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Document reference number and title: (Recommendation from the MEP to SBM020)
Draft mechanism methodology: Electricity generation from renewable sources connected to an electricity system (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	2. DEFINITIONS	Paragraph 7(k), page 28 (“Run-of-river hydropower plant”)	The definition states that a run-of-river plant “draws the energy for electricity production mainly from the available flow of the river.” Paragraph 16(a) then treats a plant as run-of-river if it has up to 24 hours of storage duration and a hydraulic residence time of up to two days. A plant with storage does not draw its energy mainly from the available flow of the river; it is, in effect, a peaking, storage facility. The applicability conditions therefore contradict the methodology’s own definition and allow peaking plants to be credited as run-of-river.	Amend the definition to require zero usable storage and align paragraph 16(a). Proposed text: “Run-of-river hydropower plant: a hydropower plant with no usable storage, such that inflow equals outflow in real time and the generation profile is dictated by local river flow conditions. A plant with usable storage, or managed water levels through drawdown, is not a run-of-river plant.”

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2	4. APPLICABILITY	Paragraph 16(a), page 31	The conditions test storage duration and hydraulic residence time, but not water-level fluctuation or drawdown. A peaking plant within these limits draws the headpond down and re-wets the littoral zone hourly or daily. Repeated wetting and drying of the drawdown zone is among the largest sources of reservoir greenhouse gas emissions, and it is systematically omitted here (Keller et al. 2021; Grilli and DelSontro 2023; Maeck et al. 2013; Soued et al. 2022; studies provided by email per the supplementary-materials instruction). By screening on storage and residence time alone, the methodology admits the highest-emitting operating mode.	Delete the 24-hour storage and two-day residence allowance and add a condition. Proposed text: "(iv) The Article 6.4 activity has no usable storage and does not involve daily or sub-daily water-level fluctuation or drawdown of the reservoir, headpond or littoral zone."
3	4. APPLICABILITY	Paragraph 16(b), sub-paragraph (ii), page 31	Restricting only the average volume of water does not restrict daily drawdown or the change in wetted surface area that drives littoral methane emissions. A new powerhouse at an existing reservoir would be credited as clean while the reservoir continues to emit, so new hydropower is not in fact excluded and a significant emitting pathway remains open. New reservoir hydropower also increases methylmercury levels in fish relied on by downstream Indigenous communities, and these levels persist for decades (Calder et al. 2016).	Add: "The Article 6.4 activity does not involve daily or sub-daily drawdown, or any change in the wetted surface area of the reservoir, and reservoir emissions are directly measured and independently verified as a condition of eligibility."

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4	4. APPLICABILITY	Cover note, section 3; and 4. Applicability (footnote 15); Cover note paragraphs 6 and 10(b); methodology footnote 15 to paragraph 16	The methodology states that it “does not include provisions to determine the… carbon dioxide, methane, and nitrous oxide emissions from reservoirs” (paragraph 10(b)), and assumes the run-of-river conditions make such emissions “very small” (footnote 15) or “negligible” (paragraph 6). An assumption of negligibility, adopted precisely because the emissions cannot be estimated, is not a substitute for measurement. Three decades of independent, peer-reviewed studies show that emissions from the reservoir surface, and degassing at turbine intakes, spillways and downstream of the dam, are significant; the methodology does not address them at all. In some temperate reservoirs, methane emission rates approach those of gas-fired generation (DelSontro et al. 2010; Maeck et al. 2013). Crediting these unmeasured emissions is exactly the kind of “false positive” the mechanism’s own safeguards are meant to prevent: it would issue credits for reductions that did not fully occur, and, in the methodology’s own words, could lead to “higher aggregated emissions.” A hydropower reservoir also emits methane for the full operating life of the dam, commonly a century or more, until the dam is removed, which is inconsistent with the methodology’s own statement (paragraph 2) that A6.4ERs “represent emission reductions that are not subject to reversal risks.”	Replace the negligibility assumption with a requirement to directly measure reservoir and downstream emissions. Where they are not measured, the activity is ineligible for crediting.

