

Capture of Carbon Dioxide Archived Projects

Title	Performer	Last Update
Activation of Carbonation Minerals for CO ₂ Sequestration	NETL	2005
Wilsonville Power Systems Development Facility	Southern Company Services Inc. / Southern Company Services, Inc. / Electric Power Research Institute / Westinghouse Electric Corporation, Power Generation Business Unit	9/14/1990
Advanced Emissions Control Development Program	Babcock & Wilcox Co. / Ohio Coal Development Office	9/28/1994
Second Generation Advanced Reburning for High Efficiency NOx Control--Phase I	GE Energy and Environmental Research Corp. / Gas Research Institute / Electric Power Research Institute / Fuller Company / Nalco Fuel Tech / University of Texas at Austin	9/15/1995
Toxic Substances From Coal Combustion--A Comprehensive Assessment	Physical Sciences, Inc. / University of North Dakota Energy and Environmental Research Center / University of Utah / Massachusetts Institute of Technology / University of Connecticut / University of Kentucky	9/15/1995
Toxic Substances From Coal Combustion Forms of Occurrence Analyses	Dept. of Interior, U.S. Geological Survey	9/28/1995
Investigation and Demonstration of Dry Carbon Based Sorbent Injection for Mercury Control	Public Service Company of Colorado / ADA Technologies, Inc.	9/29/1995
A Consortium for Emission Control By-Products: Treatment and Use	West Virginia University - National Research Center for Coal & Energy / West Virginia DEP / West Virginia University Research Corporation / University of Missouri / Wayne State University / U.S. Geological Survey	9/24/1998
Coal Ash Resources Research Consortium	University of North Dakota Energy and Environmental Research Center	10/1/1998
Evaluation of Oxygen Enriched Combustion Technology for Enhanced CO ₂ Recovery	McDermott Technology, Inc.	9/15/1999
CO₂ Hydrate Process for Gas Separation from a Shifted Synthesis Gas Stream	Nexant, Inc. / SIMTECHE	9/30/1999
Coal-Fired Utility Boilers: A Guide to Solving Ash Deposition	University of North Dakota Energy and Environmental Research Center	10/1/1999
METHANE De-NOX for Utility PC Boilers	Gas Technology Institute / DB Riley, Inc. / All-Russian Thermal Engineering Institute	1/11/2000
Full-Scale Testing of Enhanced Mercury Control Technologies for Wet FGD Systems	McDermott Technology, Inc.	9/27/2000
Pilot Testing of Mercury Oxidation Catalysts for Upstream of Wet FGD Systems	URS Group (formally Radian International, LLC.) / City Public Service of San Antonio / Great River Energy / Electric Power Research Institute	8/30/2001
Multi-Pollutant Emission Control: Pilot Plant Study of Technologies for Reducing Hg, SO₃, NOx	CONSOL Energy Inc.	8/31/2001
Advanced Oxyfuel Boilers and Process Heaters for Cost Effective CO₂ Capture and Sequestration	Praxair, Inc.	9/24/2001

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The Forcing of Mercury Oxidation as a Means of Promoting Capture	University of Washington	9/24/2001
Greenhouse Gas Emissions Control by Oxygen Firing in Circulating Fluidized Bed Boilers	ALSTOM Power, Inc. / US Power Plant Laboratories / Praxair, Inc. / Parsons Infrastructure and Technology Group Inc.	9/27/2001
Photoreductive Sequestration of CO ₂ to Form C1 Products and Fuel	SRI International	3/20/2002
Sorbent and Catalyst Preparation Facilities	NETL	6/2002
Fossil Energy Technology Strategy (PNNL)	Pacific Northwest National Laboratory	9/15/2002
Inorganic Membranes for CO₂/N₂ Separation	University of Maine	9/24/2002
Dual-Phase Inorganic Membranes for High Temperature Carbon Dioxide Separation	Arizona State University	9/30/2002
Coal Technologies Offer CO ₂ Capture Benefits	NETL	10/2002
Determination of Mechanism, Rate, and Catalysts of Magnesium Silicate Carbonation*	LANL	4/15/2003
Regional Effort to Deploy Clean Coal Technologies	Southern States Energy Board	6/3/2003
The Homogeneous Forcing of Mercury Oxidation to Provide Low Cost Capture	University of Washington	7/10/2003
NO_x Control for Utility Boilers for OTR Compliance	McDermott Technology, Inc.	7/23/2003
Heat of Dissolution Measurements for CO₂ in Mixed Alkanolamine Solvents	North Carolina A&T State University	9/23/2003
Evaluation of MerCAP for Power Plant Mercury Control	URS Group / Rocky Mountain Laboratories / CT&E / ADA-ES, Inc. / Apogee Scientific Inc.	9/26/2003
Sorbent Injection for Small ESP Mercury Control in Low Sulfur Eastern Bituminous Coal Flue Gas	URS Group / Apogee Scientific Inc.	9/26/2003
Fate of As, Se, and Hg in a Passive Integrated System for Treatment of Fossil Plant Wastewater	Tennessee Valley Authority	9/29/2003
CO₂ Sequestration by Mineral Carbonation Using a Continuous Flow Reactor	Albany Research Center	9/30/2003
Enhancing Carbon Reactivity in Mercury Control Lignite Fired Units	University of North Dakota Energy and Environmental Research Center / URS Group	9/30/2003
Coal-Based IGCC Offers CO₂ Capture Benefits for Oil Recovery	NETL	7/2004
Novel Dual Functional Membrane for Controlling Carbon Dioxide Emissions from Fossil-Fueled Power Plants	University of New Mexico / T3 Scientific LLC	8/23/2004
Sorption Mechanisms for Mercury Capture in Warm Post-Gasification Gas Clean-Up Systems	University of Arizona / University of Utah	9/26/2004
Field Demonstration of Enhanced Sorbent Injection for Mercury Control	ALSTOM Power, Inc. / US Power Plant Laboratories	9/30/2004
Heterogeneous Reburning by Mixed Fuels	University of Mississippi	9/30/2004
Los Alamos FY04 Activities for the Center for Zero Emission Research and Technology	Los Alamos National Laboratory	10/1/2004
Long Kiln NO _x Reduction Studies	University of North Dakota Energy and Environmental Research Center / Lafarge Corporation	2/7/2005

