



EU-China CDM Facilitation Project Workshop on Validation

Validation and Verification Manual (Validation Guidelines)

Beijing

November 14th, 2007

Prof. Dr. Günter Schock
TÜV Rheinland Group

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- CDM validation objective
- Risk-Based Validation Approach
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- Sustainable development and approval of Parties Involved
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■ CDM validation objective

The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the Monitoring Plan, and the project's compliance with relevant UNFCCC and host Party criteria shall be validated in order to confirm that the project design as documented is sound and reasonable and meets the identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

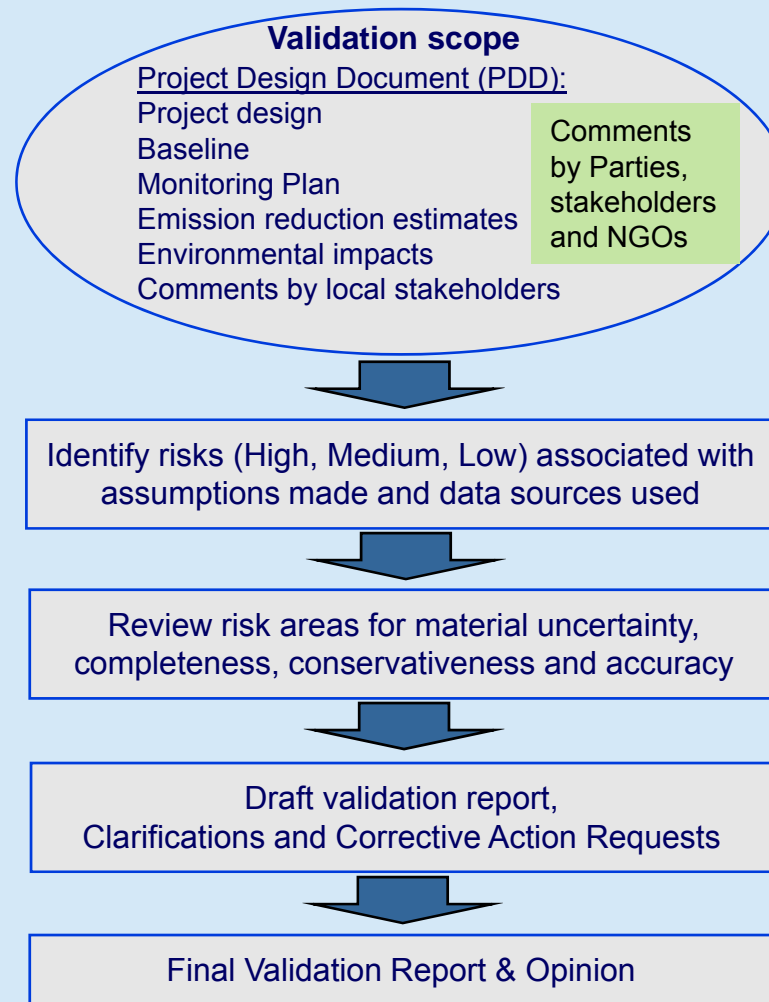
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■ Risk-Based Validation Approach

- The validator shall use a risk-based validation approach to focus and to determine the detailed scope of the validation.
- The key risks associated with the project design, baseline, monitoring plan, emission reduction estimates, environmental impacts and comments by local stakeholders are elements that are critical for meeting UNFCCC criteria for achieving real, measurable, long-term as well as additional GHG reductions.

■ Risk-Based Validation Approach



■ Risk-Based Validation Approach - Examples

Accuracy of Emissions in the Baseline

High	Moderate	Low
<p>The accuracy of the emissions in the selected baseline is low. Emissions are estimated or calculated.</p> <p>Example: A baseline scenario was based on emissions determined from a registration system of a production unit. The systems of registration was weak and/or the documented systems were lacking.</p> <p>To reduce the risks substantive data testing was required in order to verify the emission level per tonne of product produced.</p>	<p>The accuracy of the emissions in the selected baseline is limited, but the impact of this issue on the overall emission level was equally limited (<5%).</p> <p>Example: The measuring devices for the coal consumption in the baseline of a fuel switch project were old and not very accurate. As a result of this the estimated error in the baseline emission data was $\pm 5\%$.</p> <p>The reported emission data for the baseline was reduced by 5% to compensate this inaccuracy.</p>	<p>The accuracy of the emissions in the selected baseline is limited but the impact of this issue on the overall emission levels is negligible (<1%).</p>

