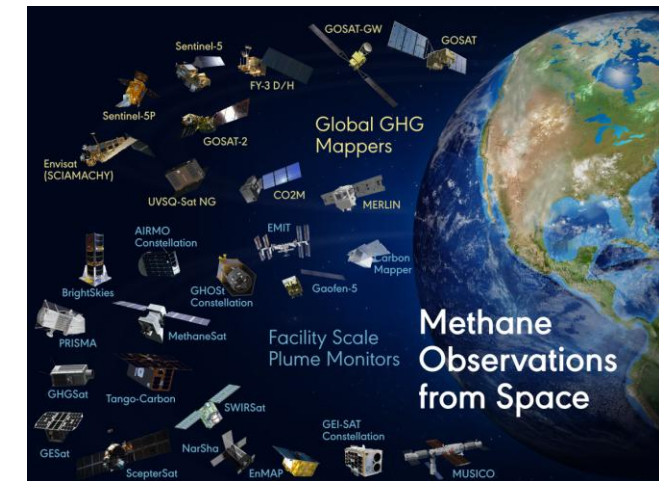
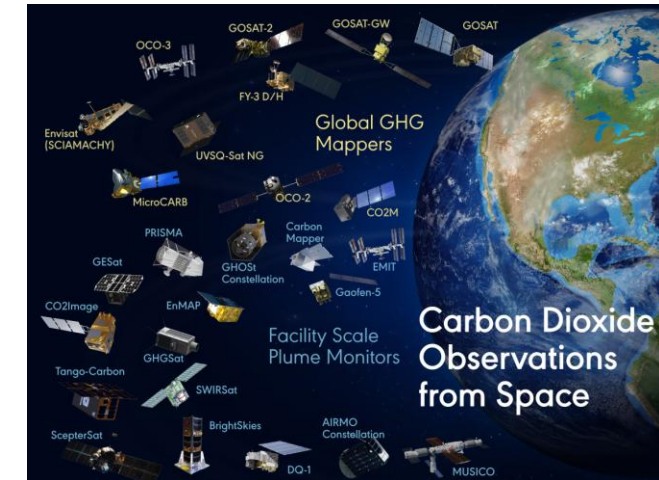


Review of GHG Constellation

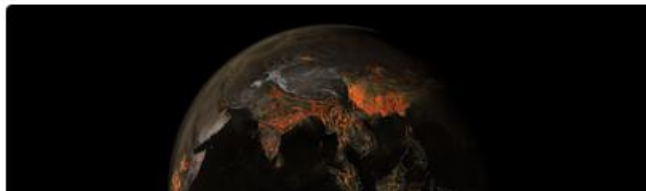
GHG Mission Portal

- ❖ Updated portal, see **ceos.org/ghg** (public and non-public)
- ❖ Allows exploring GHG missions, explore building constellations, detailed mission info, timelines, and case studies



