

# **Conservativeness in baselines**

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## Conservativeness in the Marrakech Accords

### Para 45 of 17/CP.7:

A baseline shall be established in a transparent and conservative manner regarding the choice of approaches, assumptions, methodologies, parameters, data sources, key factors and additionality, and taking into account uncertainty.

### ⇒ Conservativeness important

- In the development of new baseline methodologies
- In the application of baseline methodologies
- In the validation by DOEs

## What is conservative? How conservative should one be?

- **Example: Baseline is anaerobic treatment of wastewater in ponds**
  - Key factor: Methane generation per organic carbon
  - Possible range: 10% to 90% of carbon converted to methane
  - Average value 50%
  - Conservative value???
- **Conservativeness in GHG inventories (Article 5.2 guidelines):**
  - 25<sup>th</sup> or 75<sup>th</sup> percentiles of the range generated by an uncertainty value => 30% from 10%-90% range if all values are equally likely
  - Development of conservativeness factors, assuming a log-normal distribution

## Conservativeness factors according to Article 5.2 Guidelines

Uncertainty range	Assigned uncertainty	Conservativeness factor	
		Where a <b>smaller</b> parameter or estimate is more conservative	Where a <b>larger</b> parameter or estimate is more conservative
< 10%	7%	0.98	1.02
10% - 30%	20%	0.94	1.06
30% - 50%	40%	0.89	1.12
50% - 100%	75%	0.82	1.21
> 100%	150%	0.73	1.37

## Choice of parameters

### 1. Choice between different values

- Use the more conservative (lower / higher) value
- Take the average value and apply conservativeness factor, taking into account uncertainty

### 2. Choice within a range (e.g. IPCC ranges)

- Very conservative: choose the value at the lowest or highest end of the range
- Use best estimate (e.g. average or default value) + apply conservativeness factor, taking into account uncertainty
- Wastewater treatment example:
  - Average value: 50%
  - Uncertainty range: 50 -100%
  - Conservativeness factor: 0.82
  - Applied value:  $50\% \times 0.82 = \underline{42\%}$

## Choice of parameters (cont.)

### 3. Default values with large uncertainty

- Apply default value and conservativeness factor, taking into account uncertainty

## Choice of approaches and methodologies

- The choice of correct baseline approach is **hypothetical**
- Determination in an objective manner not possible
- Uncertainty may be significant
- E.g. different baseline methodologies or scenarios may be reasonable, but lead to significantly different emission reductions
  - E.g. discussions on build margin, operational margin, exclusion of hydro, etc
- **Conservative scenario / methodology = ???**
  - A scenario on the safe side, but not the lowest?
  - Further discussion required

## Conclusions

- Baseline should be conservative, but conservativeness should not be a punishment for project participants
  - Conservativeness is strongly related to uncertainty
  - Be conservative where uncertainty is high  
(and forget about it where estimates are very certain, e.g <10%)
- Approach from GHG inventories (Article 5.2) seems reasonably conservative and is currently discussed within the Meth Panel in the context of methodologies
- Methodologies should describe more clearly for project participants, when and how to address conservativeness



**Thank you for your attention !**

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