

Vermont Bond Bank Clean Energy Financing Case Study



In December 2021, a fire destroyed the building that served as the garage for the Town of Charlotte (pop. 3,912). It had belonged to a private contractor, Lewis Excavating, who under the direction of Junior Lewis, has served the town’s elected road commissioner since 1976. Less than two years later, in November 2023, town officials and about 100 others gathered to cut the ribbon on a brand new six-bay town owned facility.

The reconstruction occurred at a time of escalating construction costs and town officials undertook value engineering to lower both upfront and on-going costs. Part of this strategy was to design the building with net zero energy features. This included a state-of-the-art geothermal heating and cooling system that when combined with a 129 kWdc solar array rooftop solar installation will eliminate the building’s greenhouse gas emissions entirely.

Part of the cost strategy was to turn to the Bond Bank for financing. Voters were twice asked to support the project. A \$1.5 million bond passed followed by a \$282 thousand note a year later. The larger loan was provided by the Bond Bank in the summer of 2023 as part of its Pooled Loan Program, which provided a 3.82% rate for twenty years, despite overall market rates at a two-decade high. The smaller loan was funded through the Bond Bank’s new Clean Energy Loan Program at a rate of 2% for ten years, which closed on January 11, 2024.

Beyond the garage, the solar installation will also help meet the electric demands of the town hall, the library, the senior center, and a good portion of Charlotte’s fire and rescue services department for over \$100 thousand in savings over the next 15 years after accounting for financing costs.

Thanks to a provision in the Inflation Reduction Act (IRA), the town, and other Vermont municipalities, can received an “elective pay” credit for solar, battery storage, and other zero or negative emission technologies. The small solar loan was structured with flexibility in mind to allow early prepayment once the town receives a payment from the IRS equal to 30% of the solar costs.

At the ribbon cutting, Rebecca Foster of the Charlotte Energy Committed said, “I am personally, incredibly grateful that in this project the town decided to think forward, to think about the future, to think about future generations.” Shortly after her remarks, Jim Faulkner, chair of the Charlotte selectboard, directed the attention of the large crowd to an open bay door where a red ribbon hung across the opening. Outside, a truck engine rumbled to life, a large snowplow blade soon came into view, and the ribbon was severed, ushering in a new era with both a better facility and cleaner, more resilient, and more affordable energy.

| PROJECT COSTS | |
|---------------------------------|--------------------|
| Building & Foundation | \$2,958,000 |
| Solar PV Cells and Installation | 282,000 |
| Total | \$3,240,000 |

| SOURCES | |
|---------------------------|--------------------|
| SLFRF (ARPA) | \$1,000,000 |
| High Fund Reserves | 458,000 |
| Pooled Loan Program | 1,500,000 |
| Loan | |
| Clean Energy Program | 197,400 |
| Net Loan | |
| Elective Pay Credit (30%) | 84,600 |
| Total | \$3,240,000 |

