

Project Title	Carbon Dioxide Sequestering Using Microalgal Systems	
Project Type *	Please insert X in right-hand box if the description is relevant to your project. Please select one.	
	CO ₂ Capture R&D Projects	X
	CO ₂ Capture Commercial Projects	
	CO ₂ Geological Storage Demonstration Projects	
	CO ₂ Geological Storage R&D Projects	
	CO ₂ Deep Ocean Storage R&D Projects	
Project Category *	Please insert X in right-hand box if the description is relevant to your project. You may select more than one.	
	Acid Gas Injection	
	CO ₂ Enhanced Coal Bed Methane Production (ECBM)	
	CO ₂ Enhanced Gas Recovery (EGR)	
	CO ₂ Enhanced Oil Recovery (EOR)	
	CO ₂ Storage in Aquifers	
	CO ₂ Storage in Hydrocarbon Reservoirs (without enhanced recovery)	
	Deep Ocean Storage	
	General	
	Membranes for CO ₂ separation	
	Modelling & Mapping Studies of reservoirs	
	Monitoring & Verification	
	Natural Analogues for CO ₂ storage	
	Other	X
	Oxyfuel Combustion	
	Physical Solvent Absorption for CO ₂ separation	
	Safety and Environmental Issues	
	Solid Sorbents for CO ₂ separation	
	Chemical Solvent Absorption for CO ₂ separation	
	Pre-combustion Capture	X
Post-combustion Capture		
Acronym(s)	N/A	
Project Overview	EERC is investigating the potential for carbon dioxide sequestration via biological fixation using microalgae. Microalgae appearst to have significant merit because of its high growth rates, tolerance of harsh environments and its ability to quickly fix carbon dioxide from the surrounding media.	
Project aim(s)	The objective of this work is to evaluate the technical feasibility and potential cost-effectiveness of using microalgae for on-site carbon dioxide removal from the flue gas stream of a representative coal-fired power plant.	

Purpose of work	<p>Please insert X in right-hand box if the description is relevant to your project. You may select more than one.</p> <table border="1" data-bbox="571 253 1407 947"> <tr><td>Industrial Production</td><td></td></tr> <tr><td>Ideas Generation</td><td></td></tr> <tr><td>Preliminary Assessment</td><td>X</td></tr> <tr><td>Data Gathering</td><td></td></tr> <tr><td>Development of Prototype</td><td></td></tr> <tr><td>Development of Enhanced Modelling Capabilities</td><td></td></tr> <tr><td>Enhanced Commercial Production</td><td></td></tr> <tr><td>Contribution towards Solving Global Problem</td><td>X</td></tr> <tr><td>Initial Research and Development</td><td></td></tr> <tr><td>Demonstration & Prototype</td><td>X</td></tr> <tr><td>Establishment of new technology</td><td></td></tr> <tr><td>Commercial Production</td><td></td></tr> <tr><td>Income Generation</td><td></td></tr> <tr><td>Development of Modelling Capacity</td><td></td></tr> <tr><td>Establishing New Industry</td><td></td></tr> <tr><td>Clearer Understanding of process involved in Ocean Storage</td><td></td></tr> <tr><td>Development of Novel Techniques</td><td></td></tr> <tr><td>Assessing European Storage Capacity</td><td></td></tr> <tr><td>N/A</td><td></td></tr> </table>	Industrial Production		Ideas Generation		Preliminary Assessment	X	Data Gathering		Development of Prototype		Development of Enhanced Modelling Capabilities		Enhanced Commercial Production		Contribution towards Solving Global Problem	X	Initial Research and Development		Demonstration & Prototype	X	Establishment of new technology		Commercial Production		Income Generation		Development of Modelling Capacity		Establishing New Industry		Clearer Understanding of process involved in Ocean Storage		Development of Novel Techniques		Assessing European Storage Capacity		N/A			
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Emissions source	N/A																																								
Type of organisation(s)	<p>Please insert X in right-hand box if the description is relevant to your project. You may select more than one.</p> <table border="1" data-bbox="571 1104 1407 1798"> <tr><td>Industrial</td><td></td></tr> <tr><td>Industrial R&D</td><td></td></tr> <tr><td>Industrial Suppliers</td><td></td></tr> <tr><td>University</td><td>X</td></tr> <tr><td>Industrial Partners</td><td></td></tr> <tr><td>National Laboratory</td><td>X</td></tr> <tr><td>Power Company</td><td></td></tr> <tr><td>Power Producer</td><td></td></tr> <tr><td>Chemicals Manufacturer</td><td></td></tr> <tr><td>Government Agencies</td><td></td></tr> <tr><td>Government Organisations</td><td></td></tr> <tr><td>Public</td><td></td></tr> <tr><td>Private</td><td></td></tr> <tr><td>Research Institute</td><td></td></tr> <tr><td>Research Organisation</td><td></td></tr> <tr><td>National Institute</td><td></td></tr> <tr><td>Research Centre</td><td></td></tr> <tr><td>Geological Survey</td><td></td></tr> <tr><td>Marine Pipeline Supplier</td><td></td></tr> <tr><td>N/A</td><td></td></tr> </table>	Industrial		Industrial R&D		Industrial Suppliers		University	X	Industrial Partners		National Laboratory	X	Power Company		Power Producer		Chemicals Manufacturer		Government Agencies		Government Organisations		Public		Private		Research Institute		Research Organisation		National Institute		Research Centre		Geological Survey		Marine Pipeline Supplier		N/A	
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Project Links	http://carbonsequestration.us/FRED-projects/htm/FRED-2004-DE-FC26-98FT40320-02_3.htm																																								
Related R&D Activities	N/A																																								

Continent	Please insert X in right-hand box if the description is relevant to your project. Please select one.	
	Europe	
	Africa	
	Australasia	
	North America	X
	South America	
	Asia	
	Middle East	
N/A		
Location(s)	N/A	
Field trip planned	N/A	
Partners/participants	<ul style="list-style-type: none"> • University of North Dakota Energy and Environmental Research Center • NETL 	
Funding source(s)	DOE USA	
Overall project costs	N/A	
Project timescale	Project Start Date: 0-Jan-1900 & Project End Date: 31-Mar-2003	
Expected key deliverables	N/A	
Project status	Please insert X in right-hand box if the description is relevant to your project. Please select one.	
	In preparation	
	Active	
	Completed	X
	Ongoing Commercial Operations	
	Cancelled	
	Pending	
	Final Report Produced	
	Final Report Produced. Phase II at proposal stage	
	Cancelled. Possible relocation	
N/A		
Project status other	N/A	
Related Projects	N/A	
Key Project Tasks	N/A	
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e-mail	dstepan@undeerc.org	
Contact Person 2		
Organisation		
Address		
Telephone		
Fax		
e-mail		

Project summary	<p>EERC is investigating the potential for carbon dioxide sequestration via biological fixation using microalgae. Microalgae appearst to have significant merit because of its high growth rates, tolerance of harsh environments and its ability to quickly fix carbon dioxide from the surrounding media.</p> <p>The objective of this work is to evaluate the technical feasibility and potential cost-effectiveness of using microalgae for on-site carbon dioxide removal from the flue gas stream of a representative coal-fired power plant.</p>																		
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Other Specified	N/A																		
Project Critique	N/A																		