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Mine Methane Protocol & United States Module Version 1.0

August 13, 2026

Introduction

Reserve Staff

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Housekeeping



- 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



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AGENDA ►

- Introduction to the Climate Action Reserve
- Overview of the new modular approach
- Background
- Overview of the Mine Methane Protocol and Jurisdiction
Module: United States
 - Eligibility of Abandoned Mines
 - Summary of Other Revisions
- Next steps



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INTRODUCTION TO THE CLIMATE ACTION RESERVE

CLIMATE ACTION RESERVE

HIGH-INTEGRITY CREDITS FOR GLOBAL CARBON MARKETS

CORSIA



Phase I approval for
all methodologies -
3.1M eligible credits.



8
PROTOCOLS
CCP-APPROVED

38m
CREDITS
CCP-ELIGIBLE



Represents 31% of
all CCP labeled
credits in the carbon
market.

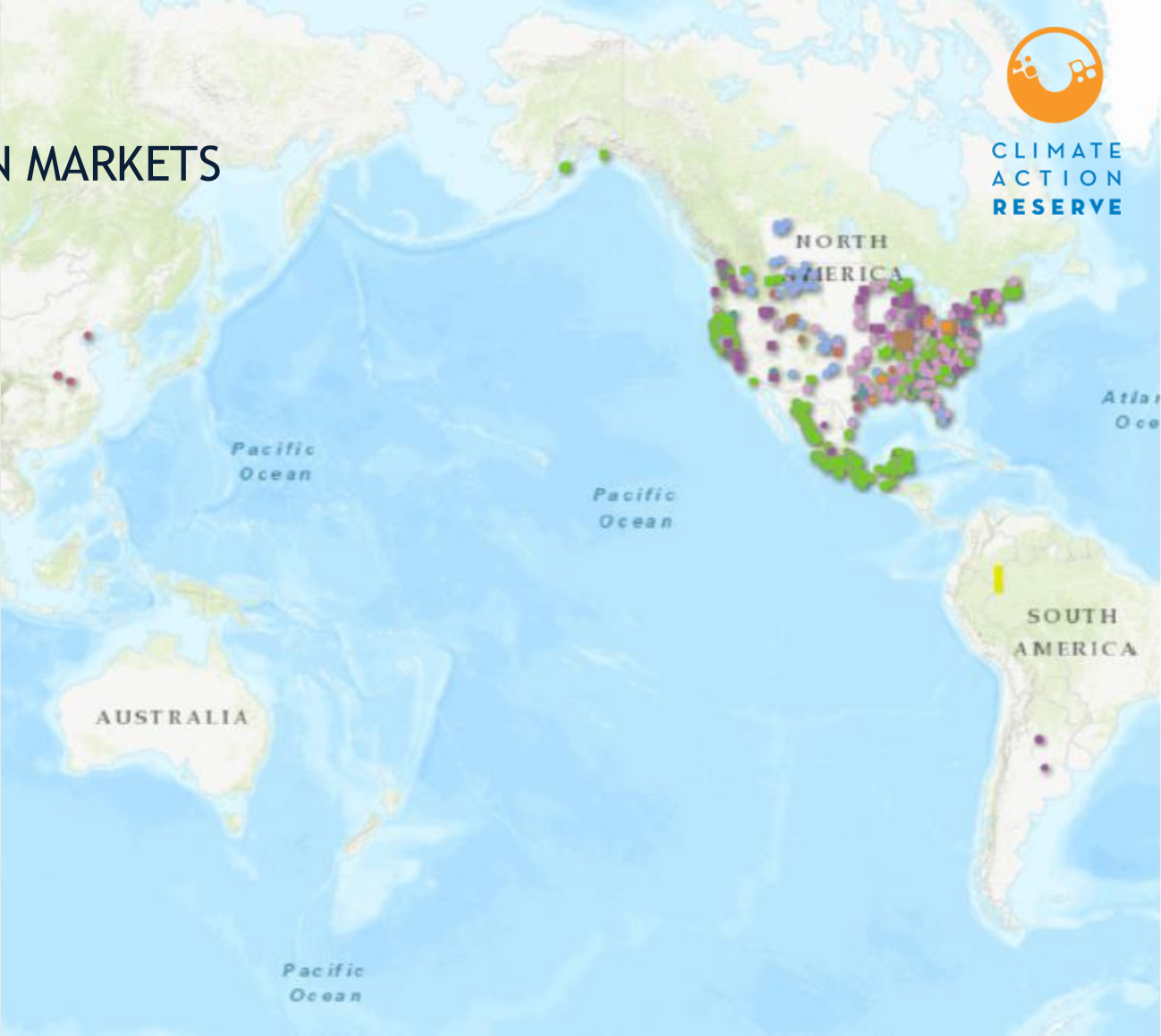


■ Adopted Protocols
■ Protocols in Development

31
PROTOCOLS

260+M
CREDITS

1.19k
PROJECTS



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The Climate Action Reserve

EXPERIENCE, INTEGRITY, INNOVATION



Depth of Knowledge & Experience

- Roots in California's compliance program
- 25+ years in compliance and voluntary markets

48 days

World-leading project registration time

Average time from submittal to registration/issuance — a shorter, reliable turnaround for developers to monetize credits.



Pioneering Multi-Stakeholder Support

- Broad engagement with diverse stakeholder groups throughout protocol development and beyond



Trusted by Compliance Programs World-Wide

- US Cap-and-Invest: California & Washington
- Colorado Recovered Methane Rule
- Mexican state carbon taxes: Querétaro, Colima, Tamaulipas

- Chile Carbon Tax
- Singapore Carbon Tax (programmatic approval)
- CORSIA Phase I
- MOUs with governments worldwide



