

SPONSORED COFFEE CHATS WITH KIKI

35 GIGAWATTS OF BATTERIES BY 2025

Anyone who says that batteries aren't a real solution today for the electrical grid are like those people of yesteryear who proclaimed that the horse could never be replaced by the horseless carriage (automobile). They just haven't educated themselves on what has been going on; the basic economics of large batteries are going to drive unprecedented adoption by utilities in the next few years, from relatively little in 2012 to 36 gigawatts installed by 2025 in the U.S.¹ Battery storage solves huge problems for utilities and the technological advances and the exponential price drops in batteries which have occurred in the past 10 years have created a compelling business case for deployment.

This week, 250 exhibitors and over 12,500 attendees have been at the Energy Storage International conference right below us in Salt Lake City.² Battery storage companies have been raising significant amounts of money from investors to scale up their production and utilities are significantly deploying their products.³

Georgia's utility regulators approved a long-term plan that will see Georgia Power drastically expand renewable generation and develop, own and operate up to 80 megawatts of energy storage... "We are positioning Georgia as a leader in the Southeast in battery energy storage, which is critical to growing and maximizing the value of renewable energy for customers as we increase our renewable generation by 72 percent by 2024," said Allen Reaves, Georgia Power's senior vice president and senior production officer, in a statement.⁴

"NextEra Energy Resources seems intent on proving that triple hybrid plants can work in the U.S. market. The powerhouse renewables developer contracted this week with Oklahoma-based Western Farmers Electric Cooperative to build the largest proposed solar-plus-wind-plus-storage plant in the U.S. The Skeleton Creek facility, slated for completion by the close of 2023, will include:

- 250 megawatts of wind capacity (which will arrive first, before the end of 2019)
- 250 megawatts of solar power
- 200 megawatts/800 megawatt-hours of battery storage

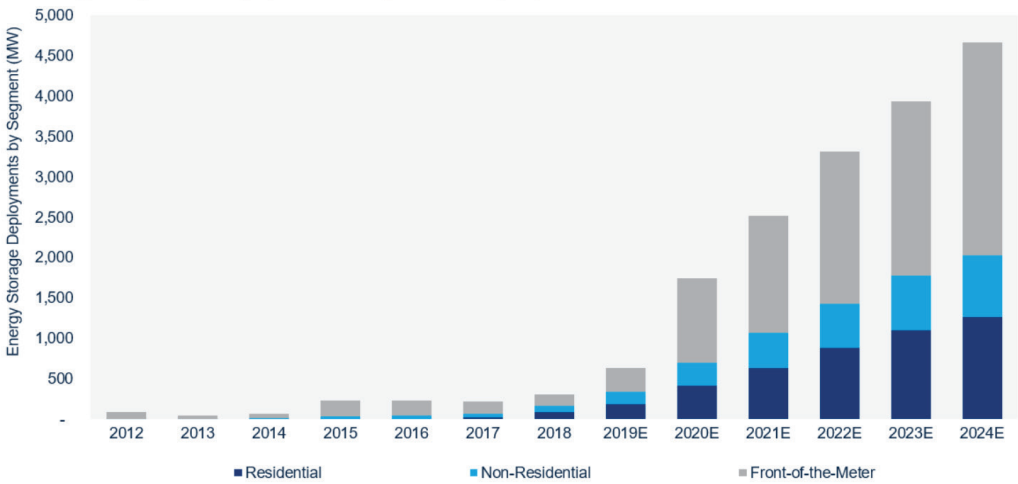
This outranks a project NextEra finalized with Portland General Electric in February, which will be online by the end of 2021. That deal includes 300 megawatts wind, 50 megawatts solar and 30 megawatts/120 megawatt-hours storage.⁵

Look at this chart from Wood Mackenzie Power & Renewables Report⁶

U.S. energy storage annual deployments will reach 4.7 GW by 2024

Utility procurements, changing tariffs and grid service opportunities all drive the market forward

U.S. energy storage annual deployment forecast, 2012-2024E (MW)



Nevada alone is "primed for up to a gigawatt of energy storage" by 2030 because it will save money for ratepayers as the most cost-effective solution. And not surprisingly, smart investors like Warren Buffet and his NV Energy have signed contracts to provide a bunch of this battery storage.⁷

Our electrical grid was built with no way to store the end product, electricity, at the place of use. When you think about it, what a crazy design for utilities to have to generate enough power running through the wires at all times to provide for anticipated load at any one time.

