### ESA ENERGY SEARCH ASSOCIATES



## THINGS to Know About Quidnet Energy...

- Quidnet is developing and deploying energy storage using the science of geomechanics.
- 2. We're using fossil fuel industry expertise to enable a reliable and cost-effective energy transition.
- Quidnet is funded by leading public and private energy transition investors — such as the U.S.
   Department of Energy and Breakthrough Energy, founded by Bill Gates.



**Richard Brody (**) VP of Business Development, Quidnet

## How does Quidnet's System Work?



Charge. Water pumped down the well into high-pressure storage lens
 Discharge. High-pressure water flows up the well to drive a turbine

# How is Quidnet's system different from using batteries to store electricity?

Current chemical battery technology only enables it to support the grid for short durations. Our technology can provide storage for 10 hours or more, and operate for decades, without the need to recycle depleted batteries. Also, the U.S. is not a major producer of the minerals used in batteries, so that technology depends on an array of imports. Our technology is fully domestically sourced.



### Quidnet Energy:

#### Modular Pumped Storage Enabling the Zero-Carbon Grid

#### What is Quidnet Energy?

Quidnet Energy was launched in 2013 with the visionary concept of using time-tested hydroelectric technology to develop the energy storage capability needed to create a reliable decarbonized grid.

#### Why does a carbon-free grid need energy storage?

Wind turbines and solar photovoltaics are the main technologies being deployed in the transition to decarbonized electricity. But they can only generate power when the wind blows and the sun shines. As a result, energy storage is needed to make the power from these variable energy resources available when needed.

#### What progress have you made?

We are wrapping up our exploration campaign in initial strategic basins in New York, Texas, Ohio, and the Canadian province of Alberta to verify and characterize this geologic hydropower storage resource. We are now planning an appraisal and development program for these and other basins to scale up the business and meet the rapidly approaching state and regional storage goals and clean energy mandates.

# How are you employing oil & gas industry expertise?

Our energy storage technology is founded on science and processes that evolved from the O&G industry. Rechanneling—rather than discarding—the significant knowledge, experience, and capacity of the O&G sector to help drive the energy transition positions us to achieve our decarbonization goals much quicker and more smoothly than many alternatives.

#### Any final thoughts?

#### How much energy storage is needed to combat climate change?

The International Energy Association estimates that, in order to meet the Paris Agreement on climate change goal of keeping global warming below 2 degrees Celsius, the world needs 266 gigawatts of energy storage by 2030. Currently, there are approximately 180 gigawatts of worldwide energy storage capacity. In recent years, the world has been adding as much as 1.5 GW of new energy storage capacity annually. At that pace, it will take 60 years to add the amount of energy storage the IEA says we need to build by 2030.

#### How does Quidnet's system work?

Quidnet's Geomechanical Pumped Storage (GPS) is a twist on traditional pumped storage—from which the world currently derives 94% of its energy storage—but turned upside-down. Rather than pumping water up mountainsides to massive thousand-acre reservoirs, Quidnet pumps water 1,000-2,000 feet underground between layers of impermeable rock to store energy. This energy can be released to the grid over long duration, at extremely low cost, with modularity and scalability. Our technology is well-suited for geographic regions across North America and it's a great match for wind and solar farms in rural areas.

#### What advantages are offered by Quidnet's system?

- Quidnet is long-duration storage. Our 10-plus hour storage capability can meet the electric grid's need for multi-hour energy storage to absorb curtailed power when there's a surplus and deliver power when needed.

Centuries ago, electricity's earliest pioneers demonstrated the possibility of briefly storing electric charges on metal foil in glass bottles called Leyden jars. Today, we face a daunting "lightning in a bottle" challenge of storing huge levels of electricity for long durations to achieve the energy transition. At Quidnet Energy, we're proud to be part of the efforts addressing the challenge of a reliable decarbonized energy future.

#### To learn more about JV Opportunities Reach out to Richard HERE

For more information on Quidnet CLICK HERE

## Connect with us:

- Our system is modular & scalable. It's deployable across diverse geographic areas on small footprints to provide custom grid support wherever it's needed.

- It's terrain-variable, providing the proven benefits of conventional pumped storage hydro without the need for mountains, lakes, or pre-existing underground caverns.

Quidnet offers structural cost advantages, with initial installed costs substantially lower than gas peaking plants and alternative storage technologies. Over the long term, we project lowering costs even further.
We're ready and reliable. Key process equipment is provided and serviced by mature suppliers from well-established industries, including oil and gas exploration and production.

Have an Oil & Gas position to fill or want to learn about our openings? CLICK HERE or email clark@energysearchassociates.com Follow us on