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5	5. ACTIVITY BOUNDARY	Paragraph 27, Table 1, pages 34 to 36	The activity boundary excludes reservoir carbon dioxide, methane and nitrous oxide, and downstream degassing. For hydropower with impoundment, these are the dominant ongoing emissions, and excluding them causes the activity to over-credit. Emissions from hydropower infrastructure are anthropogenic and are treated as fugitive energy-sector emissions under the IPCC 2006 Guidelines, Volume 2 (Energy), category 1.B.3, "Other emissions from energy production," so they should sit inside the activity boundary.	For hydropower activities, include the reservoir surface, the littoral and drawdown zone, the turbine intake, the spillway and downstream degassing as accounted emission sources, quantified by direct measurement.
6	14. DATA AND PARAMETERS MONITORED	Section 14; and paragraph 16	Direct, high-resolution, whole-system measurement of reservoir emissions has been demonstrated in the field: drone-mounted laser spectrometry using a sensor developed by NASA's Jet Propulsion Laboratory (Gålfalk et al. 2021, and the Geoscience BC "GHGMap" demonstration), operated over reservoirs and gas wells in Canada; and in-situ laser spectrometry (Grilli and DelSontro 2023). Both produce direct, high-resolution, whole-system data, measured at a frequency sufficient to capture daily (diel) and seasonal variability, for example around solar noon, and aggregated to the annual totals the mechanism's accounting requires. The premise that reservoir emissions cannot be estimated is out of date.	Add a monitored-parameter requirement for whole-zone greenhouse gas measurement at a frequency sufficient to capture daily and seasonal variability (for example around solar noon), aggregated to an annual total, covering the entire reservoir surface, including the littoral and drawdown zone, turbine intake, spillway and downstream, with transparent public reporting, as a condition of crediting for any hydropower activity involving impoundment or storage. Where such measurement is not undertaken, the activity is excluded on a precautionary basis.
7	APPENDIX 1. BACKGROUND INFORMATION...	Section 2.1 paragraph 6 (page 71); Section 3 Conclusion paragraph 13 (page 73)	The appendix concludes that excluding unaccounted sources is "conservative" because upstream emissions from fossil-fuel plants exceed those from renewables. That reasoning addresses upstream construction and operation only. It does not address reservoir operational methane and carbon dioxide, the dominant ongoing emissions of impoundment hydropower, which the methodology excludes by assumption rather than measurement. The conclusion is therefore unsupported for hydropower with reservoirs.	Revise the conclusion to acknowledge that, for hydropower with a reservoir, leaving out the reservoir's own methane and carbon dioxide is not "conservative"; it ignores emissions and overstates the climate benefit, and requires those emissions to be measured.

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8	12. DEMONSTRATION OF ALIGNMENT WITH POLICIES...	General comment; reliance on the Article 6.4 Sustainable Development Tool (v.01.1)	The methodology would credit hydropower without addressing severe non-carbon harms: methylmercury bioaccumulation in fish, aquatic ecosystem damage, and impacts on downstream and Indigenous communities. These are left to the mechanism's general Article 6.4 Sustainable Development Tool (v.01.1), a mandatory activity-level self-assessment that upholds a broad "do no harm" principle but sets no activity-specific limit that would make a harmful reservoir project ineligible. They should be assessed and enforced as eligibility conditions within the methodology itself.	Specify enforceable non-carbon safeguards, including assessment of methylmercury, aquatic ecosystem and downstream community impacts, as eligibility conditions within the methodology, rather than relying solely on the general Article 6.4 Sustainable Development Tool.

