



DEPARTMENT OF
ECOLOGY
State of Washington

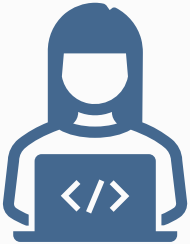
Cap-and-Invest: Permanent sequestration emissions exemption

Public Meeting: May 28, 2026

Meeting goals

- Discuss the Cap-and-Invest Program's emissions exemption pathway for permanent sequestration included in [WAC 173-446-040](#)
- Solicit feedback on the implementation of this provision

Where are we in the process?



Exploration process: Carbon management within Cap-and-Invest Program and Washington



Public input: Help inform priorities and direction



Public comment period: Comments and meetings through June 26



Next steps: Planning, coordination, and continued engagement

Agenda

- 1 Climate Commitment Act overview
- 2 Carbon management in Washington
- 3 Permanent sequestration emissions exemption
- 4 Further implementation considerations
- 5 Discussion and public input
- 6 Next steps

Climate Commitment Act



Cap-and-Invest Program

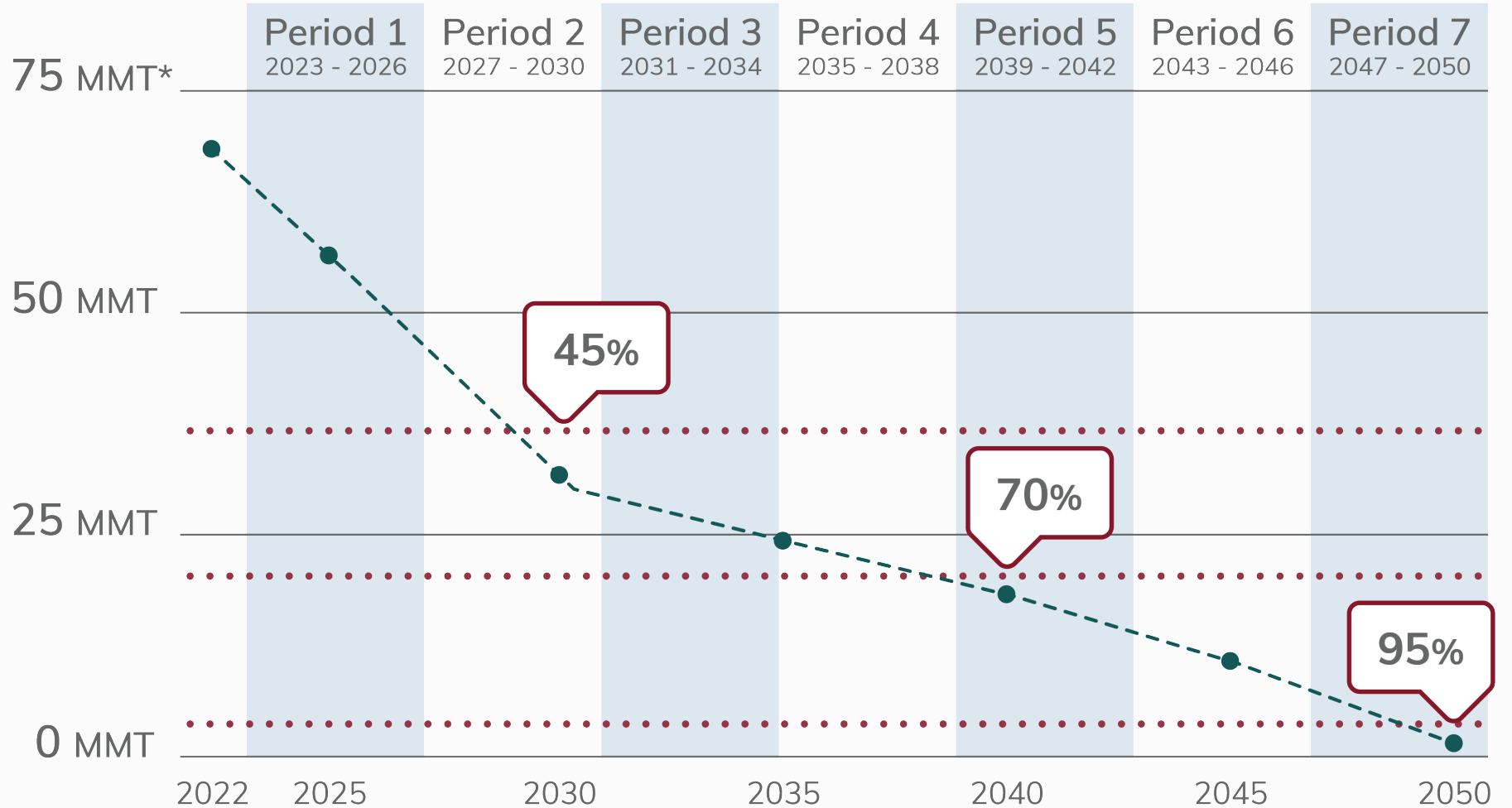


Initiative to improve air quality

Cap-and-Invest Program

Projected allowance budgets over time

*MMT = million metric tons of carbon dioxide equivalent
Reductions based on 1990 emission levels



