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Scoping Webinar: U.S. Early Plugging of Marginal Oil and Gas Wells Protocol Version 1.0

November 25, 2025

Housekeeping



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- All attendees are in listen-only mode.



- Please submit your questions in the Zoom question box and we'll try to answer them at the end, time permitting.



- We will follow up via email to answer any questions not addressed during the meeting.



- The slides and a recording of the presentation will be posted online on the protocol webpage.

Introduction

Reserve Staff

McKenzie Smith, Associate Director (development lead)

Rachel Mooney, Manager

Jordan Mao, Senior Associate

Partial Technical Support

Partial technical support was provided by ClimateWells, in collaboration with the Rocky Mountain Institute, EcoEngineers, and Netherland, Sewell & Associates.

Introduction

- Purpose of the Scoping Webinar is to:
 - ✓ Kick off the development of the U.S. Early Plugging of Marginal Oil and Gas Wells Protocol
 - ✓ Engage with interested stakeholders
 - ✓ Solicit participation from experts in the development process
 - ✓ Gather information and input on key issues
 - ✓ Share considerations for protocol development



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AGENDA ►

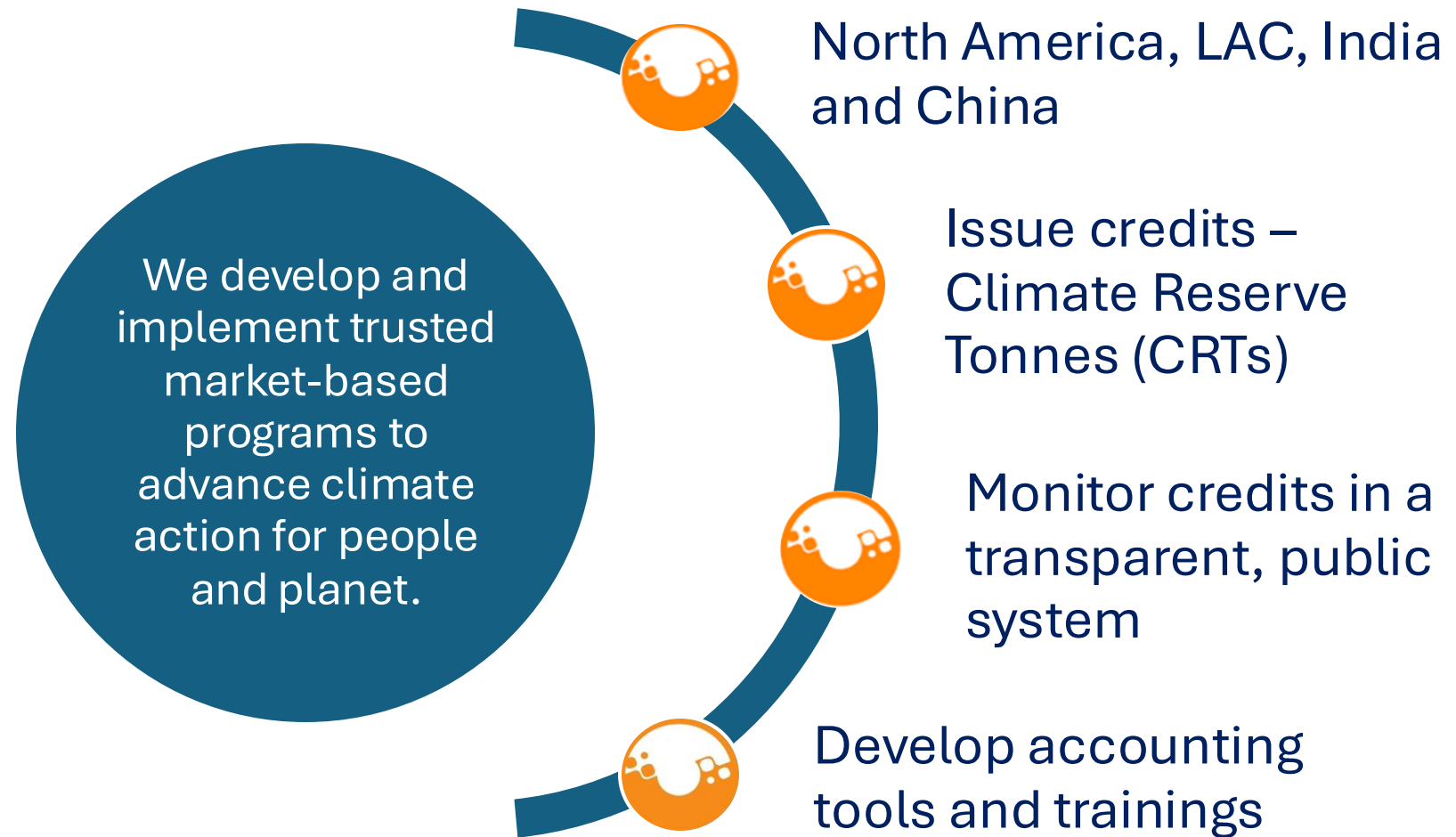
- Introduction to the Climate Action Reserve
- Protocol development process/timeline
 - REMINDER:
 - Statements of Interest for the technical workgroup due by **5:00PM PST December 1, 2025**
 - Stakeholder Engagement Forms available
- Key considerations for protocol development
- Questions or comments
- Next steps



