

Greenhouse Energy Efficiency Case Study

Plymouth Orchards

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Background

Plymouth Orchards is a small apple orchard with approximately 135 acres of property located in Plymouth, MI. The owners began their orchard in 1977 with just six acres of land and have been growing in size ever since. The orchard produces nearly 20 varieties of apples and entertains its visitors with a cider mill, a petting zoo, wagon ride, and many fresh baked goods.

The owners at Plymouth Orchards originally considered wind power when they became interested in energy savings, but wind was not the most viable option for the farm. For this reason, Plymouth Orchards conferred with others in the industry and gained interest in solar energy. Once the owners discovered the availability of MSU and REAP grants, they decided to apply.

System Implementation

The main project implemented by Plymouth Orchards was to install solar panels to power the cider mill facility. Starting in ?? (Contact Mary/Michael) they began the installation of two ?? kw panels. The panels were installed by Harvest Energy Solutions, ?? (Ken?). By ??? the solar panels were installed and fully operational.



Harvest Energy during the installation process of the panels located at Plymouth Orchards.



The above picture shows the panels producing roughly ?? when they reached completion in ??.

System Impacts

The owners at Plymouth Orchards have witnessed an increased savings in their utility bill since installation since they build credit during the off season. The accumulated credit is then used to power the cider mill for the 10-12 weeks that the mill is open. The owner, Mary Emmet, said that she views the solar panels as a generator for the mill building.

One of the biggest challenges that Plymouth faced during the entire process was a communication error that occurred with the township. The township thought that Plymouth Orchards was looking to install a large solar farm instead of two ?? kw panels. Once this issue was resolved the project took off.

DATA

Conclusions

Overall, Plymouth Orchards is very pleased with the project and the savings that they have obtained while installing a solar energy system. Emmett believes that installing a solar system says a lot about oneself. She exclaimed, “I think that if you can afford it, it’s a great way to upgrade your farm.”

DATA conclusions

Other conclusions