

Domestic and International Carbon Capture Projects

Information compiled by Energy Ventures Analysis, Arlington, VA

Carbon Capture Project	Location	Operator	Size (mW)	In operation	Description
Trona	CA	IMC Global		1978	MEA absorption (Kerr-McGee/ABB Lummus Global). PC boiler w/ 800 tpd CO2 recovered for soda ash production (carbonation of brine).
Kingsport	TN	Tennessee Eastman		1984	Physical Absorption. Gasification plant- CO2 recovered for sale to beverage & food industries
Warrior Run	MD	AES	180 mW	2000	MEA absorption (Kerr-McGee/ABB Lummus Global). CFB w/ 96% (200 tpd) CO2 recovered from slip-stream for sales for fire extinguishers/dry ice
Coffeyville Fertilizer Plant	KS	Coffeyville Resources		2000	Physical Absorption. Gasification plant - 650,000 tpy CO2 recovered for urea production; Began partnering w/ Blue Source in 2007 to ship captured CO2 for EOR via pipeline.
Shady Point	OK	AES	320 mW	2001	MEA absorption (Kerr-McGee/ABB Lummus Global). CFB w/ 96% (800 tpd) CO2 recovered from slipstream for food preservative sale to Tyson Foods. Uses 65,000 pph of 75 psig steam for CO2 capture process
Great Plains Gasification Plant	ND	Dakota Gasification Corp.	300 mWe	2004	Gasification plant (Lurgi) -- 3,630,000 tpy CO2 recovered for sale for Canadian EOR (Weyburn)
Big Brown	TX	Luminant		2007	Skyonic SkyMine (Sodium hydroxide scrubber). Mobile lab to treat 3% of total CO2 emissions (125,000 tpy) -- converting it to 2.5 tons baking soda (sodium bicarbonate) tons produced/ton coal burn (according to press release).
Pleasant Prairie	WI	WEPCO	1.7 mW	2008	First small-scale power plant demonstration of Alstom's chilled ammonia scrubber.
Didcot	UK	RWE npower	Demo	2008	Oxyfuel test facility.
Vattenfall	Germany	Schwarze Pumpe	Pilot	2008	Oxyfuel pilot plant expected to operate 10 years.

Large-scale Carbon Storage Projects

Information compiled by Energy Ventures Analysis, Arlington, VA

Carbon Storage Project	Location	Operator	In operation	Description
Sleipner West	North Sea	Statoil and IEA	1996	More than a million tpy CO ₂ from a natural gas field is injected into a saline formation beneath the sea floor
Weyburn CO ₂ Flood Project	Canada	Encana and IEA	2000	Between 2002-04, seven million tons of CO ₂ transported by pipeline from Dakota Gasification facility in ND was injected into a depleted oil field for enhanced oil recovery. Long-term storage continues
In Salah	Algeria	Sonatrach/BP/Statoil	2004	One million tpy CO ₂ captured from natural gas production is stored in depleted gas reservoirs

Current Carbon Capture and Storage Research in the U.S.

