



Technology Centre Mongstad (TCM) is the world's largest and most flexible test center for post-combustion CO₂ capture, and a leading competence center for capture technology.

Located at Mongstad in Vestland, Norway, TCM has operated around the clock since 2012 on real industrial flue gas supplied from the adjacent Equinor refinery.

TCM verifies and de-risks capture technology before commercial deployment, and advises emitters, project developers and EPCs on the decisions that determine whether a capture project succeeds.

TCM AT A GLANCE

2012 IN OPERATION SINCE	NOK 7bn TOTAL INVESTMENT	~80,000 t/y AMINE PLANT CAPACITY
17 TECHNOLOGIES TESTED	28 CAMPAIGNS	>70,000 h TOTAL TEST OPERATION

OWNERSHIP



FLUE GAS SOURCES AND OPERATING ENVELOPE

Source	CO ₂ (mol%)	Application
RFCC — residue fluid catalytic cracker	13 – 15 %	Refinery and coal-type flue gas; supplied from the Equinor Mongstad refinery
MHP — Mongstad combined heat and power	10 – 13 %	Gas-fired boiler with heat recovery
Dilution / CO ₂ recycle	1 – 25 vol%	Reproduces a wide range of industrial conditions, Power, WtE, Cement, Steel, Aluminum, BECCS, etc.

TEST FACILITIES

Amine Plant

- 25,000–65,000 Sm³/h flue gas
- ≈200 tCO₂/day
- ≈80,000 tCO₂/y design capacity
- Up to 99% capture demonstrated

Site for Emerging Technologies

- Modular site for low to mid TRL technology
- Membranes, solid sorbents and adsorbents
- Small-scale, flexible test configurations

Small-Scale Pilot Platform

- ≈1 tCO₂/day absorption–desorption platform
- Integrated with CO₂ compression and liquefaction
- Solvent screening and CO₂ product qualification

SERVICES AND TRACK RECORD

How organizations work with TCM, and what has been tested here since 2012

HOW TO WORK WITH TCM

Proprietary Campaigns

- Your technology on the industrial amine plant
- Full confidentiality; all data and IP stay yours
- Bankable evidence for feasibility, FEED and FID

CESAR1 Open Benchmarking

- Non-proprietary testing using open MEA and CESAR1 solvents
- Power, waste-to-energy, refinery, cement, steel, aluminum, BECCS and SMR blocks
- Independent verification; shared cost and data

Emerging Technologies and Pilot Testing

- For membranes and sorbents, low to mid TRL
- 1 tCO₂/day platform with liquefaction, 2027
- Lab development to industrial validation

Advisory Services

- Sixteen deliverables, alone or as a package
- Technology, permitting, design, operations
- Operational training from a decade-plus of plant operation

TRACK RECORD

>40,000 h PROPRIETARY TEST CAMPAIGNS

>20,000 h OPEN SCIENTIFIC CAMPAIGNS



MEASUREMENT, ANALYSIS AND OPEN RESEARCH

Analytical and Emission Monitoring

- On-site laboratory and dedicated analytical team
- Continuous online analyzers for amine emissions
- Isokinetic sampling and aerosol measurement
- Degradation products, nitrosamines, nitramines
- CO₂ product quality and impurity measurement
- Operates under a Norwegian emission permit

Open Research and Partnerships

- Open solvents MEA and CESAR1; 70+ papers
- EU projects ACCSESS, AURORA and MOF4AIR
- IMPURE-CO₂ collaboration on CO₂ quality
- SINTEF, NTNU, MIT, DTU, UT Austin, NETL, NCCC, RITE
- Founded the International Test Centre Network



Talk to us about a campaign, a benchmarking slot or an advisory engagement.

Source: tcmda.com and TCM published material, 2026.
Figures are indicative.

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