Technical aspects of NAMAs:
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 emissions / emissions intensity… by X% as compared to BAU by X(year); or to be carbon neutral by X(year)
- 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 challengings to quantify 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 reducing uncertainty 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
  - It is challenging to quantify GHG impact (reductions or deviations) in many cases (more difficult with higher level of aggregation)
  - Each NAMA unique therefore one size fits all approach may not work
- Key Considerations:
  - Increase in precision may involve increase in complexity leading to increase in transaction cost
  - Should takes into account relevant national and/or sectoral policies and circumstances
  - Should ensure flexibility and simplicity in approach
  - May need combination of different approaches

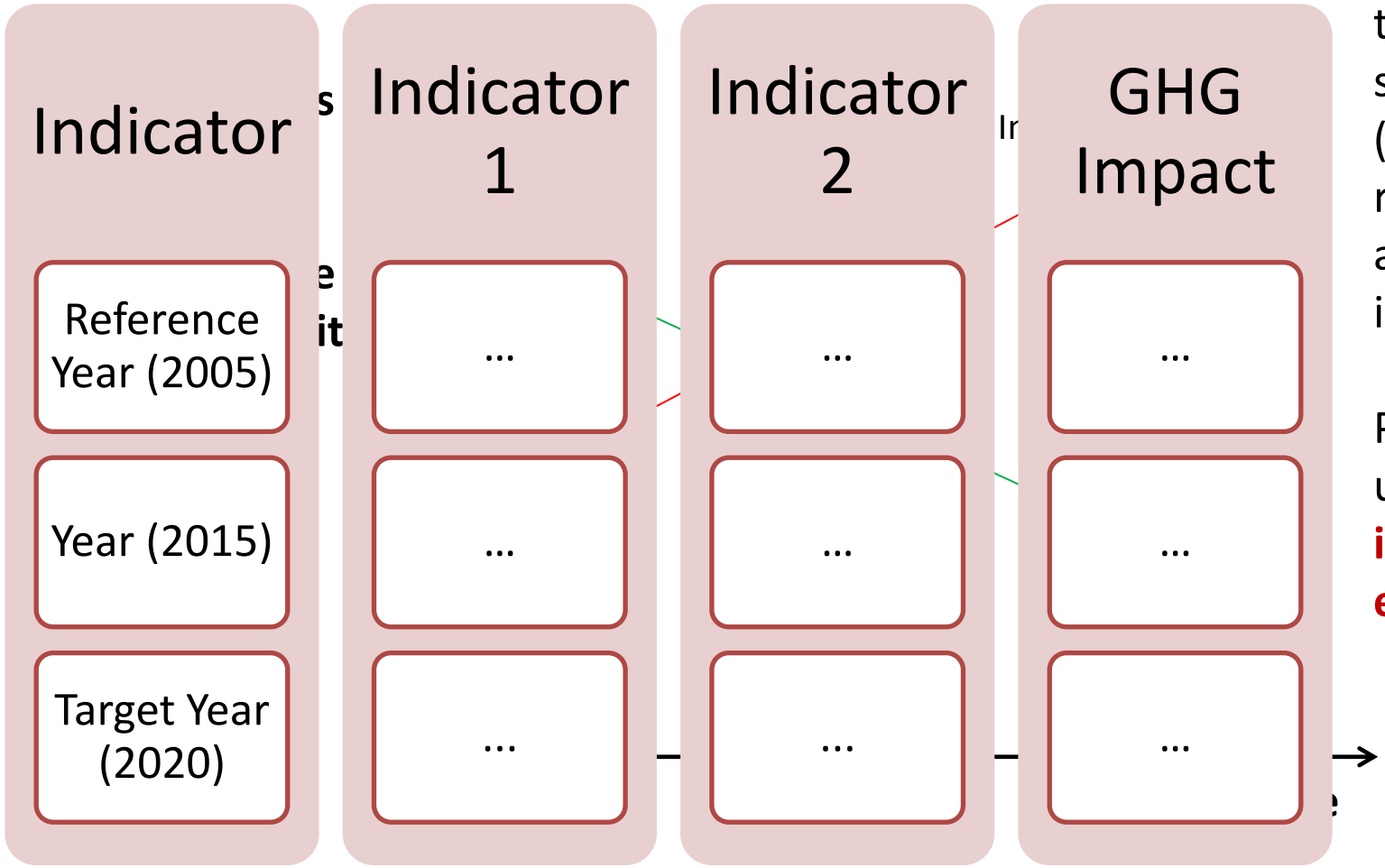
Approach 1: CDM plus approach

