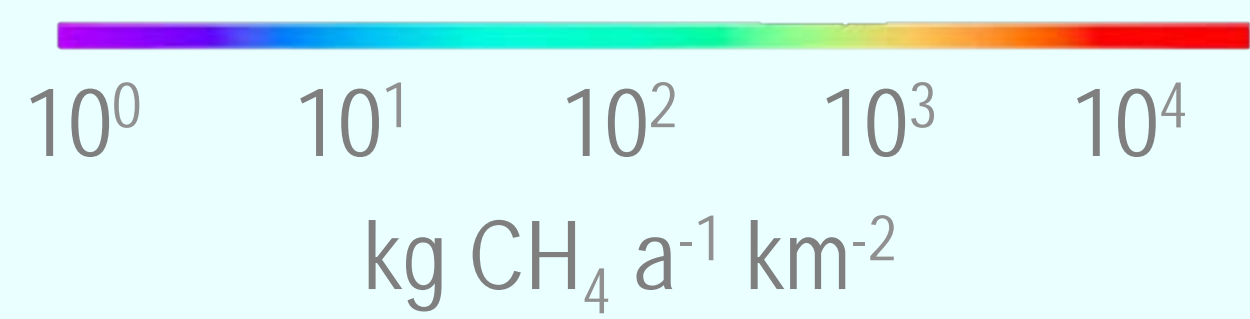
METHANE GLOBAL EMISSIONS BY SOURCE

2020-2030



METHANE OIL/GAS EMISSIONS INVENTORY

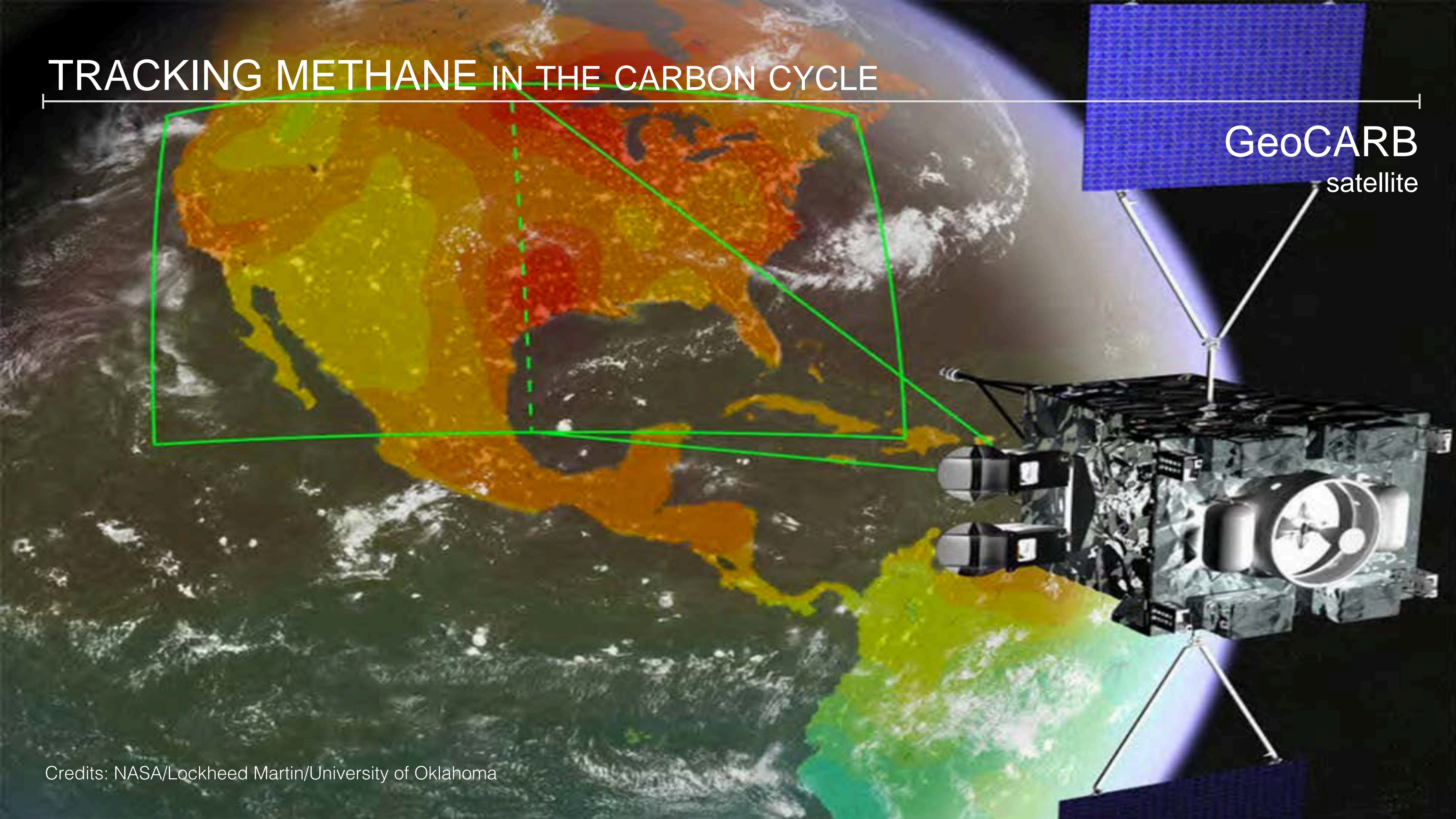
2017



SOURCE: Sheng *et al.* 2017. A high-resolution (0.1°x0.1°) inventory of methane emissions from Canadian and Mexican oil and gas systems, submitted to Atmos. Environ., 2017.

TRACKING METHANE IN THE CARBON CYCLE

GeoCARB
satellite



ACCURATE METHANE MEASUREMENTS

MethaneSAT

April 11, 2018

ENVIRONMENTAL DEFENSE FUND

announced plans to develop and launch a new satellite purpose-built to identify and measure methane emissions from human-made sources worldwide



ALISO CANYON LEAK



New measuring instruments and modelling tools are under development for the visualization of methane

