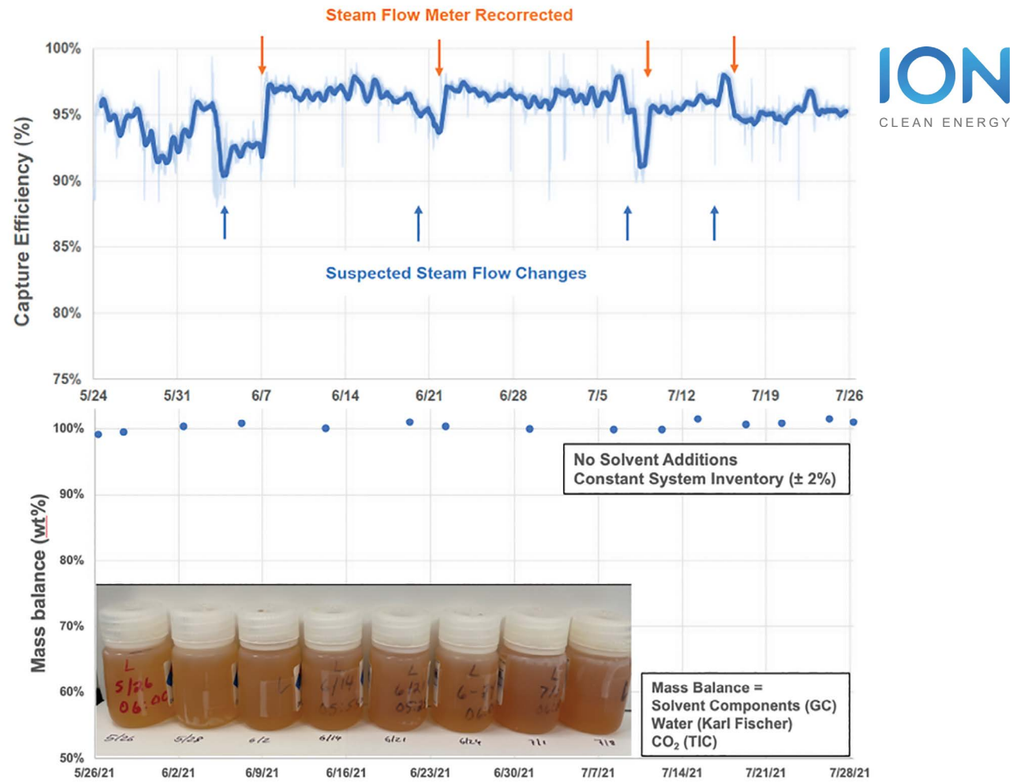
# SOLVENT ACHIEVES 95% CAPTURE EFFICIENCY ON NATURAL GAS FLUE GAS, PROGRESSES TO FIELD TESTING AT A COMMERCIAL PLANT

Advanced water-lean solvent technology with enhanced $CO_2$ capture efficiency and increased solvent lifetime.

## SOLVENT PERFORMANCE VALIDATED AT PILOT SCALE

ION Clean Energy, Inc., scaled up a transformational water-lean amine-based solvent technology from bench- to pilot-scale (0.6 MWe) in project "Apollo," validating a reduction in capital and operating costs for the capture of $CO_2$ from natural gas power plants. Through a comprehensive test campaign at the National Carbon Capture Center (NCCC) in Wilsonville, Alabama, ION's 3rd generation solvent, ICE-31, **achieved 95% $CO_2$ capture and negligible oxidative degradation** during 1,500 hours of steady-state testing in the Pilot Solvent Test Unit with natural gas-fired flue gas. Furthermore, extensive parametric testing led to a close-fitting agreement between the empirical data and the process-simulated results generated in ProTreat®.



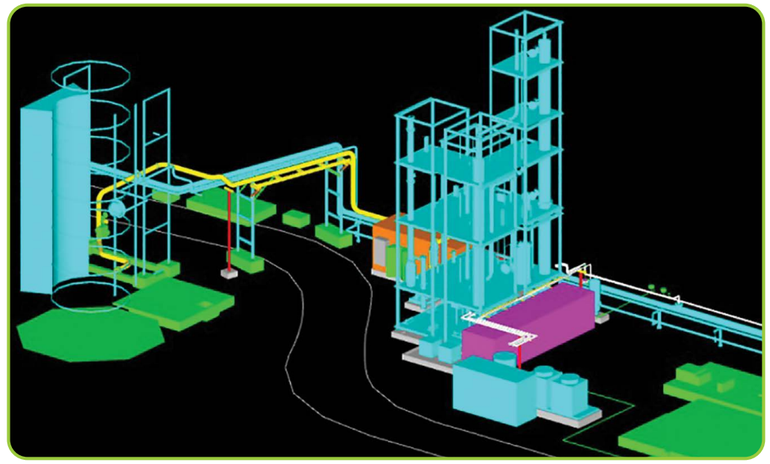


ICE-31 Solvent Development Path

## SOLVENT TECHNOLOGY ADVANCES THROUGH LONG-TERM FIELD TESTING WITH ACTUAL FLUE GAS

Through "Project Enterprise," ION will field test ICE-31 on a 1 MWe (10 tpd) slipstream of flue gas from Calpine's Los Medanos Energy Center (LMEC), a commercially dispatched natural gas combined cycle (NGCC) power plant. The kinetic performance and solvent stability of ICE-31 for $CO_2$ absorption from NGCC flue gas will be validated against baseline test results for ICE-21 (2nd generation) and monoethanolamine solvents. ION's solvent carbon capture technology has potential to be used for **deep decarbonization of NGCC power plants**.

Modular Pilot System Design for Field Test at LMEC



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Koch Modular PROCESS SYSTEMS

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BUILDING PARTNERSHIPS FOR A SAFER WORKPLACE

AWARD NUMBER
**DE-FE0031727**

PROJECT BUDGET
**$3.75M**

- DOE ..... $2,999,998
- PERFORMER..... $750,000

*CLICK HERE FOR MORE INFORMATION* ⟩⟩⟩

AWARD NUMBER
**DE-FE0031950**

PROJECT BUDGET
**$16.9M**

- DOE ..... $13,000,000
- PERFORMER..... $3,906,839

*CLICK HERE FOR MORE INFORMATION* ⟩⟩⟩


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FECM RDD&D PRIORITY

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