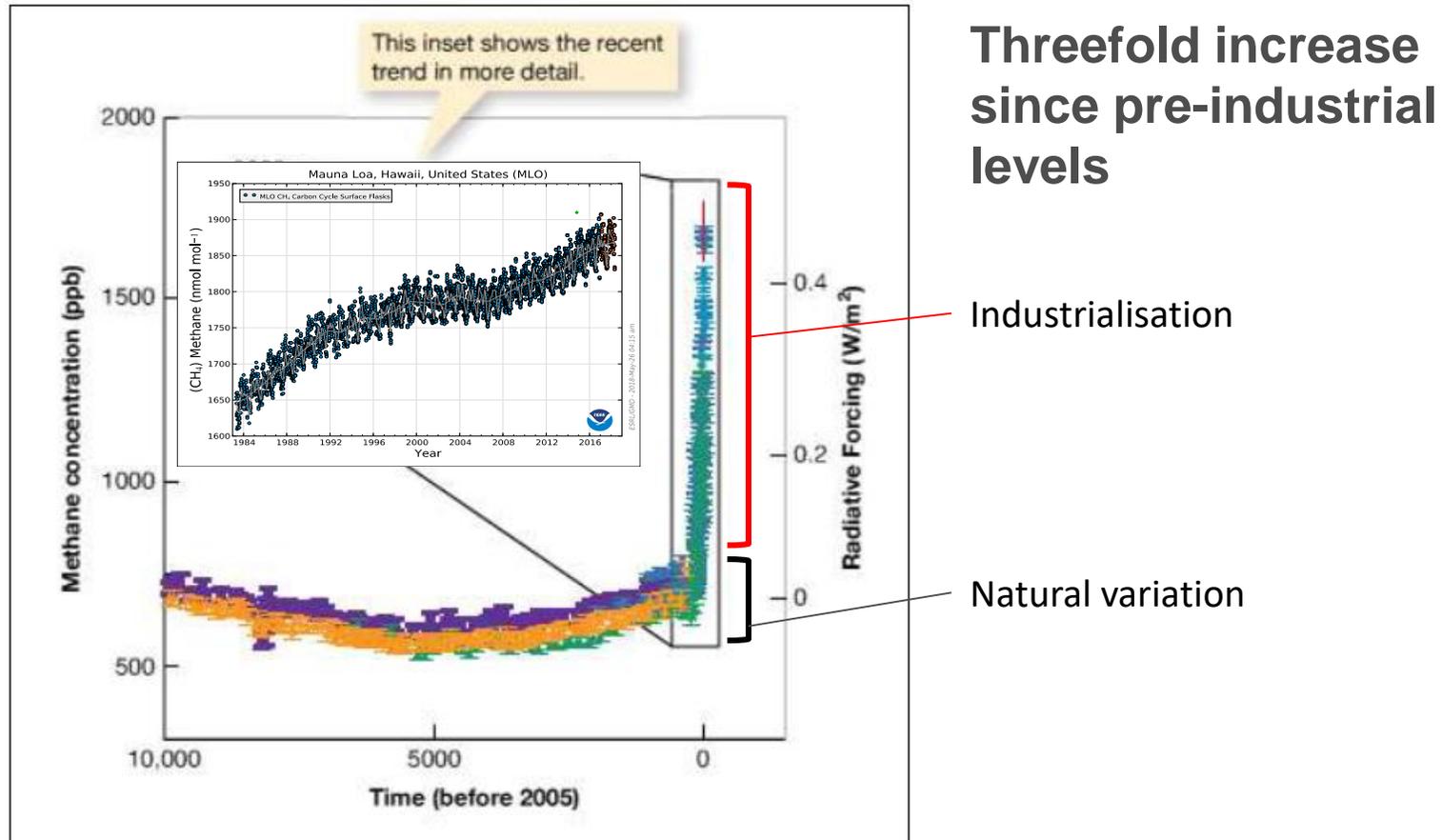




Current and future EU policy on methane

21 February 2020

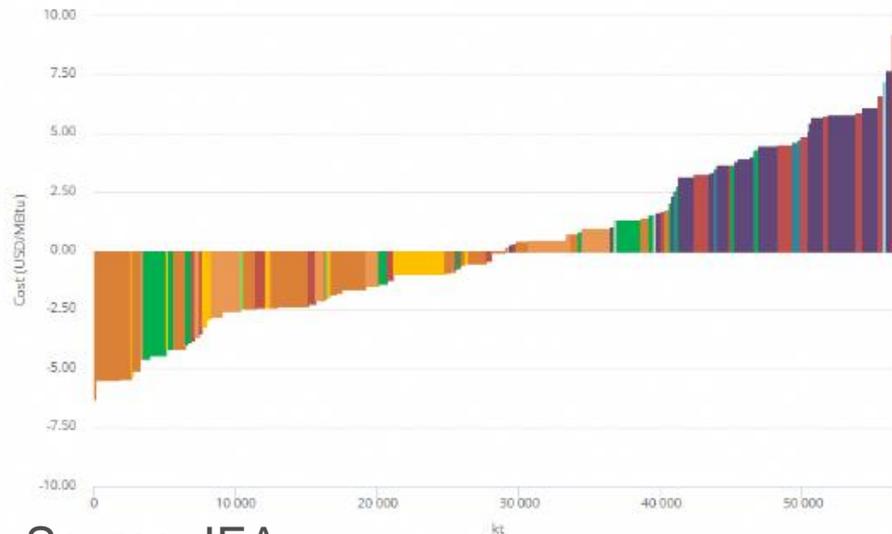
Unprecedented levels of methane in the atmosphere



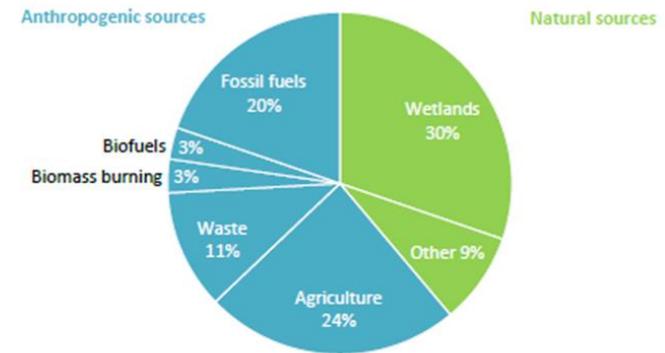
Begon, Howarth, and Townsend (2014), based on IPCC

Methane is responsible for a quarter of today's warming

A third of manmade methane emissions comes from energy...



Source: IEA



Attributing methane emissions to specific sources is difficult, but human activity is likely to be responsible for the majority of the 570 Mt emissions in 2012

Source: Saunois et al. (2016).

