# JI/CDM Project Presentation and Investors Forum

Leipzig 14 – 16 October, 2007

## Independent Third Party Inspection of CDM-/JI-Projects

Lessons Learnt

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**Competence Centre Climate Change**



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# List of Content

# Independent Third Parties

**Designated Operational Entities (DOEs)**

PROCEDURE FOR ACCREDITING OPERATIONAL ENTITIES BY THE EXECUTIVE BOARD OF THE CLEAN DEVELOPMENT MECHANISM

*Version 8, EB 34*

⇒ **Accreditation by CDM-EB**

**Accredited Independent Entities (AIEs)**

PROCEDURE FOR ACCREDITING INDEPENDENT ENTITIES BY THE JOINT IMPLEMENTATION SUPERVISORY COMMITTEE

*Version 2, February 2007*

⇒ **Accreditation by JI-SC**

# Timeline of Accreditation of DOEs

**Decision made by entity to apply for accreditation**

⇩

**List of AE**
**Call for Inputs**

⇩

**List of AE**
**with Indicative Letter**

⇩

**List of DOEs**
**function(s) & sectoral scope(s)**

| Ø | min | max |
|---|---|---|
| ? | ? | ? |
| 1 year | 0,5 year | 2 years |
| 1 year | 0,5 year | 1,2 years |
| 2,0 years | 1,0 year | 3,2 years |

# ▶ Status Quo of DOEs and AEs (20.8.2007)

**40 entities have launched an application for accreditation**

- **18 entities are accredited (DOE-status)**
- **07 entities with a successful on-site assessment (AE-status with IL)**
- **12 entities have not finished the on-site assessment (AE-status)**
- **03 entities have withdrawn their application**

# Functions of DOEs / IEs

**1. Validation / Determination of Project PDD (ex-ante investigation)**

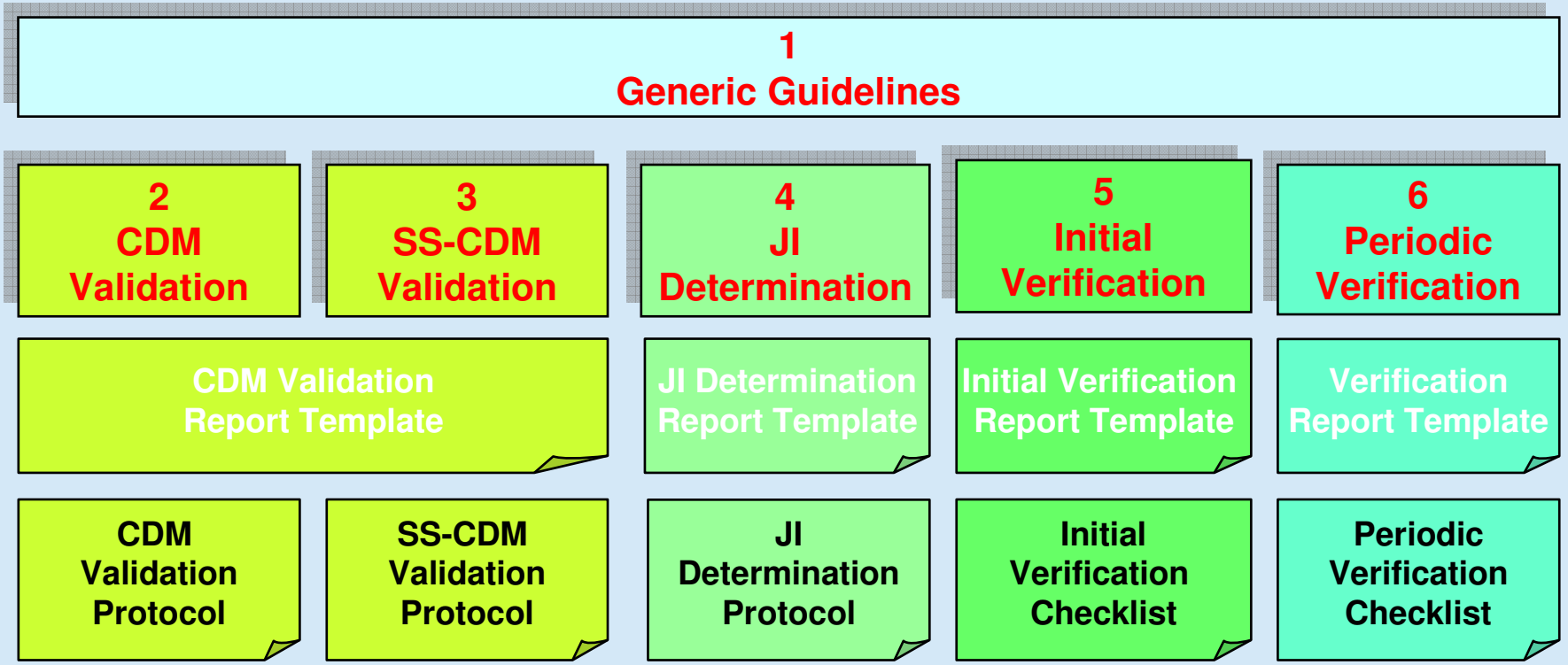
**2. Verification of Emission Reductions (ex-post investigation)**

