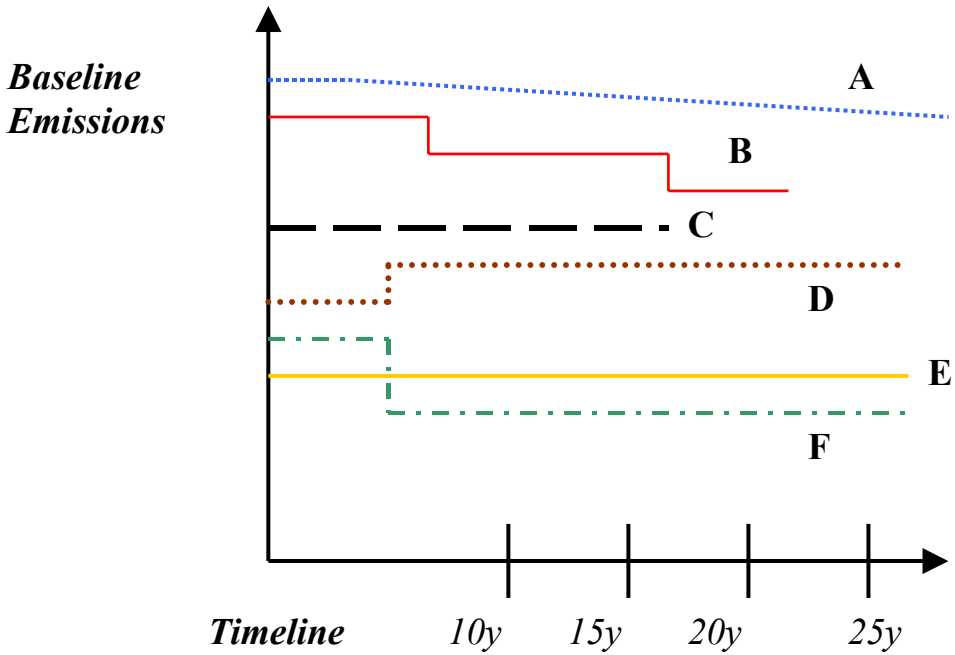
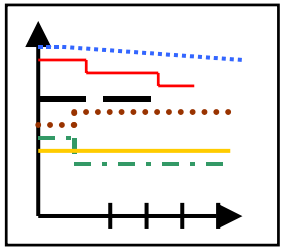
CDM Baselines



Baselines from AIJ Projects; Source: OECD, 1999

Roger Raufer
UN DESA
Tehran, I.R. of Iran
26 October 2003



GHG Q-Based Program

Goals

Reduction of GHG Emissions

Regulatory Means

1. Prohibitions

2. Technology-based Standards

Emission Stds.

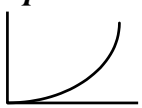
Performance Stds.

Product Stds.

Design Stds.

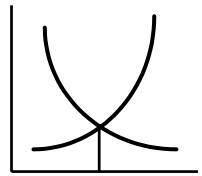
Baseline Conditions

JI , CDM & LULUCF GHG Improvements



ERUs, CERs, & RMUs

Pollution Markets (Q-based)



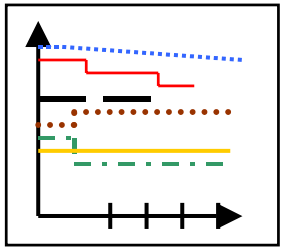
International Emissions Trading

Annex I Countries

"Hot Air"