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INTRODUCTION TO THE CLIMATE ACTION RESERVE

The Climate Action Reserve



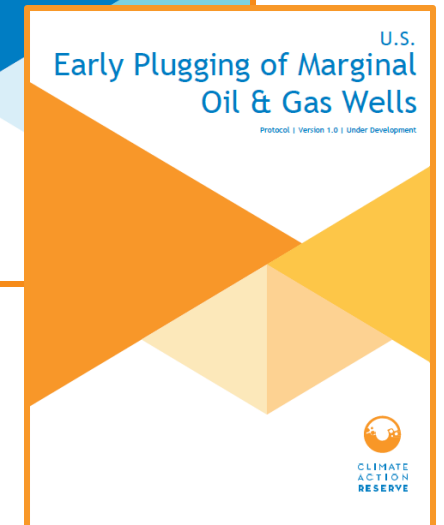
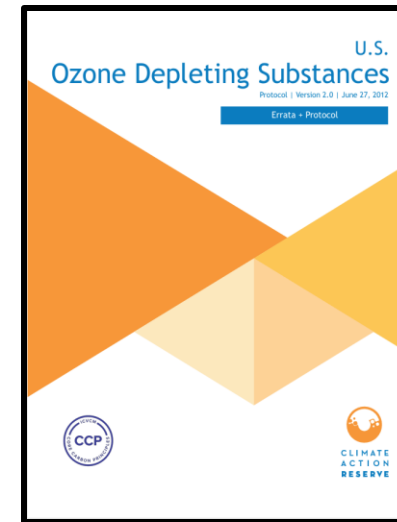
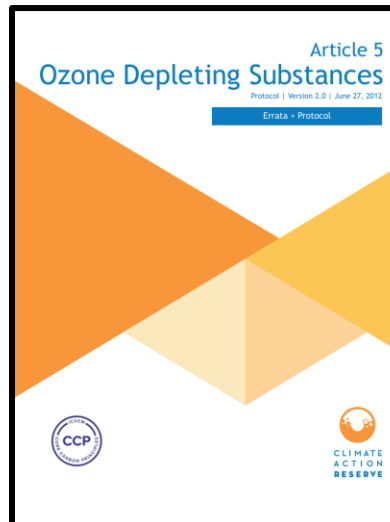
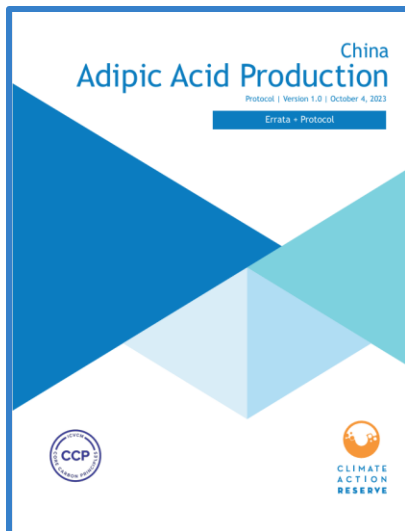
