

ECOSTAT

consultation on the draft reports on intercomparison of ecological potential

A Eurelectric response paper

September 2021

Eurelectric represents the interests of the electricity industry in Europe. Our work covers all major issues affecting our sector. Our members represent the electricity industry in over 30 European countries.

We cover the entire industry from electricity generation and markets to distribution networks and customer issues. We also have affiliates active on several other continents and business associates from a wide variety of sectors with a direct interest in the electricity industry.

We stand for

The vision of the European power sector is to enable and sustain:

- A vibrant competitive European economy, reliably powered by clean, carbon-neutral energy
- A smart, energy efficient and truly sustainable society for all citizens of Europe

We are committed to lead a cost-effective energy transition by:

investing in clean power generation and transition-enabling solutions, to reduce emissions and actively pursue efforts to become carbon-neutral well before mid-century, taking into account different starting points and commercial availability of key transition technologies;

transforming the energy system to make it more responsive, resilient and efficient. This includes increased use of renewable energy, digitalisation, demand side response and reinforcement of grids so they can function as platforms and enablers for customers, cities and communities;

accelerating the energy transition in other economic sectors by offering competitive electricity as a transformation tool for transport, heating and industry;

embedding sustainability in all parts of our value chain and take measures to support the transformation of existing assets towards a zero carbon society;

innovating to discover the cutting-edge business models and develop the breakthrough technologies that are indispensable to allow our industry to lead this transition.

Dépôt légal: D/2021/12.105/39

Key messages to the draft reports on the “Intercomparison of ecological potential for Rivers” and “Intercomparison of ecological potential for Lakes”

Eurelectric members including our CIS experts have read with great interest the results of the surveys on the intercomparison of the ecological potential compiled in the two draft reports now under consultation. We highly appreciate the efforts of the drafting team in compiling and interpreting the results of the surveys. The reports are well structured which allows to understand how the Member States have answered the questionnaires.

We share the opinions and conclusions of the authors on many points of the key findings of the intercomparison of ecological potential for rivers and lakes. Nevertheless, several questions remain unanswered. We recommend further exchange of the best practices and examples and an even stronger involvements of stakeholder who can contribute to increase the knowledge base. The hydropower sector are ready to bring in its expertise.

From the point of view of Eurelectric, the following key issues arise in defining the GEP (good ecologic potential) according to the CIS guidance paper no. 37 (2019):

1. Step A. Identification of the closest comparable water category

The authors concluded that the definition of the closest comparable water body type is, in many cases, not easy to be done or Members States have reported nor having done it appropriately (see p. 70). In our point of view, these issues of identification are particularly relevant in cases of reservoirs with lake-like conditions. We see with great interest that this relevance is shared by the authors bringing up the example of lake-like conditions in rivers several times in the draft document (e.g. 7.1.1).

According to the CIS Guidance document no. 37 (GEP guidance), the first procedural step is to identify the closest comparable water category and related quality elements for the respective waterbody. The reference conditions differ if a river habitat has become a reservoir for hydropower with more lake-like conditions, as e.g.: For stream living species of fish and benthic invertebrates, suitable bottom substrate and flow conditions are lacking in many hydropower reservoirs. For example, benthic invertebrates such as Chironomidae (lake flies), Oligochaeta (aquatic worms) and Mollusca (mollusks) are more tolerant to changes in bottom substrate, flow conditions and to changes in reservoir water levels. Over time, they have replaced less tolerant species such as web-spinning Trichoptera (caddisflies).

We see it problematic that Member States reported in the questionnaires show that they have different views how to identify the closest comparable water category and related quality elements. In our view, it is important to change the biological reference conditions according to the changed water body type, which – in the most cases – seems not having been done (see p.77 “When countries use the closest comparable water body type for deriving BQE conditions for MEP, they usually [...] use the reference conditions of the original water body type”) and adapt the set of considered mitigation measures to the changed character of HMWB.