Information compiled from U.S. Department of Energy databases

U.S. CCS Research	State	Research organization(s)	Public (\$000)	Private (\$000)	Description
Williston Basin EOR Field Test	ND	USDOE/PCOR	1,008	2,218	Evaluate potential for geological sequestration of CO2 in deep carbonate reservoir
Williston Basin Demonstration Test	ND	USDOE/PCOR	36,901	64,347	Demonstration of large-scale injection of CO2 into Williston Basin for sequestration and enhanced oil recovery.
SW Jurassic/Triassic Deep Saline Sequestration (Stage 1)	CO	NETL/SW Regional Partnership on Carbon Sequestration	16,224	3,962	Stage 1 of project is a 4 yr injection of 1,000,000 tons of CO2 per year into the La Veta Field.
SW Jurassic/Triassic Deep Saline Sequestration (Stage 2)	WY	NETL/SW Regional Partnership on Carbon Sequestration			Stage 2 of project is a 1 year injection of 100,000 tons of CO2 into the Wyoming's Green River Basin.
SECARB Phase III Tuscaloosa Formation CO2 Storage Project (cranfield Oil Field)	MS	USDOE/SECARB	4,059	1,796	Stage 1 (Early Test) tests ability of Cranfield Oilfield to store CO2 emissions.
SECARB Phase III Tuscaloosa Formation CO2 Storage Project	MS	USDOE/SECARB	included above	included above	Stage 2 (Anthropogenic Test at Plant Daniel) tests ability of Southern Company Electric Generating Facility to store CO2 emissions.
SECARB Phase III Tuscaloosa Formation CO2 Storage Project	AL	USDOE/SECARB	included above	included above	Stage 2 (Anthropogenic Test at Plant Barry) tests ability of Southern Company Electric Generating Facility to store CO2 emissions.
SECARB Phase III Tuscaloosa Formation CO2 Storage Project (Plant Criist)	FL	USDOE/SECARB	included above	included above	Stage 2 (Anthropogenic Test at Plant Crist) tests ability of Southern Company Electric Generating Facility to store CO2 emissions.
Task 12: Deep Saline Reservoir	IL	NETL/MRCSP	3,929	496	Demonstrate the ability of the Mt. Simon Sandstone in the Illinois Basin to accept and retain 1 million tons of CO2 injected over a period of 3 yrs.
MRCSP Phase III Large Scale Geologic Injection Test	OH	USDOE/NETL./MRCSP	30,500	16,000	Implementation of CO2 injection operations in deep saline rock formations to promote understanding of injectivity, capacity and storage potential in Mt. Simon Sandstone. Primary site is The Andersons Marathon Ethanol (TAME) Plant.
MRCSP Phase III Large Scale Geologic Injection Test	IN	USDOE/NETL/MRCSP	included above	included above	Implementation of CO2 injection operations in deep saline rock formations to promote understanding of injectivity, capacity and storage potential in Mt. Simon Sandstone. Optional site is the Duke IGCC Plant.

Integrated Oxy-Combustion CO2 Capture & Large-Volume Storage Test in a CA Central Valley Saline Formation	CA	Environmental Projects Division/WESTCARB	67,000	237,191	Injection of 250,000 tons of CO2 per year for 4 years into San Joaquin Basin saline formation about 8000 feet beneath a new Clean Energy Systems oxy-combustion power plant.
Phase III Saline Aquifer Large Voume	WY	NETL/Big Sky Carbon Sequestration Partnership	41,627	68,816	A large volume sequestration test in Triassic Nugget Sandstone Formation on Moxa Arch. 1 million tons of CO2 will be injected per year for 3 years into saline aquifer at depths of 12,000.
Task 8: EOR - Huff'n Puff	IL	NETL/Midwest Geological Sequestration Consortium	196	26	Evaluate potential for combined geological sequestration of CO2 and enhanced oil recovery method in mature Illinois oil reservoirs.
Task 9: EOR 2 - Well Conversion	IL	NETL/Midwest Geological Sequestration Consortium	578	60	Evaluate potential for combined geological sequestration of CO2 and enhanced oil recovery method in mature Illinois oil reservoirs.
Eneth EOR-Sequestration Test	UT	NETL/SW Regional Partnership on Carbon Sequestration	4,400	1,100	Evaluate and maximize efficacy of CO2 subsurface monitoring technologies and improve ability to track fate of injected CO2 and calculate ultimate storage capacity.
SACROC EOR-Sequestration Test	TX	NETL/SW Regional Partnership on Carbon Sequestration	included above	included above	Evaluate and maximize efficacy of CO2 subsurface monitoring technologies and improve ability to track fate of injected CO2 and calculate ultimate storage capacity.
Central Appalachian Coal Seam Project	VA	DOE/NETL/SECARB	1,087	273	Assess and verify the sequestration capacity and performance of mature CBM reservoirs in the Central Appalachian Basin
Central Appalachian Coal Seam Project	WV	DOE/NETL/SECARB	included above	included above	Assess and verify the sequestration capacity and performance of mature CBM reservoirs in the Central Appalachian Basin
Black Warrior Basin Coal Seam Project	AL	DOE/NETL/SECARB	1,876	506	Determine if sequestration of carbon dioxide in mature coalbed methane reservoirs is a safe and effective method to mitigate greenhouse gas emissions.
Enhance Coalbed Methane Sequestration Test	NM	NETL/SW Regional Partnership on Carbon Sequestration	4,400	1,100	Evaluate coalbed methane production efficiency with concomitant CO2 storage efficacy.
Task 7: Enhanced Coalbed Methane	IL	NETL/Midwest Geological Sequestration Consortium	365	403	Measure the changes in CO2 injectivity of Illinois coal, the amount of CO2 that is retained by coal and measure the amount of methane gas displaced by CO2.
Lignite in ND Field Validation Test	ND	USDOE/PCOR	2,829	1,768	Determine the accuracy with which CO2 storage capacity in lignite coal can be predicted.
Michigan Basin Geologic Test	MI	DOE/NETL/MRCSP	14,300	3,767	Test CO2 sequestration in deep saline rock formations.
Rosetta Resources Gas Reservoir and Saline Formation CO2 Storage Project	CA	Environmental Projects Division/WESTCARB	3,545	2,380	Gain practical experience and demonstrate the potential for supercritical CO2 storage in representative geologic formations.