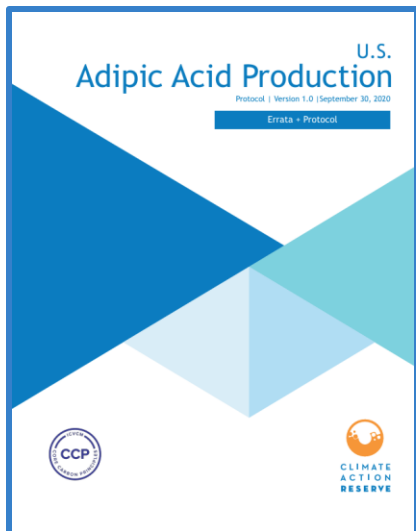
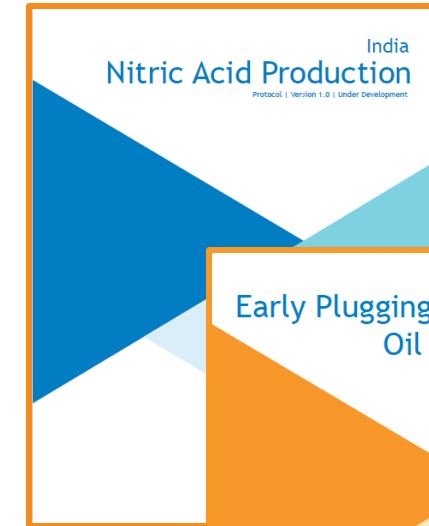
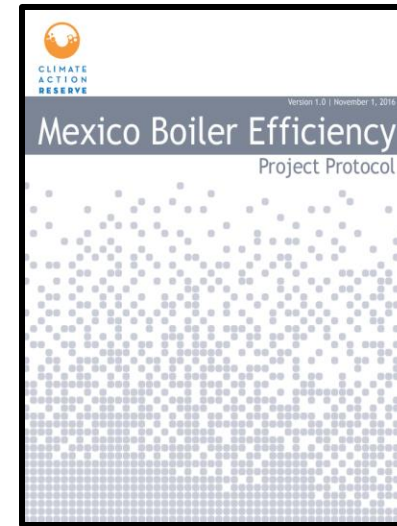
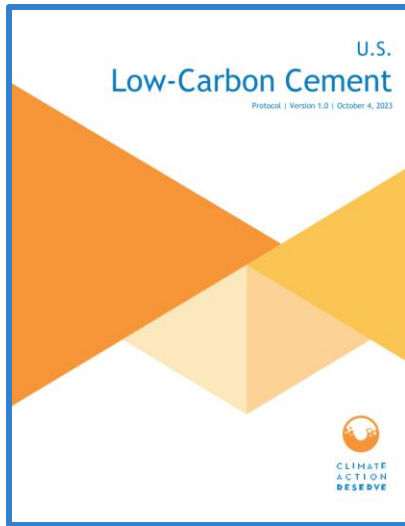
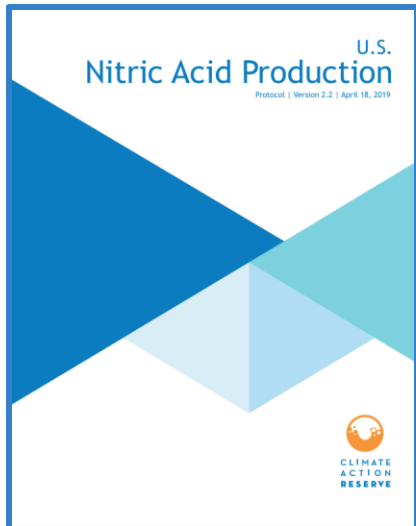
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Climate Action Reserve Impact



