STATE NH	REP Pappas	RECIPIENT Lawrence M. Wiley	GRANT \$93,190	PROJECT DESCRIPTION This Rural Development investment will be used to install a roof mounted solar array at a mini self-storage business operated by Lawrence M. Wiley in Belmont, New Hampshire. The fixed, roof-mounted, 134 kilowatt (kW) array will produce roughly 150,250 kilowatt hours (kWh). The energy generated will cover 100 percent of historical energy usage by the business and offset other business accounts owned by the applicant, through net metering.
NH	Kuster	Mt. Washington Summit Road Company	\$35,014	This Rural Development investment will be used to install a roof-mounted solar array at the Mt. Washington Auto Road in Gorham, New Hampshire. The toll road to the top of New Hampshire's most famous landmark—known for the most extreme wind and weather in the world—has been family owned since 1906. The array will be placed on the maintenance garage roof and produce 35,180 kilowatt hours (kWh), accounting for more than 140 percent of the operation's annual energy use. This project will save the company roughly \$4,100 while creating nearly \$3,000 in income.

NH	Kuster	The Glen House LLC	\$436,000	This Rural Development investment will be used to install a solar array and further the environmentally proactive operation of the Glen House, a hotel built in Greens Grant, New Hampshire, in 2016. Owners have implemented a vision of sustainable operation, and have implemented an efficient geothermal heating and cooling system, as well as a micro-hydro generator that supplies 25 percent of electrical needs. The photovoltaic system will produce roughly 415,000 kilowatt hours (kWh) annually, replacing all of the hotel's energy consumption and saving the operation \$101,177 each year.
NH	Kuster	Patch Orchards Inc.	\$22,403	This Rural Development investment will be used to replace old vacuum pumps with new screw vacuum models to increase energy efficiency at a maple sugaring operation in Lebanon, New Hampshire. With the equipment upgrade, Patch Orchards will realize an estimated 50 percent reduction in required energy use at an on-site container used for storing and processing sap into maple syrup. The project will save the operation roughly \$3.850 annually.

\$130,680

This Rural Development investment will be used to upgrade essential refrigeration equipment at Montshire Packing in Haverhill, New Hampshire. As a meat packer and processor, Montshire Packing plays a crucial role in the local and regional food supply chain, as the scarcity of this skill and service creates inevitable bottlenecks and delays for farmers and ranchers looking to sell their meat. With the improved equipment, consisting of a parallel rack refrigeration system, the operation can maximize heat recovery, compressor efficiency and evaporator control. This project is estimated to reduce the business's energy consumption by 25 percent

NH	Kuster	Wilkins Lumber Company Inc.	\$158,944	This Rural Development investment will be used to build a solar array at Wilkins Lumber Company Inc. in Milford, New Hampshire. Occupying what was once a side wood lot, the system will be placed on a carport-style frame, with electrical output connected to the mill building. The array is estimated to produce 176,000 kilowatt hours (kWh) per year, which will offset more than 95 percent of the Mill's historical energy use, saving roughly \$56,000 annually. The purpose of this funding program is to assist farmers, ranchers, and rural small businesses in developing renewable energy systems, and in making energy-efficiency improvements to their operations.
NH	Kuster	RJF-70 Main Street LLC	\$120,700	This Rural Development investment will be used to install solar panels on the roofs of the buildings at RJF-70 Main Street LLC, Peterborough, New Hampshire. The business consists of multi-use office spaces leased to tenants. The array is estimated to generate roughly 106,680 kilowatt hours (kWh) annually, accounting for roughly 26 percent of historical usage. This project will save the company \$10,413 in electrical costs.

NH	Kuster	Blasty Bough Brewing Company LLC	\$110,076	This Rural Development investment will be used to construct a 87.36 DC, ground-mounted solar array at Blasty Bough brewery in Epsom, New Hampshire. The farm-to-kettle brewery grows hops, apple, blueberries, and garlic on-site, and operates a kitchen & bar area, hosting local performances and events. The array will produce roughly 117,831 kilowatt hours (kWh) of electricity, which far exceeds the Brewery's historical 50,482 kilowatt hours (kWh) per year usage. Surplus power will be sold to provide additional income along with the 100 percent energy offset.
NH	Pappas	Wentworth Greenhouses Inc.	\$151,109	This Rural Development investment will be used to install a 141.12 kilowatt (kW) DC, ground mounted solar array at Wentworth Greenhouses in Rollinsford, New Hampshire. A family-owned and operated greenhouse and garden center in operation since 1967, the company is well-established and respected in the community. The array will generate 168,706 kilowatt hours (kWh) of clean solar electricity each year replacing an estimated 53 percent of historic usage. The project will save the business roughly \$34,300 each year.

NH

\$22,000

This Rural Development investment will be used to install a solar array for Robert Porter, dba Hilltop Farm, in Mason, New Hampshire. The farm specializes in high-quality, grass-fed Wagyu beef, Horned Dorset lamb and heritage pork products. The operation requires electric fencing, a water pump and distribution system, meat freezer, barn lighting and heat lamps during winter months. The solar array will produce roughly 9,500 kilowatt hours (kWh), saving the farm more than \$2.100 annually.