Case Studies

Satellite GHG Data Making an Impact

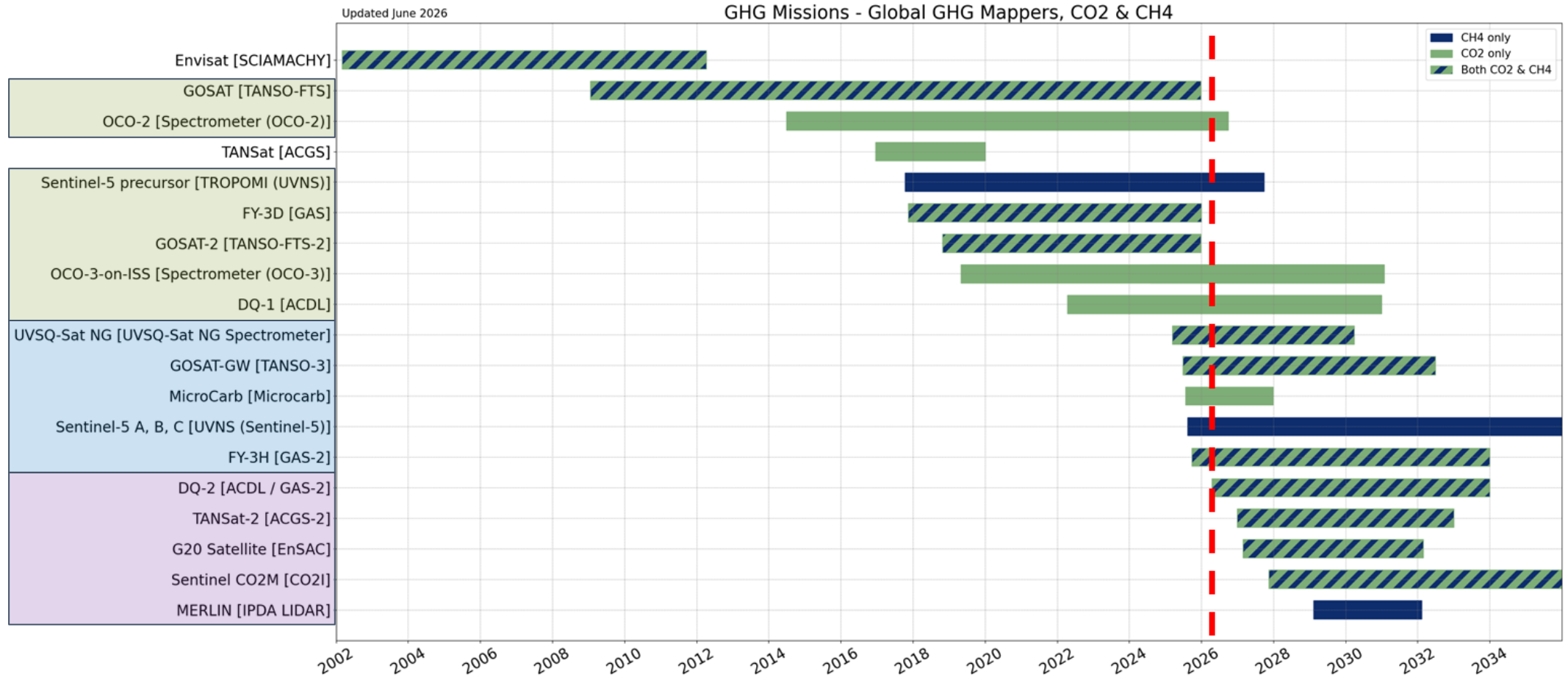


Observe Daily Pulses in CO₂ Emissions

NASA's Earth Observatory presents a global model of CO₂ between satellite instruments. Circulation of the Earth's atmosphere spread model was created using NASA's Goddard Earth Observing System to simulate atmospheric processes. GOES uses satellite data including