- ✓ 30 protocols across 8 countries
- ✓ 3 new protocols in 2 new countries
- ✓ 1,157 projects
- ✓ Over 141M CRTs issued
- ✓ Over 104M compliance credits issued

Expertise in Industrial Processes



Key:

Protocols with active projects

Protocols with no active projects

Protocols under development



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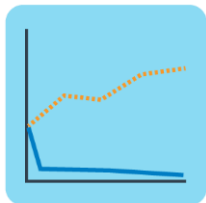
DEVELOPMENT PROCESS & TIMELINE

GHG Accounting Standardization

Two elements:



- Determination of project eligibility and additionality using standardized criteria rather than project-specific assessments.



- Quantification of GHG reductions/removals through a baseline established under certain assumptions, emission factors and monitoring methods.

Objectives:



- Minimize personal judgment in project assessment.



- Reduce transaction costs for the project developer, minimize uncertainties for investors, and increase the transparency of the project when it is approved and verified.



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Principles of the Reserve Program

All registered projects and credits issued by the Reserve must be:



ADDITIONAL

- Beyond common practices
- Beyond regulatory requirements



VERIFIED

- Standardized eligibility criteria and quantification methodologies
- Independent third-party review



REAL

- Conservative emissions accounting
- Prescriptive models and equations
- Uncertainty reduction



PERMANENT

- Monitoring and reporting processes
- Any leakage or loss is quantified and compensated



ENFORCEABLE

- Processes to ensure program compliance
- Accountability mechanisms

Modular Protocol Development



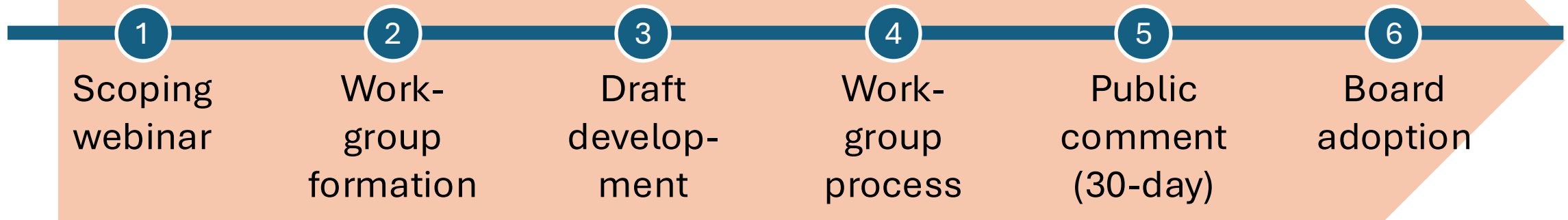
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- The protocol will be developed as a modular protocol, comprised of:
 - Base protocol with common guidance across all jurisdictions for the project type; and
 - Jurisdictional standard with U.S. specific requirements.
- Approach maintains jurisdictional approach, while also:
 - ✓ Streamlining development process
 - ✓ Increasing scalability to new jurisdictions
 - ✓ Expanding impact

Protocol Development Timeline



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Estimated 3-6 months

Local Stakeholder Engagement

- Local Stakeholder Engagement form helps the Reserve identify & communicate with interested stakeholders throughout the protocol development process.
- Stakeholders can **observe** the development process and **receive notifications**
 - ✓ Workgroup meetings are scheduled
 - ✓ Meeting notes, slides, and recordings are published online
 - ✓ Drafts become available (e.g., workgroup, public comment, board, final)
 - ✓ Protocol is open for public comment
 - ✓ Public comment webinar is scheduled
 - ✓ Board approval
- Interested stakeholders submit the **Local Stakeholder Engagement Form** at any time
 - Form is available on webpage

Join the Technical Workgroup

- Interested and experienced stakeholders are identified to establish a **technical workgroup** to advise protocol development and produce rigorous, well-vetted, and credible protocols.
- The Reserve strives to construct a workgroup with a **balanced representation** from industry, project developers, environmental NGOs, verification bodies, independent consultants, academia, and government bodies.
- Each organization may only have **one representative**, but may designate an alternate
- Interested stakeholders invited to submit **Statement of Interest Form (5:00 PM PST December 1st)**
 - Available on webpage

