



Circular Liquid Fuel for Clean Waterborne Transport



Dear reader, welcome to the IsoPROPEL community!

We are excited to bring you the latest news from IsoPROPEL, a new research project developing renewable isopropanol as a circular energy carrier for zero-emission waterborne transport.

Decarbonizing heavy-duty transport sectors such as inland shipping require high-energy-density renewable fuels that can overcome the limitations of batteries and conventional hydrogen systems. To achieve climate neutrality while maintaining operational flexibility, innovative energy carriers and highly efficient fuel cell technologies are essential.

IsoPROPEL addresses key challenges related to the production, storage, and utilization of renewable fuels. By combining electrified chemical-looping, tandem catalysis, and direct isopropanol fuel cells, the project aims to establish a fully recyclable energy cycle based on isopropanol and acetone. Through the development of advanced catalysts, fluorine-free materials, and integrated fuel cell systems, IsoPROPEL will validate both fuel production and utilization technologies, paving the way for sustainable and zero-emission waterborne mobility.

Would you like to stay informed about the project's progress and achievements? Visit [here](#) to learn more about the project and [subscribe](#) to our newsletter.

Best regards,
The IsoPROPEL team

NEWS

The IsoPROPEL website is live!

Our project website is up and running, designed to introduce you to the project and our consortium. Here, you'll find detailed insights into our progress, results, and all the latest news, along with updates on upcoming events.

Have a look [here](#). You'll find more information about our work, as well as opportunities to get involved!



Scroll through the website and explore:

- The [project overview](#)
- Interesting [News and Events](#) related to IsoPROPEL
- The [partners](#)

Want to get in contact? You can do that [here](#) or follow us on [LinkedIn](#)!

Project kick-off & first results coming up!

The project officially kicked off in November 2025 when all partners aligned on the project vision, objectives, and implementation strategy. Since then, activities have advanced rapidly, and the first promising results have already emerged. This was followed by the first face-to-face consortium meeting in Valencia, Spain, hosted by the coordinator CSIC, where partners reviewed progress, strengthened collaboration, and refined plans for the coming project phases.

A major early achievement is the first demonstration of an induction-electrified process for temperature-swing chemical-looping carbon dioxide reduction. This breakthrough showcases the potential of rapid, electrified carbon dioxide conversion to syngas, a key intermediate in the IsoPROPEL fuel production pathway.

Alongside these developments, the consortium is advancing innovative catalytic processes for renewable isopropanol synthesis, next-generation fuel cell materials, and integrated energy systems for zero-emission waterborne transport. By addressing the entire value chain, IsoPROPEL is laying the foundations for a new class of circular, renewable energy carriers.



Project Partners



Consortium

IsoPROPEL brings together a multidisciplinary consortium of nine European partners from Spain, Norway, Italy, France, Croatia, Germany, Austria, and the Netherlands. Together, they combine complementary expertise in chemistry and materials science, (electro)catalysis, fuel cell technologies, waterborne propulsion systems, inland shipping logistics, and sustainability assessment.

Want to know more about the people working on the IsoPROPEL project?
Then you can get to know the [team](#) here and follow us on [LinkedIn](#)!

Facts & Figures

Acronym:
IsoPROPEL

Duration: 42 months

Start date: 1st
November 2025

EC Funding:
€3,995,636.25



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Website

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