2. Step B3. Select the most ecologically beneficial (combination of) measure/s taking into account the need to ensure the best approximation to ecological continuum

According to the CIS guidance paper no. 37 (GEP guidance), this step of selection – being crucial for the definition of the MEP (maximum ecologic potential) is also a prerequisite to define the GEP.

With reference to the GEP Guidance “a waterbody can only be at GEP if conditions close to

best approximation is achieved. An approximation to ecological continuum is a prerequisite for functioning of the ecosystem”. The definition for ecological continuum is interpreted to refer only to continuity or connectivity. As discussed already in the drafting phase and as it can be found in the GEP guidance, river continuity and ecological continuum mean different issues:

- Ecological continuum refers to enabling type-specific species in the respective water body to fulfil their lifecycles. The best or close to the best approximation for ecological continuum may be reached also without enabling river continuity.
- The interpretation made by some Member States has the risk to define the GEP as a set of mitigation measures with a strong focus on continuity and without sufficiently considering ecological effects. The reference conditions for a waterbody should determine whether, for example, a fish passage is a useful mitigation measure and necessary to ensure self-sustaining populations.

Taking into account that we must seek to identify measures to negate, or at least to mitigate, the effects of anthropogenic alterations, the WFD – for the selection of the most beneficial (combination) of measure/s – requests mitigation measures only if they are genuinely relevant implies .

3. **Step E and F. Derivation of BQE (biological quality elements) for MEP and GEP:**

The GEP CIS Guidance emphasizes that MEP and GEP are not a set of mitigation measures but are values of the BQEs that can be reached by implementing the considered measures. The draft report incl. the MS’ case studies suggest that the role of BQEs is still not fully clear. Monitoring the current status of BQEs and assessing the possible changes are either lacking or are based on poorly reasoned expert judgement. Proper and transparent classification is extremely important for all stakeholders, and it should include science-based assessments of BQEs.

Eurelectric recommends that MS exchange knowledge and experiences of their approaches to define the GEP on the basis of BQEs. Experts from the hydropower sector would be happy to contribute to these exchanges.

4. **Step H. Mitigation measures for GEP**

Measures which only lead to slight changes in biological conditions should be excluded.

From the report - p98: *“Further, a clear gap for countries that follow the measures-based approach is the lack of explanations on how slight changes, with links to BQEs and supporting quality elements, are taken into account when selecting GEP measures. Relevant information demonstrating the use of relevant principles in Guidance no. 37 could not be found in the responses of any of the countries.”*

It is clear, that we must seek to identify measures to negate, or at least mitigate, the effects of anthropogenic alterations. However, according to the WFD, we need to take mitigation measures into account only if they are genuinely relevant, i.e. if they lead to more than slight changes in BQE. Not knowing the size of the ecological effect on BQE, bears the risk of implementing unnecessary and expensive measures.

From the point of view of the hydropower sector, which is one of the stakeholders implementing the required measures, these measures will only find acceptance if clear cause-effect chains are laid down before the implementation starts, i.e. if it is shown that measures lead to more than slight changes in BQE. In addition, clear rules are needed how to proceed if measures prove to be non-functional or only partially functional, even though they have been planned and implemented in accordance with national policies and guidance.

In this context, it must be ensured that ecological requirements are correctly derived, that

the applicable legal framework is fully taken into account and that the principles of proportionality are upheld. In parallel, the knowledge base must be continuously improved through basic and applied research. Eurelectric urges the MS to only prescribe measures with clear effects – i.e. initiating more than slight changes in BQE, and to avert a vicious circle of insufficient knowledge base, poorly selected measures and spiralling expenditures without ecological effect.

As stated above, we believe that an exchange of best practice examples and a strong involvement of stakeholder would raise a mutual understanding of GEP related issues. The hydropower sector, as one of the sectors with a rich experience in implementing mitigation measures, is ready to support the learning process to develop and enrich a common understanding of the implementation of the CIS guidance document nr. 37.

