



# **Ex-ante assessment of NAMAs: Overview of WRI GHG Protocol Mitigation Accounting Standards**

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## The Greenhouse Gas Protocol

- The GHG Protocol was launched in 1998 by



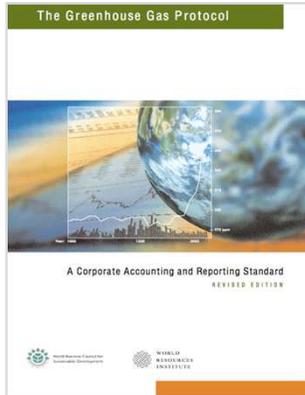
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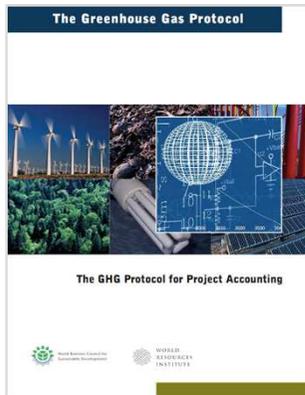
World Business Council for  
Sustainable Development

- Develop international GHG accounting standards
- Multi-stakeholder partnership of businesses, NGOs, governments and others
- Mission: Enable corporate and government measurement and management practices that lead to a low carbon economy

## GHG Protocol standards to date



Corporate Standard



Project Protocol



Product Standard



Corporate Value Chain  
(Scope 3) Standard

## Two GHG Protocol standards under development

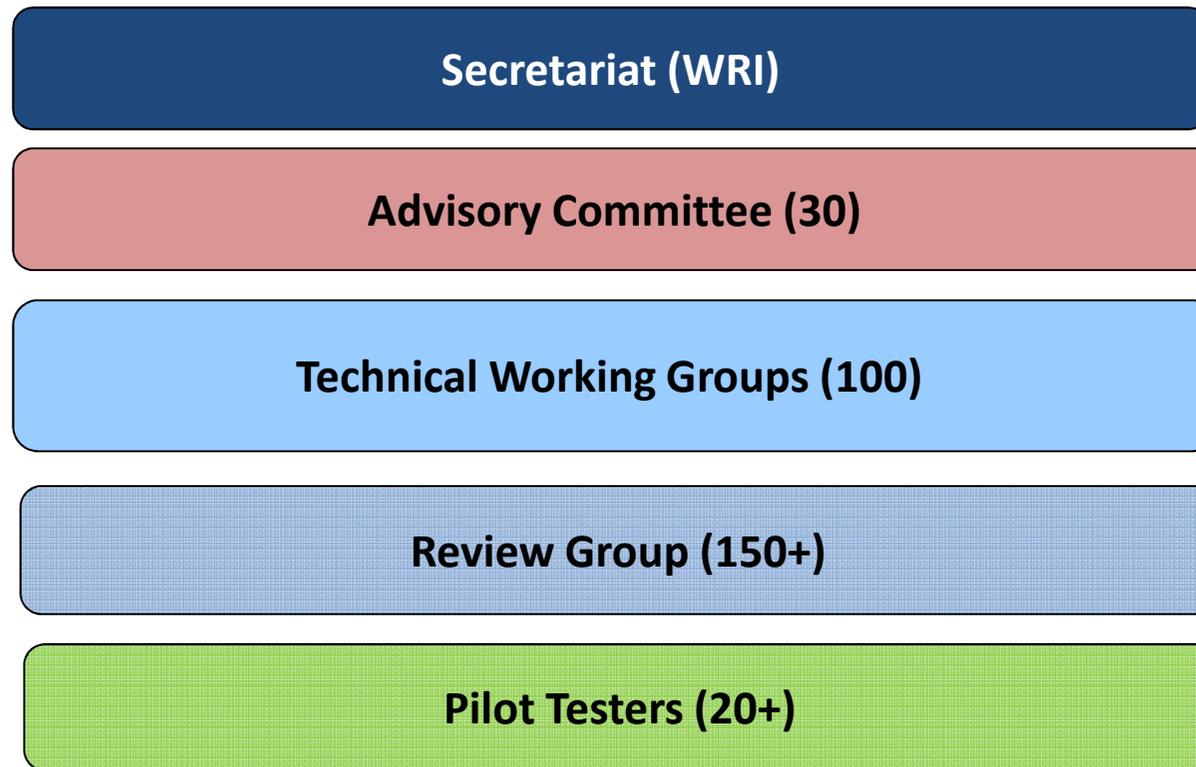
### Policy and Action Standard

- How to estimate GHG effects from specific policies and actions (e.g. NAMAs)
- Examples: vehicle fuel efficiency standards, feed-in tariffs, energy efficiency incentives, emission trading programs, waste management programs, etc.

### Mitigation Goals Standard

- How to assess and report progress toward national, subnational, and sectoral GHG reduction goals
- Examples: absolute reduction from base year, intensity-based goals, deviations from baseline scenarios, carbon neutrality, etc.

## Standard development process



## Advisory Committee members

- Asian Development Bank
- Australia, Department of Climate Change and Energy Efficiency
- Brazil, Ministry of Environment
- California Air Resources Board
- CCAP
- Chile, Ministry of Environment
- China, NDRC
- Colombia, Ministry of Environment and Sustainable Development
- Costa Rican Institute of Electricity
- Ecofys
- Ethiopia, EPA
- European Commission
- Godrej & Boyce Mfg Co. Ltd., India
- Japan, Ministry of Environment
- Johnson Controls
- Maersk Group
- New York City, Mayor's Office
- OECD
- Siemens
- South Africa, Department of Environmental Affairs