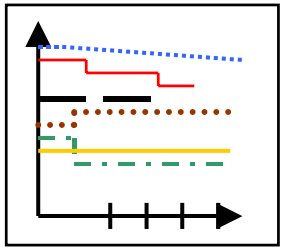
AAUs

Brokerage Opportunities

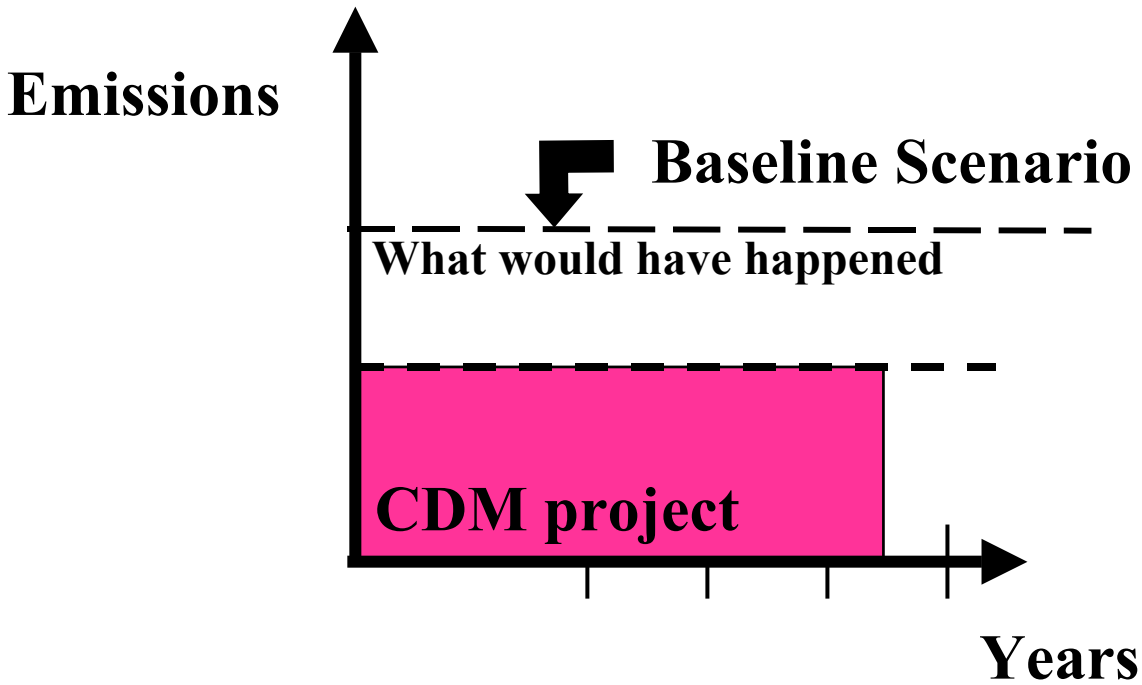


Baseline Scenario

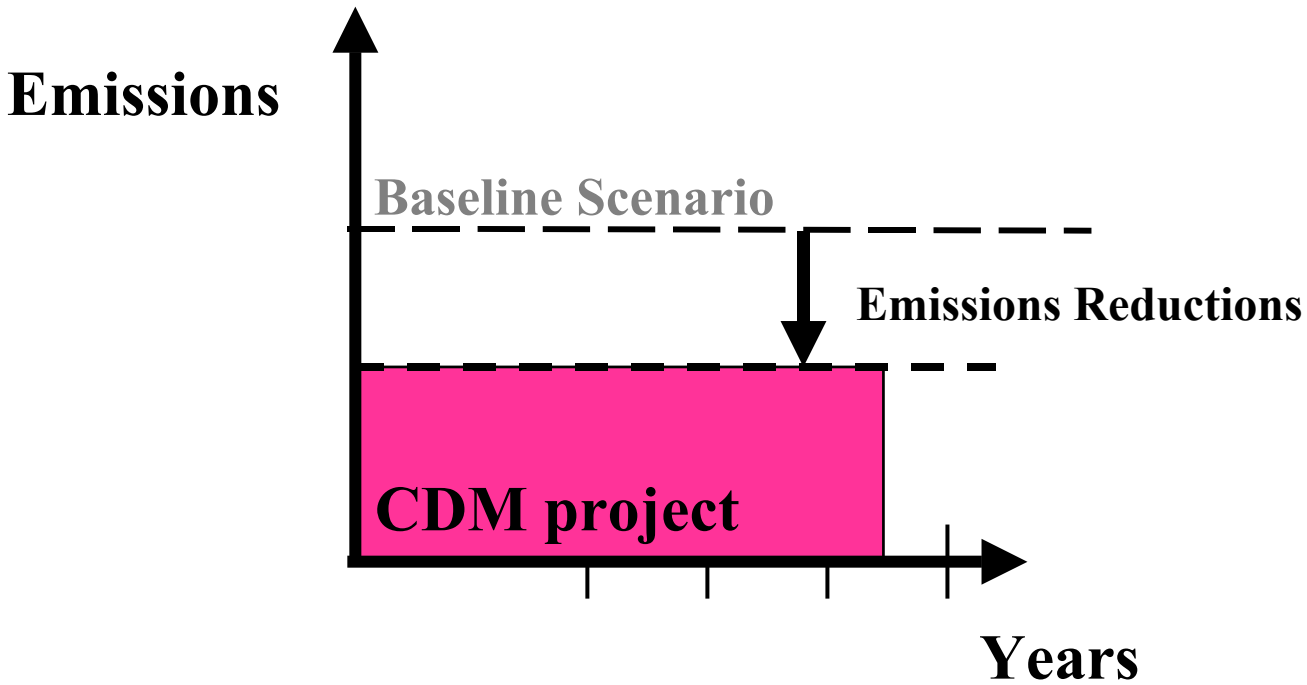
- **Counterfactual**
- **“What would have happened”**