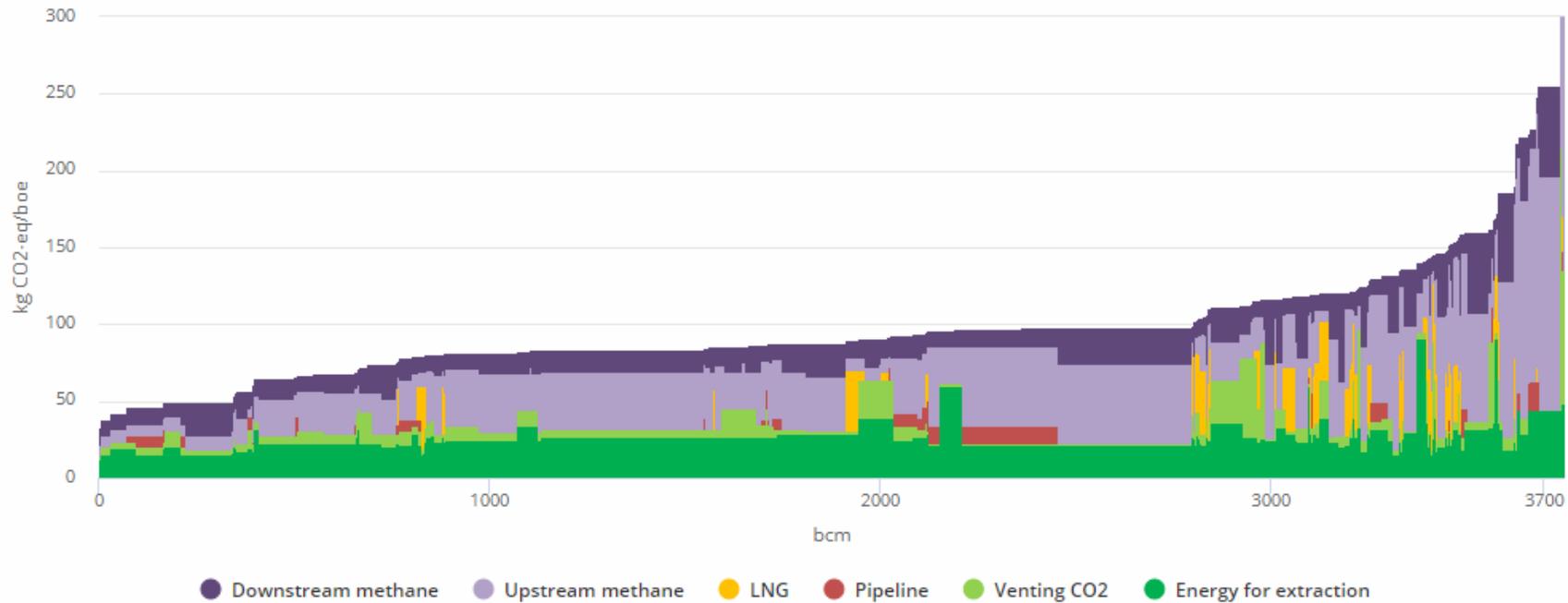
Abatement technologies

- Vapour recovery units
- Blowdown capture
- Early replacement of devices
- Install flares
- Replace with electric motor
- Install plunger
- Upstream LDAR
- Downstream LDAR