**Request for**

- **Approval of New Methodologies**
- **Deviation from Approved Methodology**
- **Clarification / Guidance**
- **Revision of Approved Methodologies**
- **Review**
- **Registration / Approval**

# List of Content

# ▶ Validation and Verification Manual*




***… independent state-of-the-art tool describing approaches and practices to be applied jointly by DOEs / AIEs***



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# Validation / Determination Process: Steps

1
Contract Review incl. Completeness Check

2
Audit Team Selection

3
Global Stakeholder Process

4
Desk Review of PDD

5
On Site Visit

6
Draft Validation /Determination Report and Protocol

7
CLs and CARs

8
Internal Review

9
Final Validation / Determination Report and Protocol

10
Request for Registration or Approval

# Validation / Determination Process: Topics

1
Background Information

2
Technological Issues

3
Baseline and Monitoring Methodology

4
Additionality

5
Global and Local Stakeholder Process

6
Monitoring Plan

7
Small Scale Projects, Bundling and De-Bundling

8
EIA

9
Crediting Period

10
Reduction of GHG Emissions

# Validation / Determination Process: Findings

1
**Limited Understanding and Proof of "Additionality"**

2
**Limited evidence for CDM-/JI-Consideration**

3
**Limited Consistency of PDD**

4
**Unclear Project Boundaries**

5
**Application of Outdated Methodologies**

6
**Limited Evidence of Local Stakeholder Process**

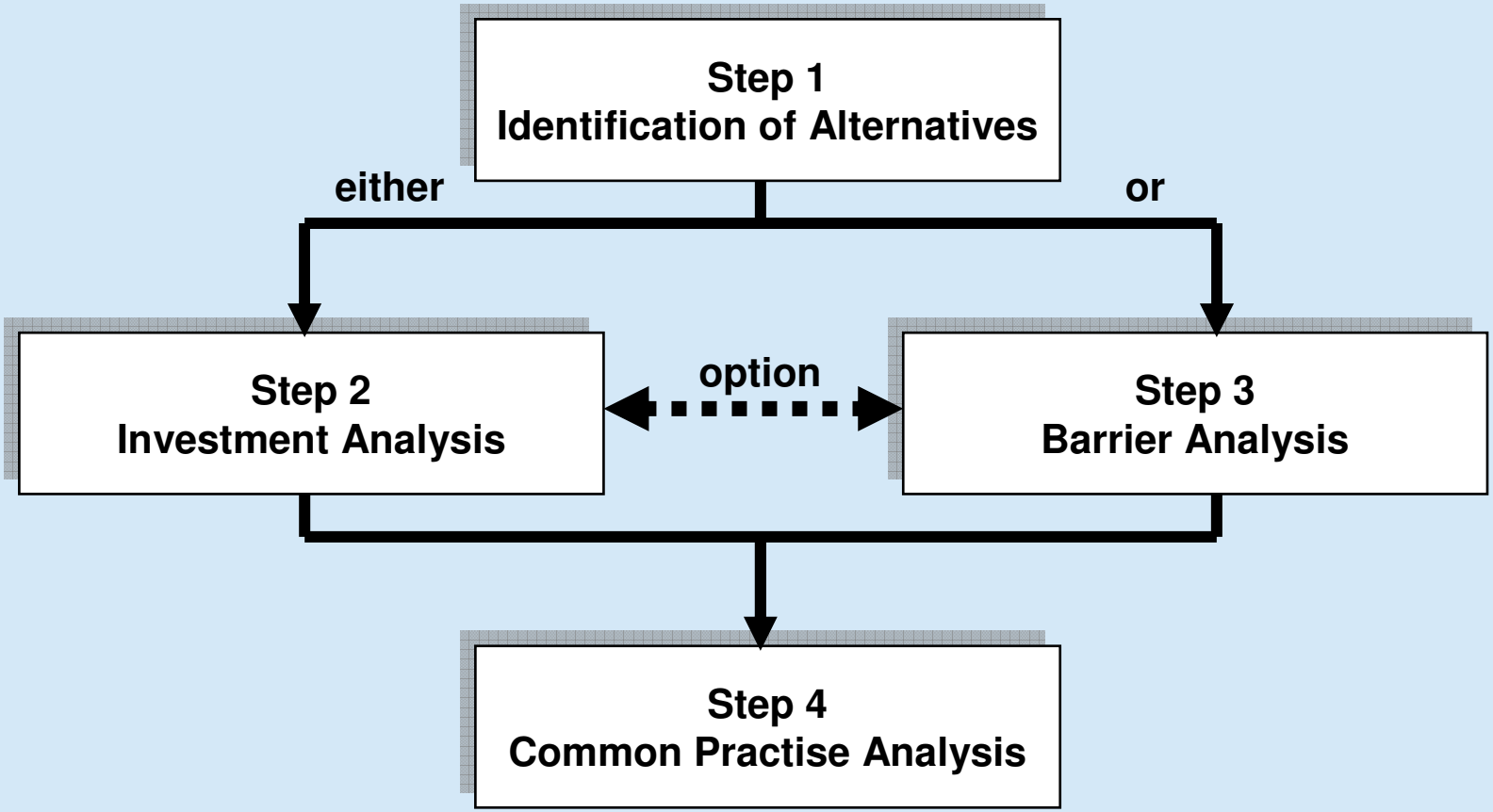
7
**Limited EIA**

8
**Application of Default Values not Traceable**

9
**Documents in Local Language**

10
**Missing LoA**

# Demonstration and Assessment of Additionality*




*** (version 03) EB 29**

# Key Questions

| | |
|---|---|
| **Step 1**<br>**Identification of Alternatives** | **Are there any alternatives to the CDM-project?** |
| **Step 2**<br>**Investment Analysis** | **Is the CDM-project financially attractive?** |
| **Step 3**<br>**Barrier Analysis** | **Are identified alternatives prevented by at least one of the identified barriers?** |
| **Step 4**<br>**Common Practise Analysis** | **Can similar activities be observed?** |

# Investment Analysis

| | |
|---|---|
| **Subtask a**<br>**Selection of Method** | **Simple Cost (I), Investment Comparison (II) or Benchmark Analysis (III)** |
| **Subtask b**<br>**Application of Method** | **Revenues only from CERs ⇒ Option I**<br>**If other Revenues ⇒ Option II or III** |
| **Subtask c**<br>**Calculation of Indicators** | **IRR, NPV, and/or Product-Specific Costs (only for Option II and III)** |
| **Subtask d**<br>**Sensitivity Analysis** | **Reasonable Variations of Critical Parameters** |