Gulf Coast Stacked Storage Project	MS	DOE/NETL/SECARB	4,635	3,156	Demonstrate the concept of phased use of subsurface volumes, combining early use of CO2 for enhanced oil recovery with later injection into deeper and larger volume brine formations.
Appalachian Basin Geologic Test at R.E. Burger Power Plant	OH	NETL/MRCSP	14,300	3,767	Injection testing in deep saline reservoirs.
Saline Reservoir Field Test	MS	NETL/SECARB	5,113	1,642	Test deep saline reservoirs located near the large coal-fired power plants along Mississippi Gulf Coast for geological storage of CO2.
Arizona Utilities CO2 Storage Pilot	AZ	Environmental Projects Division/WESTCARB	4,400	1,100	Demonstrate that geologic sequestration is a safe and permanent method to mitigate GHG emissions.
Cincinnati Arch Geologic Test	KY	DOE/NETL/MRCSP	14,300	3,767	Demonstrate CO2 sequestration in the Mt. Simon sandstone, a major CO2 sequestration target for the MRCSP region.
Basalt Phase II Pilot Site Characterization	WA	NETL/Big Sky Carbon Sequestration Partnership	849	226	Address critical technical issues associated with injection and transport of supercritical CO2 in one or more interflow zones in a deep basalt formation.
Basalt Phase III Pilot Site Characterization	WA	NETL/Big Sky Carbon Sequestration Partnership	8,993	3,248	Address critical technical issues associated with injection and transport of supercritical CO2 in one or more interflow zones in a deep basalt formation.
Wyoming Phase II Saline Injection	WY	NETL/Big Sky Carbon Sequestration Partnership	2,977	4,997	Perform a field validation test to characterize Triassic Nugget Sandstone Formation and assess viability and capacity for large-scale geologic sequestration test.
Regional Terrestrial Sequestration Program	NM	NETL/Southwest Regional Partnership on Carbon Sequestration	525	133	Develop improved technologies and systems for direct measurement of soil and vegetation carbon at reference sites.
Local Terrestrial Sequestration	NM	NETL/Southwest Regional Partnership on Carbon Sequestration	included above	included above	Propose to desalinate produced water from ECBM pilot and use water for irrigating riparian restoration project.
PCOR Terrestrial Field Validation Test	ND	USDOE/PCOR	527	114	Develop the technical capacity to systematically identify, develop, and apply alternate land use management practices to prairie pothole ecosystem that will result in carbon sequestration.
PCOR Terrestrial Field Validation Test	SD	USDOE/PCOR	included above	included above	Develop the technical capacity to systematically identify, develop, and apply alternate land use management practices to prairie pothole ecosystem that will result in carbon sequestration.
PCOR Terrestrial Field Validation Test	MN	USDOE/PCOR	included above	included above	Develop the technical capacity to systematically identify, develop, and apply alternate land use management practices to prairie pothole ecosystem that will result in carbon sequestration.
PCOR Terrestrial Field Validation Test	MT	USDOE/PCOR	included above	included above	Develop the technical capacity to systematically identify, develop, and apply alternate land use management practices to prairie pothole ecosystem that will result in carbon sequestration.