- Replace pumps
- Replace with instrument air systems
- Replace compressor seal or rod
- Other

...45% of which can be avoided at no net cost

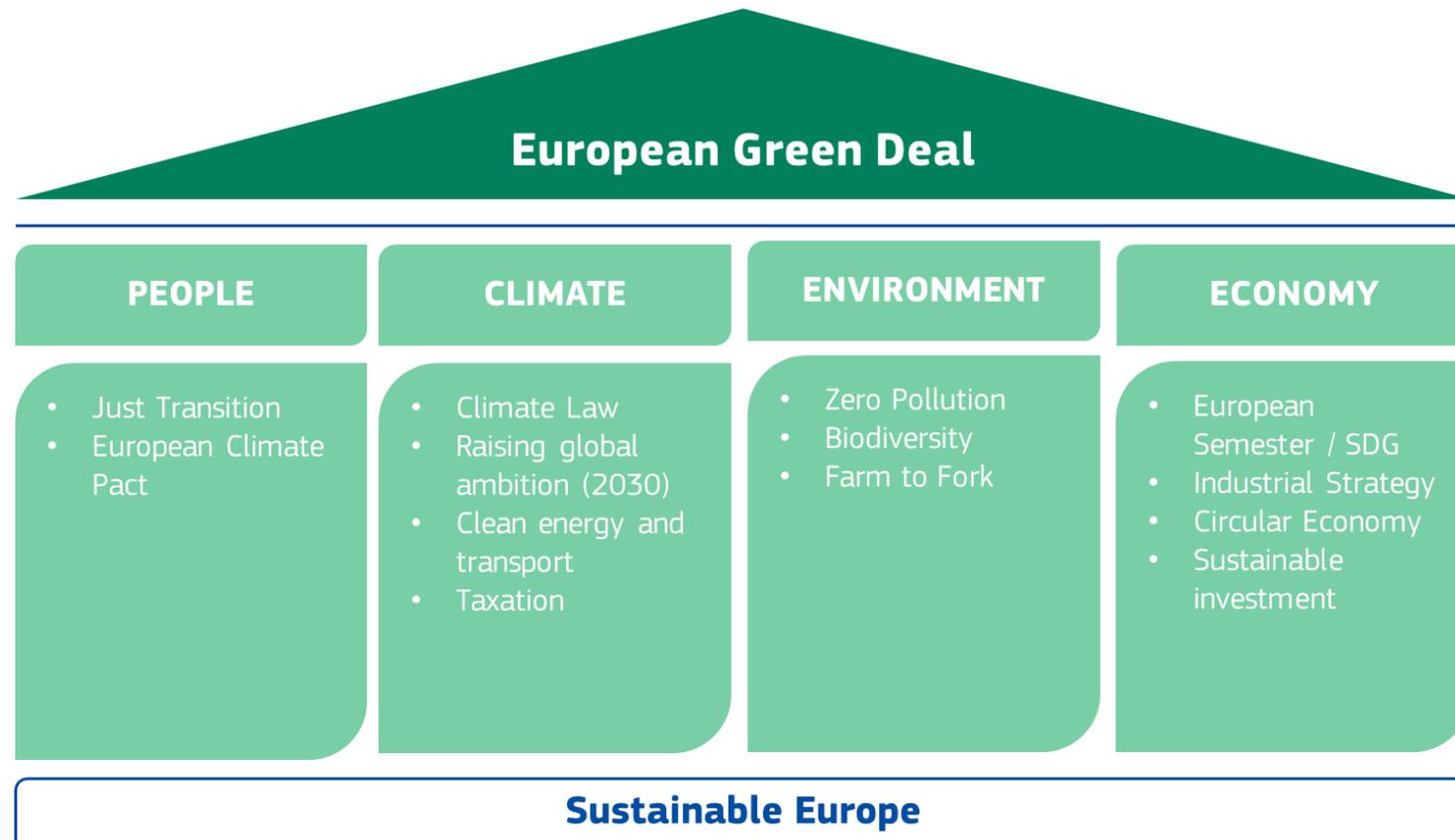
Natural gas' credibility may depend on reducing methane emissions