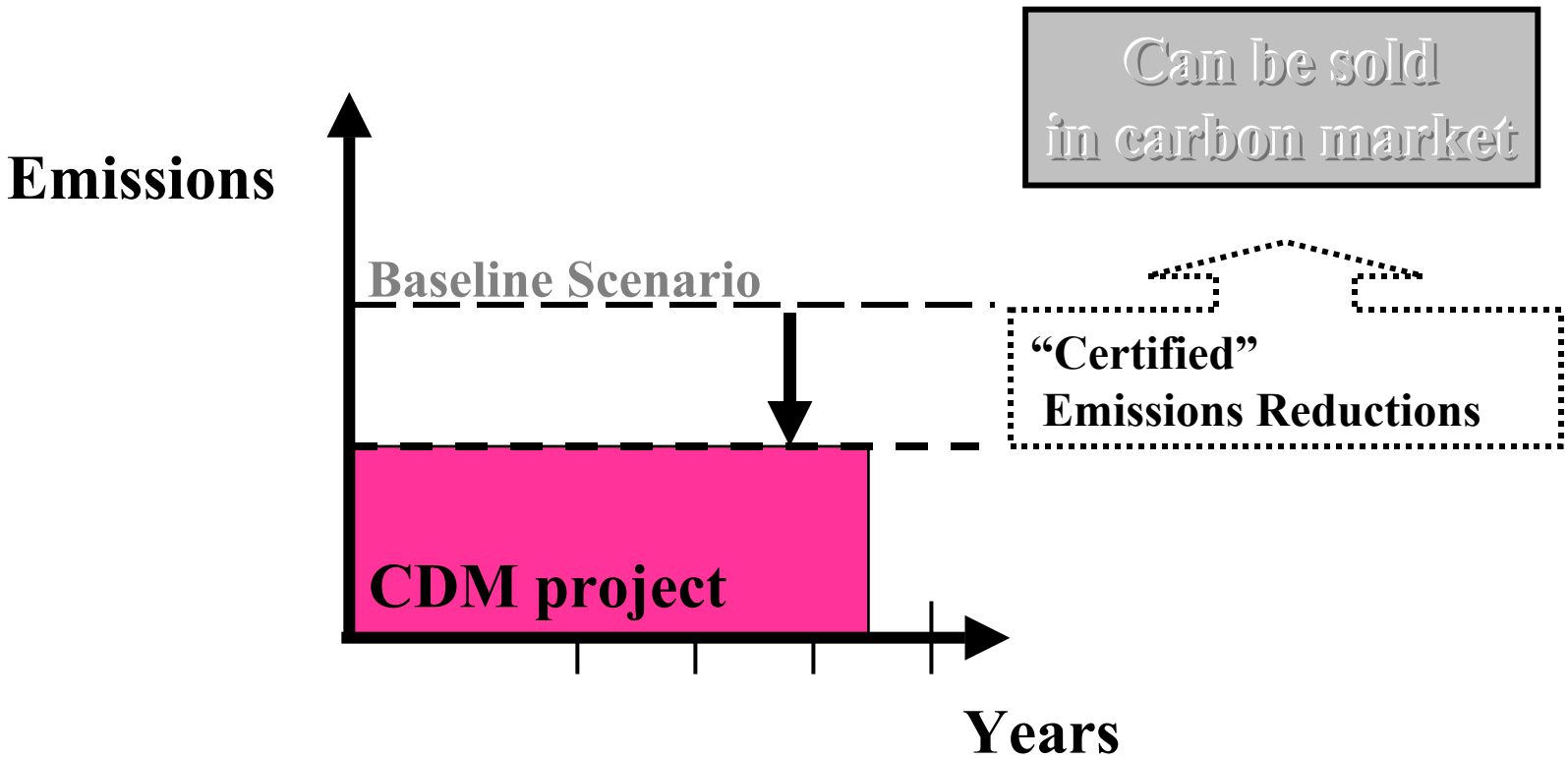
Baseline Overview

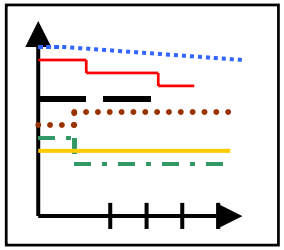


GHG Emissions Reductions



"Certified" ER's For Sale

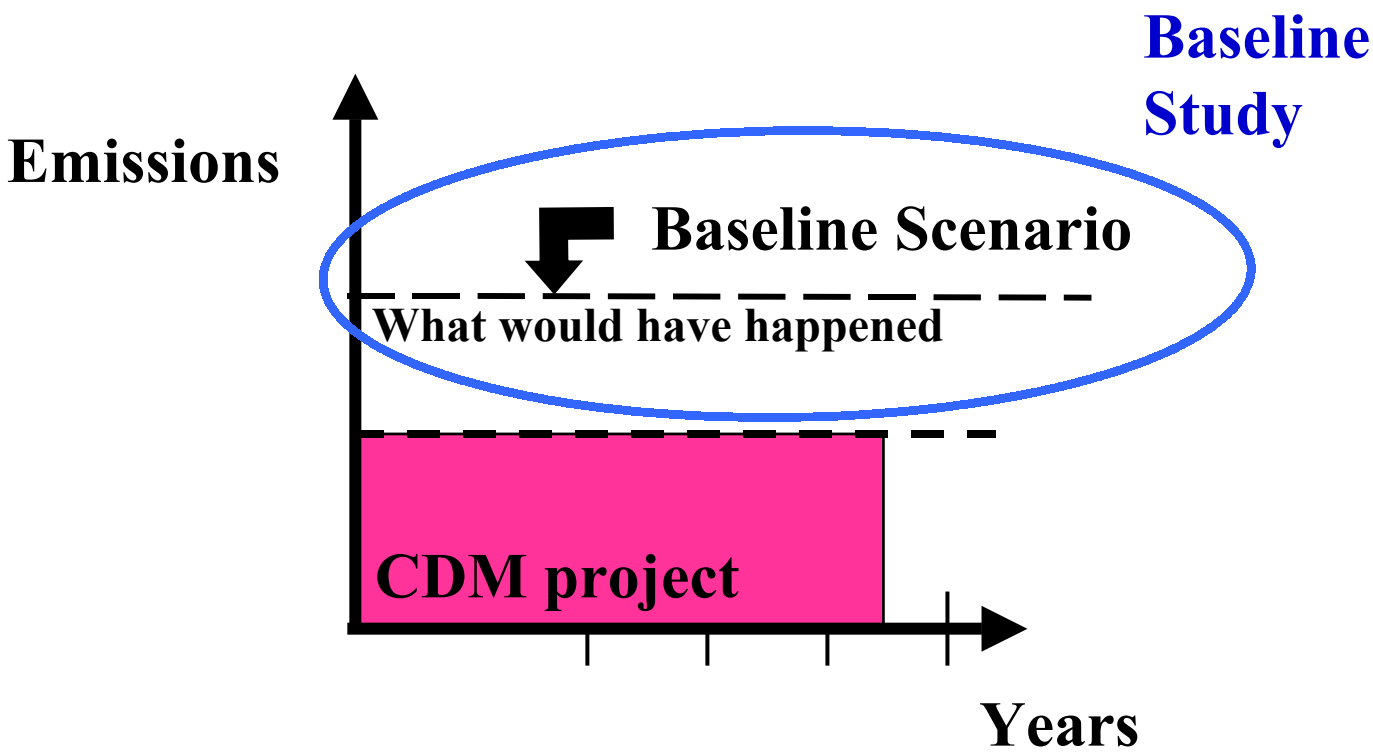


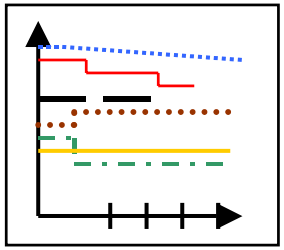


Project Design Document (PDD)

- **Project description**
- **Baseline study**
- **Monitoring plan**
- **Emission reduction study**
- **Environmental impacts**
- **Other (e.g., stakeholder comments, public funding sources, references, etc.)**

Baseline Study in PDD

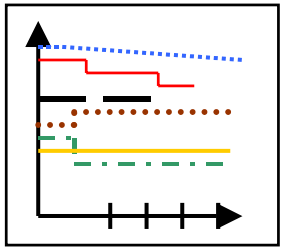