■ Risk-Based Validation Approach - Examples

Uncertainty of external data sources

High	Moderate	Low
<p>External unverified data sources are used. An error in these data would have a material impact (>5%) on the baseline emissions.</p> <p>Example: In a wind farm project the produced electricity will replace a similar amount of fossil fuel based electricity. The national emission data that were used for calculating the baseline emissions have never been verified. This could have a material impact on the calculated baseline emissions .</p>	<p>External unverified data sources are used . An error in these data would have a limited impact (<5%) on the emissions on the baseline emissions.</p> <p>Example: IPCC default values for the carbon content and the net calorific value of coal were used for the calculation of baseline emissions of a fuel switch combustion project. No check was made whether these values were applicable for the type of coal used in this specific case. To reduce this risk, the project proponent was requested to provide analyses from the coal used by the project.</p>	<p>External unverified data sources are used. An error in these data would have a negligible impact (< 1%) on the baseline emissions.</p> <p>Example: Default values from the “Cement industry GHG protocol” were used for the determination of the CO₂ emissions of the decarbonisation of limestone in a cement plant. Checking the analyses of the raw materials used in the project showed that the real data gave comparable results with the default values.</p>

■ Risk-Based Validation Approach - Examples

Coverage of Leakage

High	Moderate	Low
<p>Leakage has not been included in the baseline study and material leakage can be expected in the project. (>5% of project emissions).</p> <p>Example: As the result of a fuel switch project (from coal to gas) a waste stream that used to be blended with coal before combustion is now land-filled. This leads to additional landfill emissions.</p>	<p>Leakage has not been included and limited (<5%) leakage is expected.</p> <p>Example: In a fuel switch project, coal is replaced by natural gas. However the natural gas pipeline system is not well maintained and substantial leakage of gas occurs from this system. The supply chain of both 1) coal for the baseline scenario and 2) gas for the project scenario have been excluded from the scope of the project.</p>	<p>Leakage has not been included, but the effects of leakage are negligible (<1%).</p> <p>Example: The use of biomass as fuel in a project leads to additional transport. If this transport is material the additional transport emissions should be included in the project scenario. The project developers made an estimation of the impact of this issue on the overall emissions, showing that the impact on the presented emission reductions will be less than 1%.</p>

■ Risk-Based Validation Approach - Examples

Baseline emissions assumptions

High	Moderate	Low
<p>There is insufficient evidence for parts of the baseline emissions existence.</p> <p>Example: The baseline scenario of a bio-fuel project has been based on the assumption that the wood cuttings are land filled, and thus leading to methane emissions. During the validation site-visit it appeared that the bio-fuel material was not land filled but used for the production of chipboard. As a result of this, no evidence was found for more than 40% of the assumed baseline emissions.</p>	<p>There is insufficient evidence for parts of the baseline emissions existence, which have a limited impact on the baseline emissions (<5%).</p> <p>Example: In a landfill gas recovery project one assumed that landfill gas was emitted to the atmosphere in the baseline. During the validation site-visit it appeared that during the warm season some of the gas was flared to reduce odour . Therefore in the most likely baseline, flaring had to be taken into account. Since only a part of the gas was expected to be flared, the impact of this issue on the baseline emissions was limited.</p>	<p>The amount of emission reductions is uncertain due to an uncertain baseline situation. This has no impact on the accuracy of emission reductions, as the emission variations will be covered through the monitoring plan.</p> <p>Example: A cement plant might produce at lower production levels or even be shut down for economical reasons. Consequently, the projected emission reductions will not occur. However, this does not affect the risk of misstating the emission reductions because the production level is one of the monitoring parameters of the monitoring plan.</p>

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■ CDM Validation Criteria

The validator shall test and when possible confirm that the project design meets the following criteria:

- UNFCCC criteria: Modalities and procedures for the CDM (Marrakech Accords) and the relevant decisions by the CDM Executive Board.
- Host Party criteria: National CDM requirements, including sustainable development priorities, and potential specific requirements contained in, for example, the preliminary approval by Designated National Authority or project agreements between involved parties.