Workgroup Process and Expectations for Workgroup Members

Process

- Reserve staff identify and solicit feedback on specific protocol criteria
- Reserve staff schedule and hold meetings (generally 2-3)
- Reserve staff produce draft protocol for review
- Workgroup provides expert technical review and shares feedback
- Reserve staff revise protocol based on feedback

Expectations

- Familiarity with the feedstocks, technologies, and/or end uses for which the protocol is being developed, and/or solid understanding of project-based GHG accounting
- Review, comment on and provide recommendations on specific protocol criteria
- Participate in meetings via webinar
- Provide written comments on draft protocol



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KEY CONSIDERATIONS FOR PROTOCOL DEVELOPMENT



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Background: Aging oil and gas wells emit an increasing amount of methane

- Marginal wells produce less than or equal to 15 barrels of oil equivalent per day and/or 90,000 cubic feet of natural gas per day over a 12-month period (Department of Energy, 2023).
- 700,000 marginally productive wells in the U.S. provide less than 6% of production but over 50% of oilfield methane emissions.
- Early plugging of marginal wells can reduce GHG emissions and keep hydrocarbons underground.



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ELIGIBILITY REQUIREMENTS

Project Definition



- **Avoidance of production-associated GHG emissions** from marginal oil and gas wells by decommissioning and plugging these wells early and keeping hydrocarbons underground.
- **Baseline Scenario** assumes the marginal well would have continued to operate until they reach their economic limit, resulting in GHG emission from ongoing hydrocarbon extraction and related activities.
- **Considerations:**
 - Marginal Production – meet definitions of production volumes
 - Economically Recoverable Reverses – Certified by professional firm
 - Technical Permanence Review – Plugging assessment & certainty

Project Ownership



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- **“Project developer”** is the entity with an active account with the Reserve and is responsible for project reporting and verification.
 - Generally: May be facility owners, entities that specialize in project development, abatement technology suppliers, or other entities.
- Must demonstrate clear ownership of the GHG reductions.
- Ownership must be established by clear and explicit title and sign the Reserve’s Attestation of Title form.
- **Considerations:**
 - Project Developer – project developer cannot be an oil & gas well operator?
 - Entity vs. Privately Owned – can privately owned operators be project developer?
 - Independence – should Project Developers/Owners review Conflict of Interest?

Eligibility Rules

Eligibility Rule I: **Location**

- U.S. and its tribal lands and territories

Eligibility Rule II: **Project Start Date**

- No more than 12 months prior to project submission

Eligibility Rule III: **Project Crediting Period**

- Defined as 10 years. May be renewed one time for a project lifespan of 20 years

Eligibility Rule IV: **Additionality**

- Not legally required & must yield a surplus of GHG reductions absent of the carbon market

Eligibility Rule V: **Regulatory Compliance**

- Compliance with all applicable laws



Additionality Requirements

- Must be **additional** – yield a surplus of GHG reductions that are additional to what would have occurred without carbon credits
- **Must satisfy the following tests:**
 - **Performance Standard Test:** Practice-based Threshold: “common practice” for early plugging of marginal oil & gas wells at national and state level
 - **Legal Requirement Test:** Not required by federal, state, or local law, regulations, or legally binding mandate
- **Considerations:**
 - Lock-In Risk Test – Does not extend the operational life or increase emissions
 - Financial Viability Test – Ongoing revenue vs. carbon credits vs. capital costs
 - Credit Stacking – Disclosure of additional payments (oil & gas well specific?)

Regulatory Compliance

- Project developers must attest that project activities do not cause material violations of applicable laws (e.g., air, water quality, safety, etc.).
- Must sign an Attestation of Regulatory Compliance at each verification.
- Must disclose, in writing, all instances of legal violations caused by project activities.
- If the verifier and the Reserve determine that project activities have caused a material violation, then CRTs will not be issued for GHG reductions that occurred during the period(s) when the violation occurred.
- Administrative violations and “acts of nature” do not impact crediting.
 - Re-occurring administrative violations related to project activities may affect crediting.