Standardized Protocols for Local Contexts

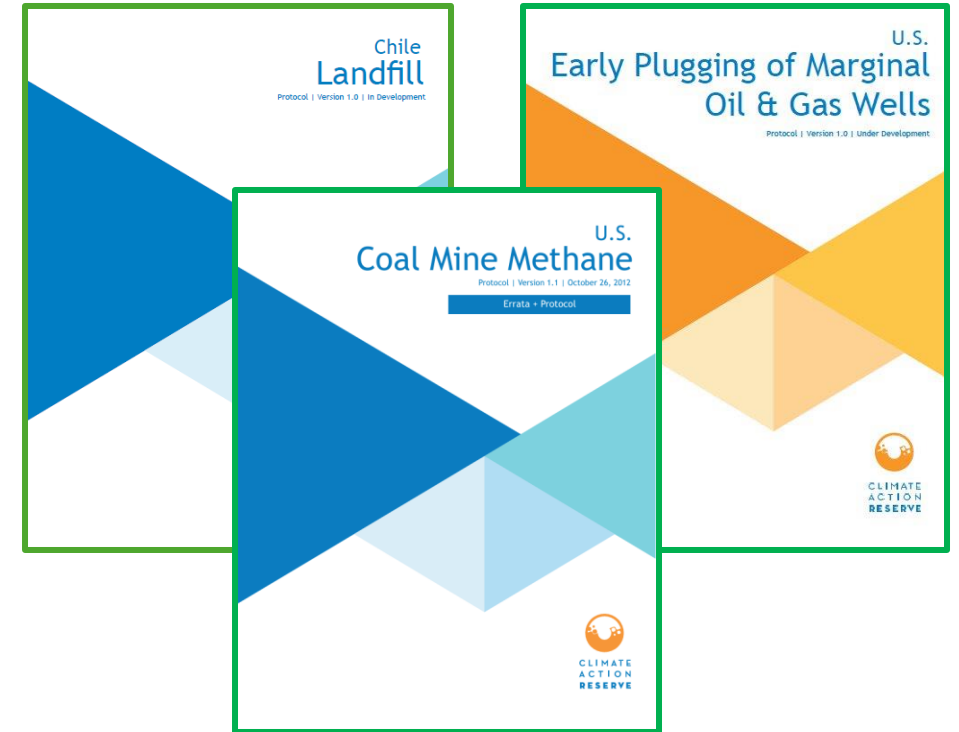
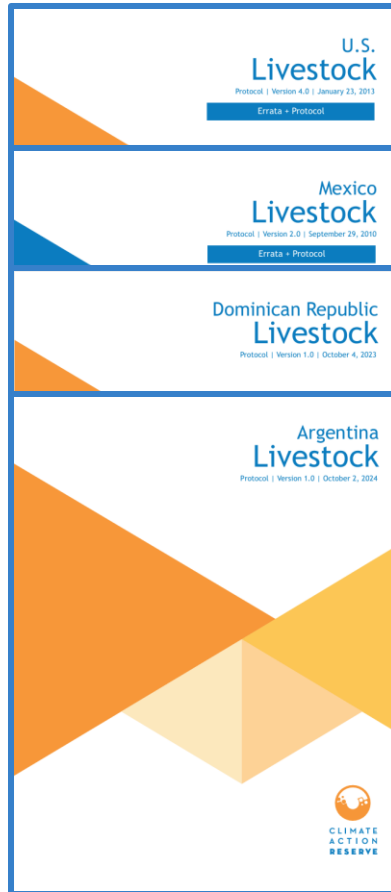
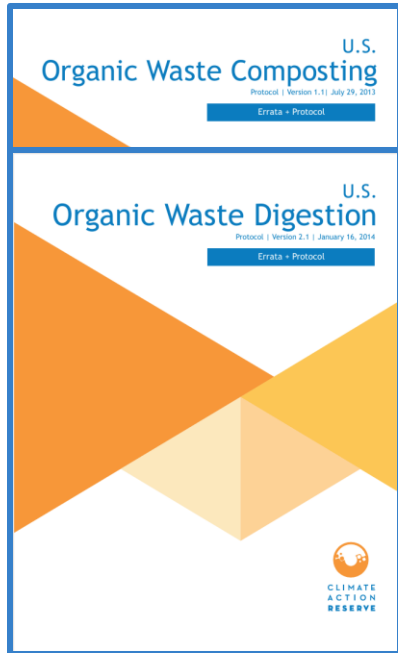
- Reduces project-specific subjective assessments; greater upfront certainty & downstream efficiencies
- Jurisdictional alignment with national climate priorities & legal frameworks reduces policy risk



High-Quality Credits You Can Trust

- Conservative accounting methodologies & baseline assumptions protect market confidence
- Robust verification body oversight
- Transparent registry and programmatic processes

