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THE CURRENT

A New Voice in New England's Clean Energy Future

Boston University's Center for Computing & Data Sciences (Photo by Janice Checchio)

Building on Success: From Mass Clean Energy Week to NREC

Following the extraordinary success of Massachusetts' first Clean Energy Week in November 2024, which brought together over 1,200 participants to discover the future of sustainable innovation, we're expanding our mission to create a unified voice for clean energy across New England.

northeastrec.org

Our Vision

The Northeast Renewable Energy Coalition (NREC) is a dynamic alliance of industry leaders, community organizations, and energy innovators dedicated to accelerating New England's transition to a clean energy future.

Our Mission

To catalyze the region's sustainable energy transformation through education, partnership-building, and hands-on engagement across state lines.

Expanding Our Impact: Clean Energy Week Goes Regional

RHODE ISLAND
APRIL 21-25, 2025

Inaugural RI Clean Energy Week

Community Energy Solutions

Career Recruiting Fair

Innovation Expo

CONNECTICUT
JUNE 23-27, 2025

Inaugural CT Clean Energy Week

Green Building Showcase

Innovation Summit

Innovation Expo

MASSACHUSETTS
SEPT 29-OCT 3, 2025

Our Flagship Event Returns

Enhanced Regional Focus

Cross-State Collaboration

Career Recruiting Fair

Innovation Expo

Industry Insights: Featured Article

By Lane Lawless
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Conservation: The Silent Powerhouse of Energy Solutions

The energy landscape shifted dramatically when President Trump took office last month. While his administration and newly confirmed Energy Secretary Chris Wright have shown skepticism toward wind and solar, they've embraced geothermal as a "meaningful" player in America's energy future. This became crystal clear when Trump's energy emergency declaration listed geothermal among essential domestic resources, notably excluding solar, wind, and battery storage.

Here's where things get interesting – and perhaps a bit confusing. When politicians talk about geothermal, they're typically referring to massive drilling operations that plunge miles into the Earth to harness steam for power generation. That's not what we do in the geo exchange space. Think of us as geothermal's practical cousin: same family, different approach. While both solutions require drilling, we're after a different prize altogether.

In comparison to geo for power generation, our systems utilize relatively modest depth bores (500ft is not uncommon) that can be handled by truck-mounted drills rather than large, constructed drilling platforms. We insert closed-pipe systems that circulate water between these bores and a building's heat pump. It's beautifully simple: the ground in North America maintains a steady temperature between 50-70°F, making it far more reliable than air temperatures that swing from subzero to triple digits. When designed and implemented properly, this approach can reduce heating and cooling energy demands by half or more compared to traditional air-source systems. Consider this: roughly 50% of building energy consumption goes to heating and cooling. That's an enormous opportunity for conservation hiding right beneath our feet.

I've come to accept during my time in this industry that most people are more intrigued by things that generate power rather than things that mitigate its demand. I was once asked by a curious bystander on a project site in Chicago if our drilling would "power the entire home." When I explained we were installing a more efficient heating and cooling system, we immediately stopped being cool in his eyes. "You mean all this for cheaper air conditioning?" In his mind, we'd just joined the ranks of weather stripping and spray foam insulation. But here's the thing about being boring: it works. Unlike solar or wind, our solution isn't at the mercy of weather conditions. The Earth's steady temperature is always there, always ready to help us save energy. And in today's context, this kind of reliable conservation has never been more crucial.

Just two weeks ago, Wall Street got a wake-up call when Chinese AI firm DeepSeek released their R1 language model at a fraction of OpenAI's cost – despite U.S. export controls on advanced GPUs. This "Sputnik moment" highlighted a sobering reality: the AI race is on, and its consuming enormous amounts of energy. The computing power needed to process large datasets for running AI models, text and image generation is massive and requires substantial, reliable, non-negotiable base load capacity. AI queries, for example, can consume up to 10 times the energy of a standard Google search. Bloomberg Intelligence projects that AI data centers could devour 17% of total U.S. electricity consumption by 2030.

The stakes are clear. As Energy Secretary Scott Bessett recently testified in his confirmation hearing that concerning China, there is no "clean energy race, only an energy race." China is scheduled to build 100 new coal-fired plants in 2025 largely to power AI data centers. China, it seems, is unconcerned by western sensitivities to carbon emissions. They are only concerned with winning.

Competing in this race by means of carbon free emissions won't be easy. The current supply chain as we know it for wind turbines, solar panels and batteries are overwhelmingly dominated by China. Most building block materials for a "green energy transition" are controlled by China. They have 40% of the world's copper, 30% of the nickel, 60% of cobalt and lithium and 80% of rare earth minerals and they control 73% of its refinement. The U.S. is more dependent on China for these alternative energy system components than Europe was on Russian natural gas prior to the invasion of Ukraine.

Regardless of how much we desire carbon free energy, producing enough wind turbines and solar panels to reliably supply 100% of U.S. energy requirements is simply unrealistic. The only other option for limitless base load capacity with zero carbon emissions which we have control over is nuclear. As of today though, there are no new reactors under construction. While the U.S. has set a goal of tripling nuclear capacity by 2050, the Vogtle Nuclear Plant in Georgia is the only new plant to come online in the United States in three decades and was 7 years behind schedule and $17B over budget.