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Social & Environmental Safeguards

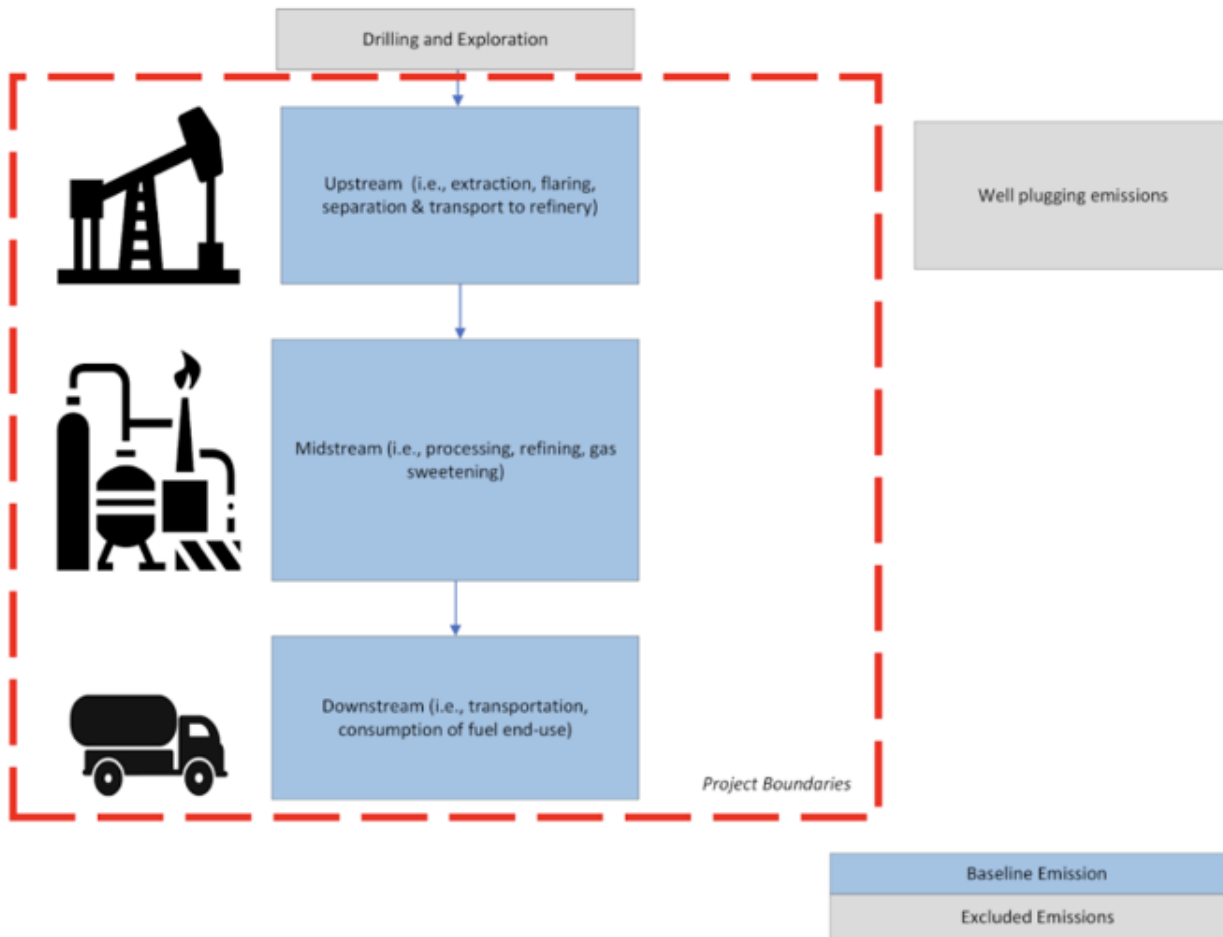
- **The social safeguards requirements include:**
 - Compliance with labor and safety regulations;
 - Public comment and dispute resolution process for new projects;
- **The environmental safeguards requirements include:**
 - Compliance with air and water quality regulations; and
 - Designed & implemented to mitigate potential releases of pollutants
- **Considerations:**
 - Environmental Remediation – specifics under “mitigate pollutants”?



