BEST START Digest

Building Minnesota's Energy Science Ecosystem

BEST START
Accelerating energy technologies

December 2025

This is the BEST START Digest, an energy sciences newsletter published by the Energetics Technology Center (ETC) Inc. BEST START provides the crucial support businesses need to bring their visionary technologies to the warfighter. Whether refining smart grid technologies, enhancing renewable energy applications, or creating resilient solutions for power generation, BEST START partners with Minnesota companies to move technology forward. This newsletter aids in this mission.

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Partner Update

SYNCRIS completed a virtual demonstration of their modular, scalable inverters with hot swap capability and offered a preview of future development of their inverter technology. Attendees included representatives from the Army Research Laboratory, C5ISR Center, and GVSC.

Aza Power Systems visited LEMA to plan its April in-person demonstration for BEST START. Aza will demonstrate the capability of their Rugged Ammonia Power System (RAMPS) that has been in development. LEMA will provide the variable loads for the demonstration.

COMPANY	PROJECT
Maxwell Labs Inc.	Photonic Cooling
SYNCRIS	Microgrid Inverter with Model Predictive Control
BWR Innovations, LLC	Hydrogen Fuel Cell
Ascentek, LLC	Sodium Ion Battery
Aza Power Systems	Ammonia Power Combustion
LEMA, Inc.	Dual-axis high-efficiency Solar Power System
Exergi Predictive, LLC	AI-Based Energy Control for Tactical Microgrids

Maxwell Labs expanded their company to include four new hires in early 2026. They have hired two experimental physicists and two modeling physicists for their staff. These new roles will help them build their photonic design structures and expand on material optimization.

General News

Landmark Energy Acquisition Finalized, Securing Long-term Benefits for Minnesotans

The parent company of Minnesota Power was acquired by Global Infrastructure Partners and Canadian Pension Plan Investment Board on October 3, 2025. Acquisition terms were finalized with a commitment to “strong, responsible public stewardship,” says the commission. Highlights of the settlement include access to the capital needed to finance Minnesota Power’s existing capital plans, ratepayer protections, increased investments in clean energy, enhanced service quality, improved governance safeguards, and workforce & labor protections.

Searching for He and H2: European Company Drills for Helium and Seeks Hydrogen in Minnesota

Europe-based company, Pulsar Helium, has confirmed and tapped significant helium reserves in MN. They have recently gained exclusive mining rights for this land asset through their acquisition of Quantum Hydrogen Inc. The land has traits indicating that there may be hydrogen reserves in addition to the rich reserves of helium.

First Solar Investing $330M on New Module Finishing Plant in South Carolina

Anticipating higher U.S. energy demand incentivized through the “One Big Beautiful Bill Act”, and having benefitted from

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AI Energy Demands

Gigawatt Paradox: Finding the Right Balance Between AI and Energy Capacity

AI's growth and integration into business operations has driven revenue, innovation, and the necessity for investments in energy. "Leading tech companies are investing in new nuclear technologies and renewable energy projects to ensure sustainable AI growth and energy security."

The Grid Can't Keep Up With AI, But Startups Are Primed To Help

The grid needs to be modernized to keep up with growing energy demands, especially amid the growth of data centers and computers. Startups are helping grid coordination by demonstrating the necessity for bottom-up decentralized tools to scale energy generation at the speed necessary to keep up with demand that is only continuing to grow.

Opportunities and Solicitations

Topics for SBIR/STTR Solicitations

12 new topics are released on the first Wednesday of each month. Pre-release and open and closing dates for DoD SBIR/STTR topics can be found on the Defense SBIR/STTR Innovation Portal.

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credits through the Biden-era Inflation, First Solar intends to build this facility to onshore part of their manufacturing process and create 600 jobs in South Carolina.

Smart Transmission Tools Modernize America's Power Grid

Dynamic line rating allows for a more agile and cost-effective approach to maintaining a reliable grid, increasing power transfer capabilities by 10-40%. This is one DOE-funded technology that has helped to enhance the grid and aid in meeting the U.S.'s growing energy demand. The Energy Systems Integration Group, partnered with Idaho National Laboratory (INL), released a "report that outlines actionable strategies to integrate GETs into grid planning, enabling faster and more effective adoption nationwide."

The Art of the Possible for Delivering Lower Costs and Resilience With Microgrids of All Sizes

Excerpt: "Microgrids, along with other distributed energy resources, may supply as much as 50% of generation over the next decade, said panelists at a teleconference organized by the federal Department of Energy Onsite Technical Assistance Partnerships, which offers free resources for onsite energy developers."

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Scan QR or visit https://www.beststart.io for more information.

UPCOMING EVENTS

Date	Event	Organizer	Location
Jan. 13, 2026	Virtual Winter Chamber 101	MN Chamber of Commerce	Virtual
Jan. 21, 2026	Technical Exchange Meeting for Industry	DoW	Laurel, MD
Mar 24-26, 2026	AUSA Global Force Symposium	AUSA	Huntsville, AL
Apr 7 -9, 2026	ARPA-E Energy Innovation Summit	ARPA-E	Chula Vista, CA
Apr 19-22, 2026	Navy League Sea-Air-Space	Navy League	National Harbor, MD
May 4-6, 2026	Microgrid Knowledge Conference 2026	Microgrid Knowledge	Orlando, FL