Does not reflect changes under consideration in Cap-and-Invest Program Updates and Linkage rulemaking

Ways to comply



Reduce greenhouse
gas emissions



Emissions
allowances



Offset
credits
(limits apply)

Allowance or offset credit = 1 metric ton of carbon dioxide equivalent



Carbon management in Washington and Cap-and-Invest

Carbon management

Suite of technologies and practices used to:

- Reduce current carbon dioxide emissions
- Remove historical carbon dioxide emissions

Includes carbon capture, removal, utilization, transport, and storage

Focus of today's conversation:

- Carbon management involving permanent sequestration (geologic and/or mineralization)



Role of carbon management

Not a replacement for other emissions reduction measures

Can help Washington meet our climate goals by

- Addressing certain sources of emissions from hard-to-decarbonize sectors
- Removing historical emissions to help the state work toward its net-zero emissions limit



Carbon management in Washington

Multiple agencies play a role in engineered carbon management across Washington

Ecology

DNR

Commerce

UTC

U.S. EPA

Collectively these agencies address important considerations related to:

- Siting and permitting
- Safety
- Subsurface characterization
- Environmental and human impacts
- Technology and innovation
- Integration into climate policies

Ecology

- Power plant greenhouse gas emissions standards
- **Cap-and-Invest Program**
- Permitting and clean energy coordination



Carbon management in Cap-and-Invest

Two carbon management pathways:

1) Emissions exemption pathway for sequestered carbon dioxide

- Exempt emissions are not included in a covered entity's compliance obligation
- Requires sequestration for at least 1000 years

2) Offsets

- Emitters cover a small percentage of emissions by purchasing offset credits
- The Climate Commitment Act allows for development of offset protocols for carbon dioxide removal (CDR) projects



Point source carbon capture and storage



Carbon utilization



Carbon transport



Technology-based CDR



Nature-based CDR

Carbon management in Cap-and-Invest

Exempt emissions
(WAC 173-446-040)

Offsets
(RCW 70A.65.170)



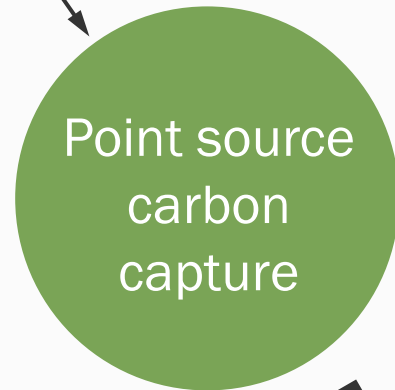
Must occur in addition to otherwise required greenhouse gas emissions reductions

1,000-year sequestration rule

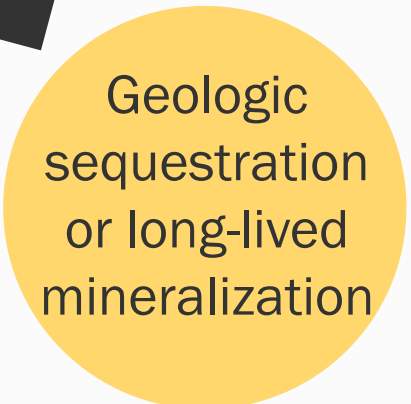
Both pathways may involve geologic sequestration or mineralization

Carbon management in Cap-and-Invest

Exempt emissions
(WAC 173-446-040)



1,000-year
sequestration rule



Geologic sequestration

Involves compressing captured CO₂ into a liquid and pumping it deep underground where it gets trapped under thousands of feet of rock



Carbon mineralization

Occurs when CO₂ reacts with certain types of rock or industrial byproducts and transforms into a solid

Geologic sequestration in Washington



www.dnr.wa.gov/geologic-carbon-sequestration

Potential storage options:

Basalt formations

- Eastern Washington
- Columbia River Basalt Group

Sandstone reservoirs

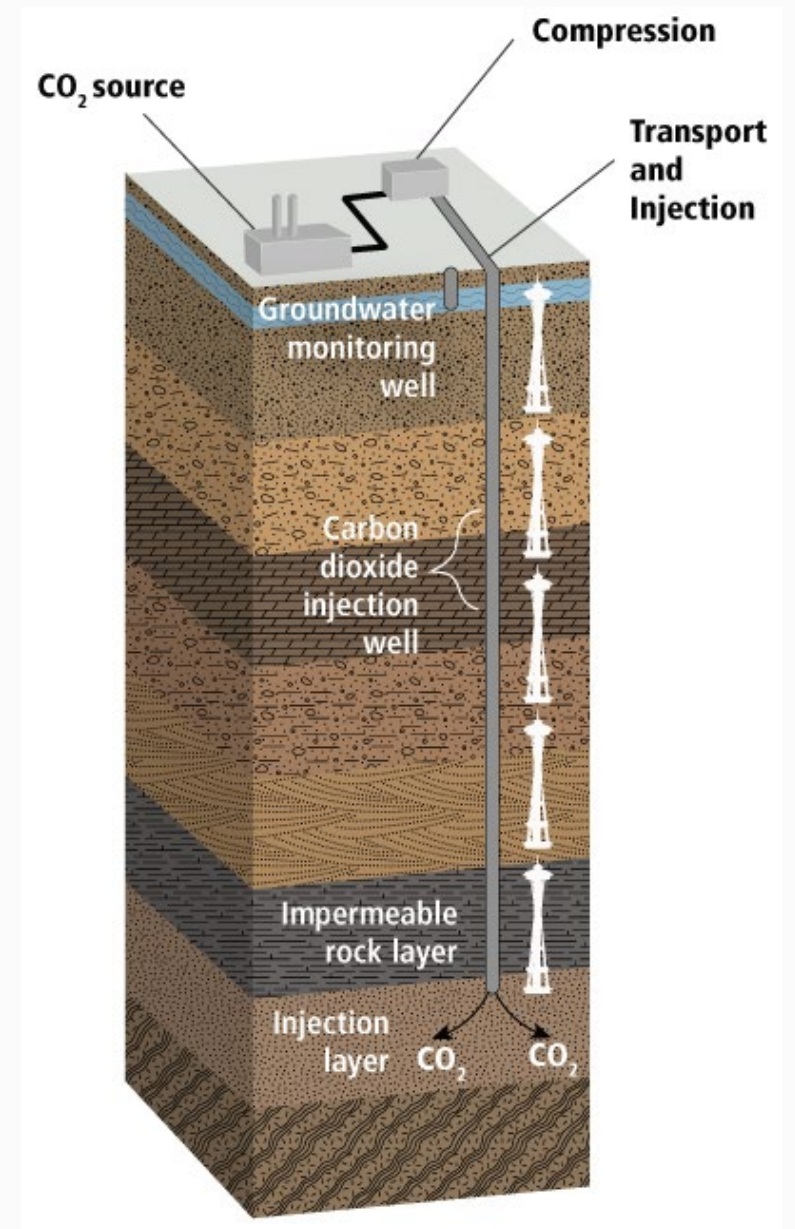
- Western Washington
- Eocene sandstones

Geologic sequestration in Washington

U.S. EPA has permitting authority over geologic sequestration wells in Washington

Class VI wells

- Regulated under the Safe Drinking Water Act
- Underground Injection Control Program



Focus areas for today's discussion

Existing rule language
Definition of permanent
sequestration



Implementation of
emissions exemption
pathway





Permanent sequestration emissions exemption provision

Existing rule language

Covered emissions [[WAC 173-446-040](#)]:

“(2) Exemptions

(a) Covered emissions do not include the following emissions reported under chapter 173-441 WAC [ghg reporting requirements]:”

(i) Emissions from the combustion of biomass or biofuels

(ii) Emissions from certain kinds of facilities

(iii) Sequestered carbon dioxide emissions

Existing rule language

Covered emissions [[WAC 173-446-040](#)]:

“(2) Exemptions

(a) Covered emissions do not include the following emissions reported under chapter 173-441 WAC [ghg reporting requirements]:”

(iii) Sequestered carbon dioxide when it can be demonstrated to ecology’s satisfaction that it:

- qualifies as permanent sequestration, as defined in WAC 173-407-110
- either through long-term geologic sequestration or by conversion into long-lived mineral form.”

Existing rule language

Permanent sequestration [[WAC 173-407-110](#)]:

“Permanent sequestration means

- the retention of greenhouse gases in a containment system using a method that is in accordance with standards approved by ecology
- and that creates a high degree of confidence that substantially ninety-nine percent of greenhouse gases will remain contained for at least one thousand years.”



Discussion 1

Permanent sequestration

Discussion & mural board activity

“**Permanent sequestration** means ... and creates a high degree of confidence that substantially ninety-nine percent of greenhouse gases will remain contained for at least one thousand years.”

1

Which sequestration and/or mineralization approaches or technologies might meet this definition of permanent sequestration? Why?

