Belize’s Journey to Result Based Payments

REDD+

Ministry of Sustainable Development, Climate Change & Disaster Risk Management

Edgar S. Correa,
CONTENT

01 Belize Context
02 Belize Forest Department Structure
03 Permanent Sample Plots
04 Collection of AD Process
04 National Forest Results
05 Forest Reference Emission Level Report / GHGs
06 Next Steps
- 8,867 mi² (22,151 km²)
- Natural Resource-Based Economy (agriculture and tourism)
- Population: 400,000 (2020 est)
- Growth rate: 2.3%
- 43% poverty
- English speaking

- 61.75% forest cover (2018)
- 36% terrestrial area protected
- Main driver of Forest Loss:
  - Agriculture Expansion
  - Infrastructure Expansion
  - Unsustainable and Illegal Logging
  - Hurricanes, Pests and Wildfires
  - Average of 9712 ha (0.07%) of deforestation rate between 2000-2018
Background

Under the **FNC/BUR Project**, Belize is in the process of submitting its **4th National Greenhouse Gas Inventory** to the UNFCCC.

- Annex within the BUR (2019)
- Chapter within FNC- **5th GHG Inventory** (2021)

**What is the Greenhouse Gas (GHG) Inventory and why do we care?**

- The GHG Inventory contains Belize’s official reported greenhouse gas emission estimates
- Key Policy Building tool for understanding the origin and magnitude of Belize’s emissions.
- Covers the six direct greenhouse gases under the Kyoto Protocol
  - Carbon dioxide (CO2)
  - Methane (CH4)
  - Nitrous oxide (N2O)
  - Hydrofluorocarbons (HFCs)
  - Perfluorocarbons (PFCs)
  - Sulphur hexafluoride (SF6)
What is a GHG Inventory? Cont.

- Estimates of all emissions and removals of greenhouse gases (GHG) from given sources or sinks from a defined region in a specific period of time.
- **Agriculture, Forestry (AFOLU), Energy, Industrial, Waste**

Here we are dealing with:

- – Greenhouse Gases
- – National Estimates
- – Annual Estimates
UNFCCC reporting requirements

• All countries are required to report National Communications every 4 yrs, including a GHG inventory Biennial Update Reports to be submitted every 2 yrs, including a GHG inventory.

• Those countries that voluntarily participate in REDD+ should present a RL consistent with their GHG inventory. REDD+ results should be consistent as well.

• Paris Agreement (specific rules under negotiation) require countries to report a GHG inventory and other information to understand progress of NDCs.
What is REDD+?

REDD+ is a framework created by the UNFCCC Conference of the Parties (COP) to guide mitigation activities in the forest sector that reduces emissions from deforestation and forest degradation and includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks.
**PHASES OF REDD+**

**PHASE 1**
**Readiness**
WARSAW FRAMEWORK
Development of national strategies, action plans and capacity building

**PHASE 2**
**Implementation**
Implementation of national strategies, action plans, deployment of NFMS, capacity building and results-based demonstration activities

**PHASE 3**
**Payments for results**
Results-based actions are fully measured, reported and verified

**REDD+ Enabling Environment**
Governance (including policy and legal framework, tenure), stakeholder engagement (including indigenous groups) and gender

Source: www.fao.org
REDD+

- It is the only emissions reduction program and standard included in the Paris Agreement.
- Creates financial value for the carbon stored in forests.
- Allows countries to obtain economic value for carbon reductions resulting from actions they take to reduce deforestation and preserve their forests.
- Offers incentives for developing countries to reduce emissions.
- It is the framework through which developed countries, the private sector, and consumers can engage rainforest countries with payments for actions to conserve and restore forest lands.
- This can take the form of direct payments from multi-lateral banks and inter-governmental organizations, such as Green Climate Fund, or can be in exchange for “carbon credits”.
- Now, businesses and individuals can also purchase carbon credits created from nationally issued, UNFCCC verified emissions reductions.
MRV
Measuring, Reporting, Verification
Baseline and Results

• MRV is important within the context of the UNFCCC and Paris Agreement
• MRV includes data collection, analysis, reporting and validation
• Provide data for our national reporting commitments
• Fundamental to entering carbon market and results-based payments under REDD+
• A baseline assessment/Forest Reference Level was carried covering 15 years: 2000 to 2015
• Data for 2016 to 2018 were assessed against the Reference Level to determine Results
REDD+ Belize

• (R-PP) was presented to the Participants Committee (PC) of the Forest Carbon Partnership Facility (FCPF) in July, 2013

• Subsequently, the World Bank signed a Country Participation Agreement with Belize in October 2014.