Upgraded technologies or equipment

that reduce or eliminate equipment venting or fugitive emissions

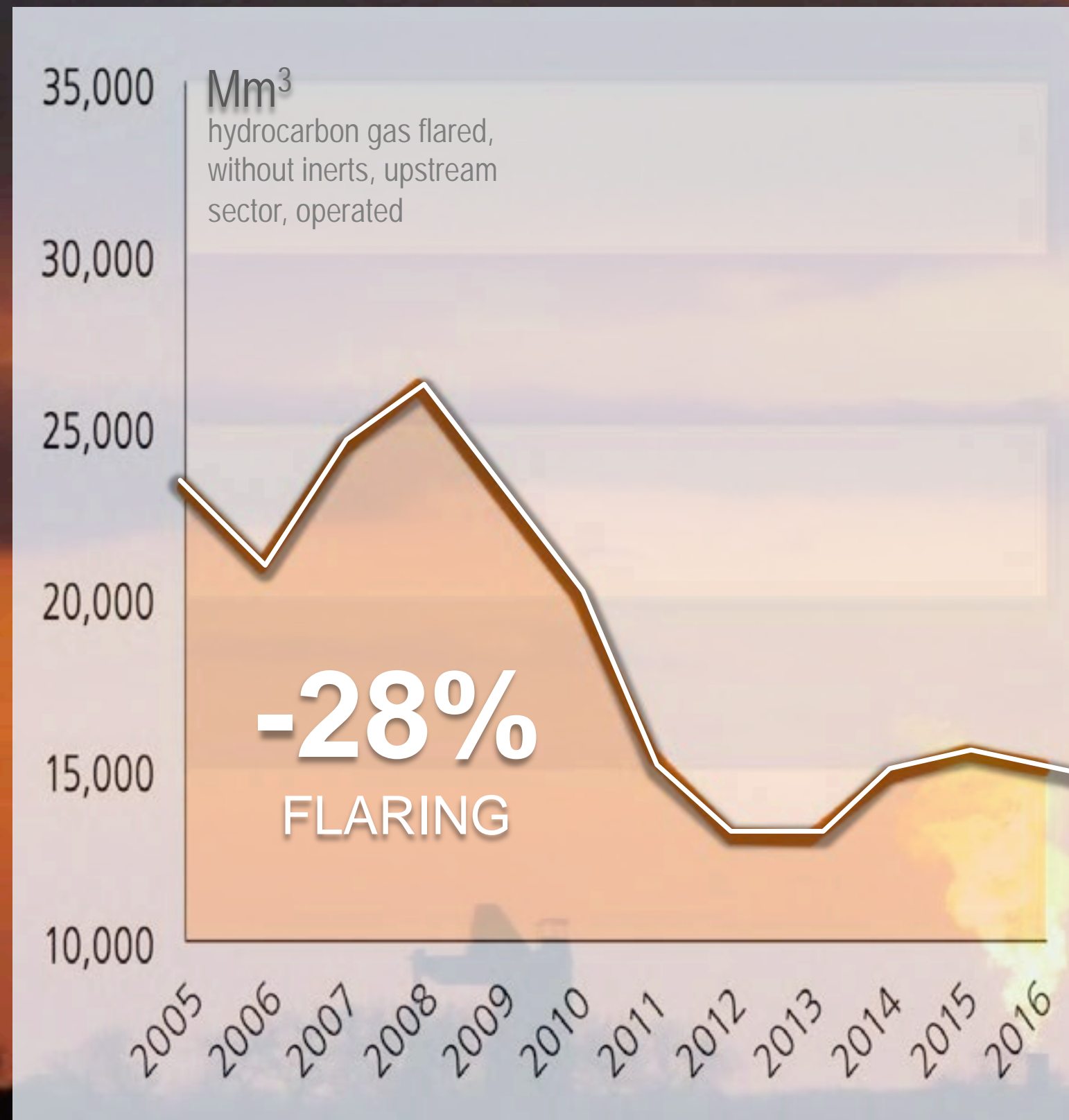
Enhanced management practices

that take advantage of improved measurement or emission reduction technology



ZERO

METHANE EMISSIONS GOAL
FROM THE GAS VALUE CHAIN



Extraction

using a series of wells and a vacuum system, which directs the collected gas to a point to be combusted in a flare or utilized for energy

CIRCULAR ECONOMY



Anaerobic sludge digestion

Biogas capture systems

at existing open air anaerobic lagoons

Aerobic treatment

facilities or covered lagoons

Anaerobic lagoons

collection and transmission of biogas to be use in engines or motors

Digesters

that compost or “digest” organic waste in the absence of oxygen, thereby generating methane for collection and use



Degasification,

where holes are drilled and the methane is captured (not vented) in conjunction with mining operations

Ventilation air methane

abatement, where low concentrations of methane are oxidized to generate heat for process use and/or electricity generation

NDCs IMPLEMENTATION



COP 21

The World Bank and International Monetary Fund initiative on

CARBON PRICING LEADERSHIP COALITION



VOLUNTARY COOPERATIVE APPROACHES

PARIS AGREEMENT
Art. 6

ITMO_s

The use of
Internationally Transferred Mitigation Outcomes
shall promote sustainable development,
environmental integrity and transparency