# Calculation of IRR

| | |
|---|---|
| **Option II**<br>**Investment Comparison Analysis** | **<u>either</u> Project IRR <u>or</u> Equity IRR !** |
| **Option III**<br>**Benchmark Analysis** | **<u>only</u> Project IRR ! *** |

* However, if there is only one potential project developer (e.g. when the project activity upgrades an existing process), the IRR **shall** be calculated as **equity IRR**!

# Definition of Project IRR and Equity IRR

**Project IRRs**
calculate a return based on project cash out- and inflows only, irrespective of the source of financing

**Equity IRRs**
calculate a return to equity investors and therefore also consider the cash out- and inflows of debt financing

**Project IRR ≠ Equity IRR**

# Assessment of IRR

▷ **IRRs should be as high as possible!**

▷ **IRR should be at least higher than a threshold**

**Thresholds are company and project specific, i.e.**

- Projects with high risks need higher IRRs
- Investors with attractive alternatives ask for higher IRRs

# ▶ Calculation of NPV (without tax)

| Year | 0 | 1 - 10 |
|---|---|---|
| Investment | - 700 | - |
| O&M | - | - 40 |
| Sale of Electricity | - | +210 |
| ∑ | - 700 | +170 |

▷ **NPV (25%) ⇒ - 93**

▷ **NPV (20%) ⇒ +13**

▷ **NPV (0%) ⇒ +1.000**

▷ **NPV (20%) > 0 ⇒ CDM-project is economically attractive !**

# ▶ Calculation of NPV (with tax)

| | 0 | 1 - 10 |
|---|---|---|
| ∑ 1 | -700 | 170 |
| Depreciation | - | -70 |
| Revenues | | 100 |
| Tax (30%) | | -30 |
| ∑ 2 | -700 | 140 |