• Grant Agreement signed February 2017

• REDD+ Readiness Preparation Grant (P152415) to a total of US$3.8 million
Land representation
And why the mapathon is so important?

• Evolution in methods and data
• Sporadic wall-to-wall mapping to annual sampling (Collect Earth + ICE)
• Improves understanding of the trend & supports better projections
• Better projections reduce uncertainty & increases credibility (markets)
• All results in improved trust + transparency
Assessing Belize’s Results?

**National Forest Information System**
- Monitoring of Forest Product Yields
- Monitoring of Forest Increments
- Monitoring of Forest Change
- Monitoring Of Forest Disturbances

**Field Monitoring of Permanent Forest and Non-Forest Plots**
- National Forest Inventory – Emission Factor Estimate

**Collection of Activity Data and Quality Assurance**
- Collection of National Activity Data following IPCC Classes. Using high resolution imagery for visual interpretation classification in Collect Earth.
- Generation of wall-to-wall landcover/land use maps using opensource satellite imagery, as a Quality Assurance Activity for Activity Data


Collection of GHG Emissions Through the Permanent Sample Plots Network

Development of AFOLU Green House Gas Inventory Tool

Information used to Present Result Based payment 2016-2018
National Forest Monitoring System
Two Main Activities

Activity Data
• Land-use/Landcover Data

National Inventory
• Permanent Sample Plots
Long-term Forest Monitoring in Belize: Permanent Sample Plots
What are Permanent Sample Plots?

• PSPs are permanently demarcated areas of forest, typically of 1 ha each, which are periodically remeasured. They are maintained over years and provide estimates of changes in forest stocking and volume. This information is essential for the management of the forest.
The Permanent Sample Plot Program in Belize


- 30 permanent sample plots established under the Forest Planning and Management project
- Samples many vegetation types
- Comprehensive dataset of tree stand & forest structure.

Revival of network by Dr. Percival Cho

Presently

- Total number of plots has increased to a total of 60 permanent sample plots established within the country with the aid of funding from various projects.
Tree Census

Within the PSP standard measurements are made to allow comparison over time. Trees within a PSP are enumerated. The point of measurement for DBH of trees is marked to allow re-measurement at same point in the future.

Data collected for the Tree Census:

- Height
- Diameter at Breast Height (DBH)
- Crown Health (Position & Form)
- Liana Load
Collection of Activity Data or Land use/Landcover Information Process
PROCESS DIAGRAM ACTIVITY DATA

IMPLEMENTATION

1. PREPARATION

2. IMPLEMENTATION

3. VALIDATION
Tool that enables data collection through Google Earth. In conjunction w/t Bing Maps and Google Earth Engine.

- Support multi-phase National Forest Inventories
- Land Use, Land Use Change and Forestry (LULUCF) assessments
- Monitoring agricultural land and urban areas
- Validation of existing maps
- Collection of spatially explicit socio-economic data
- Quantifying deforestation, reforestation and desertification
Belize Grid Design (Collect Earth)

Grid Design Total to 21,991 plots (Developed in GEE)

Plot size is 0.5 ha
49 points within each plot
Each point represents 2%
## Lit Review/ Discussion

### Contents

Classification system for the forest and land cover map of Belize 2012/2014 based on Republic imagery.

1. **Forests**
   1.1. Broadleaf dominated semi-deciduous/semi-evergreen mature forest
   1.2. Broadleaf dominated semi-deciduous/semi-evergreen secondary forest
   1.3. Conifer pine dominated semi-deciduous/semi-evergreen mature forest
   1.4. Upland forest
   1.5. Tall mangrove
   1.6. Reforestation
   1.7. Mixed pine-crooked oak mature forest
   1.8. Pine dominated evergreen mature forest
   1.9. Pine dominated evergreen regeneration
   1.10. Swamp forest
   1.11. Soap forest
   1.12. Broadcast mature plantations

2. **Savannas**
   2.1. Reforestation shrubland vegetation
   2.2. Shrubland thicket
   2.3. Beach vegetation
   2.4. Fen
   2.5. Peatland

3. **Savannah**
   3.1. Savannah with scattered small trees
   3.2. Savannah with scattered shrubs
   3.3. Parietaria palm subshrub
   3.4. Bare savannah