PCOR Terrestrial Field Validation Test	IA	USDOE/PCOR	included above	included above	Develop the technical capacity to systematically identify, develop, and apply alternate land use management practices to prairie pothole ecosystem that will result in carbon sequestration.
Cropland Field Validation	MT	NETL/Big Sky Carbon Sequestration Partnership	812	239	Demonstrate that terrestrial sequestration in cropland is a safe and permanent method to mitigate greenhouse gas emissions.
Rangeland Sequestration	WY	NETL/Big Sky Carbon Sequestration Partnership	220	138	Demonstrate that terrestrial sequestration in rangeland is a safe and permanent method to mitigate greenhouse gas emissions.
WESTCARB Lake County terrestrial sequestration pilot	OR	NETL/WESTCARB	1,163	560	Validate and demonstrate terrestrial carbon sequestration opportunities identified in Phase I, through pilot projects, methodology development, reporting and market recognition.
WESTCARB Shasta County terrestrial sequestration pilot	CA	NETL/WESTCARB	1,923	5,702	Validate and demonstrate terrestrial carbon sequestration opportunities identified in Phase I, through pilot projects, methodology development, reporting and market recognition.
Evaluating CO2 Sequestration Technologies	IL	USDOE/Argonne National Laboratory	1,020		ANL researchers are evaluating CO2 capture and sequestration technologies for integrated gasification combined-cycle (IGCC) technology. The project researchers will compare new CO2 sequestration technologies against currently available technologies.
Carbon Dioxide Sequestration in Coal Seams	PA	USDOE/CONSOL	8,960	4,320	This study will determine the effectiveness and costs of sequestration which could have significant favorable implications for coal-fired power plants that can separate CO2 from exhaust gas and inject it into unmineable coal seams.
An Integrated Modeling Framework for Carbon Management Technologies	PA	USDOE/carnegie Mellon Univeristy	717	179	Carnegie Mellon University will develop a framework to model the costs and performance of carbon sequestration technologies for electric power plants.
Capturing CO2 from Flue Gases by Using Regenerable Sorbents	NC	USDOE/Research Triangle Institute	1,530	380	In this project, RTI is developing a simple, inexpensive process using regenerable sorbents to capture CO2 from flue gases.
Heat of Dissolution Measurements for Carbon Dioxide	NC	USDOE/NC A&T State University	196		North Carolina A&T State University will help design more efficient CO2-capture systems by measuring, for the first time, heat that dissolves CO2 in mixed solvents.
Geologic Sequestration Project	CA	USDOE/Lawrence Berkeley National Laboratory	4,980	11,800	A project to investigate CO2 sequestration in geological formations.
MMV Controls	CA	USDOE/Lawrence Berkeley National Laboratory	826		A project to conduct near-surface measurement, monitoring and verification for the Midwest Geologic Sequestration Consortium, a member of DOE's Regional Carbon Sequestration Partnerships.