Expertise in Methane



Key:
Existing Protocols
Protocols under development

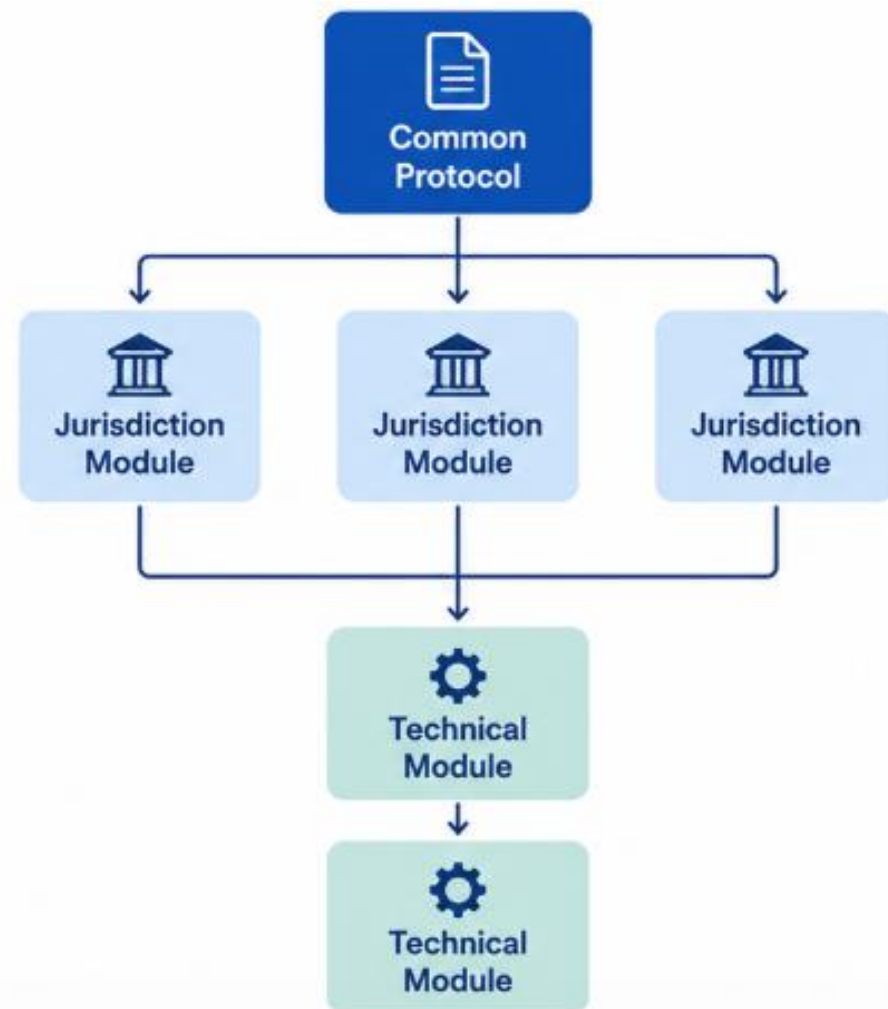


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OVERVIEW OF THE NEW MODULAR APPROACH

Scaling Impact: Modular Approach to Protocol Development

- The Modular Protocol Structure includes 3 components:
 1. Common Protocol
 2. Jurisdiction Module
 3. Technical Guidance Module
- Primarily a restructure, reformatting of information, not a change in requirements



Scaling Impact: Modular Approach to Protocol Development

How the Modular Approach Works



Consistent Core Requirements

Core quantification and eligibility criteria remain uniform across all jurisdictions to ensure integrity.



Adoption Within Months

Modularization enables the launch of protocols in new jurisdictions in just a few months.



Targeted Local Customization

Assessments focus exclusively on key local considerations rather than reinventing the entire protocol.

Strategic Value for Stakeholders



Reduced Operational Costs

Lower transaction costs for developers operating across multiple countries in the region.



Faster Market Readiness

Accelerates the availability of high-integrity credits for governments and regional buyers.



Scalable Regional Growth

Enables rapid expansion into emerging jurisdictions without compromising environmental integrity.



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BACKGROUND

Mine Methane Emissions

- Coal mining and post-mining processes release methane (CH_4) from coal and surrounding rock to the atmosphere
 - Global warming potential 28 times that of CO_2 (AR5)
- Degasification systems are used at underground mines for worker safety
 1. Ventilation systems: dilute methane and remove methane from the mine
 2. Methane drainage: boreholes used to drain methane from the coal seam, surrounding strata, and underground workings.