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Carbon Dioxide Recovery from Combustion Flue Gas Using Carbon-Supported Amine Sorbents	Advanced Fuel Research, Inc.	4/12/2005
A Collaborative Project to Develop Technology for Capture and Storage of CO₂ from Large Combustion Sources	BP Corporation	4/15/2005
Installation of ROFA/ROTAMIX System and Chloride Injection Testing in Combustion Test Facility	Western Research Institute	6/1/2005
Investigation of Mercury and Carbon-Based Sorbent Reaction Mechanisms-Comparison of Surface Analysis Techniques	University of North Dakota Energy and Environmental Research Center	6/30/2005
Advanced In-Furnace NO_x Control for Wall and Cyclone-Fired Boilers	Babcock & Wilcox Co.	7/18/2005
Synthesis and Photophysical Investigation of Precursors Designed for Carbon Sequestering Photocatalysts	West Virginia State University	7/25/2005
Geoscience Technology Development for Zero Emission Power Plants	Lawrence Livermore National Laboratory	9/1/2005
Pilot-scale Demonstration of Advanced Layered Technology Approach (ALTA) for NO_x Control in Coal-Fired Utility Boilers	Reaction Engineering International	9/7/2005
Particulate Control Consulting for Minnesota Ore Operations	University of North Dakota Energy and Environmental Research Center	11/1/2005
System Analyses of CO ₂ Capture Technologies Installed on Pulverized Coal Plants	NETL	12/2005
Recovery of Water From Boiler Flue Gas	Lehigh University	12/8/2005
Combined Power Generation and Carbon Sequestration Using a Direct Fuel Cell	FuelCell Energy, Inc.	12/31/2005
Fly Ash And Mercury Oxidation/Chlorination Reactions	University of Dayton	1/5/2006
Integrated Removal of NO_x, With Carbon Monoxide as Reductant, and Capture of Mercury in a Low Temperature Selective Catalytic and Adsorptive Reactor	University of Cincinnati	2/16/2006
Carbon Dioxide Capture from Large Point Sources	Compact Membrane Systems, Inc.	3/1/2006
CO₂ Selective Ceramic Membrane for Water-Gas-Shift Reaction with Simultaneous Recovery of CO₂	Media and Process Technology Inc.	3/1/2006
Integrated Mono Ethanol Amine (MEA) Regeneration with CO₂ Compression and Peaking to Reduce CO₂ Capture Costs	Trimeric Corporation	3/1/2006
Use of Air2Air Technology to Recover Fresh-Water From the Normal Evaporative Cooling Loss at Coal-Based Thermoelectric Power Plants	SPX Cooling Technologies, Inc.	3/15/2006
Pilot-Scale Demonstration Of A Novel, Low-Cost Oxygen Supply Process And Its Integration With Oxy-Fuel Coal-Fired Boilers	The BOC Group, Inc.	3/31/2006
System Analyses of CO ₂ Capture Technologies Installed on Integrated Gasification Combined Cycle Plants	NETL	4/2006
Application of Pulsed Electrical Fields for Advanced Cooling and Water Recovery	Drexel University	4/3/2006
A Low Energy Cost Process for Stripping Carbon Dioxide from Absorbents	AIL Systems, Inc.	6/28/2006
Conceptual Design of Supercritical Oxygen-Based PC Boiler	Foster Wheeler Power Group, Inc.	9/30/2006

