Options and methodologies for developing baselines for different categories of NAMAs

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Various Categories of NAMAs (by scope: considering scale, type of activity, sector coverage)

» Category 1: Specific project activities
  > Small scale activities with specific interventions
  > Comparable to CDM projects
  > Eg. upgrading of X,Y, Z hydroelectric dams; installation of mini-hydroelectric plants with a capacity of Z MW/unit amounting to a total of #% MW by X(year)

» Category 2: Capacity building programmes
  > Large scale preparatory programmes
  > Various (group of) activities targeted towards readiness or capacity building
  > Eg. promote the use of low-energy light bulbs; or preparation of national inventory

» Category 3: Sectoral programmes
  > Various policies and actions plans in a specific sector or group of sector
  > With or Without an overall sectoral mitigation goal
  > Eg. national program on energy efficiency and renewable energy; or group of activities in agriculture sector; X% renewable electricity by X(year)

» Category 4: Economy-wide mitigation goal
  > With reference to BAU scenario or a reference year
  > With or without a listing of specific activities, plans or programmes
  > Eg. reduction in emissions / emissions intensity by X% below X(year); levels by X(year); or reduction in

» Category 5: Combination of any two categories
  > Eg. Reduction in emissions by X% as compared to BAU by X(year) through group of activities in forestry sector

Not all NAMAs will lead to absolute emissions reductions and/or quantifiable GHG impact (reductions or deviations)

Each category is unique; requires different approach for developing baselines
Why do we need a baseline?

» Baselines may be useful
  > For developing countries to understand their own emissions (present & future) and prepare development plans accordingly
  > For developing countries to avail support (finance, technology, capacity building) as it would facilitate measuring of emission reductions/deviations
  > For aggregating emission reductions/deviations achieved across countries thereby ensuring certainty in global emissions estimate

» However,
  > There is currently no international guidance on how to develop emissions baseline / or determine baseline emissions scenarios

Developing guidelines for baseline determination

» Key Challenges:
  > Different categories of mitigation actions (by scope: considering scale, type of activity, sector coverage)
  > Direct attribution of GHG emissions reduction to specific mitigation action seems difficult
  > Not all NAMAs will lead to absolute emissions reductions and/or quantifiable GHG impact (reductions or deviations)
  > Each NAMA unique therefore one size fit all approach may not work

» Key Considerations:
  > Should take into account relevant national and/or sectoral policies and circumstances
  > Should ensure flexibility and simplicity in approach
  > May need combination of different approaches
Approach 1: CDM plus approach

» Using existing CDM baseline methodologies
  > The baseline for a CDM project activity is defined in 3/CMP.1, Annex, paragraph 44 as follows:
    + The baseline for a CDM project activity is the scenario that reasonably represents the anthropogenic emissions by sources of greenhouse gases that would occur in the absence of the proposed project activity (3/CMP.1, Annex, paragraph 44)
  > However, even in case of CDM projects, the process was considered cumbersome (new developments: standardized baselines)

» Applicable where NAMAs are listed as
  > Specific projects (Category 1)
  > Mitigation goals with list of specific projects contributing towards achieving the overall mitigation goal (Category 5)

Approach 2: Baseline metrics approach

» Baseline Metrics
  > Baseline metrics to comprise of a set of indicators (observed in a reference year and measurable in coming years)
  > Tracking the indicators overtime indicates the progress and helps to estimate impact on GHG emissions
  > Flexibility in the choice of indicators of baseline metrics

» Applicable where NAMAs are listed as
  > Capacity building programmes (Category 2)
  > Mitigation goals in a sector or economy-wide (Category 3,4,5)
  > Specific project activities (Category 1)
Baseline metrics approach

Baseline metrics to comprise of set of indicators (observed in a reference year and measurable in coming years).

Progress may be used to estimate impact on GHG emissions

Appropriate since not all NAMAs will result in absolute emissions reduction

Example: Urban NAMAs in Kazakhstan

Kazakhstan’s Urban NAMAs are defined as the appropriate municipal institutional and financial framework and investment, which will enable Kazakh cities to set-up, reach and monitor their city-wide emission reduction targets, as part of national commitment to reduce Kazakhstan’s emission by 15% below 1990 emissions.

