

The University of Texas Bureau of Economic Geology Perspective

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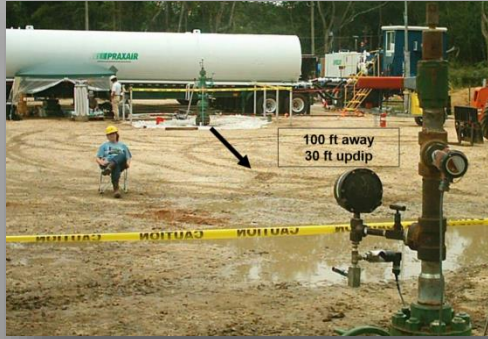
**COP 24
Katowice, Poland
December 2018**



**BUREAU OF
ECONOMIC
GEOLOGY**

GCCC Experience

500 T



Frio Brine Storage
Pilot 2004

Pilots → Demonstrations → Industrial



SECARB Early Test- Cranfield
Mississippi

Hastings
Project



NRG
Petranova
Project



1.6
MMT/year

45Q Tax Credit

Form 8933		Carbon Dioxide Sequestration Credit		OMB No. 1545-0123
Department of the Treasury Internal Revenue Service		▶ Attach to your tax return. ▶ To claim this credit, the qualified facility must capture at least 500,000 metric tons of carbon dioxide during the tax year. ▶ Go to www.irs.gov/Form8933 for the latest information.		2017 Attachment Sequence No. 165
Name(s) shown on return			Identifying number	
Qualified carbon dioxide captured at a qualified facility, disposed of in secure geological storage, and not used as a tertiary injectant in a qualified enhanced oil or natural gas recovery project.				
1a	Metric tons captured and disposed of (see instructions)			
b	Inflation-adjusted credit rate	\$22.48		
c	Multiply line 1a by line 1b		1c	
Qualified carbon dioxide captured at a qualified facility, disposed of in secure geological storage, and used as a tertiary injectant in a qualified enhanced oil or natural gas recovery project.				
2a	Metric tons captured and used (see instructions)			
b	Inflation-adjusted credit rate	\$11.24		
c	Multiply line 2a by line 2b		2c	
3	Carbon dioxide sequestration credit from partnerships and S corporations		3	
4	Add lines 1c, 2c, and 3. Partnerships and S corporations, report this amount on Schedule K. All others, report this amount on Form 3800, Part III, line 1x		4	

How To Figure the Credit

Generally, the credit is \$20 (adjusted for inflation) per metric ton for qualified carbon dioxide captured at a qualified facility, disposed of in secure geological storage, and not used as a tertiary injectant in a qualified enhanced oil or natural gas recovery project.

Generally, the credit is \$10 (adjusted for inflation) per metric ton for qualified carbon dioxide captured at a qualified facility, used as a tertiary injectant in a qualified enhanced oil or natural gas recovery project, and disposed of in secure geological storage.

For the purpose of calculating the credit, a metric ton of carbon dioxide includes only the contained weight of the carbon dioxide. The weight of any other substances, such as water or impurities, isn't included in the calculation.

Inflation Adjustment

For 2017, the \$20 and \$10 rates are adjusted for inflation.

The 2017 credit rates are:

- \$22.48 for qualified carbon dioxide captured at a qualified facility, disposed of in secure geological storage, and not used as a tertiary injectant in a qualified enhanced oil or natural gas recovery project; and
- \$11.24 for qualified carbon dioxide captured at a qualified facility, disposed of in secure geological storage, and used as a tertiary injectant in a qualified enhanced oil or natural gas recovery project.

Definitions

Qualified Carbon Dioxide

Qualified carbon dioxide is carbon dioxide captured after October 3, 2008, from an industrial source that:

MRV Plans Submitted to EPA

Project Name	Type	Date of Final Decision	Final Decision Documents
Core Energy Northern Niagaran Pinnacle Reef Trend	MRV plan	October 12, 2018	Decision
Shute Creek Facility	MRV plan	June 20, 2018	Decision
Archer Daniels Midland Company Illinois Industrial Carbon Capture and Sequestration Project	MRV plan	January 19, 2017	Decision
Hobbs Field	MRV plan	January 12, 2017	Decision
Denver Unit	MRV plan	December 22, 2015	Decision

CCS Upscale Requires Developing Countries

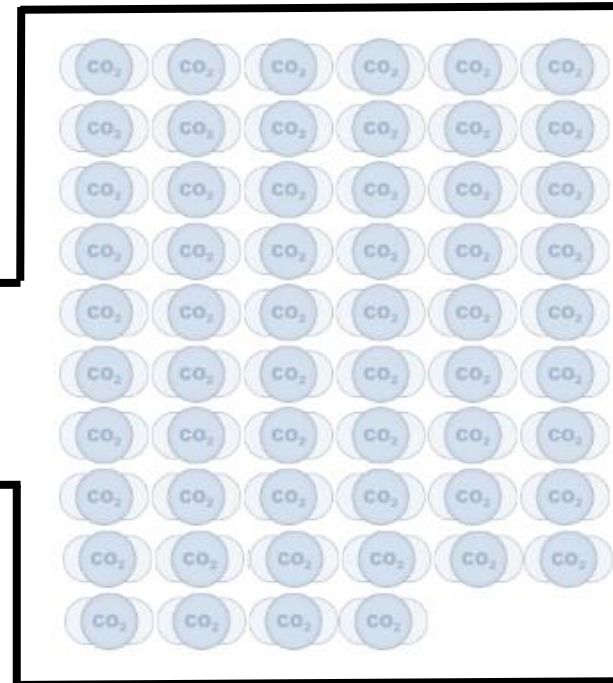
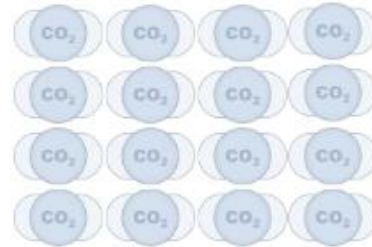
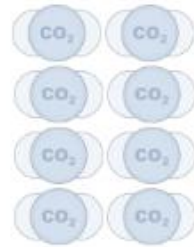
A total of 94Gt captured and stored through 2050 in IEA 2DS

1996-2016:
< 1 Gt
verifiably stored

2017-2030:
8 Gt

2031-2040:
28 Gt

2041-2050:
58 Gt



**75% from non-OECD
countries**



An Invitation to Countries

- Opportunities are available at all levels for “getting on the path” to CCS.
- Explore your potential for geological storage of CO₂
- Utilize new funding mechanisms to build your capacity in CCS – e.g. CTCN and GCF
- Become involved in the Carbon Sequestration Leadership Forum
- Explore memberships with experienced organizations



Panel (L-R): **Tim Dixon**, IEAGHG; **Ton Wildenborg**, CO2GeoNet; **Philip Ringrose**, Statoil; **Mike Marsh**, SaskPower; **Katherine Romanak**, University of Texas at Austin; and **Jukka Uosukainen**, CTCN.



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