Fuel-Flexible Gasification-Combustion Technology	CA	USDOE/GE Energy & Environmental Research Corporation	4,690	1,920	GE Energy and Environmental Research Corporation has developed a fuel-flexible, advanced gasification-combustion (AGC) concept that produces three product streams: hydrogen (H ₂), CO ₂ , and oxygen-depleted air. The project will demonstrate the concept in the laboratory and on a pilot-scale.
Membrane Process to Sequester CO ₂	CA	USDOE/Membrane Technology & Research Inc.	788	197	A project to develop high CO ₂ permeance, high CO ₂ /N ₂ selectivity composite membranes. These membranes will be fabricated into spiral-wound membrane modules will be used to capture carbon dioxide in flue gas economically, and prepare the separated CO ₂ for sequestration.
Feasibility of Large-Scale CO ₂ Ocean Sequestration	CA	USDOE/Monterey Bay Aquarium Research Institute	1,120	290	The Monterey Bay Aquarium Research Institute, Moss Landing, CA, is studying the chemical, physical, and biological consequences of sequestering CO ₂ into the deep sea.
Support Regional Carbon Sequestration Partnership	ID	USDOE/Idaho Engineering & Environmental Laboratory	100		INEEL is providing technical support to the Northern Rockies and Great Plains Regional Carbon Sequestration Partnership.
CO ₂ Separation Using Membranes	ID	USDOE/Idaho Engineering & Environmental Laboratory	685		INEEL is conducting a project to develop a membrane that will separate CO ₂ /methane and CO ₂ /nitrogen gas pairs.
Geological Sequestration in Midwestern States	KS	USDOE/University of Kansas Center for Research	3,290	1,090	The University of Kansas Center for Research to conduct project to investigate geological CO ₂ sequestration.
Carbon Sequestration on Surface Mine Lands	KY	USDOE/University of Kentucky	1,100	380	University of Kentucky - Environmental and Materials Research (EMR), is working on a project to demonstrate low compaction surface mine reclamation techniques for carbon sequestration through the production of high value trees.
Utilization of Algae to Sequester CO ₂ from Combustion Systems	MA	USDOE/Physical Sciences, Inc.	1,740	680	Physical Sciences, Inc. is conducting a project to sequester CO ₂ using algae.
International Collaboration on CO ₂ Sequestration	MA	USDOE/MIT	1,100		Massachusetts Institute of Technology is developing instrumentation and potential experiments for the International Collaboration on CO ₂ Ocean Sequestration.
Carbon Management Geographic Information System (GIS) for the United States	MA	USDOE/MIT	850	210	A project to develop a systems analysis tool to aid in the development and deployment of carbon capture and sequestration technologies in the United States. The project will develop tools to provide real-time display and analyze CO ₂ sequestration sources, sinks and other data.
CO ₂ Sequestration in Deep Ocean Waters	MA	USDOE/University of Massachusetts	344	62	The University of Massachusetts is investigating CO ₂ ocean sequestration in this project. University researchers are investigating the use of a CO ₂ -water-limestone emulsion to sequester CO ₂ in deep ocean waters.