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■ Sustainable development and approval of Parties Involved

CDM shall assist Parties not included in Annex I in achieving sustainable development.

(Kyoto Protocol, Article 12)

The DOE shall receive written approval of voluntary participation from the designated national authority of each Party involved, including confirmation by the host Party that the project activity assists it in achieving sustainable development.

(CDM modalities & procedures, paragraph 40 (a))

■ Sustainable development and approval of Parties Involved

- The validator shall assess whether the social and environmental impacts of a project are sufficiently addressed and whether the project is in line with sustainable development criteria defined by the host Party.
- Moreover, the validator shall verify that the host Party has confirmed that the project assists in achieving sustainable development.
- If sustainable development criteria are elaborated and accepted by the host Party, a discussion on how the project complies with the sustainable development criteria shall be included in the project's PDD.
- If no sustainable development criteria are defined, the validator shall assess the project's compliance with the host Party's current sustainable development priorities if these are defined.



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■ Assessment of environmental impacts

Project participants shall submit to the DOE documentation on the analysis of the environmental impacts of the project activity. If those impacts are considered significant by the project participants or the host Party, project participants shall have undertaken an environmental impact assessment in accordance with procedures as required by the host Party.

(CDM modalities & procedures, paragraph 37 (c))

■ Assessment of environmental impacts

- The validator shall determine whether an assessment of the environmental impacts of the project is required by national legislation. If so, the validator shall verify that the assessment of the environmental impacts has been carried out in accordance with national requirements and that the assessment of the environmental impacts has been approved by the relevant national authority.
- Where no legal requirements exist, the analysis of the environmental impacts of the project activity should be reviewed by the validator to ensure this is in line with the CDM-PDD. The coverage of such a review has not been formally decided yet, but the validator should review that all relevant impacts have been identified and are properly taken into account in the project.

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■ Ex-ante vs. Ex-post Assignments

- Ex-ante means "beforehand".

Ex-ante calculations are therefore based on estimates and predictions about the project activity's performance

- Ex-post means "after the fact".

Ex-post calculations use monitored data to quantify the actual performance of the project activity. Ex-post calculation of baseline emission rates may only be used if proper justification is provided (CDM EB meeting 10).

■ Examples of ex-ante data sources and evidence

- Relevant studies or surveys undertaken by third parties such as research institutions, industry associations and multilateral institutions
 - Statistical data from national or international statistics
 - Relevant market data (e.g. market prices, tariffs etc)
 - Documented evidence from within the company, including historic data and feasibility studies
 - Written documentation of independent expert judgments from industry, educational institutions, industry associations and others
 - Default IPCC values
- ▶ Several CDM baseline methodologies allows for ex-ante determined data for calculation of emission reductions. If so, all data that contributes to ex-ante determined factors and calculations should be carefully checked and verified by the DOE in order to ensure that the calculations are correct and will constitute conservative emission reductions.