4. **Moist Vegetation**
   4.1. Moat vegetation

5. **Wetlands**
   5.1. Wetland

### 1. Forests

1.1. **Broadleaf dominated semi-deciduous/semi-evergreen mature forest**
   includes all classes of mixed forests/broadleaf forest on all types of soil at all elevations. The important defining characteristic here is a closed canopy that is dominated by a mix of broadleaf trees species and may have intermittent pines. The canopy will appear even, smooth or slightly textured on aerial photography. On the ground, forests in this category must be at least 5 meters tall and dominated by large, broadleaf trees forming one main upper canopy. This class can be further separated by deciduous/evergreen forest classification by looking at whether the forest occurs predominantly in riparian areas (deciduous) versus lowland soils (evergreen).
Available Layers for Guidance
### IPCC Classes

<table>
<thead>
<tr>
<th>IPCC Class</th>
<th>Sub-Classes</th>
<th>Specific Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest</td>
<td>Mature Broad Leaf Forest</td>
<td>Riparian</td>
</tr>
<tr>
<td></td>
<td>Secondary Broad- Leaf</td>
<td>Swamp Forest</td>
</tr>
<tr>
<td></td>
<td>Pine Forest</td>
<td>Mature</td>
</tr>
<tr>
<td></td>
<td>Mangrove</td>
<td>Secondary</td>
</tr>
<tr>
<td></td>
<td>Plantations</td>
<td>Regenerating forest</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Riparian</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Swamp Forest</td>
</tr>
<tr>
<td>Grassland</td>
<td>Lowland Savannah</td>
<td>Savannah w/ scattered trees</td>
</tr>
<tr>
<td></td>
<td>Shrubland</td>
<td>Open-savannah</td>
</tr>
<tr>
<td></td>
<td>Pasture</td>
<td></td>
</tr>
<tr>
<td>Other lands</td>
<td>Bare Soil</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rocks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beaches</td>
<td></td>
</tr>
<tr>
<td>Cropland</td>
<td>Agriculture Intensive Farming</td>
<td></td>
</tr>
<tr>
<td>Wetland</td>
<td>Wetland</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inland water Bodies</td>
<td></td>
</tr>
<tr>
<td>Settlements</td>
<td>City</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Town</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Village</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Road</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mining</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aquaculture</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other Infrastructure</td>
<td></td>
</tr>
</tbody>
</table>
For Belize, the forest definition is a plot of land with an area of 0.5 hectares or more, with trees 5 meters or higher, and a canopy cover of 30% or higher. This definition also includes forest plantation. In addition, it includes an ecosystem that due to biotic conditions (terrain, soil type, rainfall, et cetera), the trees cannot grow higher than 5 meters.

Belize divided its ‘forest category’ into five subcategories/subdivisions. These are mature broad-leaf forest, secondary broad-leaf forest, pine forest, mangrove forest, forest plantation and regenerating forest (this is disturbed forest).
Land-use 2000-2018 classification Mapaton
Classification Process
QA/QC during the Mapathon
Plots with NO CONFIDENCE for LAO
- Plots where the LU change year was unknown
- Plots that were not observed
- Forest plots where the tree cover was undetermined
- Intensive agriculture plots where the LU is uncertain
- Mangrove plots that are located at the plots not finished
- Plots that are still not finished in the year
- Plots with more than 10% crop cover
- Plots with more than 30% tree cover
- Plots with more than 30% of roads
- Plots with more than 30% of Built-up
- Plots with multiple land uses that are not classified
- Plots with multiple land uses that are not yet classified
- Plots where there is no land cover
- Review plots inside protected areas
- Review plots with one change where the LU is uncertain
- Review plots that have changed from Pine to shrubs or Lowland Savannah
Importing of AD into Arc Map Platform
Land Use, Land Use Change and Forestry Greenhouse gas (GHG) and REDD+ Reference Level and REDD+ Results

**AD-Database (Land use and Land Use Change)**

This section refers to the Land Use and Land Use changes information, collected using a sampling approach at the national scale, for every year of the study. The representation and the definitions of land use categories follow the 2013/2016 IPCC guidelines.

