



# Transformational Pilot-Scale Technologies

**Reduced Cost**



~\$40/tonne CO<sub>2</sub>

**Increased Capture Rates**



up to 95-99% CO<sub>2</sub> capture efficiency

**Program Activity**



13 Transformational Technologies Tested at Pilot Scale

	Coal Plants	Natural Gas Plants	Industrial Facilities
Engineering-Scale / Small Pilot-Scale	0.5 to 5.0 MWe (10 to 100 tonnes CO <sub>2</sub> /day)	0.5 to 5.0 MWe (5 to 45 tonnes CO <sub>2</sub> /day)	2.5 tonnes CO <sub>2</sub> /day
Large Pilot-Scale	5-25 MWe	5-25 MWe	

## Technologies Tested at Pilot Scale

TECHNOLOGY HIGHLIGHTS	Application			TECHNOLOGY DEVELOPER	PROJECT PRIME PERFORMER
	Coal	Natural Gas	Industrial		
Aqueous Amine Solvent with Advanced Stripper Inter-stage Heater*	■			Linde-BASF	University of Illinois
Gen-2 Polaris Membrane Process*	■			Membrane Technology and Research	Membrane Technology and Research
Ammonia-based Mixed-Salt Solvent Process	■			SRI International	SRI International
Water-Lean Amine Solvent*	■			Research Triangle Institute	Research Triangle Institute
Flue Gas Aerosol Pretreatment for Solvent-based Processes	■			Linde	Linde
Membrane-Sorbent Hybrid System	■			TDA Research/MTR	TDA Research
Water-Lean Amine Solvent	■	■		ION Clean Energy	ION Clean Energy
Rapid Cycle Thermal Swing Adsorption Process		■		Svante	Chevron
CO <sub>2</sub> -Binding Organic Liquid Water-Lean Solvent	■	■		Pacific Northwest National Laboratory	Electric Power Research Institute
Amine-Containing Polymer Composite Membrane	■			Ohio State University	Gas Technology Institute
Aqueous Amine Solvent with Process Intensification			■	University of Kentucky	University of Kentucky
Cryogenic Carbon Capture Process			■	Sustainable Energy Solutions	Sustainable Energy Solutions
Biphasic CO <sub>2</sub> Absorption Process			■	University of Illinois	University of Illinois

\* Large Pilot



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