CDM Baselines M&P #45

A baseline shall be established …

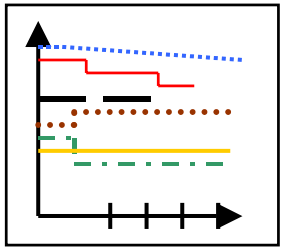
- **using approved and new methodologies;**
- **in a transparent and conservative manner;**
- **on a project-specific basis;**
- **using simplified procedures for small-scale projects;**
- **taking account of national and/or sectoral policies. (e.g., sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector)**



CDM Baselines M&P #48

Select baseline method …

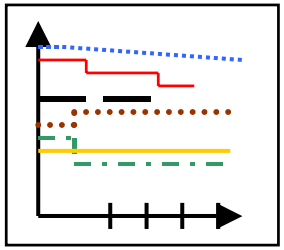
- **that is deemed most appropriate;**
- **that is consistent with guidance from Executive Board;**
- **justify the choice.**



CDM Baselines M&P #48 (cont.)

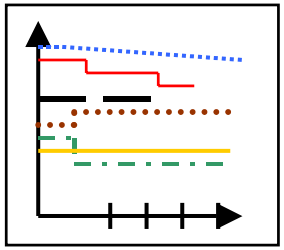
Baseline approaches:

- **Existing *actual or historical* emissions;**
- **Emissions from a technology that represents an *economically attractive* course of action, taking into account barriers to investment;**
- **The *average emissions of similar activities*, in previous 5 years, in similar social, economic, environmental circumstances, and whose performance is the top 20% of their category.**