Indirect emissions intensity of global gas production, 2017 (source: IEA)

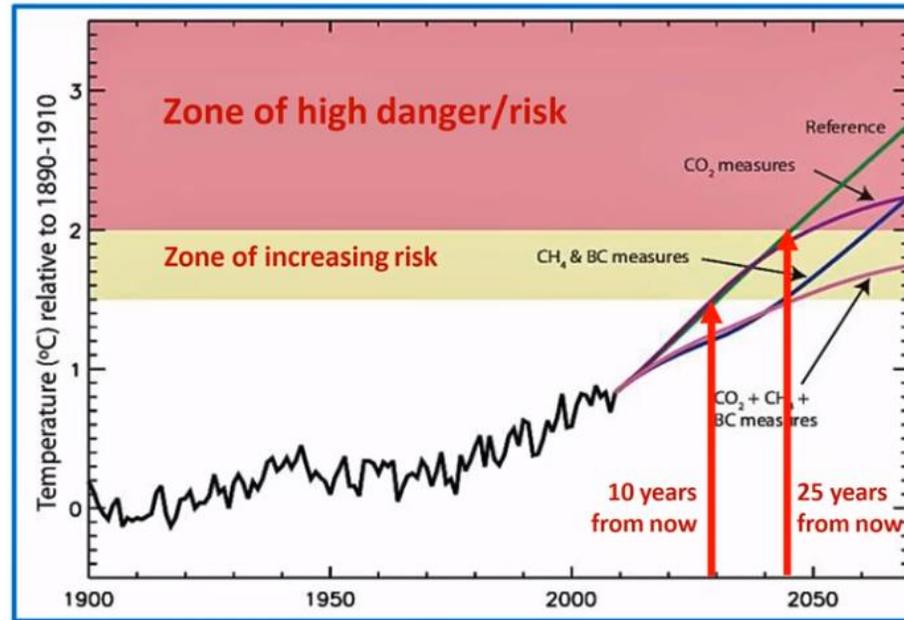


Highcharts.com

„I want a Europe to strive for more being the first climate-neutral continent” (*Ursula von der Leyen*)



Methane reductions are critical; we cannot reach COP21 target with CO2 reductions alone



Shindell et al. 2012, *Science*

Energy is an attractive sector to reduce emissions

Holistic approach

- oil, gas, coal
- Venting, fugitives and flaring

Improving measurement is key

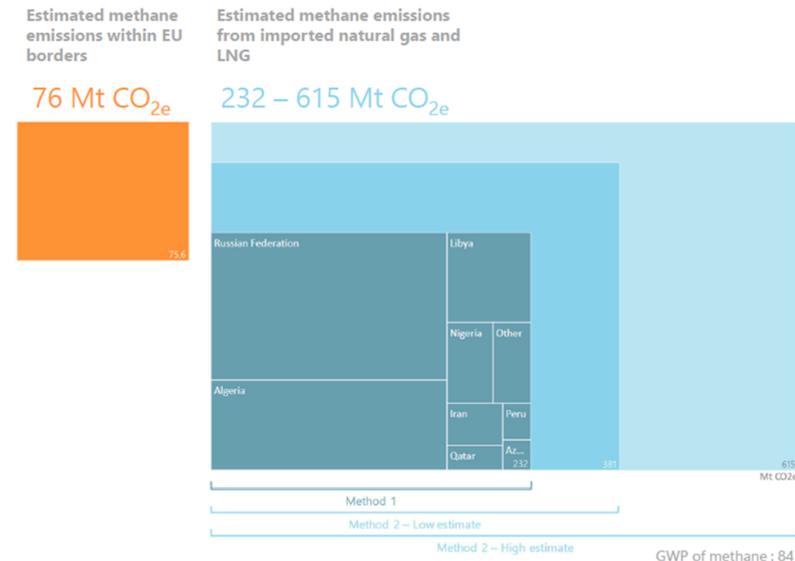
- In most EU countries, reporting CH₄ emissions is a statistical exercise
- Inventories inherently underestimate emissions: no accidents or superemitters included