- State of Rio de Janeiro
- Stockholm Environment Institute – US
- Thailand Greenhouse Gas Management Organization
- Tsinghua University
- UK DECC
- United Nations Climate Change Secretariat
- UNDP
- US EPA
- WBCSD
- World Bank

## Background on NAMA quantification

- NAMAs have been framed in terms of projects, policies, goals
- Project methodologies exist to quantify GHG reductions from project-based NAMAs (e.g., CDM)
- No international guidelines exist for quantifying GHG reductions from policy-based NAMAs or goal-based NAMAs
- New standards designed to fill the gap

## Types of policies and actions\*

- Regulations and standards
- Taxes and charges
- Subsidies and incentives
- Tradable permits
- Voluntary agreements
- Information instruments
- R&D policies
- Public procurement policies
- Infrastructure programs
- Implementation of new technologies, processes, or practices
- Financing and investment

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\*Based on IPCC Fourth Assessment Report

## **Objectives/benefits of ex-ante assessment**

- Inform selection and design of NAMAs based on comparison of mitigation potential
- Inform cost-effectiveness of NAMAs (e.g., GHG reduced per dollar)
- Attract and facilitate financial support for NAMAs based on assessment of mitigation potential
- Assess the contribution of policy-based NAMAs toward GHG reduction goals
- Enable more consistent and transparent reporting on GHG effect of policy-based and goal-based NAMAs

## Purpose of *Policy and Action Standard*

- Guide users in answering the following questions:
  - Before implementation (ex-ante assessment): What effect is a given policy or action likely to have on GHG emissions?
  - During implementation: How to track progress of given policy-based NAMA?
  - After implementation: What effect has a given policy-based NAMA had on GHG emissions?
- The focus is on attributing changes in GHG emissions to specific policies and actions, rather than other factors that affect emissions

