Implementation of materiality as a concept

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Concept of materiality - background

- Materiality (like many other audit concepts) is a **well established principle** and is used widely in auditing (e.g. for financial (tax relevant) audits or greenhouse gas audits in the EU ETS as well as The Climate Registry). It should not be seen as something untried or untested.
- Materiality talks about **errors that could influence** the intended users decision. The concept is referring to the "probability" of an error, omission and misstatement occurring
  - **Quantitative** - how big is the individual source stream in relation to the total emissions? (%)
  - **Qualitative** - how good is the quality management and assurance (QM/QA) at the project site to avoid an error, omission, misinterpretation in the monitoring and reporting of an emission source stream? (high, medium, low)
- Level of Assurance
  - **Reasonable** (preferred for JI)
  - Limited
- Concerns verification of data both at determination and verification stages

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Concept of materiality - consequences

- Applying the concept of materiality does **not** mean that errors that have been identified are not corrected by the project participants. If an error is found by the verifier, the responsible party will be asked to correct it and if applicable adjust the amount of baseline/project emissions (emissions reductions)

- Without materiality and level of assurance validations and verifications will be substantially more burdensome and as a result time consuming and expensive without leading to any significant changes in CERs.

- Materiality will help enhance an efficient JI without reducing the quality and credibility of ERUs

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Concept of materiality – what is the alternative?

- Absolute assurance (i.e. 100% certainty)
  - is **impossible** to achieve in audits that e.g. have to review large amounts of data. That is true for financial as well as GHG audits.
  - can only be achieved if each and every parameter and data entry is checked, this is **impossible** for large data sets.
  - would more or less require the auditor to be continuously present during the monitoring and reporting. **Not realistic**.

- In practice, materiality is applied already. Formal implementation is valuable to
  - formalise the requirements on how to apply materiality.
  - ensure harmonised interpretation of materiality across AIE/IEs.
  - reduce risk of subjectivity
  - increase transparency

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Concept of materiality – possible implementation

- AIE/IEs suggest that a materiality **threshold of 5 %** should be accepted for all JI projects, except for projects reducing greater than 100,000 tCO2e/annum, where it should be **1 %**
- AIE/IEs suggest formal inclusion of **reasonable** level of assurance for JI determinations and verifications
- The objective is to ensure a functional JI while maintaining its integrity and not clog the process with very small, insignificant issues

The classification of risks in any assessment of data should be based on:

- The impact of the individual contributions to the total figure of emission reductions coupled to the likelihood that they are likely to occur,
- The use of conservative approaches to both the identification of the various risk elements and the associated estimation of the level of materiality, and
- Recognizing the need to identify individual errors in the data provided, while also assessing the possible aggregation of errors and then comparing these with a pre determined threshold value
- The auditor will first review the QM/QA documentation. In a second step he/she will corroborate how well the documentation is understood and applied. This is done on site through interviews and record checks.
- Professional judgement

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Concept of materiality. Example 1:
Monitoring of electricity generation from small-scale hydro project

- Automated metering system does not exist and data is manually recorded on a daily basis and kWh generated transferred into spreadsheet
- Monitoring plan requires monthly reporting and monitoring period constitutes a span of 2 years
- As a simple system (no project emission), electricity generation data is the only contributor to the final emission reductions (100%)
- **100% assurance:** DOE needs to check if monthly data is generated correctly from daily data (2 years=730 readings)
- **Using a predetermined level of materiality:** Based on the type of instrumentation used and the availability of appropriate QA/QC and reporting procedures, the DOE may assess the likelihood of an error occurring*, and taking this into account together with the potential contribution of the parameter to the final CERs, establish an appropriate level at which the data is checked.

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Concept of materiality. Example 2:

Monitoring N2O concentration in the stack gas and volume flow rate of stack gas

- Monitoring of these parameters is required at 2 second-intervals using an Automated Measuring System (AMS)
- The results obtained are used to calculate mean N2O concentration and mean volume flow rate, which in turn are used to calculate both the baseline N2O emission factor and the campaign-specific emission factor
- Both are significant to emission reductions calculation
- **100% assurance:** DOE needs to check on how the 2 second-interval data are used in the calculation of EF_{BL} and EF_{CL}
- **Using a predetermined level of materiality:** If the AMS passed all Quality Assurance tests in accordance with the applied standard, the DOE may assess that the likelihood of error occurring is small, and therefore establish an appropriate sampling check in place of verifying every item of reported data

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Concept of materiality. Example 3:
Monitoring fossil fuel consumption to operate landfill gas (LFG) projects and methane content in LFG