Focus on superemitters

- 50% of emissions come from 5% of sources

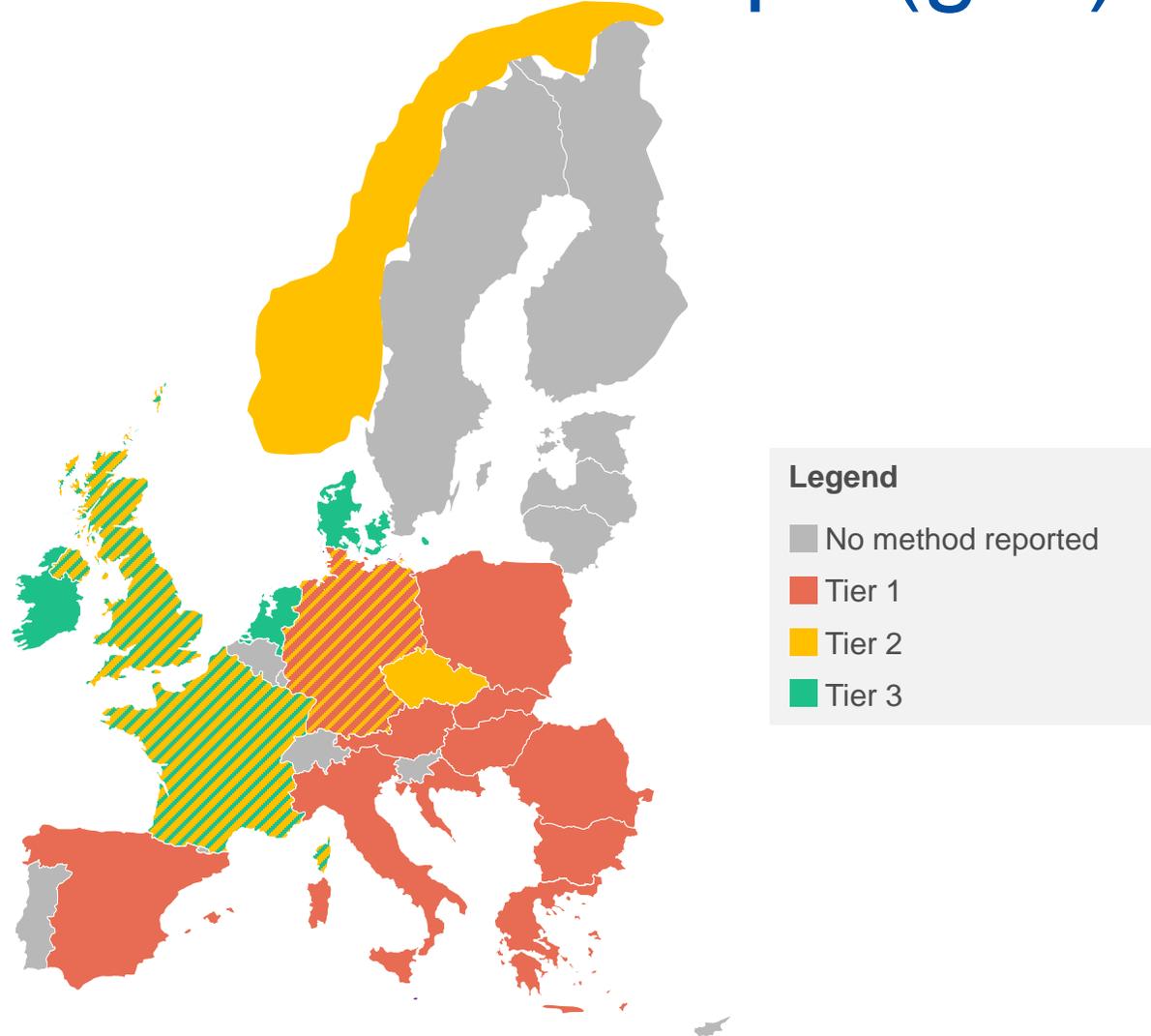
Global issue – global response:

