

Teaching and Investing in Solar Photovoltaic Systems at St. Johnsbury Academy

Group net metering in Vermont allows consumers of electricity to install solar photovoltaic panels off-site and earn credits against their electricity bills. Since the St. Johnsbury Academy campus is densely developed, installing large-scale solar systems is complicated, but group net metering allows the school to develop solar off-campus, while reaping the environmental and economic benefits on campus.

Clem Dussault ('67) approached SJA in 2013 with a vision to develop a solar system on his property in nearby Danville, Vermont that would benefit the school. Clem partnered with Rich Nichol, a local solar installer, and the Academy's Electricity classes led by Mike Bugbee and Jeremy Roberts, and in 2014 installed the first three 5 kilowatt solar arrays with the aid of Academy students. Electricity students installed the 3rd array in September, 2014

The vision of the Dussault solar system is to promote renewable energy by enabling SJA to teach its students about solar power through annual solar installations. Under the guidance of local professionals, students learn about solar photovoltaic systems, then actually install one that benefits their school and the environment. The system is planned to grow by 5 kilowatts each year until it reaches a size of 150 kilowatts, the maximum allowable on single-phase transmission. Revenue produced by the Dussault system is saved and will be used to replace arrays as they expire, so this system has the potential to be sustainable far into the future. In addition, SJA has entered two power purchase agreements with Green Lantern Capital LLC to build two, much larger solar systems in 2015, one 500 kilowatt system in Williamstown, Vermont, and one 250 kilowatt system in Chester, Vermont. Green Lantern Capital LLC owns the systems, which are financed by third-party investors, who earn their money back by essentially selling the power produced at these sites to SJA at a discount. Resulting discounts from these agreements will total between \$30,000 and \$40,000 per year over 25 years. Unlike the Dussault system, SJA cannot claim the emissions reductions resulting from these systems, which are sold as renewable energy credits to other organizations. SJA has the option to buy these systems at 50% of their installation cost at year seven, which would then enable the school to offset its own carbon emissions.