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Thermally Optimized Membranes for Separation and Capture of Carbon Dioxide	Los Alamos National Laboratory	9/30/2006
Phase III - Mercury Control Technologies for Utilities Burning Lignite Coal: Long-Term Balance-of-Plant Effects Resulting from Activated Carbon Injection	University of North Dakota Energy and Environmental Research Center	5/9/2007
Environmental Innovations for Fossil Energy Applications; Development of Technologies to Reduce Freshwater Use and Consumption in Coal-Fired Power Plants	TIAX, LLC	6/20/2007
Novel Air Separation for Oxy-Combustion Process	TDA Research, Inc.	6/20/2007
Sequestration and Separation of Mercury in Wet Flue Gas Desulfurization Systems	Envergex, LLC	6/20/2007
Carbon Dioxide Capture From Flue Gas Using Dry Regenerable Sorbents	Research Triangle Institute / Church and Dwight Company / Louisiana State University	6/30/2007
Design and Evaluation of Ionic Liquids as Novel Absorbents	University of Notre Dame	7/15/2007
Metal Monolithic Amine-Grafted Zeolites for CO₂ Capture	Univeristy of Akron	8/1/2007
Development of Biomimetic Membrane for Near Zero PC Power Plant Emissions	Carbozyme, Inc.	8/2007
Novel CO₂ - Phillic Absorbents	University of Pittsburgh	8/30/2007
Development of Biomimetic Membrane for Near Zero PC Power Plant Emissions	Carbozyme, Inc.	8/30/2007
Biomimetic Membrane for CO₂ Capture from Flue Gas	Carbozyme, Inc.	8/30/2007
Carbon Dioxide Capture by Absorption with Potassium Carbonate	University of Texas at Austin	8/30/2007
High-Temperature Polymer-Based Membrane Systems for Pre-Combustion CO₂ Capture	Los Alamos National Laboratory	9/30/2007
Syngas Upgrading - A Low Temperature Approach	Los Alamos National Laboratory	9/30/2007
Development of Cost Effective Oxy-Combustion Technology for Retrofitting Coal-Fired Boilers	The Babcock & Wilcox Company	3/31/2008
Fabrication and Scale-Up of Ploydenzimidazole-Based Membrane System for Pre-Combustion Capture of Carbon Dioxide	SRI International	4/2008
Solid Sorbents for CO₂ Capture from Pre-Combustion Gas Streams	Sud-Chemie, Inc. Carnegie Mellon University	4/2008
A New Concept for the Fabrication of Hydrogen Selective Silica Mambranes	University of Minnesota	4/30/2008
Carbon Management for Coal/Biomass to Liquids Plant in Northeast Ohio - Emissions Study Support	Baard Energy, LLC	8/1/2008
Chemical Looping for Combustion and Hydrogen Production	University of Pittsburgh	8/2008
Oxygen-Fired CO₂ Recycle for Applicacation to Direct CO₂ Capture from Coal-Fired Power Plants	Southern Research Institute	9/26/2008
Fabrication And Scale-Up of Polybenzimidazole (Pbi) Membrane Based System for Pre-Combustion Based Capture of Carbon Dioxide	SRI International	3/31/2009

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Membrane Process to Sequester CO₂ from Power Plant Flue Gas	MTR, Inc	3/31/2009
Solvents for CO₂ Capture	University of Pittsburgh	10/2009
Pre-Combustion Carbon Dioxide Capture by a New Dual-Phase Ceramic Carbonate Membrane Reactor	Arizona State University	1/2010
Development of a Dry Sorbent-Based Post Combustion CO₂ Capture Technology for Retrofit in Existing Power Plants	RTI International	10/2010
Reactor Design for CO₂ Capture Using Sorbents	NETL	10/2010
Carbon Dioxide Capture from Integrated Gasification Combined Cycle Gas Streams Using the Ammonium Carbonate-Ammonium Bicarbonate Process	SRI International	12/2010
Pressure Swing Absorption Device and Process for Separating CO₂ from Shifted Syngas and its Capture for Subsequent Storage	New Jersey Institute of Technology	1/2012
The U.S. Department of Energy National Carbon Capture Center at the Power Systems Development Facility	Southern Company Services U.S. Department of Energy	1/2012
Evaluation of Dry Sorbent Technology for Pre-Combustion CO₂ Capture	URS Group	11/2012
Novel Membranes for CO₂ Removal	University of Pittsburgh University of Notre Dame	11/2012