2

Does this definition create barriers to implementing carbon sequestration methods and technologies? How and why?



Implementation considerations

Emissions exemption rule language

(iii) Sequestered carbon dioxide when it can be demonstrated to ecology's satisfaction that it:

- qualifies as permanent sequestration, as defined in WAC 173-407-110
- either through long-term geologic sequestration or by conversion into long-lived mineral form.” [[WAC 173-446-040](#)]

Implementation considerations

Permanent sequestration
(1000-year rule)

Integration with existing regulations and structures

Approaches in other programs

Climate programs have taken different approaches for integrating carbon sequestration

Approach	Examples
Reference other regulations	<ul style="list-style-type: none">The EU's Emissions Trading System Directive references the CCS Directive
Adopt a protocol or methodology	<ul style="list-style-type: none">California's Low Carbon Fuel Standard established a specific CCS protocolAustralia's Carbon Credit Unit Scheme established a specific CCS method

CCS: Carbon capture and storage

Common elements

Consider different project stages



Image: IEA. Legal and Regulatory Frameworks for CCUS. 2022.

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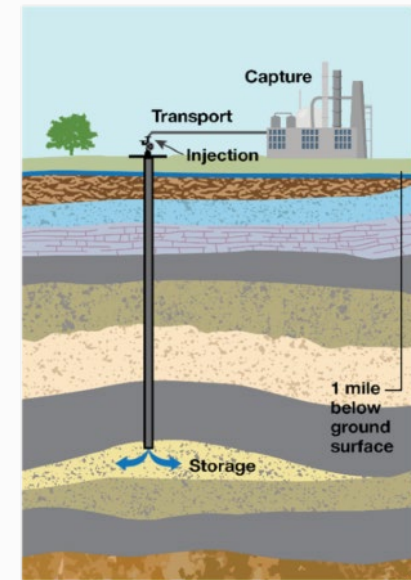
Program-specific requirements	Risk assessment and management	Corrective measures
Measurement, monitoring, & verification	Liabilities and financial assurances	Permanence
		Legal expectations and understandings

EPA's Class VI well regulations

Geologic sequestration wells in Washington are subject to Class VI well regulations

These regulations address:

- Project siting
- Well construction
- Injection operations
- Testing and monitoring
- Emergency response
- Financial responsibility
- Well and injection site plugging & closure



Potential path for Cap-and-Invest

We could consider an approach that:

1. References federal Class VI or other relevant regulations or methodologies
2. And then, builds these out further, accounting for:
 - Washington-specific considerations
 - Integration into a carbon market
 - Ecology's 1000-year sequestration rule
 - Other...

We also welcome feedback on alternative approaches or paths forward!





Discussion 2

Implementation considerations

“Sequestered carbon dioxide when it can be demonstrated to ecology’s satisfaction that it qualifies as permanent sequestration, as defined in WAC 173-407-110, either through long-term geologic sequestration or by conversion into long-lived mineral form.”

Discussion & mural board activity

1

How might federal Class VI well regulations be leveraged? Where are there gaps?

2

What other frameworks or models should we be looking at?

3

How should potential impacts, harms, and environmental justice be integrated?

4

What else should Ecology consider as it works to develop guidance and additional regulatory clarity?



Submit comments until June 26

<https://ecology.commentinput.com/?id=ehB9kFjVx2>



Schedule a meeting

CCA_carboncapture@ecy.wa.gov



Sign up for email updates

https://public.govdelivery.com/accounts/WAECY/subscribe/new?topic_id=WAECY_15

Be
involved

Next steps



Public comment period, May 21 to June 26

Ecology synthesis of feedback, Summer/Fall 2026

Ecology planning/coordination, Summer/Fall 2026

Continued engagement, as soon as 2026

Continued engagement, as soon as 2026

Other CCA engagement opportunities

Public events

- Emissions-intensive, trade-exposed industries (EITEs) report to the Legislature – June 11

Comment opportunities

- EITEs report to the Legislature on allowance allocation
- Air Quality in Overburdened Communities Highly Impacted by Air Pollution rulemaking

More details at ecology.wa.gov/CCA-engage.

For updates on public events, sign up for the [CCA email list](#).

Climate Commitment Act: Ways to engage

We value your input and want to hear from you as we continue to implement the Climate Commitment Act (CCA) across Washington state. Check out our current and upcoming opportunities to give your input, including on our CCA rulemakings through comment periods and public hearings. Learn more about CCA-funded grants offered through Ecology, too.

Public comment opportunities & rulemakings



Public events



Events for Tribal governments



Improving air quality in overburdened communities





Thank you!

Please reach out if you have questions or would like to meet with Ecology to talk more about carbon management.

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