Michigan Basin Carbon Dioxide Storage Field Demonstration	MI	USDOE/DTE Energy	(unknown)	(unknown)	DTE Energy is participating in a field test of a promising technique for storing carbon dioxide in deep underground rock formations located near Gaylord, Michigan.
Sequestration of CO2 in Depleted Oil Reserve	NM	USDOE/Sandia National Laboratories-California	2,600		A project that uses a comprehensive suite of computer simulations, laboratory tests, field measurements and monitoring to understand, predict, and monitor the processes associated with downhole injection of CO2 into a depleted oil reservoir.
Geologic Carbon Sequestration Modeling	NM	USDOE/Los Alamos National Laboratory	900		A project at LANL that will use experimental data to define the kinetics and mechanisms of several key reactions relevant to geologic sequestration.
Novel Monitoring Tools for Geologic Sequestration	NM	USDOE/Los Alamos National Laboratory	900		LANL will address specific monitoring challenges as opposed to specific monitoring technologies. These monitoring challenges are intimately tied to DOE-FE/NETL's Carbon Sequestration Roadmap.
Carbon Sequestration in a Depleted Oil Reservoir	NM	USDOE/Los Alamos National Laboratory	1,600		LANL researchers will use a comprehensive suite of computer simulations, laboratory tests, field measurements and monitoring to understand, predict and monitor the processes associated with downhole injection of CO2 into a depleted oil reservoir.
Investigating the Use of Pure Oxygen in Combustion Systems	NY	USDOE/Praxair, Inc.	4,090	1,750	Praxair, Inc., is working on another project that is investigating the use of pure oxygen as a replacement for air in combustion processes to lower CO2 emissions.
Jointly Sponsored Research Program	ND	USDOE/UND Energy & Environmental Research Center	24,570	37,050	Some of the tasks to be performed under the CRADA include: testing of different types of coals, studies of power plant emissions and control devices, development of advanced combustion processes, and CO2 sequestration.
Plains CO2 Reduction Partnership	ND	USDOE/UND Energy & Environmental Research Center	15,710	10,140	A project to support the testing and demonstration of CO2 sequestration technologies in the northern Great Plains of North America.
Carbon Sequestration in Reclaimed Mine Soils of Ohio	OH	USDOE/Ohio State University	563	143	Ohio State University will assess the soil organic carbon (SOC) sequestration potential of reclaimed mined soils (RMS).
Enhanced Hydrogen Production with Integrated CO2 Separation	OH	USDOE/Ohio State University	529	134	OSU will demonstrate the success of a technology to effectively and economically produce a pure hydrogen stream by coal gasification with integrated capture of CO2 emissions, for its subsequent sequestration.
Zeolites for CO2 Capture	OH	USDOE	765	156	The objective of this project is to develop the amine-grafted zeolites for CO2 capture and SO2 capture with more 10,000 times repeated thermal cycles between 25-150 degrees Celsius with less than ten percent degradation.

Chemical Sequestration of CO2 in Deep Saline Formations	OH	USDOE/Battelle Columbus Laboratories	8,520	870	A project to evaluate and examine factors which may affect the geological and geo-chemical sequestration of CO2 from power plant emission (captured, transported, and injected) in deep saline formations.
Geological Sequestration	TN	USDOE/Oak Ridge National Laboratory	1,600		A project to lower the cost of sequestering CO2 in geological formations such as oil and natural gas reservoirs.
Determining which Saline Aquifers are Suitable for CO2 Sequestration	TX	USDOE/University of Texas-Austin	5,350		Researchers at the University of Texas at Austin are developing and then applying criteria to determine the best saline aquifer candidates for long-term CO2 sequestration.
Membranes for Carbon Dioxide and Hydrogen Gas Separation	TX	USDOE/University of Texas-Dallas	200	25	The University of Texas at Dallas is exploring the use of metal-organic frameworks and mesoporous hybrid silicas in polymer-based mixed-matrix membranes for carbon dioxide and/or hydrogen gas separations.
Novel Concepts for Compressing CO2	TX	USDOE/Southwest Research Institute	175	43	Southwest Research Institute is designing an efficient and cost effective compressor for sequestering IGCC plant carbon dioxide off gases
CO2 Sequestration in Deep, Unmineable Coal Seams	VA	USDOE/Advanced Resources International	2,600	4,800	A project that will demonstrate a CO2 sequestration process in deep unmineable coalbeds using existing technology.
Tools and Technologies for Cost-Effective CO2 Sequestration	VA	USDOE/The Nature Conservancy	2,510	630	The Nature Conservancy is using a group of partnership pilot projects to help refine the tools and methodologies that will verify and measure the amount of CO2 sequestered by forests and other terrestrial systems.
CO2 Compression Technology	WA	USDOE/Ramgen Power Systems	9,500	6,600	Ramgen Power Systems is designing and developing unique stationary power plant compressor products (air and carbon dioxide) based upon aerospace shock wave compression theory.
TOTALS			412,277	518,845	