\$201,535

This Rural Development investment will be used to construct a geothermal energy production system at Sugar River Storage in Claremont, New Hampshire. The business is a commercial warehousing and storage facility serving roughly 35 area businesses. The buildings are maintained at 52 degrees Fahrenheit, at significant expense to ownership. The proposed project will replace virtually 100 percent of the oil used to heat the building, while operating at the same or lower annual cost. The project consists of 10, 500 feet geothermal boreholes, a closed loop glycol-and-water circulation system, a 300-ton water-to-water heat exchanger, and a 500-gallon buffer tank. Heated water will circulate through the current heat-distribution system. The system will generate an estimated 1,196,382 kilowatt (kW) BTUs each year, replacing 98 percent of the facility's power usage and saving \$60,542 in annual energy costs.

\$929,360

This Rural Development investment will be used to install an anaerobic digester at Machia and Sons Dairy farm in Sheldon, Vermont, using the farm's onsite manure. Waste generated from the farm operations of the applicant will be used to generate methane, which will be captured and used to power a combined heat and power unit. The system will generate biogas equaling 1,955,670 kilowatt hours (kWh) of power to run a combined heat/electricity unit, and to process and produce a liquid fertilizer, animal bedding and compost materials. 3,750 cubic yards of digestate solids will be produced annually, valued at \$30,000, as well as \$100,000 worth of bedding shavings.

\$747,124

This Rural Development investment will be used to install an anaerobic digester at Machia Bros Dairy farm in Sheldon, Vermont, using off-site organic food waste. Waste generated from the farm operations of the applicant will be used to generate methane, which will be captured and used to power a combined heat and power unit. The system will generate biogas equaling 1,955,670 kilowatt hours (kWh) of power to run a combined heat/electricity unit, and to process and produce a liquid fertilizer, animal bedding and compost materials. 3,750 cubic yards of digestate solids will be produced annually, valued at \$30,000, as well as \$100,000 worth of bedding shavings.

\$750,284

This Rural Development investment will be used to install an anaerobic digester at Percy dairy farm in Stowe, Vermont. The project will include receiving off site organic food waste (OFW) in a receiving tank and putting the OFW and existing farm manure into an anaerobic digester tank where it will be processed to generate biogas, and digestate. The biogas will then be cleaned and used to power a combined heat and power (CHP) unit, and the digestate will be further processed to create liquid fertilizer and animal bedding. The digester and the CHP will be on-site at the applicant's farm. The digester will produce heat and power for use on the farm with excess electricity sold to the electrical grid through net metering. The digester will create biogas equaling 1,233,775 kilowatt hours (kWh) of energy, enough to power roughly 120 homes.

\$99,241

This Rural Development investment will be used to install a solar array on roof surfaces at the Black Mountain Inn, Brattleboro, Vermont. The Inn requires significant power to heat, cool and light the building, and launder towels and bedding. The 113,850 kilowatt hours (kWh) solar project will provide approximately 42 percent of yearly energy usage, saving the Inn more than \$18,200 a year. The purpose of this funding program is to assist farmers, ranchers, and rural small businesses in developing renewable energy systems, and in making energy-efficiency improvements to their operations.

\$242,598

This Rural Development investment will be used to install a 500 kW AC ground solar array at Whitney Blake Company in Bellows Falls, VT. The Company owes its origin to Theodore Whitney Blake, an honors engineering graduate from the Sheffield School at Yale University, 1883, great-great-nephew of Eli Whitney, inventor of the cotton gin. This solar project is significant, generating roughly 736,000 kWh each year. The Company will offset an estimated 90 percent of its annual energy consumption, saving more than \$107,100. The purpose of this funding program is to assist farmers, ranchers, and rural small businesses in developing renewable energy systems, and in making energy-efficiency improvements to their operations.

\$796,780

This Rural Development investment will be used to install a solar array at Allen Brothers Inc., which operates a bakery, deli, gas station, garden center, nursery and tree farm in Westminster, Vermont. The solar array will offset electricity used by various business electricity accounts through a net-metering agreement with utility Green Mountain Power. The solar array site in Rockingham, Vermont, is owned by Barber Park LLC, which is managed by Tim Allen and Stacey Allen, principals of Allen Brothers Inc. 1280 groundmounted solar panels will generate an estimated 803,800 kilowatt hours (kWh), enough to power the equivalent of 74 homes.

\$133,560

This Rural Development investment will be used to install a solar array at WW Building Supply in Newfane, Vermont. The photovoltaic system will be located on the roof of a building being built and other storage structures. Approximately 149.5 kilowatt (kW) DC of power will be produced, representing a group netmetering system serving nine businesses utility accounts through a Power Purchase Agreement. The power generated will offset annual operational energy usage, valued at \$21,530, and produce an excess of 29 percent to create income and provide clean energy.