Electricity: Baseline recommendations and options

By energy supply break-out group
(May 9, 2001)

Considerations

- The final decision on electricity baselines will likely be political
- Important issues discussed but not concluded, are not addressed here
- There may be significant distinctions between CDM and JI projects for each of the presented options/recommendations, which have not been possible to consider here

Potential Project types

- Distinction between:
  - Small vs big projects:
    - Grid vs.off grid
    - Greenfield vs Brownfield

  -Renewables

Recommendations for certain types of electricity projects

- Retrofit projects should use previous plant as baseline as long as its output does not significantly exceed the previous total production. (Valid only for remaining lifetime of old plant)
- Default values are recommended for small off-grid renewable projects (e.g. solar home systems)

Geographic Boundaries

- National/regional circumstances should be taken into account
- Electricity Baselines boundaries should be based on national/sub-national or regional grids and/or transmission/powerpool constraints.
- Separate baseline for off-grid

Baseline Unit

- rate preferred: gCO2/kWh in CO2-e
- Off-grid to be further elaborated

Baseline Validity

- Longer baseline lifetime for small projects with long lifetime
- Baseline reference values for new projects should be updated every [X] years.

Baseline Calculation Methodology Options*

- system average; with & without baseload
- operating margin;
- build margin
- combined
- technology-based benchmarks
- ** Needs to be further elaborated!*
- Additional services should be considered

Baseline Data Sets

- options: (not fully developed, e.g capacity, technology...)
  - fuel specific;
  - recent plants as applicable (CDM plants included?)
  - sector wide;
  - fossil only

  peak/baseload distinctions should be made; needs further elaboration

Baseline Stringency

- Stringency linked to additionality
- “better than average” should be further considered

Coverage

- All direct on-site GHG emissions (CO2 or other material amounts of gases) from electricity generation should be included.
  - Material/significant: e.g., 1% CO2 e for large, 5% for small projects. Projects may opt to include significant emissions below these values.
- Indirect emissions: to be determined

Data Availability

- data needs are dependent on methodology and system boundaries
- some data may be hard to get (e.g. confidential) and this needs to be taken into account(even harder to get in the future due to liberalisation)
- Data should be collected by dedicated organisation and made available for determination of baseline applicability.

Additionality

- The group is not close to any conclusions or recommendations, particularly with regard to investment additionality

Project Size

- Fast-track approach is supported.
- Pronk’s proposal for size limitation is supported for renewables.

Further Process Suggestions:

- Invite baseline and electricity experts to an advance workshop on ES baselines only
- Prepare contributions and examples in advance
- Use international experience, regional group discussions and lessons learned as base for the workshop process
- Work out baseline issues from an example in the workshop
- Determine implications of different choices