**AD-PivotSum**

This section refers to a coding system created to aggregate plots with the same land use or land use change. It includes a Pivot Table counting the codes described in the MLU and LU change, and were created to simplify the analysis as it considerably reduced the number of plots for which IPCC equations were applied.
### Landuse/Landcover 2018

<table>
<thead>
<tr>
<th>Landuse/Landcover</th>
<th>Hectares</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cropland</td>
<td>207,936</td>
<td>9.30%</td>
</tr>
<tr>
<td>Fallow Land</td>
<td>15,482</td>
<td>0.70%</td>
</tr>
<tr>
<td>Intensive Agriculture</td>
<td>136,525</td>
<td>7.06%</td>
</tr>
<tr>
<td>Swidden Farming</td>
<td>55,487</td>
<td>2.61%</td>
</tr>
<tr>
<td>Forest</td>
<td>1,985,397</td>
<td>87.75%</td>
</tr>
<tr>
<td>Mangroves</td>
<td>71,179</td>
<td>3.22%</td>
</tr>
<tr>
<td>Mature Broadleaf Forest</td>
<td>3,120,972</td>
<td>62.95%</td>
</tr>
<tr>
<td>Pine Forest</td>
<td>20,910</td>
<td>0.95%</td>
</tr>
<tr>
<td>Forest Plantation</td>
<td>1,907</td>
<td>0.08%</td>
</tr>
<tr>
<td>Regenerating Forest</td>
<td>47,615</td>
<td>2.16%</td>
</tr>
<tr>
<td>Secondary Broadleaf Forest</td>
<td>5,982</td>
<td>0.27%</td>
</tr>
<tr>
<td>Grassland</td>
<td>403,352</td>
<td>18.72%</td>
</tr>
<tr>
<td>Ferra/Thickets</td>
<td>3,480</td>
<td>0.62%</td>
</tr>
<tr>
<td>Pasture</td>
<td>139,134</td>
<td>6.29%</td>
</tr>
<tr>
<td>Regenerating Bushes and Shrubs</td>
<td>80,726</td>
<td>3.65%</td>
</tr>
<tr>
<td>Regenerating Bushes and Shrubs Pine</td>
<td>18,196</td>
<td>0.82%</td>
</tr>
<tr>
<td>Lowland Savannah</td>
<td>171,605</td>
<td>7.76%</td>
</tr>
<tr>
<td>Shrubland</td>
<td>26,290</td>
<td>1.28%</td>
</tr>
<tr>
<td>Otherland</td>
<td>603</td>
<td>0.03%</td>
</tr>
<tr>
<td>Bare Soil</td>
<td>603</td>
<td>0.03%</td>
</tr>
<tr>
<td>Settlements</td>
<td>36,362</td>
<td>1.65%</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>4,022</td>
<td>0.19%</td>
</tr>
<tr>
<td>City</td>
<td>2,912</td>
<td>0.30%</td>
</tr>
<tr>
<td>Other Infrastructure</td>
<td>2,712</td>
<td>0.20%</td>
</tr>
<tr>
<td>Mining</td>
<td>3,255</td>
<td>0.15%</td>
</tr>
<tr>
<td>Other Settlements</td>
<td>4,122</td>
<td>0.19%</td>
</tr>
<tr>
<td>Roads</td>
<td>2,015</td>
<td>0.13%</td>
</tr>
<tr>
<td>Town</td>
<td>1,051</td>
<td>0.08%</td>
</tr>
<tr>
<td>Village</td>
<td>16,060</td>
<td>0.69%</td>
</tr>
<tr>
<td>Wetland</td>
<td>151,700</td>
<td>6.86%</td>
</tr>
<tr>
<td>Inland Water Bodies</td>
<td>37,400</td>
<td>1.71%</td>
</tr>
<tr>
<td>Wetlands</td>
<td>13,000</td>
<td>0.61%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>2,210,795</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

**INFOGRAPHICS SHOWING BELIZE'S FOREST COVER CHANGE FOR THE PERIOD, 2000-2018**

[Image: Openforis COLLECT EARTH]
<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
<th>Ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>68.03%</td>
<td>1504029</td>
</tr>
<tr>
<td>2001</td>
<td>67.59%</td>
<td>1494278</td>
</tr>
<tr>
<td>2002</td>
<td>67.05%</td>
<td>1482214</td>
</tr>
<tr>
<td>2003</td>
<td>66.69%</td>
<td>1474373</td>
</tr>
<tr>
<td>2004</td>
<td>66.44%</td>
<td>1468844</td>
</tr>
<tr>
<td>2005</td>
<td>66.22%</td>
<td>1464018</td>
</tr>
<tr>
<td>2006</td>
<td>65.90%</td>
<td>1456780</td>
</tr>
<tr>
<td>2007</td>
<td>65.54%</td>
<td>1449039</td>
</tr>
<tr>
<td>2008</td>
<td>65.23%</td>
<td>1442103</td>
</tr>
<tr>
<td>2009</td>
<td>64.82%</td>
<td>1433055</td>
</tr>
<tr>
<td>2010</td>
<td>64.57%</td>
<td>1427425</td>
</tr>
<tr>
<td>2011</td>
<td>64.57%</td>
<td>1439187</td>
</tr>
<tr>
<td>2012</td>
<td>64.58%</td>
<td>1427627</td>
</tr>
<tr>
<td>2013</td>
<td>63.88%</td>
<td>1412145</td>
</tr>
<tr>
<td>2014</td>
<td>63.52%</td>
<td>1404304</td>
</tr>
<tr>
<td>2015</td>
<td>62.90%</td>
<td>1390531</td>
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<tr>
<td>2016</td>
<td>62.40%</td>
<td>1379473</td>
</tr>
<tr>
<td>2017</td>
<td>62.00%</td>
<td>1370727</td>
</tr>
<tr>
<td>2018</td>
<td>61.76%</td>
<td>1365197</td>
</tr>
</tbody>
</table>