## Overview of steps and table of contents

**1. Define objectives  
and define the policy  
or action**



**2. Identify effects of  
policy or action**



**3. Quantify effects  
of policy or action**



**4. Verify (optional)  
and report results**

1. Introduction
2. Objectives
3. Key concepts and overview of steps
4. Accounting and reporting principles
5. Define the policy or action
6. Identify effects and map the causal chain
7. Define the GHG assessment boundary
8. Estimate baseline emissions
9. Estimate GHG effects ex-ante
10. Monitor performance over time
11. Estimate GHG effects ex-post
12. Assess uncertainty
13. Verification
14. Reporting

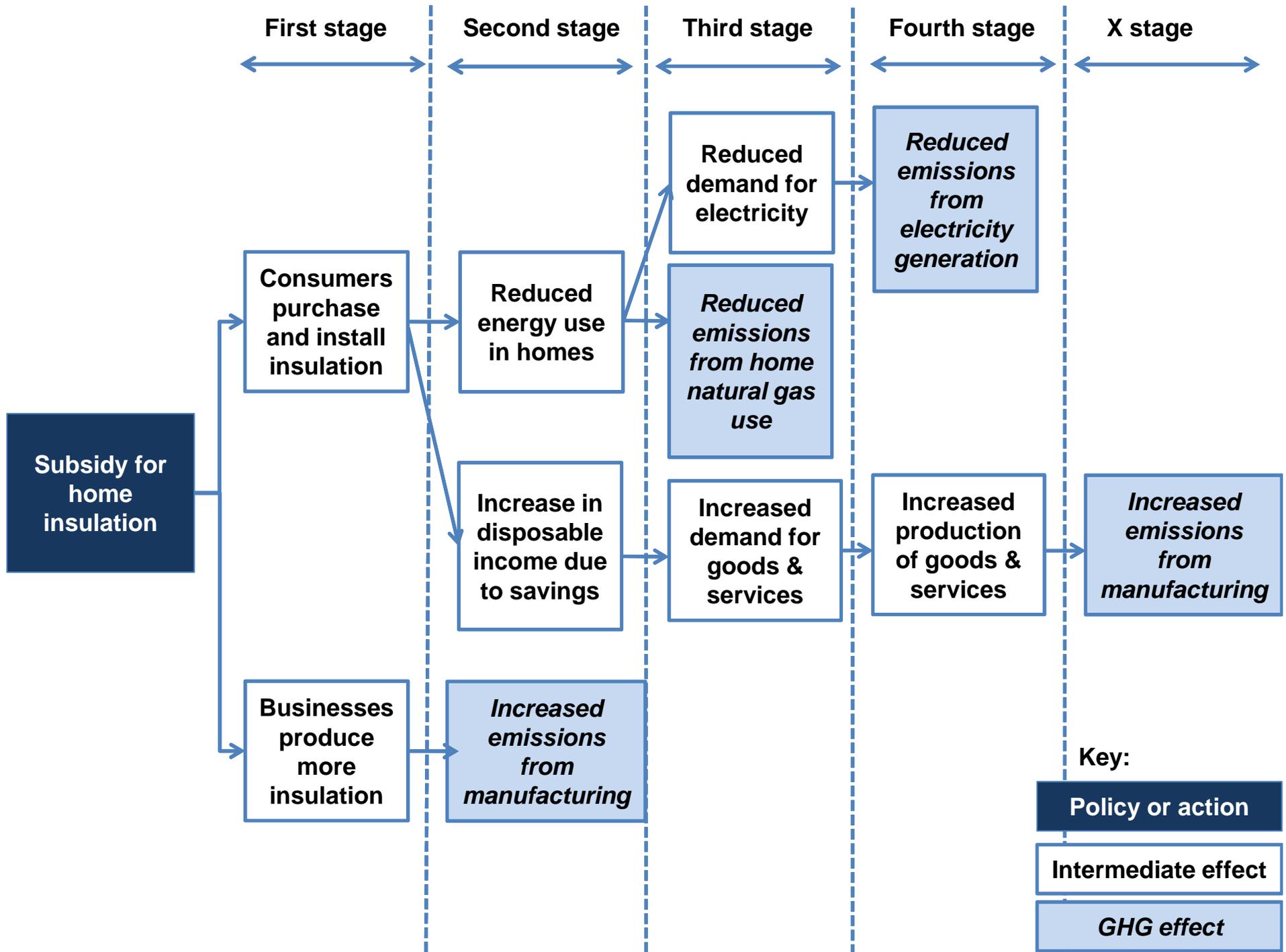
## Tiered approach

Users can choose from range of methods based on objectives/resources

Tier	Level of accuracy/ completeness	GHG assessment boundary	Quantification method	Data sources
