

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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Partners

ETC is working with its partners below to help them prepare for their technology demonstrations later this year/early next year. Stay tuned for updates on the companies' technologies.

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

General News

Supercharging Solar With Quantum Dots

Don Fico Forbes, The Wall Street Journal, July 9, 2025

Solar-tech company First Solar and New Mexico based advanced materials company UbiQD recently entered into a long-term commercial agreement to accelerate the integration of Quantum dots into solar panels. They apparently can be manufactured relatively inexpensively and applied like paint to silicone modules. The First Solar rollout is expected in late 2026. The deal highlights a rare lead for US clean-tech innovation against Chinese dominance.

SSTI Key Technology Area Investment Data Tool

SSTI has developed a Key technology Area Investment Data Tool that uses PitchBook's platform to provide measures at the state level by year and by investment stage for selected technology areas. The tool allows for comparisons

in capital investment, deal counts, and companies among states and key technology areas for the years 2013-H1, 2025. The data shows that in Minnesota in 2024 there were 6 clean-tech VC deals, 4 of which were later-stage, 1 early-stage, and 1 seed with capital totaling \$49.5 million, \$NA, and \$2.65 million respectively. For the first 1/2 of 2025, total VC investment in clean-tech in Minnesota was \$64 million, comprised of 2 later stage VC deals.

Deloitte Report: AI Data Center Power Demand to Surge 30x by 2035

Deloitte, T&D World, July 7, 2025

Excerpt: "As AI continues to proliferate, planned expansion of U.S. data centers may move more rapidly than new power generation can be brought online, creating a gap in infrastructure development to meet demand. Energy requirements and AI hinge on the rapid buildout of data centers, the grid capacity to power them, and a manufacturing base to support both."

Hydrogen's Relationship Status: True Commitment is Complicated Matching Demand and Scalability

Rod Walton, EnergyTech, July 21, 2025

Excerpt: "All we must do is create a functional H2 infrastructure all around us, not just in petrochemical havens but in the heartland of power generation. Such a thing would elevate hydrogen into the top realm of the electricity and industrial fuel chain."

Read more on the subject: [Exploring the Potential of Hydrogen for a Sustainable Energy Transition](#)

VC Tech Survey: Investor Insights on AI, Dealmaking, and Fundraising

VC investors are responding to challenges with strategic adjustments as they navigate geopolitical uncertainty and technology transition. Positively, 60% of respondents still plan to raise another fund within 2 years, with a growing contingent

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Legislative Updates

The One Big Beautiful Bill Update

Sourced from the Wall Street Journal, July 14, 2025; McDermott Will and Emery July 7, 2025; Seyfarth Shaw LLP Legal Update July 7, 2025; and Pitchbook July 2, 2025.

The final enacted version retained the up-front, accelerated R&D expense and bonus depreciation provisions previously reported in the July Digest. Clean energy tax credits have been severely impacted, but the final version was slightly more favorable to the renewable energy industry. It removed a proposed excise tax on solar and wind projects that sourced imports from China. Tax credits terminate for wind and solar facilities that begin

construction after July 4, 2026 if they are not placed in service by December 31, 2027.

While capital gains tax rates remained the same, the law expanded other capital gains tax breaks. Opportunity Zones (there are 19 and 25 designated zones in Ramsay County and Hennepin County, respectively), help investors reduce or eliminate capital gains on any Opportunity Zone investments.

Other clean-tech tax provisions: BESS are subject to pre-OBBA provisions and generally have until 2033 to begin construction and phase-out provisions. Fuel cell property beginning construction after 2025 is not credit eligible unless it is emissions neutral. Hydrogen facility credits terminate now after December 31, 2027, rather than at the end of 2025 as contained in prior proposals.

DOE moves to rescind NEPA to fast-track energy projects

Cathy Landry, Oil & Gas Journal, June 30, 2025

Excerpt: “DOE said the updates are necessary to “fix the broken permitting process” and accelerate energy projects under the law, which has not been significantly revised since the 1980s.”

Fuel Cell Microgrids Expected to Get a Boost From Trump's Domestic Policy Bill, While Some Other DERs Suffer

Lisa Cohn, Microgrid Knowledge, July 17, 2025

Excerpt: “Under President Trump's new domestic policy law, solar, wind and electric vehicles take a big hit, losing the investment tax credit. But fuel cells, which gained the credit, are expected to benefit.”

Opportunities and Solicitations

Topics for SBIR/STTR Solicitations

12 new topics are released on the first Wednesday of each month. SBIR 25.4/STTR 25.D and SBIR25.3/STTR 25.C, Release 11, will be pre-released on Aug 6. Pre-release and open and closing dates for DoD SBIR/STTR topics can be found on the [Defense SBIR/STTR Innovation Portal](#).

BAA: Research and Development of Naval Power and Energy Systems

“[NAVSEA] is interested in White Papers for long and short term Research and Development (R&D) projects that offer potential for advancement and improvements in current and future shipboard electric power and energy systems at the major component, subsystem and system level.”

Minnesota State Small Business Credit Initiative (SSCBI)

Minnesota was allocated \$97 million for its SSCBI program, made available under the American Recovery Plan Act (ARPA) of 2021. MN DEED recently confirmed to ETC that funding was still available for its component programs.

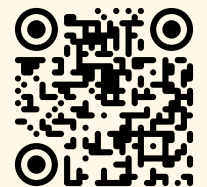
Of particular interest to BEST START may be the Direct Investment Venture Capital Program component of SSCBI, managed by the University of Minnesota Office of Investment Bank. The program invests in start-ups that have secured a lead investor in their current start-up rounds and can be a direct investment in seed and early-stage Minnesota start-ups.

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in a 3-5 year timeline. 70% of the VC firms surveyed invest primarily in seed investments; 40% in Series A and 35% in pre-seed. Tariff or trade restrictions were projected to effect manufacturing, hardware/services and climate tech sectors the most at 45%, 42%, and 25% respectively. The greatest % of firms plan to make investments in the deep technology sectors of robotics, quantum, space tech and defense tech in that order. *Aside from AI, VC investors (31%) also saw climate tech as an area that could attract growth capital.*



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UPCOMING EVENTS			
Date	Event	Organizer	Location
Aug. 6, 2025	Workshop: Customer-Driven Innovation	Grid Catalyst	Virtual
Aug. 13, 2025	Army/Navy Battery Industry Day Aberdeen, MD/Hybrid	C5ISR	Aberdeen Proving Ground, MD
Sept. 8–11, 2025	RE+ 25 Renewing What's Possible	RE+	Las Vegas, NV
Oct. 7–8, 2025	2025 Gateway to Solar Conference	Minnesota Solar Energy Industries Association (MnSEIA)	Minneapolis, MN
Oct. 13, 2025	Minnesota Energy Innovation Summit	Various	Minneapolis, MN
Nov. 5, 2025	MN Annual State of Manufacturing Survey Release Event	Enterprise Minnesota	Minneapolis, MN