As trade tensions with China escalate, one thing remains certain: we're in an energy race against a determined and expansionist opponent who seeks both economic and military dominance over the United States. But here's where our "boring" solution shines. While we can't always control energy production, we possess an incredibly powerful means to reduce its consumption. Those modest holes we drill immediately and permanently cut one of America's most energy-intensive applications by half or more. That power is now free to be used for other mission critical sectors. And it's something we can accomplish through a supply chain based almost exclusively in the U.S. Our company's Deep Bore Coaxial system is produced here in the U.S. with domestically sourced glass, and epoxy resins.

Conservation may not always grab headlines, but it's the most abundant alternative energy source we have right now. Sometimes, the most powerful solutions are the ones hiding in plain sight.

In this race, every kilowatt counts.

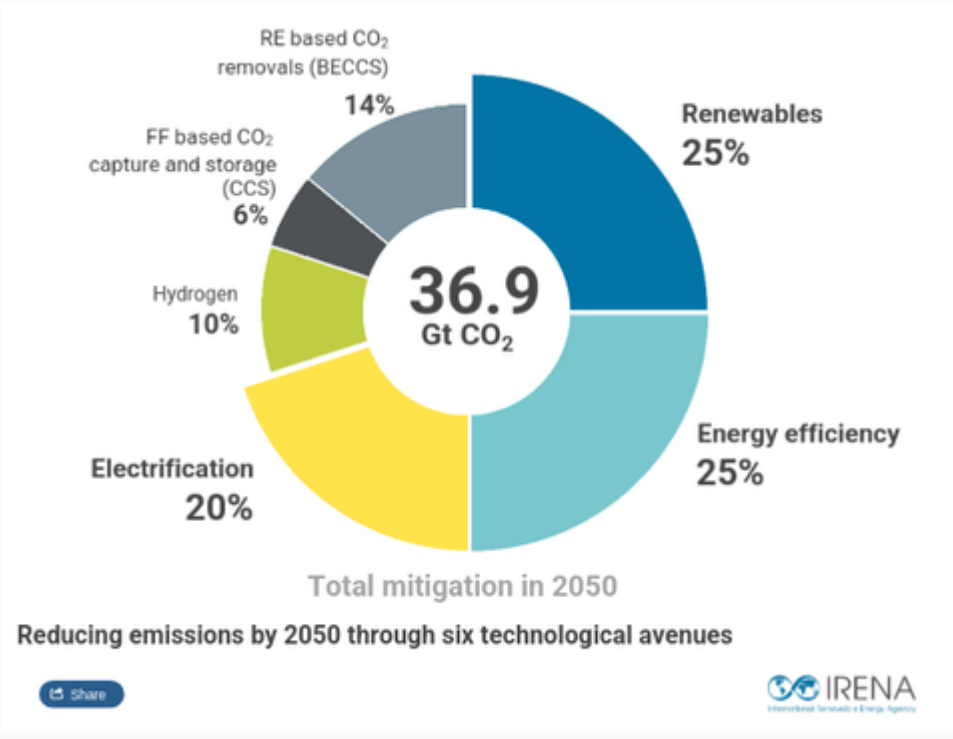
About the Author

Lane Lawless co-founded Rygan Corporation in 2007, a pioneering materials science company revolutionizing geothermal energy with their innovative coaxial pipe system. Their breakthrough technology combines lightweight, high-strength composite materials with superior heat exchange properties, dramatically reducing the number of ground bores needed compared to traditional plastic systems.

The system's effectiveness has been proven across numerous high -profile installations throughout Boston, including multiple schools, fire departments, and prestigious National Historic Sites. Notable projects include Trinity Church, the Longfellow House, and the Olmsted Park. Boston University has also embraced this technology, implementing it in their CDS building, with plans to expand the system across more campus facilities in the near future.

Global Outlook

IRENA's World energy transitions outlook charts an evolving pathway to achieving a climate-safe future in line with the goals of the Paris Agreement. Its 1.5°C pathway offers a roadmap for accelerating the global energy transition by positioning electrification and efficiency as key drivers of change, backed by renewables, hydrogen and sustainable biomass.



News Corner

Country's first fully-underground electrical substation breaks ground in Cambridge

Eversource has begun construction on the country's first fully underground electrical substation in Cambridge, part of a $1.8 billion project to meet rising energy demand. Located 105 feet below a new public park in Kendall Square, the 35,000-square-foot facility is a collaboration between Eversource, Cambridge, and developer BXP. It will support Massachusetts' electrification goals while blending into the urban landscape. Though celebrated as an innovative solution, concerns remain over energy equity, as similar concessions were not made for a contested East Boston substation. Costs were managed through strategic cost-sharing, limiting the financial impact on ratepayers.

wbur.org

AI boom spurs Big Tech to build clean power on site

The increasing demand for computing capacity driven by artificial intelligence is prompting major tech companies to co-locate data centers with renewable energy sources such as solar and wind, along with battery storage. Google, for instance, has entered a significant $20 billion partnership to develop data centers supported by renewable power.

reuters.com

Why The Energy Crisis Demands An All-Of-The-Above Approach, And Where Renewable Propane Fits The Picture

As the energy crisis intensifies, a diversified approach is essential to meeting growing energy demands while reducing carbon emissions. This article advocates for an "all-of-the-above" strategy, emphasizing the need to integrate multiple energy sources—such as renewable propane, electricity, hydrogen, and renewable natural gas—each tailored to specific applications. By leveraging a mix of solutions rather than relying solely on one technology, the energy sector can achieve greater resilience and sustainability in the transition to a low-carbon future.

forbes.com

"A SOCIETY GROWS GREAT WHEN OLD MEN PLANT TREES WHOSE SHADE THEY KNOW THEY SHALL NEVER SIT IN." -GREEK PROVERB