First ever global deal
to curb international emissions

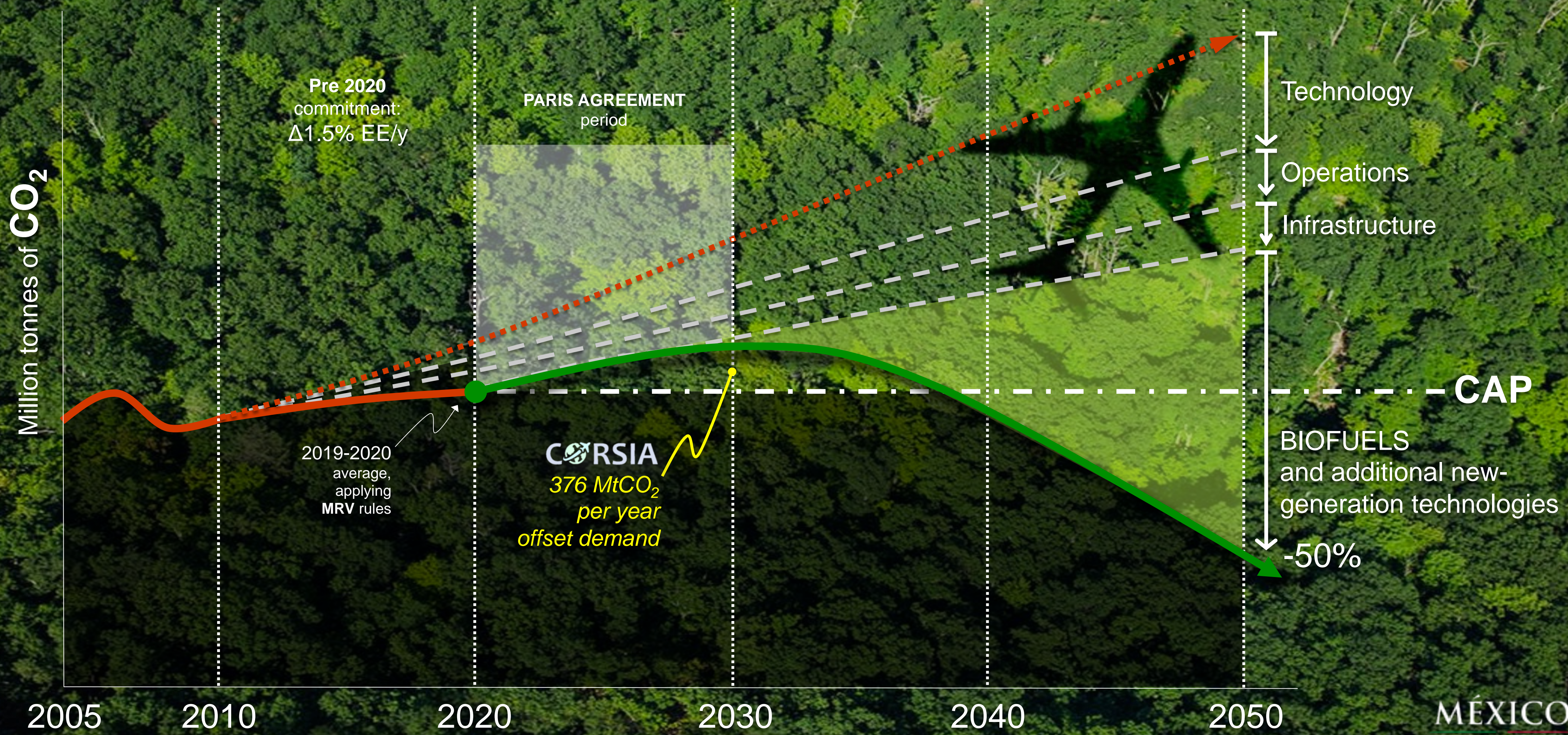
90% of international operations

will be covered
by the **CORSIA**
in 2021



CORSIA CARBON OFFSETTING AND REDUCTION SCHEME FOR INTERNATIONAL AVIATION

PARIS AGREEMENT
Art. 6



OFFSETS prices*

2016

Based in
63.4 MtCO₂e transacted
in the voluntary carbon markets,
the average price paid
for offsets was

\$3

USd/tCO₂e

RENEWABLES	\$1.4
FORESTRY AND LAND USE	\$5.1
METHANE	\$1.8
EFFICIENCY AND FUEL SWITCHING	\$2.9
HOUSEHOLD DEVICE	\$5.2
TRANSPORTATION	\$0.3
GASES	\$5.7
OTHER	\$4.0

SOURCE: EcosystemMarketplace
• *Unlocking Potential. State of The
Voluntary Carbon Markets 2017.*

2017 CARBON MARKET PRICES

US\$/tCO₂e



WIN-WIN SOLUTIONS



MITIGATION
OPPORTUNITIES

Mitigation potential at
ZERO COST

is 940 MMtCO₂e, there are nearly
1,900 MMtCO₂e from
zero to \$60/MtCO₂e

100 BILLIONS 2020-2030 every year

PARIS AGREEMENT

Art. 9

GREEN CLIMATE FUND



50% MITIGATION
50% ADAPTATION

12 COMMITMENTS

December 12, 2017

5. Zero emissions target

- ✓ Towards Carbon Neutrality...16 countries, more than 32 cities

9. Actions of Central Banks and Businesses

- ✓ Greening the Financial System

10. International Mobilization of Development Banks

- ✓ >30 public banks aligned

11. Commitment by Sovereign Fund

- ✓ 6 institutions w/\$15T in assets

12. Mobilizing Institutional Investors

- ✓ Climate Action 100+ ...225 institutional investors w/\$26T in assets
- ✓ \$1B Energy Breakthrough Coalition





COP23 FIJI

UN CLIMATE CHANGE CONFERENCE

BONN 2017

Talanoa Dialogue

“...to build trust and advance knowledge through empathy and understanding”





THANKS