Baseline Study

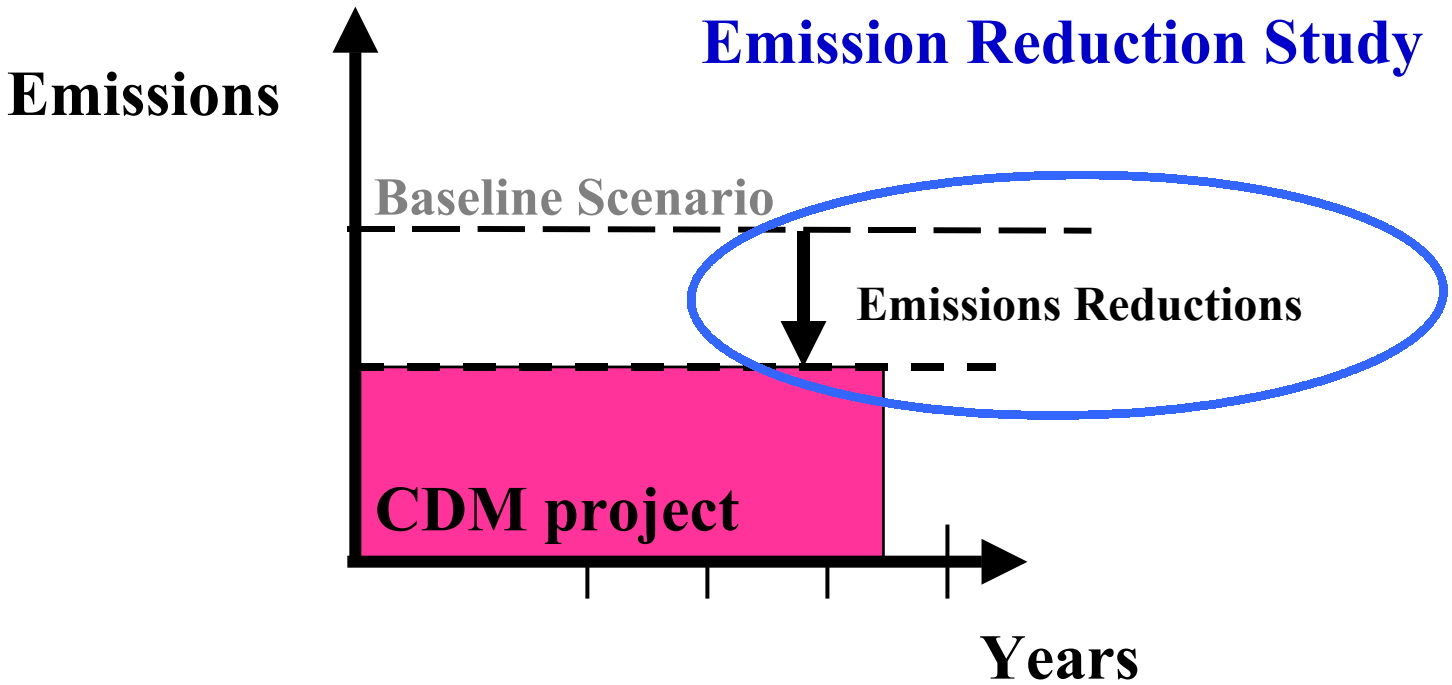
- **Selection of baseline method;**
- **Possible alternative scenarios (including BAU & project);**
- **Legal and other constraints;**
- **Selection of plausible alternative scenarios;**
- **Application of selected baseline method & determination of most likely baseline scenario**

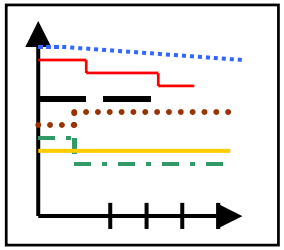


Baseline Study (cont.)

- **Discussion of time dimension of baseline**
- **Leakage (& permanence for sink projects)**
- **Greenhouse gases addressed**

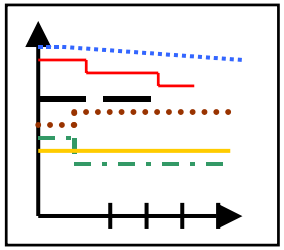
Emissions Reduction Study





Emissions Reduction Study

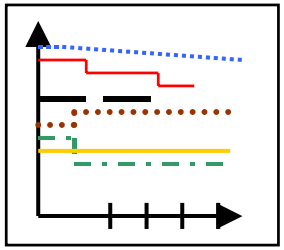
- **To estimate future:**
  - **emissions in baseline scenario**
  - **emissions in project**
  - **expected emissions reductions**
- **To establish *environmental additionality***
- **To provide sensitivity analysis**



Additionality

Key Eligibility Criterion

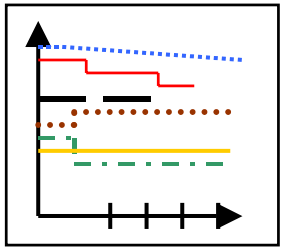
- **Environmental Additionality**
- **Project Additionality**



Environmental Additionality:

"A CDM project activity is additional if anthropogenic emissions of GHGs by sources are reduced below those that would have occurred in the absence of the registered CDM project activity."