- "True values" are unknown, however approximated by 'metered values' measured by regularly calibrated meters

Monitoring fossil fuel consumption:

- Since fossil fuel is only for limited use, the fuel is normally supplied from small daily tanks
- Fuel consumption is measured using a ruler gauge and recorded manually in a log book
- Project emission associated with the use of fossil fuel is likely to contribute less than 1% of annual emission reductions

Monitoring methane content in LFG:

- Methane content in LFG is a key parameter for determining baseline emissions and is to be continuously monitored
- Methane can be measured with an online analyser, generating data every 5 seconds. Data is automatically generated together with LFG flow, temperature and pressure
- Baseline emissions associated with the avoided methane generation is the main contributor to total emission reductions (e.g. 90%)

100% assurance: DOE needs to cross check every single reported data with the original sources

Using a predetermined level of materiality: the DOE may assess whether an individual error or the aggregation of errors, omissions, etc. could affect total CERs, taking into account:

i) contribution/impact of each parameter to total emission reduction (i.e. 1% for fossil consumption vs. >90% for methane content); and

ii) the likeliness of errors, omissions, etc. from transposing measured data into reported data (i.e. manual recording vs. automated/online system)

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Concept of materiality - conclusion

- The concepts of Materiality and level of assurance should be included in JI as soon as possible to assist AIE/IEs and the UNFCCC. Materiality will help enhance an efficient JI without reducing the quality and credibility of ERUs. The objective should be to detect the big/significant errors but not clog the process with very small, insignificant issues.
- AIE/IEs suggest that a materiality threshold of 5 per cent should be accepted except for JI projects reducing greater than 100,000 tCO2e/annum, where it should be 1 per cent.
- AIE/IEs suggest to require a reasonable level of assurance for JI determinations and verifications.

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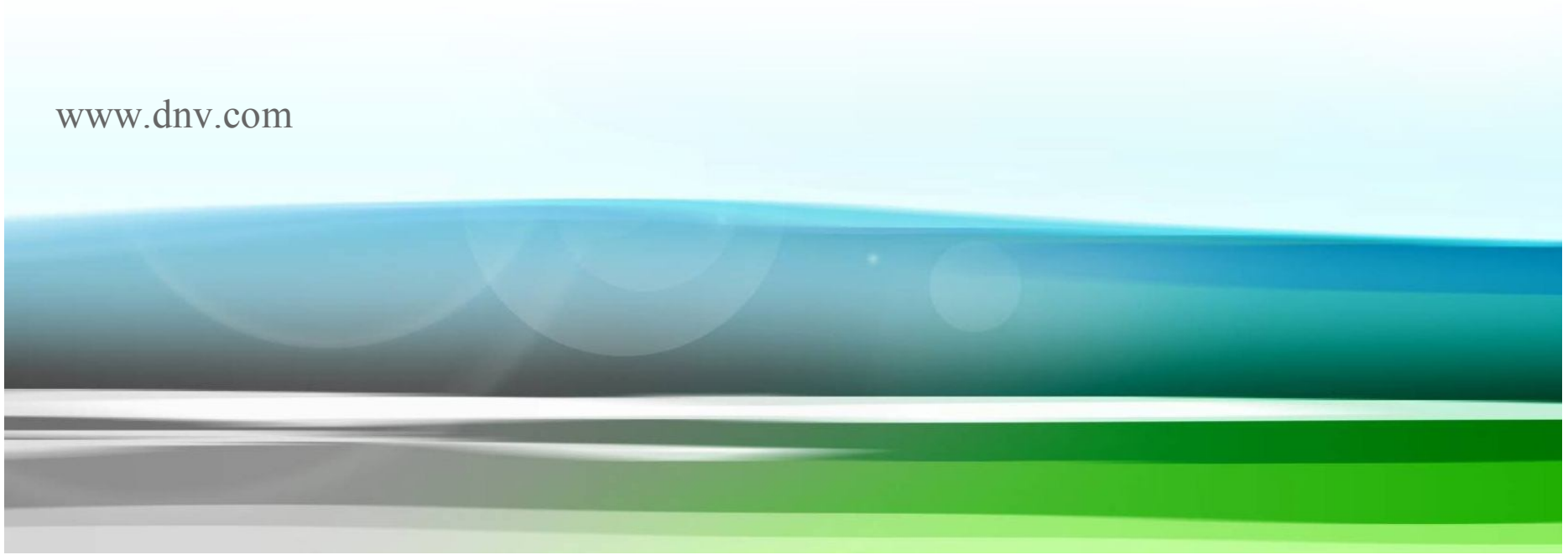

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