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Document reference number and title: (Recommendation from the MEP to SBM020)

A6.4-MEP011-A02: Draft methodological tool - Emissions from electricity generation and consumption (version 02.0)

Item	Section no. (as indicated in the document)	Paragraph/Table/Figure no. (as indicated in the document)	Comment (including justification for change)	Proposed change (including proposed text)
1	5.7.1.1.2. Treatment of electricity imports and exports And Appendix 2	Paragraphs 52-53 Table 1 in Appendix 2	<p>Build Margin (BM): Regression-Based Discounting and Structural Bias in Fossil-Dependent Systems</p> <p>The draft tool applies a regression-derived annual discount factor (<i>FBM</i>) to historical Build Margin data. While intended to reflect increasing renewable penetration, this approach may generate materially distortive outcomes in electricity systems that remain structurally fossil-dependent.</p> <p>By way of example, please see the inputs and outputs in the supporting Excel document (“2026-02-12 2026-02-12 South Africa GEF for PACM comments”), in the tab titled ‘MarginalEmissionFactor2024’. The application of the draft PACM tool indicates:</p> <ul style="list-style-type: none"> • A regression-derived annual discount factor of approximately 22%; • Reduction of the Build Margin to near zero within approximately 4–5 years for projects commencing in 2025–2026; • Further potential reductions once uncertainty adjustments are applied. <p>South Africa’s grid remains coal-dominated and has not experienced fossil retirement at a pace consistent with a 22% annual reduction in marginal emissions intensity. Considering that ~84%¹ of the national utility’s energy mix is derived from coal-fired power stations, the regression approach, when applied over short time windows/ reference period (3–5 years), risks interpreting constrained investment as structural decarbonisation.</p> <p>Energy transitions are capital constrained and non-linear, particularly in other developing countries. In addition, large grid connected facilities typically have very long lead times for commissioning. The fossil infrastructure therefore does not decline at rates implied by the regression output.</p>	<p>Proposed insert into Appendix 2:</p> <p>“Where the regression-derived annual discount factor (<i>FBM</i>) exceeds 10%, activity participants may apply a capped value of 10%, unless the host Party demonstrates verified structural fossil capacity retirement or fossil generation displacement exceeding that rate.”</p> <p>Proposed new approaches in section 5.7.1.1.2:</p> <ul style="list-style-type: none"> - Reflect the reality of the decarbonisation of the grid. This can be achieved by expanding the set of power plants in ascending order of age that are include in the BM calculation, until a threshold of 20% total generation is met. - Clarify whether ‘must-run’ plants are excluded in the BM calculation. We proposed that ‘must-run’ plants are excluded.

¹ Source: <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.eskom.co.za/wp-content/uploads/2025/07/GX-0001-Generation-Plant-Mix-Rev-32.pdf>

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2	5.7.1.2. Sub step a: Determination of the OM emission factor	59-64 and Table 4 (Applicability conditions for OM methods)	<p>Operating Margin (OM): Applicability Conditions in Demand-Constrained Systems</p> <p>The applicability conditions rely on renewable penetration thresholds and curtailment criteria. In developing country contexts, renewable share increases may reflect suppressed demand or stalled fossil expansion rather than structural fossil displacement.</p> <p>In the South African case study, renewable penetration increased during periods of constrained demand and load shedding. However, coal generation continues to dominate system operation and marginal supply.</p> <p>Recent literature confirms that renewable growth does not automatically equate to fossil displacement where demand growth or volatility absorbs incremental supply (Urge-Vorsatz & Creutzig, 2026).</p> <p>The current structure risks restricting simplified OM methods in systems that remain physically fossil-dependent. For example, in many African countries the energy mix is dominated by hydro. The simplified OM method will not be applicable where the % of renewables is above the threshold. This will put developing countries at a disadvantage, as they will have to use the default factors, as many such countries do not have the infrastructure available to undertake the dispatch analyses.</p>	<p>Proposed clarification under Section 5.7.1.2:</p> <p>“Where fossil generation continues to set the marginal supply in a structurally fossil-dependent system, simplified OM methods shall remain applicable without additional conservativeness adjustments based solely on renewable share thresholds.”</p>

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3	5.7.	-	<p>Risk of Perverse Incentives and Carbon Leakage</p> <p>Due to regression-based Build Margin discounting combined with Operating Margin constraints, emission factors for grid-connected renewable projects may decline rapidly toward zero in fossil-dominant systems.</p> <p>In South Africa, modelling suggests Build Margin values approach zero within a few years despite continued coal dominance in generation.</p> <p>Scenario B (captive fossil fuel generation) allows emission factors based on fossil fuel consumption defaults. This may result in higher calculable baselines than grid-connected renewable projects in the same country.</p> <p>This differential treatment risks unintended incentives for captive fossil generation and potential carbon leakage, contrary to the mitigation objective of Article 6.4.</p>	<p>Proposed new paragraph:</p> <p>“Where application of this tool results in emission factors approaching zero in electricity systems that remain structurally fossil-dependent, methodology proponents may propose adjustments to avoid creating incentives for captive fossil generation or other forms of carbon leakage.”</p>

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4	Appendix 2	Table 1	<p>It is unclear how the values for F_{OM} and F_{BM} have been derived from the Ember data. Clarity requested please, especially which Ember data sets are used and any utilised assumptions.</p> <p>Reason for request for clarity: the Ember data sets are based on EIA data sets which are often based on outdated data sets. The latest Ember data are from 2024, however the underlying data sets can be considerably older considering the time it takes data sources to provide data to the EIA. For example, the Ember Methodology version 1.4 states that the South Africa sources are derived from the following EI, EIA, Eskom, Statistics South Africa (STATSSA), GEM, IRENA Electricity Generation and Net Imports:</p> <ul style="list-style-type: none">- Annual electricity generation is taken from EI. Annual net imports are taken from the EIA.- Monthly generation data is taken from Eskom, with Solar generation estimated based on Eskom monthly distributed capacity data. Coal generation is underreported in Eskom data; load data from STATSSA is therefore used to adjust for the missing generation.- Monthly net imports are taken from STATSSA. Installed Capacity- Coal, Gas and Other Fossil are from GEM. All other capacity data is taken from IRENA. <p>In addition, there are concerns regarding the possible lack of primary data sources for the inputs in Table 1.</p>	