The Post-Paris MRV Landscape
Where can CMS play?

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Overview

• MRV of new “Nationally Determined Contributions”
• MRV Landscape Pre/Post-Paris
  • International
  • National
• Opportunities for CMS products
Wide range of countries with INDCs to date
Primarily economy-wide GHG reduction or CO₂ intensity targets

- 30% below 2005 in 2030
- 26-28% below 2005 in 2025
- 22% below BAU in 2030
- 32% below BAU in 2030
- 37% below 2005 in 2025
- 40% below 1990 in 2030
- 40% non-fossil electricity
- 25-30% below 1990 in 2030
- 37% below BAU in 2030
- 30% below 2005 in 2030
- 29-41% below BAU by 2030
- Peak 2020-2025, range of 400-615 MMT in 2030
- 64% % below BAU in 2030
- 26-28% below 2005 in 2030
- 26% below 2012 in 2030
- 37% below BAU in 2030
- 2030 Peaking
- 30% below 2005 in 2030
Many INDCs include mitigation “actions” for the forest sector
MRV needs will vary by country

- **Chile**: restoration of 100k ha of native forest (sequestration of ~600k tCO2e) and reforestation of 100k ha (capture of 900k-1.2m tCO2e) per year by 2030
- **China**: increase the forest stock volume by around 4.5 bn m³ above 2005 level.
- **Bhutan**: maintain minimum of 60% total land under forest cover with effort to maintain current levels (~70%)
- **Cambodia**: increase forest cover to 60% of national land area by 2030
- **Honduras**: afforestation/reforestation of 1m ha of forests by 2030.
- **India**: create additional carbon sink of 2.5-3 bn tCO2 through additional forest cover by 2030
- **Vietnam**: increase forest cover to 45%
International MRV regime post-Paris
No significant changes in form or methods from current system

**Purpose:**
- Track annual GHG emissions
- Demonstrate progress toward and achievement of NDC

**Measurement:**
- GHG inventories (anthropogenic, 6 gases, covering IPCC sector categories)
- Submitted 2 years after year of emissions

**Reporting:**
- All self-reported by national government
- GHG inventories and qualitative information on actions

**Verification:**
- Technical review by experts
- Peer review by other countries (Q&A, public discussion session at UN)

**Timeframe:**
- Every ~2 years for most countries (annual inventories for developed countries)
National MRV driven primarily by UNFCCC requirements
No significant changes in form or methods from current system

**Purpose:**
- Track GHG emissions
- Identify emission reduction opportunities and potential by sector/gas
- Inform establishment of INDC and policies to achieve it
- Track and demonstrate progress toward/achievement of NDC to domestic/international audiences
- Improve understanding of GHG measurement uncertainty and improved methods

**Measurement:**
- GHG inventories (bi/annual)
- Industry self-reporting

**Timeframe:**
- Annual/biennial GHG inventories
- Projections out to 2025/2030 and beyond (done every 2-5 years)
- Periodic updates to GHG inventory methods (varies by country)
Where CMS products can help inform/improve MRV

1. Independent, go-to source for sub/supranational data:

   • Provide estimates of global non/anthropogenic GHG emissions/removals for CO₂ and CH₄ by source (+ uncertainty) on annual basis

   • Independent estimates of land-cover changes (for MRV of NDCs), and/or provider of data to countries for self-reporting
Where CMS products can help inform/improve MRV

2. Validation:

• Provide independent measurements for specific sectors/gases in countries using inaccurate GHG inventory methods
  • Ex: Many countries oil & gas methane emission estimates are flawed
  • Ex: “Official data from China revealed country is burning up to 17% more coal annually than previously reported.”

• Aim: improve GHG inventories, help identify mitigation opportunities

• Scope: within national borders, by sector/gas, annual timescale (or able to extrapolate to annual)

• Audience: stakeholders looking to identify/optimize mitigation efforts (NGOs, UN agencies)
Where CMS products can help inform/improve MRV

3. Improve timeliness of GHG data:

• Provide more frequent/up-to-date estimates of GHG emissions
  • Ex: *many countries report only every 2-10 years, with a 2-4 year time lag*

• Aim: allow for independent assessment of recent (within 1 year) estimates of GHG emissions/removals

• Scope: within national borders, by sector/gas, annual timescale (or able to extrapolate to annual)

• Audience: could be used as backdrop for regular assessment of NDC progress, global emissions