▷ **NPV (25%)** ⇒ **- 200**

▷ **NPV (20%)** ⇒ **- 113**

▷ **NPV (15%)** ⇒ **+ 3**

▷ **NPV (20%) < 0** ⇒ **CDM-project is economically <u>not</u> attractive !**

# List of Content

# Verification Process: Steps

1
Contract Review incl. Completeness Check

2
Audit Team Selection

3
Publication of Monitoring Report

4
Desk Review of Monitoring Report

5
On Site Visit

6
Draft Verification Report

7
CLs and CARs

8
Internal Review

9
Final Verification Report

10
Certification of CERs and ERUs

# Verification Process: Topics

1
Background Information
(e.g. PDD, Validation Report)

2
Open Issues of Vaildation /
Determination Process

3
Project Implementation

4
Implementation of Monitoring
Methodology and Plan

5
Assessment of
Metering Equipment

6
Data Management
and Processing

7
QA / QC

8
Calculation of GHG
Emission Reductions

9
Risk Analysis incl. Accuracy

10
Assessment of External Data

# Verification Process: Findings

1
Missing Approvals, Licences, etc.

2
Limited Documentation

3
Missing Calibration

4
Cooperation with Non Accredited Labs

5
Deficits in Data Processing (e.g. different data bases)

6
Inconsistencies over Time

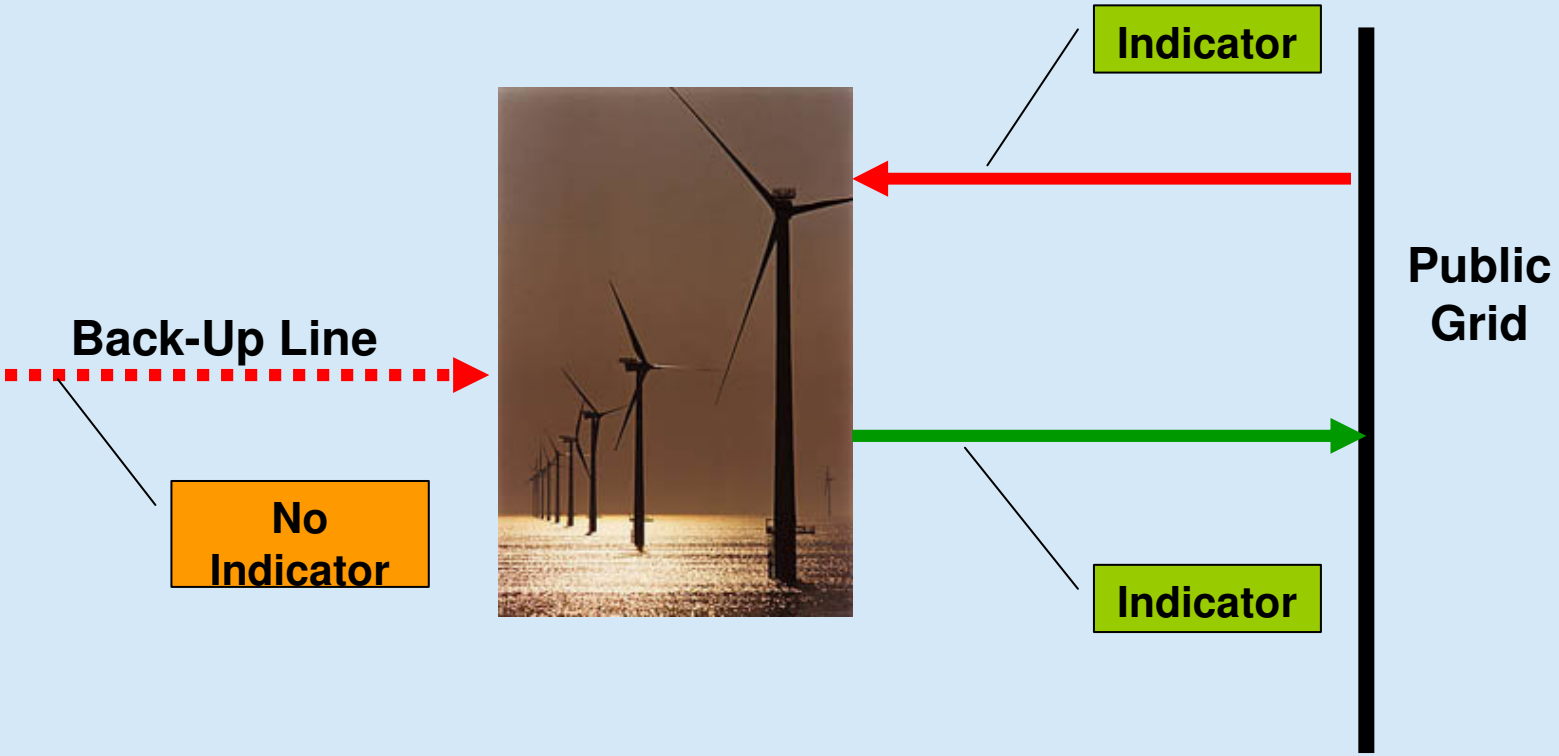
7
Unforeseen Difficulties with Selected Methodology

8
Limited Traceability of Data

9
Missing Metering Devices

10
Limited Training of Working Personnel

# Example: Wind Farm



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# Summary

- **Accreditation procedure for DOEs / AEs (min 1 y / average 2 y)**
- **Experience of ≈ 20 DOE ⇒ ≈ 800 registered projects**
- **Validation /Determination = key functions of DOEs and AEs (but not the only one!)**
- **VVM is common practice**
- **Additionality is key problem in validation / determination**
- **Data management and QA/QC issues are key problem in verification**