9	4. APPLICABILITY	Paragraph 8(b) (options B1.1, B1.2, B2); and paragraph 17	The proposed options assess hydropower applicability primarily using installed capacity thresholds, such as 15 MW or 50 MW. Installed capacity is not an adequate basis for deciding whether a hydropower activity should be eligible. Most hydro facilities reach their rated capacity only during the freshet, a high-flow period that typically lasts eight to ten weeks, and generate well below capacity for the rest of the year. A small run-of-river may generate only 15 to 30 percent of installed capacity (North of Dryden Integrated Regional Resource Plan, 2015, Ontario Power Authority and IESO). In fact, during the hottest days of the summer when air conditioners are humming, these run-of-river dams often have to shut down completely because there is not enough flow to turn the turbines. Consequently, a capacity figure says little about actual generation, operating mode, or emissions. A capacity threshold also produces a perverse outcome. Small facilities greatly outnumber large ones: of the 224 waterpower facilities the Ontario Waterpower Association records in Ontario, 28 percent are under 1 MW and a further 38 percent are 1 to 10 MW, so 66 percent are 10 MW or smaller, the largest share of the fleet. Meeting a given generation target through many small dams, therefore, harms many more rivers than a single larger facility on a larger river, which has more water to moderate its impacts. ORA's own experience bears this out: 34 proposed waterpower facilities, all under 10 MW, often in a cascading series of facilities to increase output, on 19 Ontario rivers represented roughly 115 MW of installed capacity but only about 57 MW of net output, since proponents themselves plan for about 50 percent net capacity. That is many fragmented rivers for very little actual power (Ontario Rivers Alliance, Hydro Impacts 101: The Trade-offs, page 32). That net output is also likely to decline further over the dam's operating life, as climate change reduces and shifts river flows through drought, reduced snowpack and earlier runoff, so a capacity figure overstates both current and future generation (Canada's Changing Climate Report, 2019). Eligibility should be based on storage, drawdown,	Do not use installed capacity as the primary eligibility criterion for hydropower. Base eligibility on the conditions in Comments 1, 2 and 6 (no usable storage, no drawdown, and directly measured reservoir and downstream emissions). If a capacity threshold is retained, it must be additional to, not a substitute for, those conditions.

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			operating mode, and measured emissions, not on installed capacity.	
10	4. APPLICABILITY	paragraph 26(c) (cover note section 3.3.2); and paragraph 8(b).	Paragraph 26(c) justifies the capacity-size options for hydropower on additionality and cost grounds: that larger dams are sometimes built for policy rather than economic reasons, which the investment analysis tool cannot screen, and that generation costs are often higher for smaller plants. That reasoning is incomplete, and in part it cuts the other way. First, it addresses only additionality and economics and says nothing about the environmental and emissions concerns that make hydropower different: drawdown, operating mode, reservoir methane, and river fragmentation. Installed capacity is silent on all of these. Second, the fact that smaller plants cost more and are harder to screen for additionality does not make them benign; as set out in Comment 9, small run-of-river plants proliferate, fragment many rivers, and deliver little net power, so a size threshold that lets in many small plants multiplies environmental harm for the same or less generation. Third, paragraph 26(c) itself concedes that the investment analysis tool cannot reliably exclude policy-driven large hydropower. If additionality cannot be screened and reservoir emissions cannot be measured, capacity size is the wrong lever, and a precautionary, measurement-based approach should govern instead.	In paragraph 26(c) and the related scale options, recognize that installed capacity does not address the environmental and emissions risks specific to hydropower, and that those risks are not a function of plant size. Make eligibility turn on the conditions in Comments 1, 2, 6 and 9 (no usable storage, no drawdown, and measured reservoir and downstream emissions) rather than on a capacity threshold.

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11	4. APPLICABILITY	Paragraph 16(b)(i), page 31	To qualify as an "existing reservoir," paragraph 16(b)(i) requires only that the reservoir was established 10 years before the activity, or as little as 3 years if it can be shown it was planned, approved and financed without a power plant. This age test wrongly assumes that reservoir emissions settle down over time. Two facts contradict it. First, reservoir methane is highest in the first years and decades after flooding, when submerged vegetation and soils decompose most rapidly, so the 3-year option allows a power plant to be added to a very young reservoir, and credited as clean, precisely during its peak-emitting years. Second, older reservoirs do not become benign: sediment continues to accumulate behind the dam and is not removed, even during the refurbishment that many facilities undergo at around 50 years, and Soued et al. (2022) show that while carbon dioxide and methane diffusion decline with reservoir age, methane ebullition and degassing do not and become increasingly dominant over time, so a reservoir's methane emissions do not simply fall as it ages and can rise. A roughly 90-year-old Swiss reservoir, Lake Wohlen, recorded some of the highest methane emissions ever documented for a temperate reservoir (DelSontro et al. 2010). The "without a power plant" condition is also easy to arrange and difficult to verify.	Remove the 3-year option in paragraph 16(b)(i)(b), and do not treat a reservoir's emissions as outside the activity boundary on the basis of its age. Require direct measurement of reservoir emissions over the crediting period regardless of when the reservoir was built, consistent with Comments 4, 5 and 6.