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GHG ASSESSMENT BOUNDARY & QUANTIFICATION

Proposed GHG Assessment Boundary



- Applicable GHGs:
 - CO₂, CH₄, N₂O
- Included Sources, Sinks, Reservoirs (SSRs):
 1. Hydrocarbons Geological Reservoir (B)
 2. Extraction (B)
 3. Flaring & Venting (B)
 4. Processing & Refining (B)
 5. Transportation (B)
 6. End-User Fuel Consumption (B)
 7. Fugitive CH₄ and CO₂ emissions (B)
 8. Well Plugging (P)

Quantification

- Credits are issued on an ex-post basis

$$ER = BE_t - PE$$

- **Baseline Emissions** (BE_t) are based on:
 - Adjusted Economic Reserves
 - Oil Climate Index Field Co-Efficient (upstream, mainstream, downstream)
 - Permanence discount (potentially either 0, 5%, or 20%)
- **Project Emissions** (PE) could be:
 - Set to zero, a conservative average for plugging or actual site emissions?
- **Considerations:**
 - Leakage Adjustment (L_t)
 - Uncertainty Adjustment (U_t)

Crediting Approach

- The calculation for baseline emissions proposes that the Adjusted Economic Reserve is for year (t)
- **Considerations:**
 - **Project Activity vs Risks**
 - Example: Ozone Depleting Substance / Early Plugging of Oil & Gas Wells
 - Destruction vs. Plugging (non-permanence and permanence risks)
 - **Crediting Issuance Timing**
 - Option 1: All credits at start of project (economics > risks)
 - Option 2: Annual crediting (economics < risks)
 - Option 3: Holding and/or converting credits
 - Note: Discounts for Risks & Ongoing Monitoring



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MONITORING REQUIREMENTS, REPORTING PERIOD & VERIFICATION CYCLES



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Project Monitoring

- Projects must develop and adhere to a **Monitoring Plan** to ensure the project is meeting protocol requirements.
- **Projects must monitor and document:**
 - Plugging practices undertaken
 - Plug effectiveness
 - Long-term integrity of plugging
- **Considerations:**
 - Supporting evidence (photos, logs, etc.)
 - Certifications or standards
 - Testing Techniques & Equipment
 - Data collection

Reporting Periods & Verification Cycle



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- **Reporting period:** length of time that GHG emission reductions from project activities are quantified.
 - Maximum 12 months but may be sub-annual.
 - Each reporting period must be verified by a third-party verification service.
 - Must be continuous.
- **Verification cycle:** length of time over which GHG emission reductions from project activities are verified.
 - After the initial reporting period, two reporting periods may be verified at once.
- Site visits are required during initial reporting period.
 - Consideration: Ongoing monitoring and site visit timelines.
- Verification documents are required to be submitted to the Reserve no more than 12 months after the end of the reporting period.
- Must be verified and undergo Reserve review in order to receive credits.

Questions or Comments



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Next Steps



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Protocol Development Process & Timeline

Milestone	Date
Public Scoping Webinar	November 25, 2025
Statements of Interest Form (Workgroup)	December 1, 2025 (5:00PM PST)
Formation of workgroup	December 8, 2025
First workgroup meeting	December 2025/January 2026
Public comment period	TBC – February 2026
Protocol presented to Reserve Board for approval	TBC – April 2026

Next Steps



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- ***For interested stakeholders:***

- Submit Stakeholder Engagement Form (ongoing)
- **Submit a Statement of Interest** to become a workgroup member **(5:00PM PST December 1, 2025)**
- Both forms are available on the protocol development webpage



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- ***For Reserve:***

- Establish workgroup
- First Workgroup meeting early December (via webinar)

Contact Information

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THANK YOU!