

# BUILDING THE FUTURE

## Optimizing Emissions From Your Existing Energy Infrastructure

The Kiely Family of Companies serves the midstream, utility, and industrial industries throughout the United States, specializes in design-build for the energy industry. Founded in 1952, our engineering and construction teams perform full-service engineering design, construction, and project management services with a commitment to deliver successful projects on time, on budget, and on expectation.

In addition to pipeline engineering and construction services, KIELY focuses on providing exceptional and unique value-added services designed to propel our customers into the dynamic energy future. Our Hydrogen Solutions utilize sound engineering design and experienced construction professionals to develop your hydrogen transmission, distribution, storage, and consumption needs.

Whether green, blue, or grey hydrogen, our Hydrogen Solutions turn our customer's visions into reality. Our strong safety culture will provide the quality assurance your hydrogen production, infrastructure, storage, and delivery is designed and built with a focus on the environment and safety of all stakeholders.

## Hydrogen Services

By providing a qualified engineering and construction team that is highly trained with our equipment and processes, your team can be confident that you are executing your Hydrogen project in a safe, environmentally conscious, and cost-effective manner.

- ▶ Feasibility studies
- ▶ Processing equipment sizing design & installation
- ▶ Pipeline route selection design & build
- ▶ Blending, injection, distribution design & build
- ▶ Hydrogen storage design
- ▶ Environmental permitting and inspection
- ▶ Metering design & installation
- ▶ Pipeline integrity testing
- ▶ Quality testing and commissioning



## Hydrogen Use

Hydrogen has the highest energy content by weight of any common fuel and is the simplest and most abundant element in the universe. Hydrogen is an energy carrier, which can be produced by the separation of a variety of sources including water, fossil fuels, or biomass. Currently, most hydrogen is produced from natural gas through steam methane reforming, a process where steam is introduced to a hydrocarbon fuel to generate hydrogen. Another common process is electrolysis, which utilizes an electrolyzer to separate the water molecule into oxygen and hydrogen. Biological processes can also produce hydrogen utilizing reactions with bacteria and algae.

Hydrogen can be used as a source of energy, fuel, or feedstock for industrial purposes. When produced, it can be stored for later use, piped to where it is needed, and then converted cleanly into heat and electricity.

Hydrogen has a wide array of applications across multiple industries, including transportation (transit buses, specialty construction equipment, passenger vehicles, and aircrafts), power generation, storing & enabling renewable energy, petroleum refining, and injection into existing natural gas fuel streams.



## An Environmentally Friendly Alternative

Hydrogen is playing an integral role in energy storage. When combined with oxygen in a fuel cell, hydrogen produces heat and electricity with only water vapor as a by-product. Hydrogen storage can help bridge the gap for power sources with highly variable outputs, such as solar and wind.

Utilizing hydrogen as a fuel source helps customers meet their carbon reduction goals by providing a highly efficient, clean-burning fuel alternative. Hydrogen can be blended into existing natural gas networks in low percentages for buildings, such as multi-family and commercial buildings, or in higher percentages for gas turbine power generation plants.

KIELY performs our services with vision, innovation, integrity and excellence, responding to our customer's unique requirements to deliver success for both our customers and their stakeholders.

Our comprehensive hydrogen services increase green energy portfolios by utilizing a clean-burning, abundant fuel source. And with our design and construction teams collaborate as a single entity to deliver optimized results, we are empowered to fast-track your project from start to finish

To get started implementing Hydrogen Energy into your portfolio, contact our team of experts today.

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