Forest Cover Change Nationally from 2000-2018
Sentinel 2 Land-Use Mapping Ground Truthing
BELIZE COLLECT EARTH/OPEN FORIS LAND USE AND LAND USE CHANGE ASSESSMENT PROTOCOL

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Karen Sanchez, Forester
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Milena Nilbo, Coalition for Rainforest Nations
The Protected Areas Conservation Trust
Marcelo Wincher, Deputy Chief Forest Officer

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MINISTRY OF AGRICULTURE, FORESTRY, THE ENVIRONMENT, SUSTAINABLE DEVELOPMENT, AND IMMIGRATION

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Present Achievements and Next Steps
4 Mandatory Requirements for REDD+
Par.71 Decision 1/CP16

- REDD+ Strategy (Pending)
- National Reference Level + Technical Annex Report (Finalized and Submitted)
- National Forest Monitoring System (Pending)
- Safeguards – Pending
• The Baseline for the FREL 2000-2015
• Looking at results for 2015-2018
Report on the technical assessment of the proposed forest reference level of Belize submitted in 2020

**Summary**

This report covers the technical assessment of the voluntary submission of Belize on its proposed forest reference level (FRL) in accordance with decision 13/CP.19 and in the context of results-based payments. The FRL proposed by Belize covers the activities reducing emissions from deforestation, reducing emissions from forest degradation, conservation of forest carbon stocks, sustainable management of forests and enhancement of forest carbon stocks, which are the five activities included in decision 1/CP.16, paragraph 70. For its submission, Belize developed a national FRL. The FRL presented in the submission, for the reference period 2016-2020, corresponds to 4,606,873, 4,830,928, 5,094,981, 5,339,034 and 5,583,087 tonnes of carbon dioxide equivalent for 2016, 2017, 2018, 2019 and 2020, respectively. The assessment team notes that the data and information used by Belize in constructing its FRL are mostly transparent, complete and in overall accordance with the guidelines contained in the annex to decision 12/CP.17. This report contains the assessed FRL and a few areas identified by the assessment team for future technical improvement in accordance with the provisions on the scope of the technical assessment contained in the annex to decision 13/CP.19.
Results
Belize Forest Reference Level (Verified)
Belize REDD+ Achievements by 2016 - 2018 (tCO2e)

<table>
<thead>
<tr>
<th>Year</th>
<th>FRL Trend Values (Allowable Emission) [A]</th>
<th>GHGi Results (Actual Results) [B]</th>
<th>REDD+ Results or Achievements [A - B]</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>4,606,875</td>
<td>4,525,081</td>
<td>81,794</td>
</tr>
<tr>
<td>2017</td>
<td>4,850,028</td>
<td>3,910,543</td>
<td>940,385</td>
</tr>
<tr>
<td>2018</td>
<td>5,094,981</td>
<td>514,597</td>
<td>4,580,384</td>
</tr>
<tr>
<td>2019</td>
<td>5,330,034</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>5,583,087</td>
<td></td>
<td></td>
</tr>
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</table>
Potential Revenues
What does this Results mean for Belize?