We also argue for a close link between implementation and research within a mutual learning process to implement the most efficient and cost-effective measures to limit the risk to be caught in a vicious circle of insufficient knowledge base, poorly selected measures, and spiralling expenditures.

Below (section 4 and 5) you find our detailed comments to the draft.

1. COMMENTS ON DOCUMENT “Intercomparison of ecological potential for Rivers”

[please add rows as appropriate]

Page nr.	Section nr. & paragraph	For tables: Indicate row & column	Please copy the original text and indicate your proposed change in track change mode	Explanation for proposed change
72	7.6.1		For physico-chemical parameters, the closest comparable water body type is in general the original natural water body type prior to physical modification. proposal: add “but exemptions are possible (e.g. impoundment with lake-like conditions	It should be made clear, that some waterbodies may have been changed so profoundly, that the original water body type is not appropriate.
76	7.7.1		When deriving BQE conditions for MEP, it is also critical to consider the WFD requirements concerning the best approximation of the ecological continuum.	The best approximation to ecological continuum is not part of this step but part of step B (see also Figure 1); The key in step

Page nr.	Section nr. & paragraph	For tables: Indicate row & column	Please copy the original text and indicate your proposed change in track change mode	Explanation for proposed change
			<p>Proposed change: either delete sentence (in our opinion the best option) or replace “also critical to consider the WFD requirements concerning the best approximation of the ecological continuum” by “ it is also critical to check, that best approximation of ecological continuum has been taken into account in choosing mitigation measures for MEP assessment as part of step B”</p>	<p>E is to have a sound prognosis of effects of the hymo modifications and the effects of the MEP mitigation measures on BQEs (i.e. knowledge about the effects of both modifications and of measures on biology); The best approximation to ecological continuum shall be taken into account in choosing mitigation measures as part of step B (see also Figure 1);</p>
83	8.1.1		<p>With regard to ecological continuum, “slight change” means that a condition close to best approximation of ecological continuum should be ensured (instead of best approximation). Proposal: delete sentence</p>	<p>The best approximation to ecological continuum is not part of this step but part of step B (see also Figure 1);</p>
91	8.2.1		<p>For physico-chemical conditions, the same values should be met as for good ecological status of the original natural water body type, except if the parameter is impacted by the hydromorphological alteration having led to HMWB designation (e.g. changed water temperature due to hydropeaking) Proposal: add after water body type ,”but exemptions are possible and continue then for example if parameter is ...</p>	<p>Change proposed to be consistent within the report; Some waterbodies may have been changed so profoundly, that the original water body type is not appropriate.</p>
118	Chapter 12		<p>“BQE monitoring is key to show effects of mitigation measures and evaluate methods and GEP definition” However:</p>	<p>CIS Guidance 37 emphasizes, that MEP and GEP are not a set of mitigation measures, but values of the BQEs, which can be reached by implementing those considered measures.</p>

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121			<p>“lack of sufficient information about measure effects on ecological functioning”</p> <p>“lack of consideration of the effects of MEP mitigation measures...on BQEs conditions at MEP”</p> <p>“the lack of clear information on the extent to which BQE monitoring is used to assess current ecological potential”</p> <p>“Lack of approaches and methods for assessing BQE conditions at GEP and MEP levels was one of the areas for which countries would welcome further exchange, support and guidance”</p> <p>Eurelectric fully support to continue work with this issue.</p>	<p>According to draft report and MSs case studies it looks like the role of BQEs is still not clear. Monitoring the current status of BQEs and assessing the possible changes is either lacking or based on poorly reasoned expert judgement. Properly and transparently made classification is extremely important for all stakeholders and it should include science-based assessment of BQEs</p> <p>It is also noteworthy, that all the cases reported by member states were classified not to meet GEP. We know that a lot of mitigation measures has been implemented already before WFD and also during first and second round of RBMPs. We need case studies also from HMWBs where mitigation measures are already implemented and current status is monitored.</p>

2. COMMENTS ON DOCUMENT “Intercomparison of ecological potential for Lakes/Reservoirs”

[please add rows as appropriate]