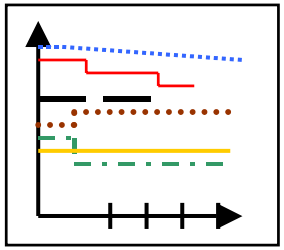
⇒ Emission Reductions = hypothetical *baseline* emissions – CDM project emissions



Project Additionality

Not clearly defined, but possible strategies:

- **Host country initiation;**
- **"A priori" categorization (e.g., renewables);**
- **Economic/investment analysis**
  - **Internal rate of return (IRR) comparison**
  - **Least cost comparison**
- **Scenario/barrier analysis**
  - **Comparison based on investment risk**



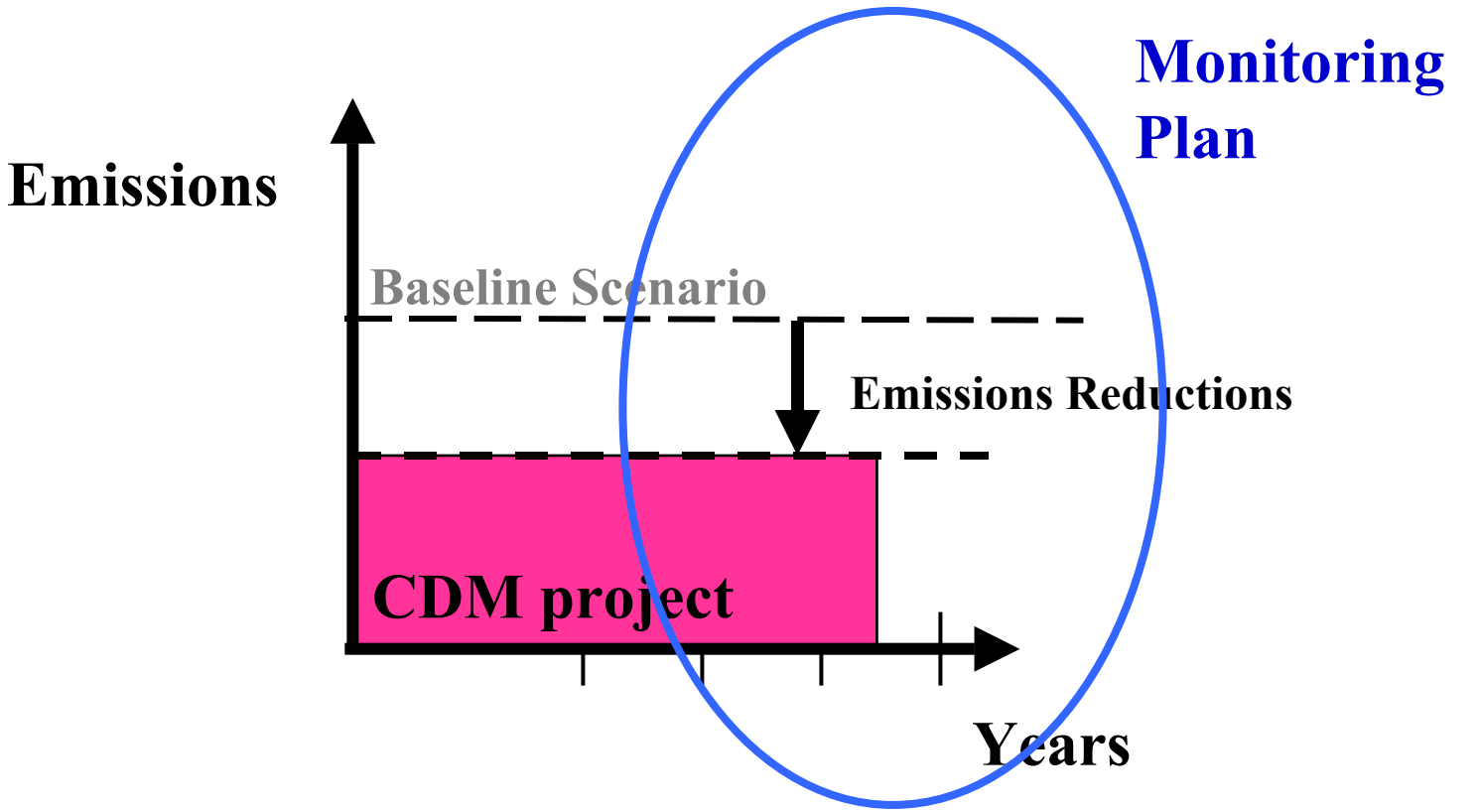
Crediting Period

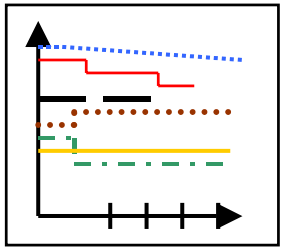
Project participants choose one of two alternatives:

- **Maximum of seven years,**
  - **Two renewals**
  - **Updated baselines**

- **Maximum of ten years,**
  - **No renewal**

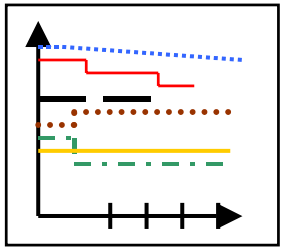
Monitoring Plan in PDD





Monitoring Plan in PDD

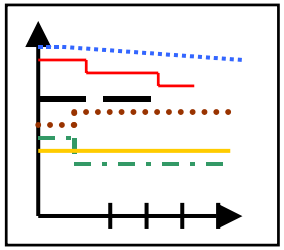
- **Provides for collection & archiving of data for:**
  - **baseline emissions**
  - **project emissions**
  - **leakage**
- **Monitoring QA/QC procedures**
- **Legally binding (part of ER purchase agreement)**



Small Scale CDM Projects

"Fast track" approval for:

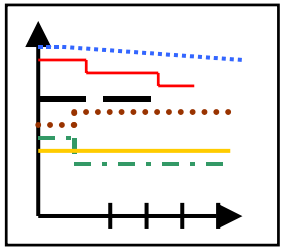
- ***Renewable energy*** **projects up to 15 MW of output capacity;**
- ***Energy efficiency*** **improvements reducing supply/demand by up to 15 GWh/year;**
- ***Other*** **projects reducing emissions at source & emitting <15 kt CO_2(e)/year**