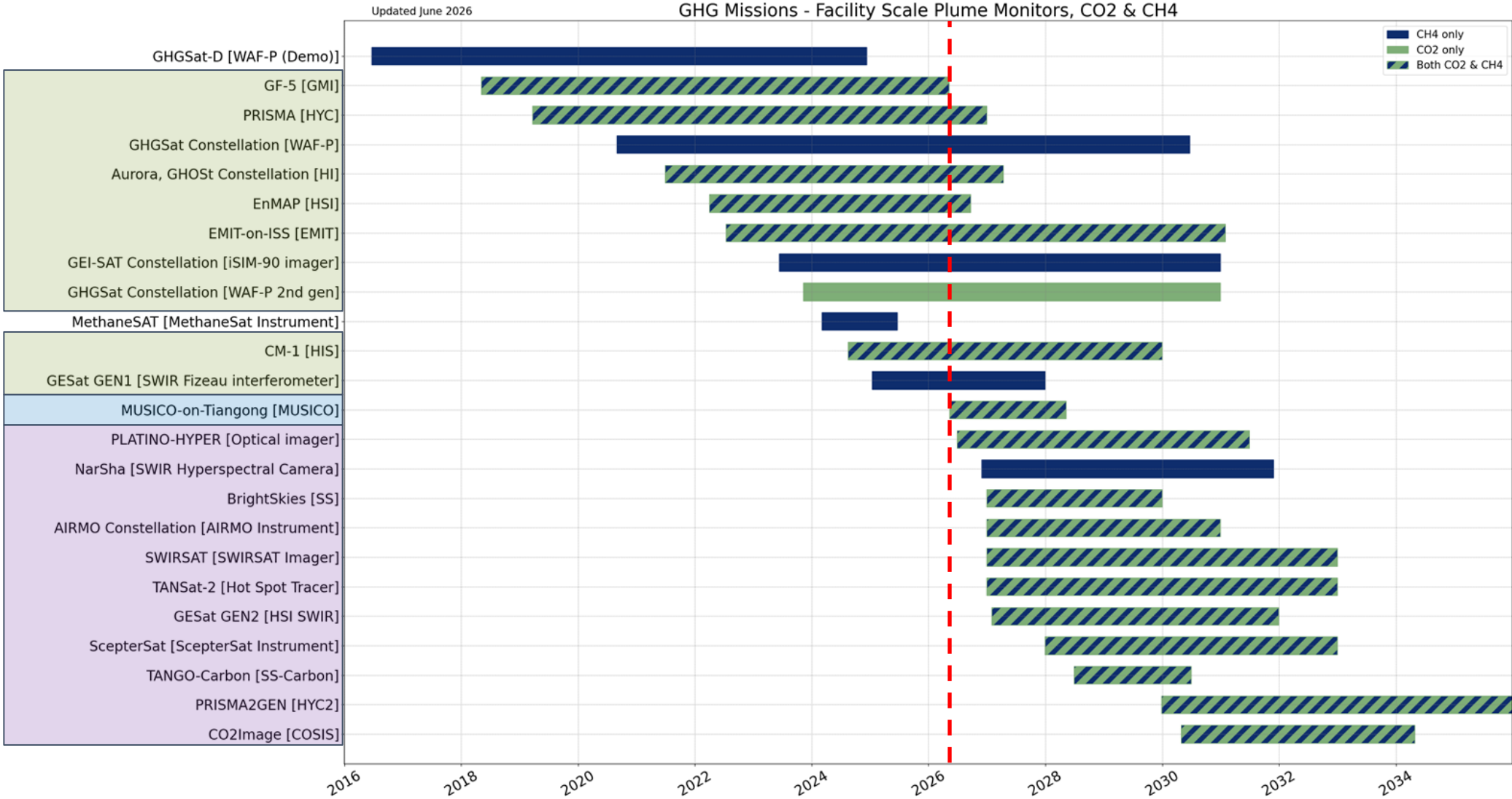
GHG Constellation – Global GHG Mappers

operational
commissioning
planned



GHG Constellation – Plume Monitors

operational
planned commissioning



Updates since AC-VC 21 – 1

Successful Launch of GOSAT-GW, MicroCarb and Sentinel-5 Missions



The GOSAT-GW satellite was launched at 1:33:03 am Japan time on 29th June at Tanegashima Space Center with the 50th H-IIA rocket, the last vehicle of the H-IIA series. (Credit: H. Tanimoto)



VEGA-C (VV27) launch
26/07/2025 02:03 UTC

(Credit: D. Jouglet)