1	Lowest	Less complete	Less accurate methods (e.g., simplified approaches)	Less accurate data (e.g., global average data, estimated data)
2	Intermediate	Intermediate completeness	Intermediate accuracy	Mix of data sources and quality (e.g., country-specific data)
3	Highest	Most complete	Most accurate methods (e.g., complex approaches)	Most accurate data (e.g., source-specific data)

## Identifying GHG effects and mapping the causal chain

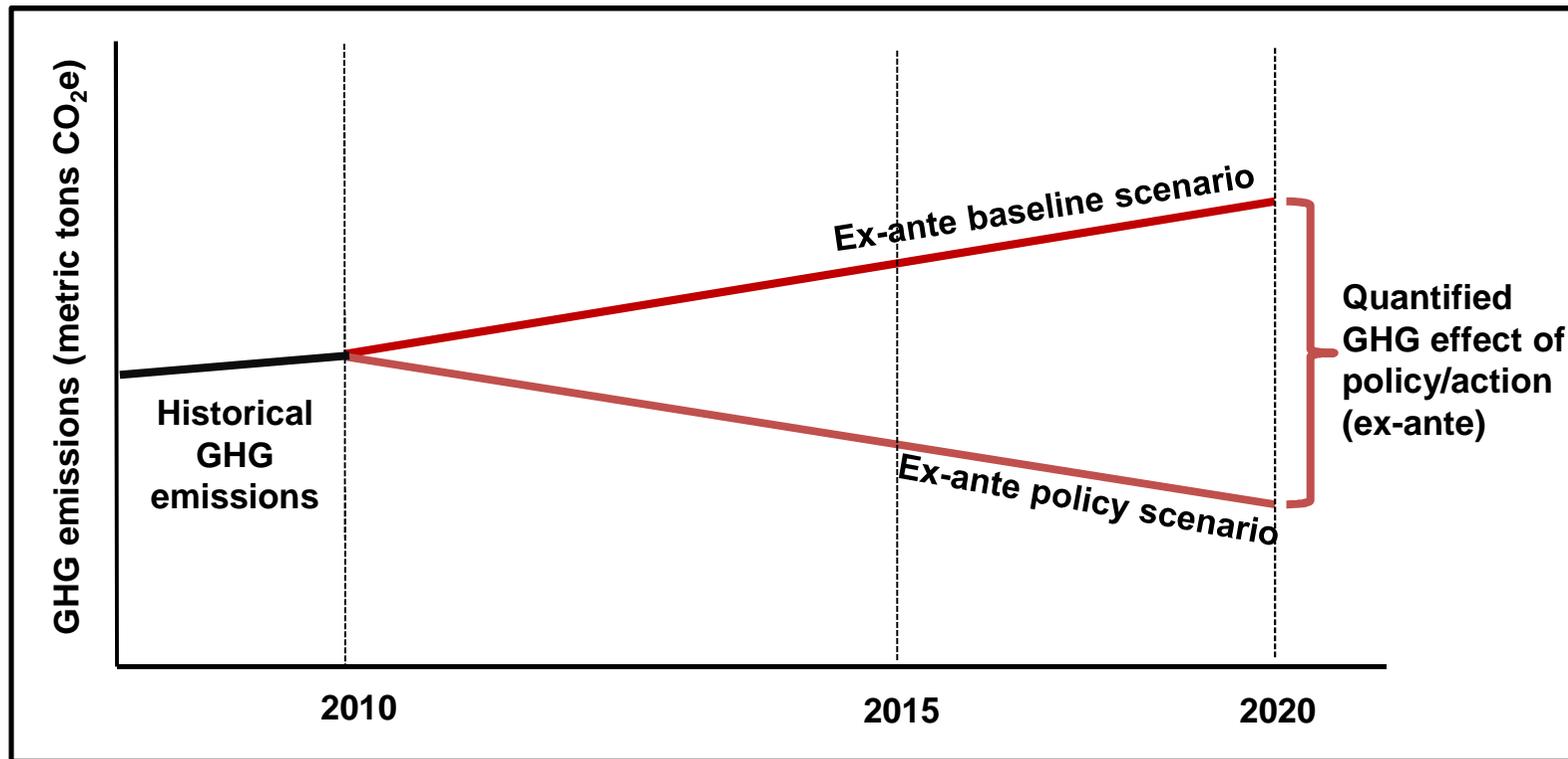
- Before quantifying the effects of the policy-based NAMA, users need to identify what the GHG effects are
- Users should consider all types of effects, e.g.:
  - Intended effects and unintended effects
  - In-jurisdiction effects and out-of-jurisdiction effects
  - Short-term effects and long-term effects
  - GHG-increasing effects and GHG-decreasing effects