Source: GEF supported NAMAs

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Proposed indicators of progress*</th>
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<tbody>
<tr>
<td>National and sectoral inventories and GHG emission targets</td>
<td>City-wide GHG emission targets and inventories for 15 main cities</td>
</tr>
<tr>
<td>Establishment and capacity building of Municipal Management Companies (MMCs), business planning and development of investment portfolio</td>
<td>Capacity building of MMCs to identify and implement low-carbon projects, preparation of bankable emission reduction projects</td>
</tr>
<tr>
<td>Establishment and capitalization of NFUM</td>
<td>Additional funding window within NFUM specifically for emission reduction projects prioritized in urban NAMAs</td>
</tr>
<tr>
<td>Complex modernization of district “Prigorodonoye” in the capital of Astana</td>
<td>Implementation of additional measures to reduce district emissions by 50% below baseline requirements under NMP</td>
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<td>ETS covering large industrial emitters, national registry and MRV</td>
<td>Registry and MRV for urban NAMAs; Rules and regulations providing for “linking” credited urban NAMAs and domestic ETS; Signed ERPA between ETS entities and municipalities</td>
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</tbody>
</table>

*attained through GEF support
Approach 3: GHG Inventory Approach

» GHG emissions inventory as a baseline for absolute reductions
  > comparison of reference year inventory with target year inventory
  > actions are not measured but the result (GHG emissions reductions)
  > existing experience of preparing inventories for NATCOMs for NA1

» Applicable where NAMAs are listed as
  ▪ Economy-wide targets (Category 4)
  ▪ Sectoral plans with number of specific actions and policies (Category 3)
  ▪ Combination of the two (Category 5)

Approach 4: Reference case approach

» Defining a reference case
  > According to IPCC AR 4, “business-as-usual” baseline/reference case assumes that future development trends follow those of the past and no changes in policies will take place
  > Impact on GHG emissions is equivalent to deviations from the reference case
  > Defining reference case projecting a probable emission trajectory by selecting an appropriate model for economy (set of policies and barriers; set of assumptions for future development and growth)

» Applicable where NAMAs are listed as
  > Economy-wide targets or sectoral plans as compared to a BAU scenario (Category 3,4,5)
Reference case approach

Hypothetical Example of a NAMA in Transport sector in country XX

Overall goal: Development of a low carbon urban transport system

Specific activities:
1. Development of efficient public modes of transport like BRTS
2. Development of infrastructure for Non-motorized vehicles
3. Change in Fuel use: electric vehicles, natural gas, bio-fuel
4. Switching to efficient technology for motorized vehicles
5. Retrofitting XYZ rail system with more efficient XYZ technology
6. Conducting awareness-raising campaigns to promote low carbon urban transport

Key Characteristics:
- Overall sectoral goal: directional and non-quantifiable
- List of specific policies, programs and projects (mix of directional, quantifiable) contribute to the overall sectoral goal
- Many activities lead to indirect GHG benefits, sectoral GHG inventory might not be suitable
- Combination of approaches could be used
- Baseline metrics approach for activity 1,2,3,4,6
  - %age of urban population using BRTS/NMV for work trips
  - Current foot fall in existing city rail system/BRTS
  - Fuel mix composition
  - Qualitative: policy for technology standards for MVs
- CDM plus approach for 5
Summary

<table>
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<tr>
<th>Approaches</th>
<th>Approach 1: CDM plus approach</th>
<th>Approach 2: Baseline metrics approach</th>
<th>Approach 3: GHG Inventory Approach</th>
<th>Approach 4: Reference case approach</th>
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<tr>
<td>Category 1 (specific project activity)</td>
<td>✓</td>
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<td>Category 2 (capacity building programs)</td>
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<td>Category 3 (Sectoral programs)</td>
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<td>Category 4 (Economy-wide mitigation goal)</td>
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Thank you!

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