Page nr.	Section nr. & paragraph	For tables: Indicate row & column	Please copy the original text and indicate your proposed change in track change mode	Explanation for proposed change
31	6.2.2		From the HMWB examples provided, it is not clear whether the MEP mitigation measures for	<i>According to GEP guidance document Ecological Continuum</i>

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			<p>heavily modified lakes or reservoirs should also include measures that are relevant for achieving good ecological status/potential in other neighbouring surface water bodies. A more common understanding between countries may need to be developed. This may concern mitigation measures in the lake/reservoir that may affect downstream water bodies (e.g., AT: water level management with effects on e-flow in downstream rivers) or measures that could be taken in a neighbouring water body and are necessary to improve the ecological potential of the HMWB</p> <p>Intercomparison of ecological potential for lakes and reservoirs 32 (e.g., FI: the [downstream] River Kemijoki is fully developed for hydropower and only the lowermost hydropower plant is equipped with fishway. Therefore, it is not yet realistic to plan a fishway on the mouth of the HMWB)</p> <p>Proposal: Add upstream water bodies. Our conclusion also is that in considering effect and need for upstream and downstream water bodies should be own separate step at least if these mitigation measures do not enhance ecology of the waterbody itself.</p>	<p><i>refers to enabling type specific species of that water body to full fill their lifecycles. However, choosing mitigation measures should include measures to enhance ecology of other waterbodies, too. Member State's answers show, that this confuses assessing of GEP in lakes and reservoirs, because quite often those measures does not affect the ecology of the lake in case at all. Fish population of Finnish case, the Lake Kemijärvi, is relevant example for that. Type specific fish species can full fill their lifecycles, so best approximation for ecological continuum already exists. Lake trout can migrate to upstream rivers where there are enough breeding grounds for it. Lake Kemijärvi is not feeding nor breeding area for long distance migratory fish (seatrout, salmon).</i></p>
37	6.4.2		<p>The interpretation of best approximation to ecological continuum at MEP varies a lot, possibly as it may be more relevant for adjacent water bodies rather than the HWMB itself</p>	<p><i>Looks like the definition for ecological continuum is interpreted also by consultant authors to refer only to continuity or connectivity. As discussed already in drafting phase and can be found in GEP guidance continuity and ecological continuum do</i></p>

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			Proposal: Replace: “possibly as it” with “Looks like it is interpreted to mean only river continuity, which”	<i>mean different issues. Ecological Continuum refers to enabling type specific species of that water body to full fill their lifecycles Ecological continuum can be reached without river continuity.</i>
39	6.5.2		The description of the method to derive hyomo conditions for MEP is poorly described in most cases, in several cases no method exists at all, in some cases the method is under development or expert judgment is used Propose: add “poorly justified”	<i>Expert judgement as a method can be relevant if reasoning is made in detail and is transparent</i>
60	10		The limitations in reservoirs (when compared to rivers) are obvious also concerning the issue of ecological continuum. According to the CIS Guidance No. 37, MEP requires that best approximation of ecological continuum is ensured, while a water body can only be at GEP if a condition close to best approximation is achieved. Only 5 countries considered continuum as a mitigation measure Proposal: Clarify this conclusion	<i>According to GEP guidance document Ecological continuum is not a mitigation measure, but it can be enhanced by implementing different kind of mitigation measures. Looks like the definition for ecological continuum is interpreted (also by consultant authors) to refer only to continuity or connectivity. As discussed already in drafting phase and can be found in GEP guidance continuity and continuum do mean different issues. Ecological Continuum refers to enabling type specific species of that water body to full fill their lifecycles Ecological continuum can be reached without river continuity.</i>

Eurelectric pursues in all its activities the application of the following sustainable development values:

Economic Development

- Growth, added-value, efficiency

Environmental Leadership

- Commitment, innovation, pro-activeness

Social Responsibility

- Transparency, ethics, accountability



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