## Ex-ante assessment of policy-based NAMAs

- Define the baseline scenario
  - Projected reference case that represents the future events or conditions most likely to occur in the absence of the NAMA being assessed.
- Define the policy scenario
  - Projected scenario that represents the future events or conditions most likely to occur in the presence of the NAMA being assessed.

## Ex-ante assessment of policy-based NAMAs



## Purpose of *Mitigation Goals Standard*

- Guide users in answering the following questions:
  - For jurisdictions that do not have a mitigation goal: Which factors should be considered when developing a mitigation goal?
  - Before the goal period (ex-ante assessment): What are the future emissions and emissions reductions associated with meeting a goal?
  - During the goal period: How should progress be tracked and reported?
  - After the goal period: How to evaluate and report whether the goal has been achieved?

## Types of mitigation goals

- **Reduction from a base year**
  - Antigua and Barbuda: 25% reduction below 1990 levels by 2020
- **Reduction from a baseline scenario**
  - Brazil: Between 36.1% and 38.9% below projected emissions in 2020
- **Reduction in emissions intensity**
  - China: 40-45% reduction in CO<sub>2</sub> emissions per unit of GDP by 2020 compared with the 2005 level
- **Reduction to a fixed level**
  - Costa Rica: 'long-term economy-wide transformational effort to enable carbon-neutrality'

## Table of contents

1. Introduction
2. Objectives
3. Key concepts, overview of steps, and summary of requirements
4. Accounting and reporting principles
5. Designing a mitigation goal (type, boundary, level, length)
6. Estimating base year or baseline scenario emissions
7. Accounting for the land-use sector
8. Accounting for transferable emissions units
- 9. Calculating expected emissions in the target year and emissions reductions needed to meet the goal**
10. Assessing progress during and after the goal period
11. Verification
12. Reporting

