A new market option to accelerate climate action

January, 2019
Climate Action Reserve: a nonprofit dedicated to market based solutions to climate change

GHG Accounting Experts

• Pioneered standardized GHG accounting, leading to robust, reliable, and transparent compliance and voluntary carbon markets
• 78% of North American offset credits used by companies and individual in 2017 in the voluntary market* are issued by the Reserve
• Design innovative GHG accounting frameworks that are user-friendly, and financially feasible

Beyond Carbon Offsets

• **Climate Forward**
  • Climate Impact Score
  • GHG policy consulting
    o Mexico
    o Ontario
    o Quebec
    o World Bank, USDA, USAID
    o California agencies, and more

*Ecosystem Marketplace 2018 data
The world is running out of time to address climate change.

We need more strategies and investment in climate mitigation.

All future projects that increase GHG emissions should be carbon neutral.

Source: NASA
Accelerating climate mitigation solutions: Climate Forward

Enables companies to invest now in emissions reduction projects with high environmental integrity to mitigate future emissions
  • Credits recognized today to address future impacts

Expands the scope and scale of feasible climate action across the economy
  • Enormous potential for diverse, creative climate solutions

Issues Forecasted Mitigation Units (FMU) to projects that follow Reserve-approved methodologies
  • 1 FMU = one metric ton of anticipated CO$_2$e reduction, to counter anticipated GHG emissions

Tracks FMUs and project activities in a publicly accessible database
  • A registry of forward-looking GHG reductions to balance against forward-looking GHG impacts
### Climate Forward audience

#### Companies and organizations mitigating future emissions
- Any new investment creating GHGs
- Not appropriate for addressing current emissions in a compliance program
  - e.g., cap-and-trade
- Not appropriate for any company or organization mitigating historical emissions
  - Cannot mitigate past emissions with future actions

#### Examples of future mitigation needs
- New manufacturing facility
- New data center
- New retail complex
- New residential/commercial developments
- New transportation projects
Program components

Methodology & Project Development

1) Methodologies are developed by interested parties, then reviewed and approved by the Reserve

2) Projects are then implemented according to an approved methodology

Methodologies accepted into the program must:

- Reflect rigorous and conservative ex-ante quantification approach for estimated GHG reductions
- Include built-in Project Resilience Measures to provide reasonable assurance that future performance of the mitigation project will meet expectations
- Methodologies must have broad geographic applicability

Public Registry

- FMUs are issued upon confirmation of project activities, based on conservative quantification
- Crediting incentives provided to encourage ongoing monitoring and verification
- Tracks transaction of credits in a publicly accessible system
- Transparent project administration
- Project listing, registration, monitoring, and confirmation review
- Conflict of interest assessment, audits, agreement execution
Ensuring environmental integrity at the program, methodology, and project levels

• Program as a whole will generate more reductions than is credited for
  o Lower bound of future credits issued on an ex-ante basis
  o Ex-ante Risk Pool Contribution

• Methodology screening process ensures only project types suitable for ex-ante crediting are accepted into the program
  o Project types requiring extensive ongoing management decisions and financing to ensure long-term success are NOT appropriate for this program
  o Project Resilience Measures are required in each methodology to mitigate project risks upfront

• Project quantification approach accounts for risk of reductions not being achieved as forecasted
  o Account for Performance/Efficiency Decline
  o Account for Probabilities of Non-achievement (Sequestration)
  o Account for Abandonment Rates
Climate Forward vs Existing Carbon Crediting Mechanisms

• Climate Forward is a voluntary, complementary measure to existing efforts to curb climate change, including compliance programs such as California’s Cap-and-Trade program.

• The Reserve encourages all parties to invest in carbon reduction projects and activities, including in Climate Forward projects, carbon offset projects, LCFS credits, and other voluntary credits/programs as appropriate.

• Climate Forward unlocks new emissions reduction opportunities by:
  o Enabling companies to customize and implement projects that meet local needs.
  o Providing a pathway to ensure new economic activities are not increasing emissions baselines.
  o Generating supply of carbon credits from projects, sectors and regions not accessible through existing programs.
Participating in Climate Forward

- **Project Proponent:** organizations that implement and finance new Climate Forward projects through capital investment
  - Can choose to retire FMUs against their own future stream of emissions (i.e.: from a new retail complex)
  - Or, choose to sell FMUs to other end users

- **Methodology Developer:** organizations that develop methodologies and submit them to the Reserve for program approval
  - Project Proponents can implement projects based on existing methodologies
  - Or, choose to develop new methodologies to implement new project ideas

- **FMU User:** organizations that purchase and retire FMUs issued to existing Climate Forward projects

A single organization may play all three roles or only one, depending on interest and expertise, or work with other firms to meet Climate Forward objectives.
Participating in Climate Forward: in the CEQA context

- **Lead Agencies** should encourage all new developments to consider pathways to carbon neutrality.

