



Opportunities To Electrify Ammonia

A Competitive Solicitation for Proposals and Request for Information from Interested Parties

Concept Scope

Ammonia production using clean electricity opens an array of possible benefits to agricultural producers and their surrounding communities including reducing carbon dioxide emissions, enabling energy storage from renewable resources, reducing exposure to international supply chain volatility for fertilizer, and boosting local economic development. To achieve the significant carbon dioxide reductions that make this technology attractive to a variety of stakeholders, the ammonia must be produced with predominantly zero carbon electricity. Technologies are at an early stage, but there is strong interest and capability among diverse technology developers (see, e.g., [ARPA-e's REFUEL program](#), which supports several relevant projects, the work of the [Ammonia Energy Association](#) and its members, and the resources linked at the bottom of this document).

As with any emerging-stage technology, education and greater public understanding are essential. The Beneficial Electrification League is exploring opportunities in collaboration with a broad group of stakeholders. In particular, we are seeking to increase awareness and awareness among utilities, their agricultural customers and economic development leaders. We encourage stakeholders with relevant networks and channels to consider applying, including consultants, academic institutions, utilities, or private sector businesses and project developers.

The BEL seeks to motivate and grow industry interest in electrifying ammonia production through education and by creating a broad consortium of interested stakeholders. This Request for Proposals (RFP) is a competitive solicitation for regional proposals to advance this effort. The BEL expects the projects to help inform the education and communications effort around electrically produced ammonia.

Funding Amount: Up to \$40,000 – we anticipate two awards averaging \$20,000 with optional support of a BEL-funded grant-writer

Areas of Interest

- Designing an economic development toolkit for rural electric utilities to host electricity-to-ammonia
- In their service territory
- Strategies to use electric-based ammonia in small rural communities as energy storage for clean electricity to balance inter-seasonal mismatch in supply and demand, particularly of renewable electricity and heating and cooling needs
- Short-term grid balancing of supply and demand utilizing electrically produced ammonia as the fuel for electricity generation
- Strategies to secure federal funding, leverage federal tax credits, and secure grants to use produce and use ammonia

Criteria for Selection

The BEL Board of Directors will evaluate grant proposals. This is a flexible grant program; preference will be given to projects that create new and unique partnerships between consumers, utilities, ammonia technology suppliers and other stakeholder groups. The Board will base its selections on several criteria including:

- alignment with BEL's mission statement (see below)
- amount of cost share provided by other parties
- the need for the grant funds in order to make the project happen
- strategic contribution to advancing ammonia electrification
- ability to replicate and scale the project
- demonstrated capabilities of the proposing team
- ability to achieve and document benefits (estimated cost savings, emissions reductions, etc.)

Requirements for Selectees

The BEL's project support will focus on documenting the results of the project and communicating the results. All project tasks must be executed by the applicant.

Beneficial Electrification Defined

Beneficial Electrification includes the application of electricity to end-uses where doing so satisfies at least one of the following conditions, without adversely affecting the others:

- Saves consumers money over time
- Benefits the environment and reduces greenhouse gas emissions
- Improves product quality or consumer quality of life
- Fosters a more robust and resilient grid

How to Submit: Please submit your grant proposal in letter format, no longer than 4 pages by 3/31/2023 to grants@be-league.org. Please include a cost breakdown for the project (including how the grant funds will be used and cost share contributions) as well as a timeline for project completion. Please email any questions to grants@be-league.org.

Additional Request for Information: In addition to the funding opportunity above, BEL is seeking information from stakeholders. Specifically, we are seeking statements of qualification and interest from groups that would like to provide input to efforts to further develop the market for electrified ammonia.

Additional Resources of Interest:

- [University of MN Presentation to MN PUC](#)
- [The Breakthrough Potential of Green Ammonia: High-Profile Research Initiative Explores How Electrifying Ammonia Production Can Enable Cooperatives to Decarbonize Their Grids and Agriculture](#)
- [The Midwest could be the epicenter of a "green" ammonia revolution, researchers say | Agri-Pulse Communications, Inc.](#)