- 75% of the emissions of the gas imported to the EU occur outside
- Handful of countries import most of the internationally traded gas

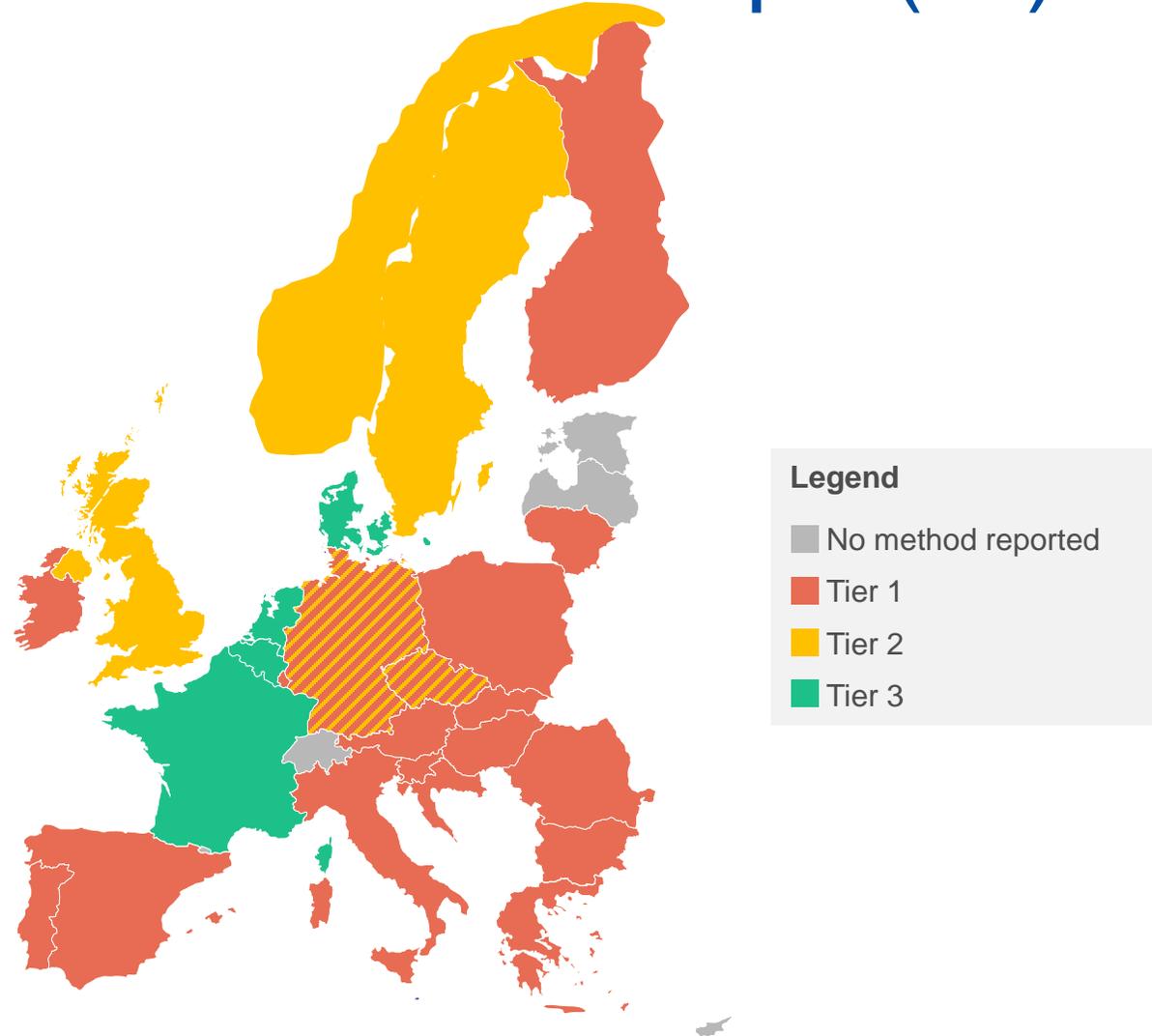


Source: carbon limits. GWP methane: 84

Reporting standards in Europe (gas)