<table>
<thead>
<tr>
<th>Year</th>
<th>Results (tCO2eq)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>81,794</td>
</tr>
<tr>
<td>2017</td>
<td>940,385</td>
</tr>
<tr>
<td>2018</td>
<td>4,580,384</td>
</tr>
<tr>
<td>Total</td>
<td>5,602,563</td>
</tr>
</tbody>
</table>

Results can be sold
$7.00 - $11.00 USD/tCO2eq

Example: 5,602,563 x $ 7.00 = $39,217,941 USD
5,602,563 x $ 11.00 = $61,628,193 USD
## Payment for Results

### Results are posted on the UNFCCC REDD+ Web Platform after completion of Technical Annex to the Biennial Update Report (BUR)

<table>
<thead>
<tr>
<th>Country</th>
<th>Date (Year)</th>
<th>Results (t CO2 eq/year)</th>
<th>Assessed forest reference level (t CO2 eq/year)</th>
<th>Quantities for which payments were received (t CO2 eq/year)</th>
<th>Entity paying for results</th>
<th>Links to documentation</th>
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<tbody>
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<td>Brazil</td>
<td>2011</td>
<td>622,451,672.72</td>
<td>907,959,466.33</td>
<td>35,363,022.00</td>
<td>Government of Norway</td>
<td>FCCC/SBI/ICA/2017/TAR.2/BRA</td>
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<td>2012</td>
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<td>2013</td>
<td>606,111,615.42</td>
<td>907,959,466.33</td>
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<td>Government of Germany - KfW</td>
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<td></td>
<td>2014</td>
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<td>907,959,466.33</td>
<td>24,060,000.00</td>
<td>Government of Norway</td>
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<td>2015</td>
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<td>19,580,670.23</td>
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</table>
REDD.plus: Going directly to the private sector

Private Sector Profits and Savings -> Developed-Market Government Taxes -> Payments to Countries from GCF and FCPF

$7 to $11

$5

CfRN Country

A New Opportunity
How do we sell?

REDD.plus brings stakeholders together on a transparent and low-cost platform.

Governments → Sellers → Buyers
Communities → Sellers
NGOs → Sellers
Project Developers → Sellers

Governments
Financial Institutions
Carbon Emitting Industry
Individuals
<table>
<thead>
<tr>
<th>Country</th>
<th>Date</th>
<th>Results (t CO₂ eq/year)</th>
<th>Authorized Forest Reference Level (t CO₂ eq/year)</th>
<th>Quantities for which payments were received (t CO₂ eq/year)</th>
<th>Entity paying for results</th>
<th>Links to documentation</th>
</tr>
</thead>
</table>
| Brazil  | 2011 | 652,451,072.72          | 507,295,446.33                  | 33,381,002.00                                       | Government of Norway     | FCCC/SBI/CA/2017/1/2/BRA  
Biennial update report with submission of REDD+ results (SUR 2) |
|        | 2012 | 671,375,872.09          | 507,295,446.33                  | 33,753,224.00                                       | Government of Norway     | FCCC/FR/2016/BRA   
Submission on proposed reference level (Amazon biome)  
Modified submission on proposed reference level  
National REDD+ Strategy  
Safeguards information summary  
National REDD+ Strategy  
Safeguards information summary  
Finnish Redd+ Strategy  
Info Hub Brazil |
|        | 2013 | 646,214,513.42          | 507,295,446.33                  | 34,740,172.31                                       | Government of Germany - KW |                       |
|        | 2014 | 654,367,365.74          | 507,295,446.33                  | 34,600,000.00                                       | Government of Norway     |                       |
|        | 2015 | 620,265,252.00          | 507,295,446.33                  | 19,986,575.28                                       | Government of Norway     |                       |
|        |      |                         |                                 | 11,534,093.04                                       | Government of Germany - KW |                       |
|        |      |                         |                                 | 8,274,859.65                                        | Government of the United Kingdom |                       |
REDD+ system established to manage

- National Forest Monitoring System
- Implementation of the National Registration System
- Framework and mechanism of carbon legislation
- Safeguard information system
- Benefit sharing mechanism
- National Forest MRV Working Group
- Forest Sector MRV Program
Next Steps
Moving Forward…

- Completed and Ongoing Activities
  - Updated Nationally Determined Contributions (NDC) for the Forestry and Land use Sector
  - Grievance and Redress Mechanism
  - REDD+ Strategy
  - Safeguards Information System (Environmental and Social)
  - National Forest Monitoring System
  - Forest Reference Level
  - Benefit Sharing Mechanism (Ongoing)

- Institutional Arrangement for a Measuring, Reporting and Verification Program;
- Build capacity on REDD+ Registry and other payment avenues;
- Build out mechanisms for results-based payments for Blue Carbon and other carbon pools;
- Legislation on Carbon.
Thank You!

Questions?

Contacts:
Edgar Correa (Mr.)
Forest Officer
MRV Program Coordinator
gsmu.ecorrea@forest.gov.bz
Cell: +501-670-8480