- **Climate Forward** can provide transparency and standardization for net zero developments as a registry of **forward-looking credits to mitigate the forward-looking GHG impacts** determined through the CEQA process.

- **Companies** should work with Lead Agencies to determine appropriate GHG mitigation measures. If using Climate Forward to meet mitigation objectives…
  1) Determine whether there are existing methodologies for projects that meet their needs, or develop methodologies for new project types to achieve local/community objectives
  2) Implement Climate Forward project(s) and undergo confirmation to receive FMUs
  3) Retire FMUs in the public registry
Climate Forward in action

Companies can begin here if there are no methodologies for their project idea

Organization submits methodology to the Reserve

OR companies can begin here if there is an approved methodology for their project type

Reserve reviews and approves methodology

Organization implements project

Third party confirms project

Reserve issues FMUs

OR companies can begin here and purchase FMUs from existing projects, if available

FMU credit retirement
Methodology approval, project confirmation and crediting
**What is a conservative methodology?**

Methodologies are developed by interested parties, then reviewed and approved by the Reserve: expert review → public comment → Reserve approval

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<th>Real</th>
<th>Additional</th>
<th>Permanent</th>
<th>Confirmable</th>
<th>Enforceable</th>
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<tr>
<td>• GHG accounting is conservative, comprehensive and scientifically credible</td>
<td>• GHG reductions would not have occurred in the absence of the FMU market incentive</td>
<td>• GHG reductions or removals persist for at least 100 years, accounting for any reversals</td>
<td>• <em>Ex-ante</em> third-party confirmation of project implementation prior to credit issuance</td>
<td>• No other parties may reasonably claim ownership of GHG reductions resulting from project</td>
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**Permanence:** sequestration projects must incorporate appropriate discounts to account for the risk that a given GHG reduction will not remain out of the atmosphere for the 100-year permanence period
Methodology approval: an iterative process

- **PP develops methodology, submits to Reserve**
- Reserve assesses methodology for adherence to program principles
- Reserve consults with technical experts, if needed
- Reserve provides finding to PP
- Reserve posts methodology for public comment
- Reserve either approves or rejects methodology

PP = Project Proponent
Project confirmation

• Confirmation Bodies requirements
  o Third Party Accreditation through IAF member body + additional Reserve requirements
  o Conflict of Interest assessment

• Confirmation Body activities
  o Desktop documentation review and a site visit assessment
  o Ensure implementation of Project Resilience Measures
  o Ensure project is operating as intended

• Confirmation takes place after the project is installed; depending on project type, confirmation activities cannot begin until an appropriate period of time after project implementation and operation to guard against project failure

• Credit issuance contingent upon successful confirmation
Three stages for projects to receive credits

Stage 1: Upon confirmation of project implementation
  - Initial issuance of FMUs following confirmation of activities

Stage 2 (optional): At the end of the initial crediting period
  - To claim reductions not issued in the first stage, assuming sufficient ex-post monitoring and verification

Stage 3 (optional): After the end of the initial crediting period
  - Assuming project proponent can demonstrate additional useful life
  - Following successful ex-post monitoring and verification
Voluntary monitoring incentive program

In addition to ex-ante FMU issuance upon successful project implementation and confirmation, projects may pursue additional FMU issuance if they:

- Monitor and report project activity and data at a frequency identified in applicable methodology
- Complete ex-post verification at the end of the project crediting period

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**Stage One**

- Implement project activity
- Confirmation of activity, issuance of FMUs

**Stage Two**

- Initial crediting period
- OPTIONAL monitoring data submission
- OPTIONAL ex-post verification of monitoring and reporting data; additional FMU issuance

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Time
**Voluntary transition to ex-post credit issuance**

- After completion of ex-ante crediting period, **projects may opt to receive ex-post credits** upon project renewal and ongoing monitoring, reporting, and verification.

- Projects that opt-in to the voluntary incentive program are eligible for this option.

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<th>Stage One</th>
<th>Stage Two</th>
<th>Stage Three</th>
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<td>Implement project activity</td>
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<tr>
<td>Confirmation of activity, issuance of FMUs</td>
<td>Initial crediting period</td>
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<td>Optional monitoring data submission</td>
<td>Ex-post verification of monitoring and reporting data; additional FMU issuance</td>
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<td>Ex-post crediting period</td>
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<td>Periodic monitoring and reporting + ex-post verification by Confirmation Body = issuance of FMUs</td>
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*Time*
How to take Climate Forward action

1) **VIEW** program documents available online at http://www.climateactionreserve.org/climate-forward/

2) **DEVELOP & SUBMIT** innovative methodologies across multiple sectors

3) **INVEST** in projects now. Contact the Reserve to explore and be connected with project opportunities

4) **SIGN UP** for our monthly newsletter to stay up to date on program news by contacting Cindy Chiang at cchiang@climateactionreserve.org
Thank you! Questions?

Contact us any time at:
info@climateforward.org