BELLONA EUROPA

CONSULTATION RESPONSE

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List of candidate Projects of Common Interest and Projects of Mutual Interest for hydrogen infrastructure and electrolysers under Regulation (EU) 2022/869

Bellona Europa welcomes the opportunity to provide feedback on the list of candidate projects applying for Projects of Common Interest (PCI) and Projects of Mutual Interest (PMI) status in the hydrogen infrastructure and electrolyse facilities category.

We applaud the Commission's efforts to prioritise projects that align with Europe's climate and energy objectives. To effectively deliver on the EU's decarbonisation targets, it is essential that the final PCI/PMI list includes only those projects that clearly and demonstrably contribute to sustainability, security of supply, and system flexibility, among other goals. In this context, strategically supporting hydrogen infrastructure is vital: Europe's industrial climate ambitions depend on the rapid scale-up of a hydrogen for "no-regret" sectors such as steel and chemicals, where alternative decarbonisation options are limited.

Due to the high number of candidate projects listed, we chose to focus our comments on a selected group of applicants, primarily German projects. We also offer some generally applicable remarks below.

General remarks

Transparency and accessibility must remain central to the PCI/PMI selection process. We encourage the Commission to continue improving stakeholder engagement by ensuring that all candidate projects are presented with complete, clear, and uniform data, including technical details, anticipated impacts, and supporting visuals. Such improvements are essential to enable proper and informed stakeholder evaluation.

Electrolysers for hydrogen production

A recurring gap across many projects is the **lack of clarity regarding off-take arrangements**. In numerous cases, project promoters have not specified the sectors or end-users that will (likely) receive the hydrogen, making it difficult to assess whether the production will genuinely support the decarbonisation of hard-to-abate industries. Even where locations and infrastructure connections suggest potential alignment with such uses, the absence of concrete commitments leaves the climate impact uncertain.

Sustainability aspects often also require greater detail. Information on water sourcing and treatment for electrolysis is often missing, as is evidence of secured renewable power purchase agreements or concrete plans to develop dedicated renewable capacity. While several projects are technically promising, particularly those that supply hydrogen to industrial clusters or along key corridors, some contain vague or inconsistent technical descriptions.

Hydrogen reception facilities

Both evaluated hydrogen reception facility projects raise fundamental doubts about their **climate credibility, energy efficiency, and overall rationale**. The lack of clear information on the likely origin and emissions intensity of imported ammonia makes it impossible to verify actual decarbonisation benefits. Without transparent, verifiable life-cycle assessments, there is a significant risk that upstream emissions, particularly from blue ammonia production, could undermine the project's climate value. There is also a concern that sourcing from certain countries could divert renewable energy away from the respective domestic energy transition.

Ammonia cracking technology is **highly energy-intensive, creating notable efficiency losses**. This raises the question of whether it makes sense to transport ammonia over long distances only to reconvert it to hydrogen, rather than using it as ammonia or importing hydrogen-based products further down the value chain. Coupled with the absence of basic project documentation, the uncertainties significantly limit our ability to assess the project's European added value.

Hydrogen storage facilities

Several hydrogen storage facility proposals raise concerns due to their probable **reliance on blending hydrogen with natural gas in repurposed fossil infrastructure**, often without a communicated plan for later gas separation. In most cases, there is no explanation of the separation method, the associated energy requirements, or the resulting efficiency losses.

A small number of better-documented projects stand out positively by planning for comprehensive **risk assessments**, particularly on hydrogen leakage and dispersion. This proactive approach to safety considerations is a good practice that could serve as a benchmark.

Hydrogen transmission pipelines

Several PCI/PMI hydrogen transmission pipeline projects raise concerns regarding their **expected decarbonisation impact**. In many cases, project proposals fail to specify the source of the hydrogen. This lack of clarity, coupled with missing information on concrete off-takers and end uses, makes it difficult to assess their actual contribution to reducing greenhouse gas emissions. While some project proposals do explicitly mention green hydrogen sourcing, positively aligning with EU decarbonisation goals, these remain the exception.

Additional concerns arise from **plans to blend hydrogen with natural gas**, which poses significant risks. Furthermore, the general lack of information on the treatment of hydrogen leakage risks and robust safety planning, combined with the often rather insufficient or missing project information, highlights broader issues regarding the maturity and credibility of the projects. Finally, we urge caution regarding claims of EU-wide market integration or enhanced security of supply, as these often appear premature, given the hydrogen market's current state of development.