Reporting standards in Europe (oil)



Holistic approach, so nothing escapes

Reduce methane emissions in the energy sector

Scope

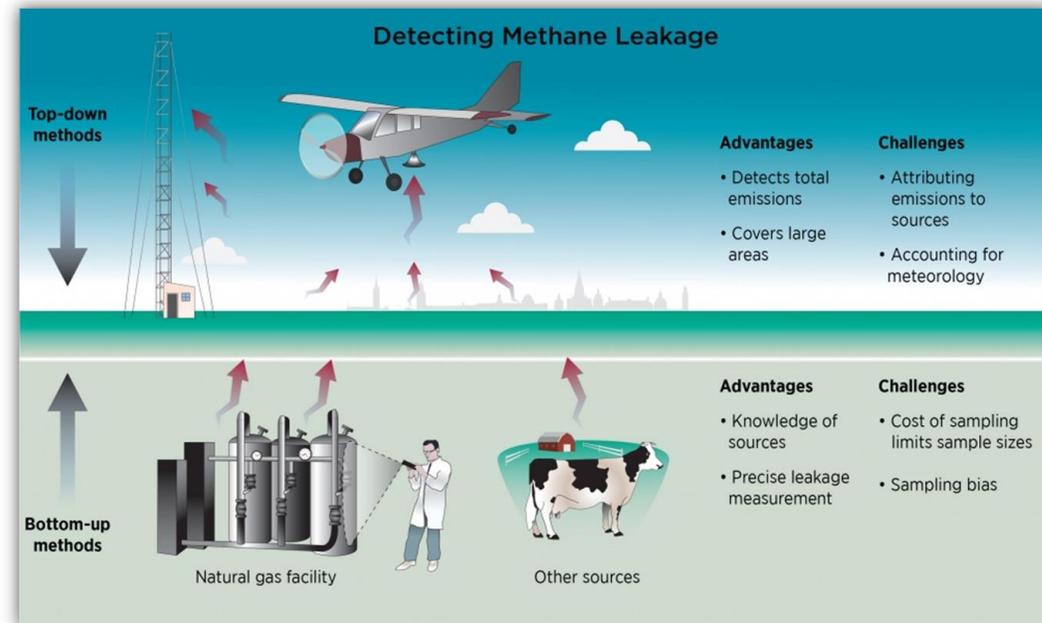
Gas, oil,
coal

Whole supply
chain

Venting, fugitives, flaring,
black carbon

Improving measurement is key

- Uncertainty of quantification and identification of sources
- Inventories inherently underestimate emissions
- Superemitters: 50% of emissions come from 5% of sources
- Combine top-down and bottom-up



Improving measurement is key

Reduce methane emissions in the energy sector

Scope

Gas, oil,
coal

Whole supply
chain

Venting, fugitives, flaring,
black carbon

Internal actions

- DG Energy study
- Identify hotspots, superemitters in the EU
- Copernicus for detection and verification
- Improve reporting (tier 3) – legislative proposal?

External actions

- Cooperation under the UN CCAC
- Ambitious and transparent reporting
- Methane science studies
- Global Gas Flaring Reduction (GGFR)
- Energy diplomacy

Measurement, reporting, verification

DG Energy study

Objectives:

- Perform CH₄ emission measurements in EU countries and Norway in all relevant energy sectors and supply chain elements where there is a gap in reliable data
- Develop a robust methane emission data and knowledge base
- Provide a basis to distinguish CH₄ emissions by source and propose the most effective scheduling of CH₄ emission reduction action by separate segment and any man-made supply chain
- Develop measurement techniques and a methodology
- Develop recommendations for an EU strategic plan on methane identifying policy measures or international cooperation

DG Energy study

Scope:

- CH₄ emissions include both deliberate (vented) and accidental (fugitive) emissions
- Relevant sectors: the whole gas supply chain and also CH₄ emissions associated with coal and oil production incl. abandoned/decommissioned wells, emissions accompanying flaring and venting practices, and also supply chain elements of renewable gases
- Gas value chain to cover drilling, production, processing, liquefaction, transmission, LNG shipping, regasification, storage, distribution and major end users (industry, transport)