U.S. grid planners in the early days wanted to assure continuous electric supply, so they overbuilt the capacity of power plants in case there was more demand than anticipated at one time, or an issue with any one plant supplying power. This is how peaking power plants work, to provide power in case. "...peaking plants can have utilization as low as 5-7 percent of their capacity, resulting in millions of dollars of stranded capacity and value."⁸

Grid-scale batteries now can be depended upon to store large amounts of energy at the place of use and keep the grid humming without an interruption, whereas before there was a lag time of hours or days for a spare peaker plant far away to ramp up to cover a power outage. Much like it makes sense for us to have home refrigerators to store food, it makes sense for utilities to have grid-scale batteries where power is used; especially to us here at the edge of the grid.

¹ <https://energystorage.org/resources/industry-resources/us-energy-storage-monitor/>

² www.solarpowerinternational.com

³ www.greentechmedia.com/articles/read/your-storage-cheat-sheet-what-you-need-to-know-to-impress-at-esi1#gs.53geso

⁴ www.greentechmedia.com/articles/read/georgia-power-ups-plan-for-renewables-and-storage#gs.53e50d

⁵ www.greentechmedia.com/articles/read/nextera-inks-even-bigger-windsolar-storage-deal-with-oklahoma-cooperative#gs.53pe42

⁶ <https://energystorage.org/resources/industry-resources/us-energy-storage-monitor/>

⁷ <https://pv-magazine-usa.com/2018/10/5/nevada-primed-for-up-to-a-gigawatt-of-energy-storage>

⁸ Energy Storage Association, A Vision for 2025 whitepaper <https://energystorage.org/about-es-a-vision-plan/35x25-a-vision-for-energy-storage/>



SPONSORED FEATURE STUDENT SPOTLIGHT



Nick Maumus. Photo credit: Nick Maumus

NICK MAUMUS

On the search for higher purpose

BY ERIC VALENTINE

He may not know exactly what he wants to do down the road, but one look at Nick Maumus's high school career spells out how he's likely to get there: with gritty determination and a sense of things larger than himself.

Maumus is a 4.0 student currently taking three Advanced Placement courses as well as a dual-credit class. And while that's impressive, it's just a snapshot of his entire high school career. Maumus is a two-sport athlete for Wood River High School, in swimming and tennis. Both are individual sports, per se, but Maumus sees how co-operation with teammates and competitiveness with opponents make them something else.

On swimming, Maumus says, "I like the bonds I form with fellow teammates and my coaches. They push me to do the best I can at races and practices. They want me to achieve my goals and the goals set for me, which creates a healthy team community."

On tennis, he adds, "The structure makes it seem like chess, an epic battle where I trade blows with my opponent and whoever is the strongest, both mentally and physically, will prevail. It is this gritty feeling I get during a match that pulls me to the court and fuels me in practice."

Maumus has also been pulled toward a variety of extracurricular activities around the Valley and on campus. He is involved with the Model United Nations; he is a lifeguard at YMCA summer camps, a counselor at Atkinson Park, and a tennis pro at Sun Valley Tennis.

"I'm not sure what career path I want to pursue yet," Maumus said.

But he's pretty sure about how to get there.

"I'm planning on applying to some East Coast business schools, or some bigger schools, like the University of Washington or Cal Poly. I plan on majoring in business/economics with either a second major in psychology or a minor in psychology," Maumus said.

Wherever he heads, Maumus knows he'll miss life in the Valley.

"We live in a great community that fosters personal growth, intellectually, emotionally and physically. The opportunities available to us provide an amazing place to raise a child," Maumus said. "Blaine County School District is one that allows us to succeed; those who put in the effort can reach seemingly unattainable heights. Every person I've met in this community has pushed me to succeed and has done everything in their power to propel me toward the next step."

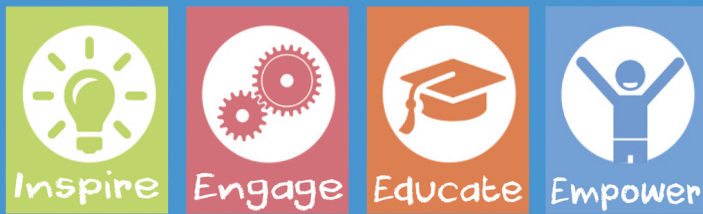
So what does a young man with that level of social consciousness hope he can bring to the world? Help put an end to group think, he says.

"It is the foundation for some of our flaws as humans, such as racism, sexism, and other prejudices," Maumus explained. "When we group people, we exclude the possibility of learning from them and thus diminishing our chances to create a better-informed and understanding society."

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Editor's Note: Anyone who would like to recommend a Blaine County School District student for The Weekly Sun's "Student Spotlight" feature should contact The Weekly Sun at news@theweeklysun.com.

This **Student Spotlight** brought to you by the **Blaine County School District**



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