Small Scale CDM Projects

- **Simplified baseline & monitoring methodologies**

- **For specific Technology/Measure, guidance on:**
  - **Boundary**
  - **Baseline**
  - **Leakage**
  - **Monitoring**



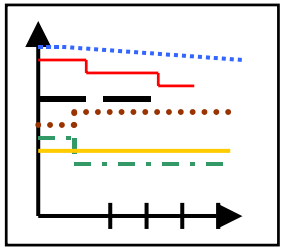
Type I: Renewable Energy Projects

- **I.A. Electricity generation by the user**
  (e.g. solar home systems, solar water pumps, wind battery chargers, etc.)

- **I.B. Mechanical energy for the user**
  (e.g., wind-powered pumps, solar water pumps, water mills, wind mill, etc.)

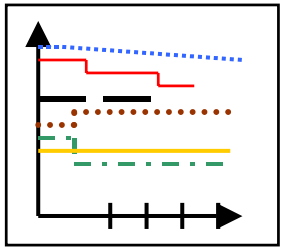
- **I.C. Thermal energy for the user**
  (e.g., solar water heaters & dryers, solar cookers, energy derived from biomass for water heating, space heating, drying, etc.)

- **I.D. Renewable electricity generation for a grid**



Type II: Energy Efficiency Improvement Projects

- **II.A. Supply-side EE improvements –transmission & distribution**
- **II.B. Supply-side EE improvements –generation**
- **II.C. Demand-side EE improvements for specific technologies**
- **II.D. EE & fuel-switching measures for industrial facilities**
- **II.E. EE & fuel-switching measures for buildings**



Type III: Other Project Activities

- **III.A. Agriculture**
- **III.B. Switching fossil fuels**
- **III.C. Emissions reductions by low-GHG emitting vehicles**
- **III.D. Methane recovery & avoidance**