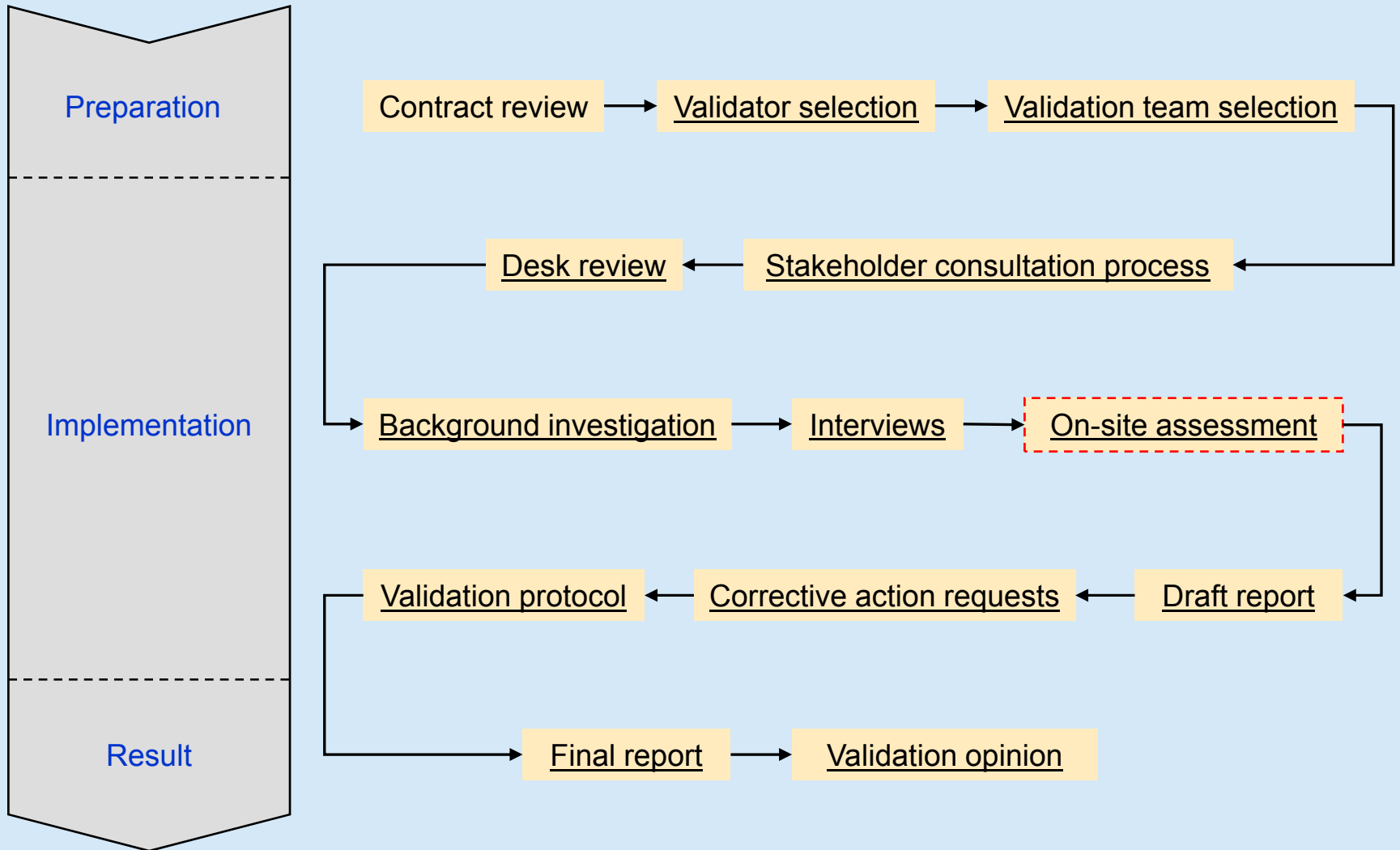
■ Examples of ex-post data sources and evidence

- Source data including invoices, meter records, stock delivery records etc.
- Information management procedures and any databases and spreadsheets used
- Up-to-date statistical data from national or international statistics
- Up-to-date market data (e.g. market prices, tariffs etc)

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■ Overview of validation process



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■ Unresolved Issues

- Although the majority of the modalities and procedures for the CDM are in place, the CDM is still not fully operational. As a consequence, a project may not yet fulfil all relevant validation criteria at the time the validation is concluded and a qualified validation opinion is issued.
- This may be due to one or more of the reasons below:
 - The host Party has not yet defined sustainable development requirements or other requirements applicable for CDM projects;
 - The host Party has not yet established or designated a national authority to approve (or reject) CDM project activities;
 - The modalities for including afforestation and reforestation activities under the CDM are not yet in place.



■ Unresolved Issues

- It must be kept in mind that a validation only can tell something about the project's likelihood to comply with requirements and to succeed at a certain point in time and under given circumstances.
- If factors that impact project performance change after validation, such changes shall be brought to the attention of the verifier.