Mine Methane Emissions

- According to the EPA Greenhouse Gas Reporting Program and Coalbed Methane Outreach Program, underground coal mines reported over 29 million tonnes of CO₂e in 2021.
 - 60% - ventilation air methane
 - 12.5% - abandoned underground mines
 - 4% - drained gas
- Abandoned coal mines emit methane through conduits that are inadequately sealed
 - 9.1 million tCO₂e emitted in 2022 (US Inventory of Greenhouse Gas Emissions and Sinks)

Abandoned Underground Mines

- As of 2015, there are 514 abandoned gassy mines in the US, but only 34 destroy AMM
 - Either by pipeline injection (59%) or flaring (32%) (CMOP, 2022)
 - All projects were issued credits under the California Air Resources Board Mine Methane Capture Protocol
- **Activity is not common practice beyond the incentive of the carbon market**



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OVERVIEW OF MINE METHANE PROTOCOL AND JURISDICTION MODULE: UNITED STATES

Project Definition

- Installation and operation of a destruction device(s) that result in the destruction of methane that otherwise would have been vented from:
 - ✓ Active underground coal mines
 - ✓ Active underground trona mines
 - ✓ Abandoned underground coal mine (new)
 - ✓ *Abandoned underground trona mine – not applicable in the US*

Project Definition

Eligible project activities include:

1. Drainage Projects – destruction of methane vented from methane drainage systems
 - ✓ Surface boreholes to capture pre-mining mine methane
 - ✓ In-mine underground horizontal boreholes to capture pre-mining mine methane
 - ✓ Surface gob wells, underground boreholes, gas drainage galleries, etc. that capture post-mining mine methane.
2. Ventilation Air Methane Projects – destruction of methane vented from ventilation shaft(s)



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ELIGIBILITY OF ABANDONED UNDERGROUND COAL MINES

Abandoned Underground Mines

- Eligible mines were expanded to include abandoned underground mines
 - **United States:** Only abandoned underground coal mines are eligible
 - Classified as abandoned or abandoned and sealed by the Mine Safety and Health Administration (MSHA)
- Abandoned underground mines cannot:
 - Account for virgin coal bed methane
 - Use CO₂, steam, or other fluid/gas to enhance mine methane drainage
 - Occur at flooded mines or in flooded sections of the mine
- **United States:** Pipeline injection of recovered methane is not eligible, deemed to be common practice while mine is active (see Appendix A of Module)



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SUMMARY OF OTHER REVISIONS

Summary of Minor Revisions: Protocol

Protocol Section	Summary of Revision(s)
Section 2 The GHG Reduction Project	• Inclusion of abandoned mines (except for flooded) • Project developer definition simplified
Section 3 Eligibility Rules	• Minor changes to reflect new programmatic language/definitions • Inclusion of social and environmental safeguards
Section 4 GHG Assessment Boundary	• Minor change to include abandoned mines • Pipeline injection included in SSRs
Section 5 Quantifying GHG Emission Reductions	• Updated Equation 5.10 in response to previous E&C
Section 6 Project Monitoring	• Inclusion of monitoring for abandoned mines • Cleaning and inspections performed quarterly
Section 7 Reporting Parameters	• Updated list of programmatic documents • Clarified reporting period and verification cycle definitions • Allowance of site visits every 24 months of data
General	• Revisions to reflect new modular approach • Formatting and simplifying language

Summary of Minor Revisions: United States

Protocol Section	Summary of Revision(s)
Section 3 Eligibility Rules	No changes
Section 4 GHG Assessment Boundary	No changes
Section 5 Quantifying GHG Emission Reductions	No changes
Section 6 Project Monitoring	No changes
Section 7 Reporting Parameters	No changes
General	• Revisions to reflect new modular approach • Updated the performance standard test analysis



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NEXT STEPS

Public Comment Period

- Stakeholders may submit comments on the Mine Methane Protocol and United States Module
 - Mine Methane Protocol – applicable to all jurisdictions
 - United States Module – requirements specific to projects in the U.S. and its territories
- **Official comments must be submitted in writing to policy@climateactionreserve.org**
- Comments due by 5:00 pm PDT on **August 21, 2026**
- If you would like to ask a clarifying question:
 - Please send a message to us via the Q/A function
 - The message will only be sent to the Reserve as hosts (not all attendees)
 - We will read out the message with names/organizations for context
 - We will respond to as many comments/questions as possible

Contact Information

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THANK YOU!