

U.S. DEPARTMENT OF
ENERGY

Office of
Fossil Energy

45Q

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Office of Fossil Energy
U.S. Department of Energy

45Q TAX CREDIT

Credit 2008-2018:

\$20 per metric ton disposed of in secure geologic storage

\$10 per metric ton used for EOR or EGR in a qualified manner

Available credits: 75 million Tons

Updated Credit (included in the February 2018 “Bipartisan Budget Act of 2018”):

Credit available to qualified facilities for 12 year period

Applicable Amounts for projects placed in service on after the date of enactment

\$50 for secure geologic storage, with the credit increasing annually until the full value is reached in 2026

\$35 per metric ton for EOR, EGR, or utilization with the credit increasing annually until the full value is reached in 2026

Defines qualified Carbon Oxides (CO or CO₂)

Captured from an industrial source or the ambient air

Measured at point of capture and verified at the point of disposal/injection/use

Excludes gases recaptured during EOR process

Qualified facilities:

Construction must begin by Jan 1, 2024

Original planning and design includes carbon capture equipment

25,000 t/CO₂ captured and used or facilities that emit less than 500,000 tons

500,000 t/CO₂ captured for electric generating facilities

Utilization, including Photo- or chemo-synthesis, chemical conversion, other purposes for which commercial markets exist

Credit can be claimed by owner of capture equipment or transferred to disposal/use entity

INTERNAL REVENUE SERVICE NOTICE 2019-32

The Department of the Treasury (Treasury Department) and the Internal Revenue Service (IRS) anticipate issuing regulations and other guidance to implement the provisions of § 45Q of the Internal Revenue Code, as amended by Section 41119 of the Bipartisan Budget Act of 2018 (BBA), Pub. L. No. 115-123 (February 9, 2018). This notice requests general comments on issues arising under § 45Q, as well as specific comments concerning the secure geological storage and measurement of qualified carbon oxide, the recapture of the benefit of the credit for carbon oxide sequestration, and other issues described in section 3 of this notice. Comments received in response to this notice will help to inform development of future regulations and other guidance implementing § 45Q.

REQUEST FOR COMMENTS

As part of Internal Revenue Service Notice 2019-32, the Treasury Department and IRS requested comments on 10 specific issues:

1. Secure Geological Storage
2. Recapture
3. Terms and Definitions in § 45Q
4. Other forms of utilization (photosynthesis or chemosynthesis) under § 45Q(f)(5)(A)
5. Lifecycle emissions for utilization
6. Contracts for disposal, utilization, or use of qualified carbon oxide
7. Transfer of the § 45Q credit
8. Definition of “beginning of construction”
9. Allocating credit and recapture in partnerships
10. Measurement of lifecycle greenhouse emissions

COMMENTS: SECURE GEOLOGICAL STORAGE

Total number of comments received: 98

- **Comments on secure geological storage: 57**
- **Comments on ISO 27916: 33**
- **Comments referencing Subpart RR: 39**
- **Comments mentioning a role for states (in verification or certification): 29**
- **Comments on transparency: 20**
- **Comments on “reporting and recordkeeping”: 3**

COMMENTS: UTILIZATION

Total comments on utilization: 46

- **“Utilization” only: 21**
- **“Contracting and ensuring disposal, use and/or utilization”:** 25

Comments on “lifecycle emissions and analysis”: 20

Topics covered include:

- **EOR**
- **Other forms of utilization (CO2 to chemicals and other goods)**
- **Biochar/composting**

TECHNOLOGY/POLICY ASSUMPTIONS AFFECT ANALYSIS

When is it available?

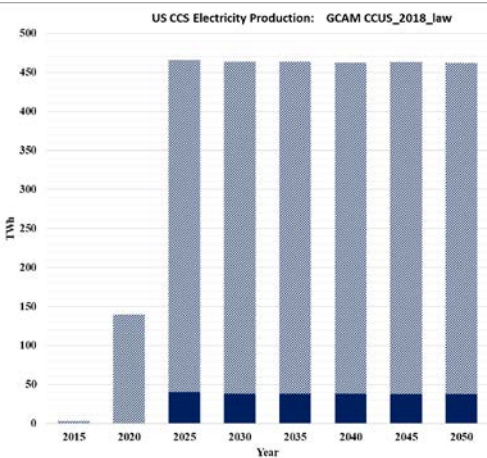
**What sector(s) is CCUS technology included as an option for?
Electricity? Oil and gas? Industrial?**

**For electric sector, is carbon capture an option for coal plants?
Natural gas? Both?**

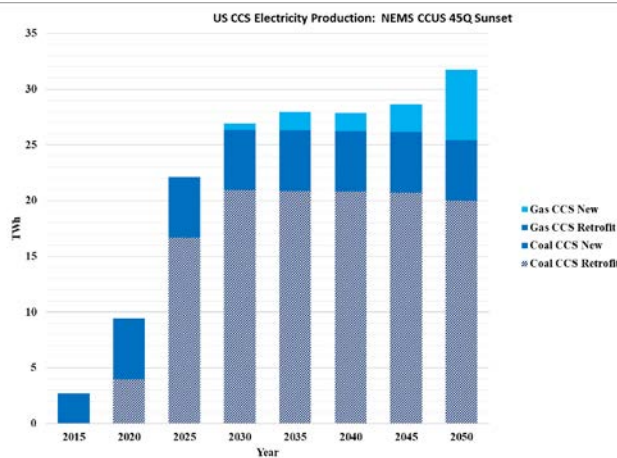
**Percentage capture assumptions (90 percent? 50 percent? 25?
Fixed or variable?)**

**What costs are assumed and how is technology learning
incorporated?**

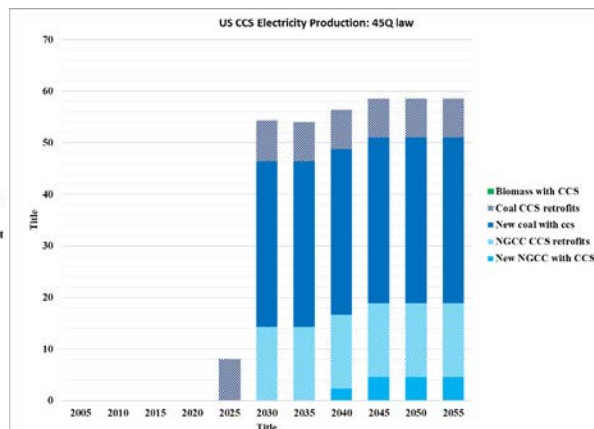
COMPARISON OF ELECTRICITY GENERATION BY CCS TECHNOLOGIES – CURRENT 45Q



GCAM



NEMS



MARKAL

CONCLUSIONS

IRS is currently working with EPA, DOE, and other agencies to provide clarity for stakeholders regarding the implementation of 45Q.

The 45Q tax credit provides an additional positive economic incentive for potential CCUS projects.

Regardless of modeling platform, analysts are finding that 45Q enables deployment of CCS in the power and industrial sectors.

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