



# ON THE GRID

**PROJECT: FLINT HILLS RESOURCES OF MINNESOTA HAS COMPLETED WHAT IT SAYS IS THE LARGEST-OF-ITS-KIND SOLAR INSTALLATION TO HELP POWER ITS MINNESOTA REFINERY OPERATIONS.**

**SIZE:** The 45-megawatt solar installation includes 100,000 panels and connects directly to the refinery operations.

**BACKGROUND:** The Flint Hills Resources solar installation is located on approximately 300 acres of the company's property immediately adjacent to the Pine Bend refinery complex. The installation is helping power the company's Pine Bend refinery south of the Twin Cities in Rosemount, Minnesota. The refinery supplies the majority of Minnesota's and much of the Upper Midwest's gasoline, diesel and jet fuel as well as heating fuels, asphalt, fertilizer and the chemical-building blocks used in thousands of everyday products. The Pine Bend refinery is currently among the most efficient refineries in the United States, earning the U.S. Environmental Protection Agency's ENERGY STAR status for three consecutive years.

**BENEFITS:** The solar project will lower energy costs and improve the energy efficiency of the refinery, which has a capacity of 375,000 barrels per day and is said to be among the most efficient and safest oil refineries in the country. The project is believed to be the largest direct use of solar power in the United States where all the power being generated is connected directly to a single facility or business. The facility's expected solar energy production is enough electricity to power more than 8,400 homes per year and has a peak capacity of roughly 30 per cent of the refinery's power needs during optimal conditions.

**PROJECT: ALLIANT ENERGY HAS SUCCESSFULLY COMPLETED SIX NEW SOLAR PROJECTS IN WISCONSIN.**

**SIZE:** The completion of the six projects adds 514 megawatts (MW) of solar energy, tripling Alliant Energy's solar generation capacity.

**BACKGROUND:** The state-of-the-art solar arrays automatically track the movement of the sun to maximize energy generation. Durable, high-performance, bi-facial solar panels improve site efficiency and are designed to withstand severe weather conditions including high winds, snow and hail. Additional features, including native low-growth grass and approximately 300 acres of native pollinator habitat across the six sites, enhance the environmental benefits of the arrays. The six newly completed sites are among 12 utility-scale solar projects Alliant Energy has advanced in Wisconsin as part of its Clean Energy Blueprint to deliver greater energy reliability, sustainability and customer value. The company placed three solar projects totaling 250 MW into service in 2022. The remaining three projects are in final construction phases; the company expects to complete them by mid-2024.

**BENEFITS:** The new solar projects significantly increase customer access to renewable energy. In addition to generating clean, zero-fuel-cost electricity for Alliant Energy customers, the solar projects also deliver long-term economic and financial benefits to local communities. Construction on these sites began in 2022 and employed nearly 1,000 workers who completed the projects safely and efficiently.

**PROJECT: THE ASYAD GROUP HAS ENTERED INTO AN AGREEMENT WITH BRAZILIAN MINING COMPANY VALE TO TRANSFORM THE SEABORNE MOVEMENT OF IRON ORE, A COLLABORATION WHICH INCLUDES THE INSTALLATION OF ROTOR SAILS ON THE WORLD'S LARGEST ORE CARRIER, THE VALEMAX, TO HARNESS WIND PROPULSION TECHNOLOGY AND DRIVE ENERGY EFFICIENCY GAINS, WHILE SIGNIFICANTLY REDUCING EMISSIONS.**

**SIZE:** Featuring five cylindrical rotors approximately 35 meters in height and 5 meters in diameter, the rotor sail system on the Valemax offers twice the windage area of the sails utilized on other ships. This advanced technological upgrade is expected to achieve up to a 6 percent improvement in efficiency and a reduction in CO2 equivalent emissions by as much as 3,000 tons annually per ship. The rotor sails will be developed by leading British manufacturer Anemoi.

**BACKGROUND:** Asyad Shipping has become the MENA (Middle East North Africa) region's first company to secure a sustainability-linked shipping deal establishing a structure that tracks performance targets in relation to the United Nations Sustainable Development Goals (UN SDGs) and measures adherence to the Energy Efficiency Operating Index (EEOI) standards.

**BENEFITS:** The Valemax vessel will harness wind propulsion technology and drive energy efficiency gains while significantly reducing emissions. This innovative initiative sets a new standard for sustainable shipping practices on a global scale, says the company. Asyad Group says it remains steadfast in its resolve to upholding the highest standards of operational efficiency and environmental sustainability in the Middle East's logistics sector.