



## 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 e
- » **Category 5: Sectoral**
  - >  **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

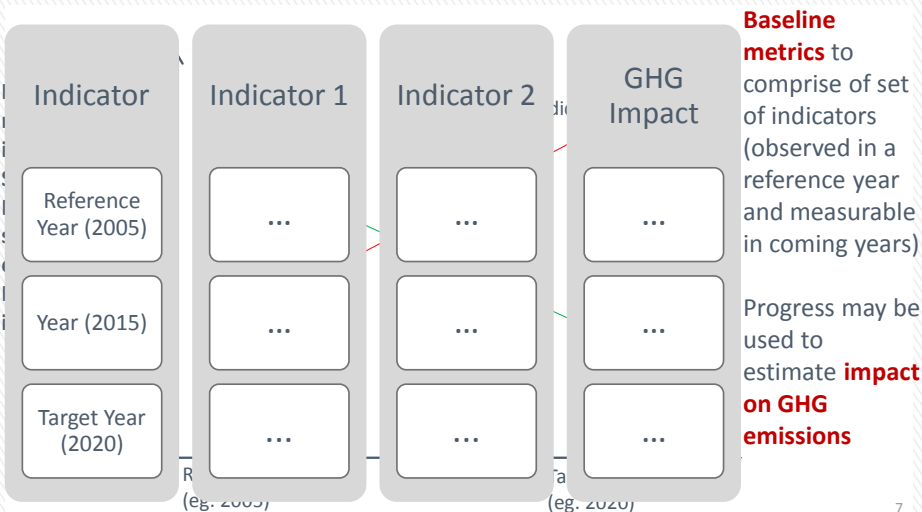
- > Baseline metrics to comprise of a set of indicators (observed in a reference year and measurable in coming years)
- > Tracking the indicators overtime indicates the progress and helps to estimate impact on GHG emissions
- > Flexibility in the choice of indicators of baseline metrics

### » 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



*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

Sectoral Programme

Baseline	Proposed indicators of progress*
<ul style="list-style-type: none"> <li>National and sectoral inventories and GHG emission targets</li> </ul>	<ul style="list-style-type: none"> <li>City-wide GHG emission targets and inventories for 15 main cities</li> </ul>
<ul style="list-style-type: none"> <li>Establishment and capacity building of Municipal Management Companies (MMCs), business planning and development of investment portfolio</li> </ul>	<ul style="list-style-type: none"> <li>Capacity building of MMCs to identify and implement low-carbon projects, preparation of bankable emission reduction projects</li> </ul>
<ul style="list-style-type: none"> <li>Establishment and capitalization of NFUM</li> </ul>	<ul style="list-style-type: none"> <li>Additional funding window within NFUM specifically for emission reduction projects prioritized in urban NAMAs</li> </ul>
<ul style="list-style-type: none"> <li>Complex modernization of district "Prigorodonoye" in the capital of Astana</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of additional measures to reduce district emissions by 50% below baseline requirements under NMP</li> </ul>
<ul style="list-style-type: none"> <li>ETS covering large industrial emitters, national registry and MRV</li> </ul>	<ul style="list-style-type: none"> <li>Registry and MRV for urban NAMAs</li> <li>Rules and regulations providing for "linking" credited urban NAMAs and domestic ETS</li> <li>Signed ERPA between ETS entities and municipalities</li> </ul>

\*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)

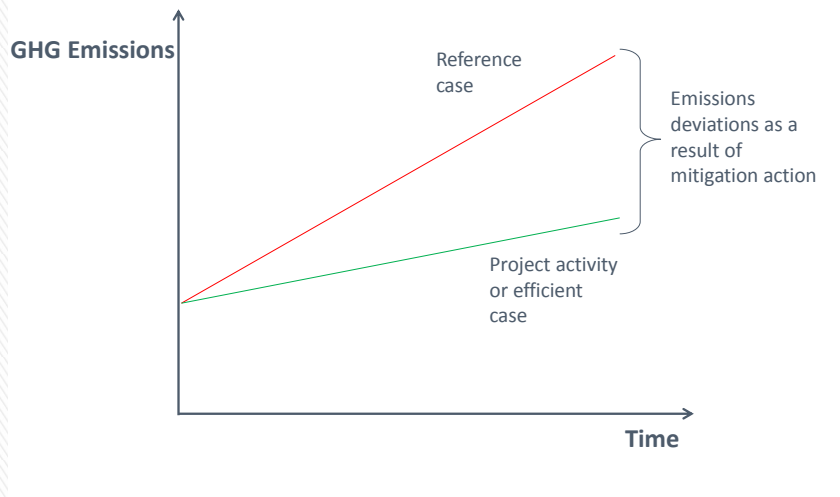


## Approach 4: Reference case approach

- » **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



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### 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

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## Summary

Approaches Categories	Approach 1: CDM plus approach	Approach 2: Baseline metrics approach	Approach 3: GHG Inventory Approach	Approach 4: Reference case approach
<b>Category 1</b> (specific project activity)	√	√		
<b>Category 2</b> (capacity building programs)		√		
<b>Category 3</b> (Sectoral programs)		√	√	√
<b>Category 4</b> (Economy-wide mitigation goal)		√	√	√
<b>Category 5</b> (combination of any two categories)	√	√	√	√

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Thank you!

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Further details can be accessed at:

<http://www.teriin.org/projects/nfa/cc2bwp1.php>