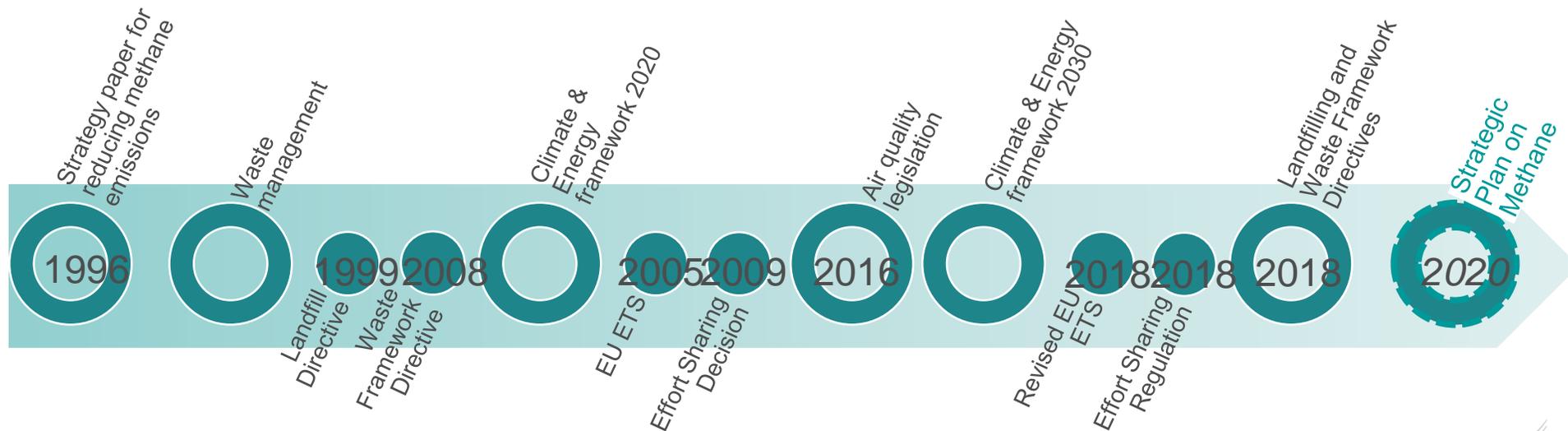
An EU methane strategy

"There will be an initiative in the field of **methane and methane leakage**, and Members of the European Parliament will be very closely involved in this **strategy**."

Kadri Simson, Energy Commissioner-designate

First methane strategy in 1996

Followed up by several legislative and non-legislative proposals in the area of waste, landfills, air quality and climate



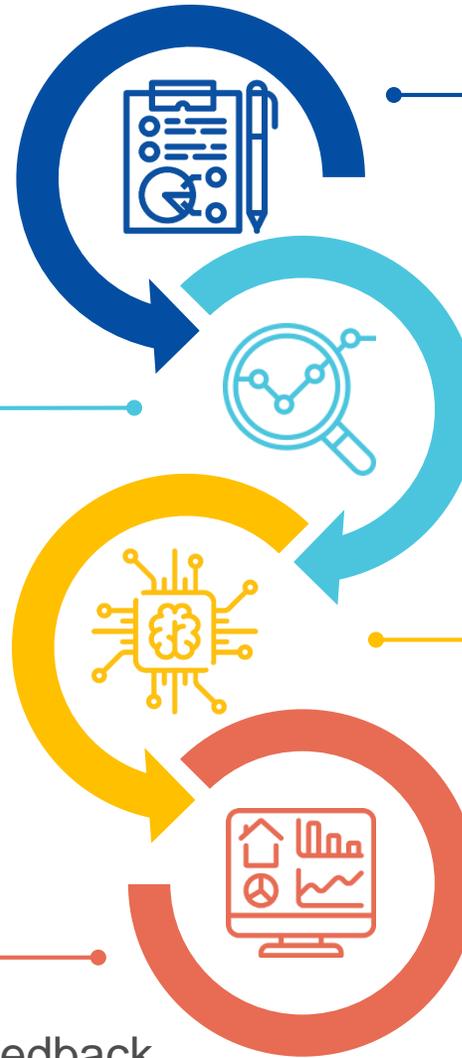
The approach

Monitoring & Detection

- Satellite + infrastructure data
- Ground and aerial surveys

Transparency & Publication

- Aggregated OGMP reports & feedback
- Identification of super emitters



Reporting & Verification

- OGMP companies
- Operated & non-operated assets
- At facility level
- Mid- and Downstream?

Reconciliation, Integrity & Validation

- Reports
- UNFCCC inventories
- Scientific studies
- Satellite and survey data

Thank you