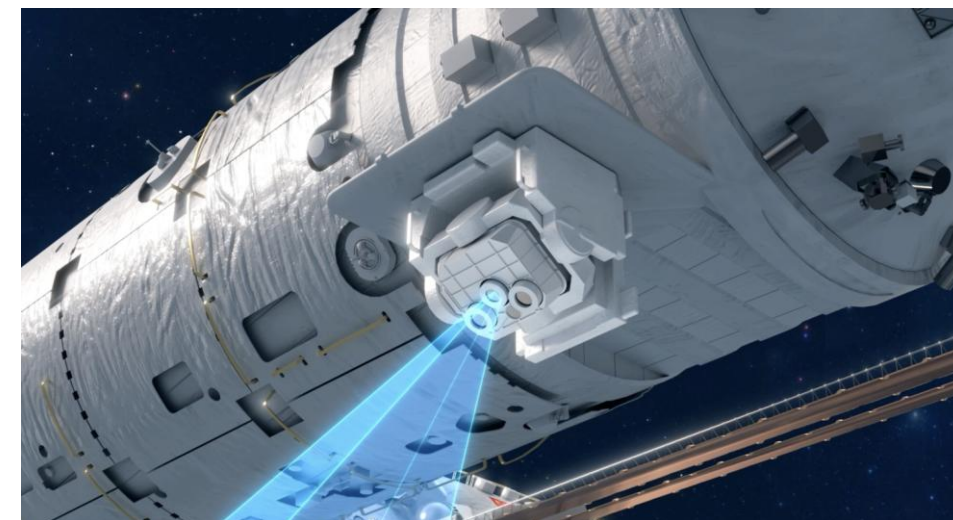
Updates since AC-VC 21 – 2

- ❖ ISRO's G20 satellite will carry the Environmental Sensor for Atmospheric Composition (EnSAC) measuring CO₂, CH₄ and N₂O. We have identified an ISRO representative for the GHG-TT. Unfortunately, a contribution to AC-VC 22 has been withdrawn.
- ❖ ACDL with DQ lidar also carries a GHG sensor for XCO₂ and XCH₄ (a spectrometer, like the instrument on FY-3H)

Updates since AC-VC 21 – 3

- ❖ New mission – MUSICO (Multi-Spectral Imaging Carbon Observatory)
- ❖ Hosted on Tiangong Space Station
- ❖ Launched 11 May 2026
- ❖ Operations to begin at the end of June
- ❖ Data will be open access
- ❖ CO₂ & CH₄ Total Column

Waveband	SWIR
Spatial Res	100 m
Swath width	50 km x 50 km
Accuracy	2 ppm for CO ₂ and 20 ppb for CH ₄



Updates since AC-VC 21 – 4

Other identified new missions:

❖ PLATINO-HYPER (IRIDE):

- Hyperspectral mission, built on heritage of PRISMA
- Five satellite constellation

❖ TANSat-2:

- Carries GAS-2 (same as FY-3H) + Hot Spot Tracer
- For both Wide Area and Facility Scale mapping

Commercial Missions



- ❖ GHGSat Constellation expanding
 - Four platforms launched in 2025
- ❖ GHOST (Orbital Sidekick):
 - GHOST 4 & 5 launched in 2024
- ❖ GEI-SAT (Satlantis):
 - Precursor launched in 2023, but no news since
- ❖ AIRMO:
 - News from Feb 2026: partnership with EnduroSat
 - Aim to be launching first satellite in early 2027
- ❖ NarSha Constellation (Nara Space):
 - Not yet launched, perhaps by end 2026
- ❖ SWIRSAT (LatConnect 60):
 - News from May 2026: 2 demonstrators to launch in Q1 2027
- ❖ ScepterSat
 - No recent news, no satellites launched.
 - Website mentions plans to deploy constellation
- ❖ BrightSkies:
 - No recent news, status unclear

GREENHOUSE GAS SATELLITE MISSIONS PORTAL

Updated for 2026

Missions

Case Studies

Contact Us

Database of Controlled Release Experiments

NEW: OCTOBER 2025
Common
Practices for
Quantifying
Methane Plumes
Detected by
Remote Sensing

Greenhouse Gas Satellite Missions Portal

This Portal aims to provide a comprehensive and up-to-date list of all current and planned satellite missions with the capability to detect, monitor, and quantify greenhouse gas concentrations. This includes the most advanced satellite