## Ex-ante assessment of goal-based NAMA

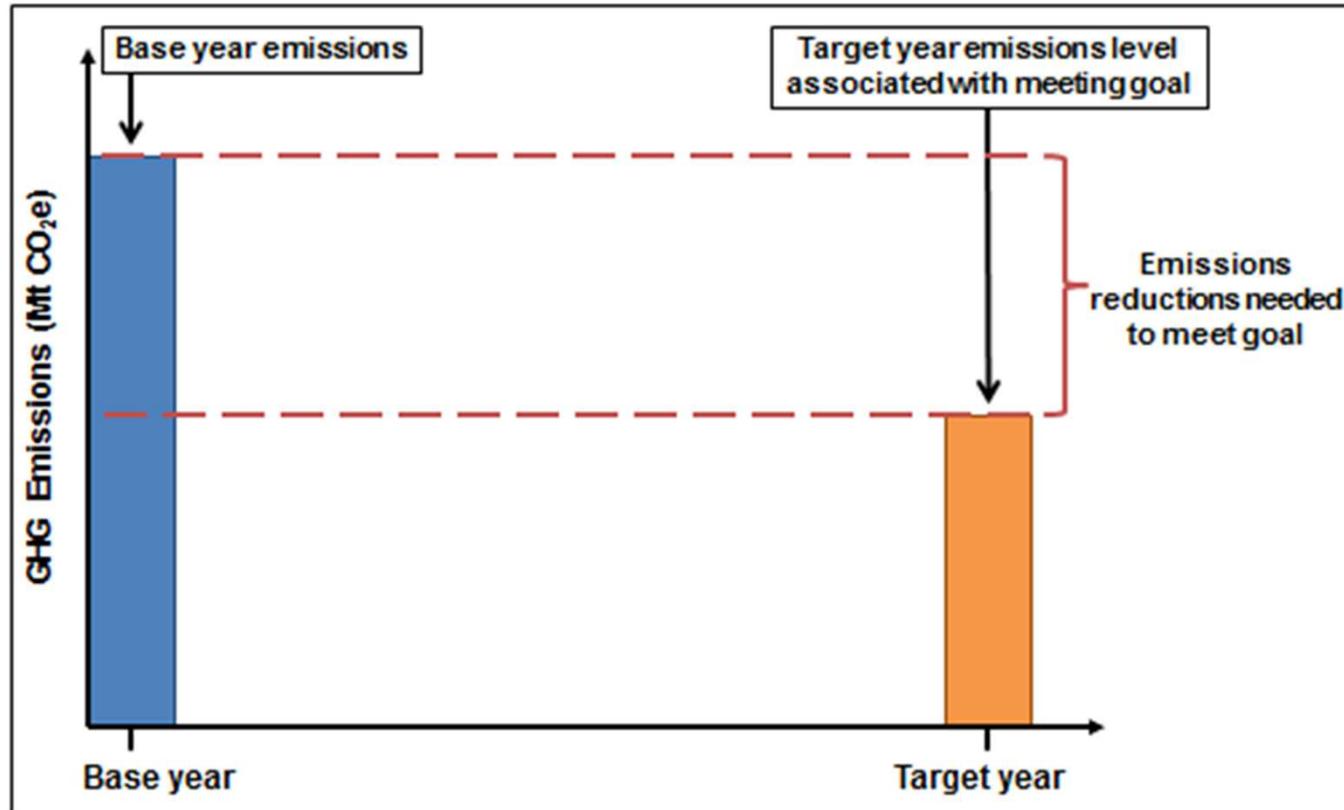
1. Calculate expected emissions level in the target year associated with meeting the goal
  - Example: Base year goal

$$\text{Target year emissions level} = (\text{Base year emissions}) - [(\text{Base year emissions}) \times (\text{Percent reduction})]$$

2. Calculate expected emissions reductions needed to meet the goal
  - Example: Base year goal

$$\text{Emissions reductions needed} = (\text{Base year emissions}) \times (\text{Percent reduction})$$

## Ex-ante assessment of goal-based NAMA: Base year goal



## Timeline

Activities	2012				2013				2014			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Convene stakeholder groups	■	■										
Develop first draft standards			■	■								
Workshops (Doha, Washington, Beijing) and review period				■								
Develop second draft standards					■	■						
Pilot test standards							■	■				
Public comment period									■			
Publish final standards										■		



## Thank you

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**[www.ghgprotocol.org/mitigation-accounting](http://www.ghgprotocol.org/mitigation-accounting)**

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