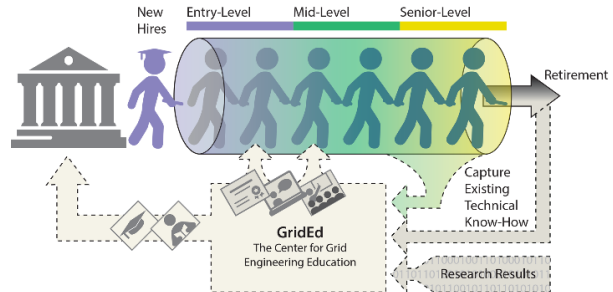


# Training and Educating a Workforce for the Emerging Clean Hydrogen Industry via the *H<sub>2</sub>EDGE* Initiative



## Background, Objectives, and New Learnings

Clean hydrogen technology is rapidly developing as an option to help decarbonize our energy system, potentially leading to vast new employment opportunities across a wide variety of industries with a range of skills and earnings potential. Many of these jobs do not currently exist and do not have occupational titles defined in official classifications. In addition, many of these roles would require different education and skills than current jobs. As a result, training requirements must be assessed so that this rapidly growing part of the economy has a sufficient supply of qualified, educated, trained workers. Educating a hydrogen industry workforce in new practices, equipment, and standards is essential for enabling hydrogen’s potential role in decarbonization.

An EPRI team, known as **The Center for Grid Engineering Education (GridEd)**, was recently granted a U.S. Department of Energy (DOE) award titled Hydrogen Education for a Decarbonized Global Economy (*H<sub>2</sub>EDGE*) for developing a workforce for the emerging clean hydrogen economy. *H<sub>2</sub>EDGE* has teamed with the Low Carbon Resources Initiative (LCRI) which provides augmenting assets to enhance the value of this important workforce development activity. Furthermore, universities and industry partners complete the *H<sub>2</sub>EDGE* partnership.

GridEd is a self-sustaining program that features eight years of DOE supported initiatives by establishing an ongoing enterprise for workforce development. With this continuation, EPRI is expanding its technical reach to the clean hydrogen economy. GridEd’s *H<sub>2</sub>EDGE* initiative will work with industry, government, and universities to train a hydrogen industry workforce. Training a cadre of engineers and technicians will poise the industry for success. The result will be educational

material in many forms suited to train both existing and new hydrogen industry professionals, as well as educating university students.

## Benefits

Companies joining *H<sub>2</sub>EDGE* will benefit from the principles and practices of the program as characterized by the following:

- Advancing workforce knowledge through a robust professional training/retraining program for individuals entering or shifting their skills to the hydrogen industry marketplace.
- Building collaborative relationships between hydrogen industry organizations and local universities to contribute to a national university network that is committed to advancing a curriculum that supports the growing hydrogen economy.
- Contributing to university and college infrastructure, with an integral focus on Historically Black Colleges and Universities (HBCUs), to prepare a workforce for the emerging hydrogen economy.
- Engaging university/college students to expand the talent pool of qualified hydrogen energy workforce participants.

## Project Approach and Summary

GridEd is expanding its scope with the *H<sub>2</sub>EDGE* award from DOE. The new team of **Partner Universities** consists of Oregon State University, University of Delaware, and the University of Houston. These universities and the *H<sub>2</sub>EDGE* technical team will utilize knowledge of hydrogen technology, industry R&D results, and specialized expertise to meet the objectives of *H<sub>2</sub>EDGE*. The **Low Carbon Resources Initiative (LCRI)** will provide vital knowledge from its research

program to support professional training course development. The Partner Universities are expected to bring their hydrogen expertise as well as teaching experience while contract resources will support the professional training aspects of development. Participating industry organizations will act as advisors to help define technical issues, direction, and evaluate quality and impact.

In order to identify training needs and options, *H<sub>2</sub>EDGE* will engage hydrogen industry participants, industry researchers, and the Partner Universities. For example, educational programs are planned to address workforce needs at various career stages spanning from new industry entrants through to retraining of existing industry participants. These include classic degree programs, professional development courses, basic seminar courses, and other outreach. A broad network of universities (“**Affiliate Universities**”) will be assembled to participate in train-the-trainer activities, which will be sponsored by our hydrogen industry participants. A special effort will be directed at engaging HBCUs in our university network. Knowledge sources will also include government and industry roadmaps that define research gaps and needs.

### ***H<sub>2</sub>EDGE* Membership**

As a member of *H<sub>2</sub>EDGE*, the direct benefits of participation include:

- A seat on the advisory board to inform the content of the collaborative.
- An invitation for **one** Affiliate University to join the university network to gain access to “train the trainer” activities and workshops, student project sponsorships, and additional engagements.
- Full access to all self-paced (recorded) training modules.
- Sixty (60) pre-paid hours each year in select *H<sub>2</sub>EDGE* short courses.

### ***Key Deliverables***

The following are key outcomes of the *H<sub>2</sub>EDGE* program.

- Professional T&E: Training courses and materials.
- University Curriculum: Partner Universities will create and offer curriculum as well other academic assets.
- Train-the-trainer activities will be provided by Partner Universities to Affiliate Universities.
- Human Resources Leading Practices: Develop and share techniques for advancing workforce development and knowledge of jobs for the emerging hydrogen economy.

### **Pricing for Participation in *H<sub>2</sub>EDGE***

The pricing plan is shown below for all participants. EPRI member utilities may use Self-Directed Funding (SDF).

- \$50k for a commitment ending December 2024 (LCRI members pay no additional fee during start-up period).
- Additional Affiliate Universities: \$15k for a commitment ending December 2024.

### **Project Status and Schedule**

Participation in *H<sub>2</sub>EDGE* is a commitment beginning in 2023 and ending in December 2024. It is intended to operate in tandem with the EPRI-led DOE *H<sub>2</sub>EDGE* project. Future opportunities to engage with *H<sub>2</sub>EDGE* beyond 2024 will be available with follow-on supplemental project notices.

### **Who Should Join**

Participants interested in advancing the education of their current staff, preparing future hydrogen industry activities for their company and responsible industry leaders who want to assure leadership in the evolving energy industry.

### **Contact Information**

For more information, contact the EPRI Customer Assistance Center at 800.313.3774 ([askepri@epri.com](mailto:askepri@epri.com)).

### **Technical Contacts**

Please let us know if you would be interested in this opportunity to help shape the future of the hydrogen workforce.

Eladio Knipping at 202.293.6343 ([eknipping@epri.com](mailto:eknipping@epri.com))

Krystal York at 269.391.4580 ([kyork@epri.com](mailto:kyork@epri.com))