International Carbon Storage Research Projects

Information gathered from a variety of sources including National Mining Assn, Edison Electric Institute and press accounts

Int'l RESEARCH PROJECT NAME	Location	Operator	In service	Description
Fenn Big Valley	Canada	Alberta Research Council	1999	Test of large-scale injection of CO2 into deep coal beds for coalbed methane production completed.
Ketzin	Germany	GFZ Potsdam	2008	European research project to begin storing CO2 in saline formations at a depth of 600 metres with plants to store up to 60,000 tpy for two years.
Otway	Australia	CO2CRC	2008	Injection of 100,000 tons of CO2 from natural gas wells into hydrocarbon reserves to provide technical information on storage, monitoring and verification.

Announced Projects Incorporating Carbon Capture and/or Storage (Worldwide)

Information gathered from a variety of sources including Energy Ventures Analysis, National Mining Assn, Edison Electric Institute and press accounts

ANNOUNCED Project Name	Location	Operating entity	Size	Start date	Description
Burger	OH	1st Energy	1 mW	2008	20 tpd pilot plant demo of PowerSpan's ECO2 ammonia-based solution to capture CO2.
Mountaineer	WV	American Electric Power	20 mW	2009	Demonstration test of carbon capture using Alstom chilled ammonia with 100,000 tpy CO2 sequestration 9100 ft below surface as part of \$380 Million demonstration program.
FutureGen	IL	FutureGen Alliance	260 mW	Pending	Project intended to demonstrate state-of-the-art CCT and CCS systems on 260 mW IGCC facility with a goal of near-zero emissions.
Aberthaw	UK	RWE npower	1 mW	2010	Results of demo to be used to support 100mW new super-critical pulverized coal unit
Progressive Energy	UK		800 mW	2011	CO2 captured from an 800 mW IGCC unit will be used for enhanced oil recovery.
Edwardsport IGCC	IN	Duke Energy	630 mW	2012	IGCC plant with precombustion removal of CO2 from syngas using physical absorption
Antelope Valley Station	ND	Basin Electric Power Cooperative	120 mW	2012	Large scale demonstration test of PowerSpan's ECO2 ammonia-based CO2 capture technology w/ CO2 to be used for EOR
Northeastern	OK	American Electric Power/Public Service of Oklahoma	200 mW	2012	Full-scale (1.5 million tons) test of Alstom's ammonia-based carbon capture technology. Has contract to sell CO2 to SemGreen LLP for EOR
Parish	TX	NRG	125 mW	2012	1 million tpy large-scale demonstration of PowerSpan's ECO2 ammonia-based solution to capture CO2 for use locally in EOR
Alberta	Canada	TransAlta		2012	1 million tpy large-scale demonstration of Alstom's chilled ammonia CO2 capture technology or use locally
ZeroGen	Australia			2012	CO2 captured from an IGCC unit will be stored in a deep saline formation.
Powerfuel	UK		900 mW	after 2012	900 mW IGCC intending to use CCS technology.
	UK	E.On	450 mW	after 2012	450 mW IGCC intending to add CCS technology.
TBD	Germany	RW	400-450 mW	2014	400-450 mW IGCC to capture CO2 for injection into saline formation or depleted natural gas reservoir.
TBD	UK	RWE nPower	1000 mW	2016	1000 mW super-critical pulverized coal unit will utilize post-combustion CCS technology
GreenGen	China	Peabody Energy & partners	650 mW	2018	650 mW IGCC will utilize CCS technology.
TBD	ND	AMP-Ohio	1000 mW	TBD	Proposed commercial scale demonstration of PowerSpan's ECO2 ammonia-based CO2 capture technology.