- 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

Approach 3: GHG Inventory Approach

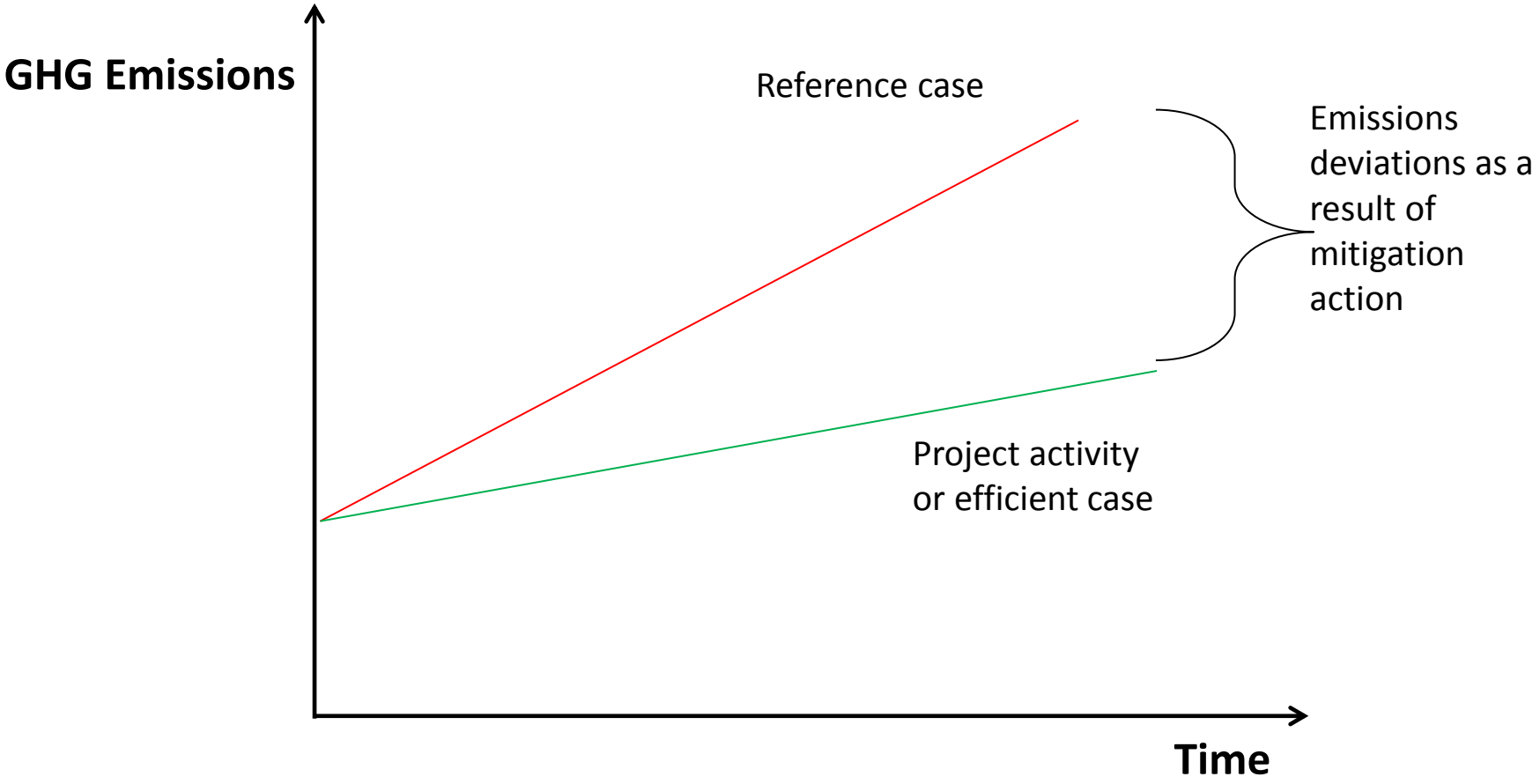
- GHG emissions inventory as a baseline for absolute reductions
  - comparison of reference year inventory with target year inventory
  - actions are not measured but the result (GHG emissions reductions)
  - existing experience of preparing inventories for NATCOMs for NA1

- Applicable where NAMAs are listed as
  - Economy-wide targets such as carbon neutrality (Category 4)
  - Sectoral plans with number of specific actions and policies (Category 3)
  - Combination of 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

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-motorised vehicles
3. Change in Fuel use: electric vehicles, natural gas, bio-fuel
4. Switching to efficient technology for motorised 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
  - Combinational 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

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