

An aerial photograph of a large school building with a grey roof. The roof is covered with numerous blue solar panels. The building is surrounded by green grass and trees. A baseball field is visible in the foreground. The text is overlaid on the image.

The Darlington Community School District Solar Project

Presented by:

Lee T. Black Building and Grounds Supervisor

The Darlington Solar Education Project was established in 2014 following a Facility Study to explore renewable energy possibilities. The overall goal of the project was to explore the following:

- ❖ Electricity savings and locking in energy costs
- ❖ Educational value for our students and community
- ❖ Decrease in the carbon footprint



Darlington PV array

156 KW system

Generates 200,000 KW/h, reducing district's energy bill by 20% - 30%

CO2 reduced by 400,000 lbs./year

Expected 40 year life span (25 year warranty)

510 Canadian Solar 305 watt panels with 25 inverters - 22.5 kW Gymo inverters

Produced energy is shared between [unclear] School

Installed by Sunvest Solar who partner with [unclear] (NABCEP2 certified electrical contractor)



Production monitoring

We have a live egaug kiosk link that monitors and displays the energy produced. The kiosk provides four categories to compare kilowatt hours produced with houses powered, trees grown, CO2 offset, and renewable energy produced. There are different time periods to view by clicking on the bottom links of the site. The district has also set up a public live kiosk in each building for students and community members to monitor the live energy production. Our district is proud to display the one of the largest solar arrays on a public school setting in the state of Wisconsin.

Link: <http://darlington.egaug.es/kiosk2.html>

Egauge

Welcome to Darlington Elementary/Middle School!

Put your announcements here!!!



eGauge Darlington Solar

Summary for Last 3 Days

Power Equivalent

3

Single-family homes powered for 7 days



CO₂ Offset

14

Trees grown



Renewable Energy Produced

795

kWh



CO₂ Offset Equals

1,530

Miles



Lunch Menu

Darlington Community Schools Lunch Menu:
1. Oven Baked Popcorn Chicken

2. Cheeseburger on Bun

3. PBJ

Steamed Carrots

Lettuce Salad

Sliced Pears

Yellow Apples

Whole Grain Bread

All

Year

Month

Week

3 Day

Day



Darlington Community School District Solar Education Project, LLC

The district entered into a TPP (third party participants) agreement who co-own the project with the district

TPP will provide all system maintenance costs during initial 15 years

The district won a FOE RECIP grant for \$63,000

The LLC was able to attain a USDA REAP grant for \$81,000

After 15 years, the district has the option to buy out the agreement

Total project cost of \$390,000

30 year IRR of 7.3%

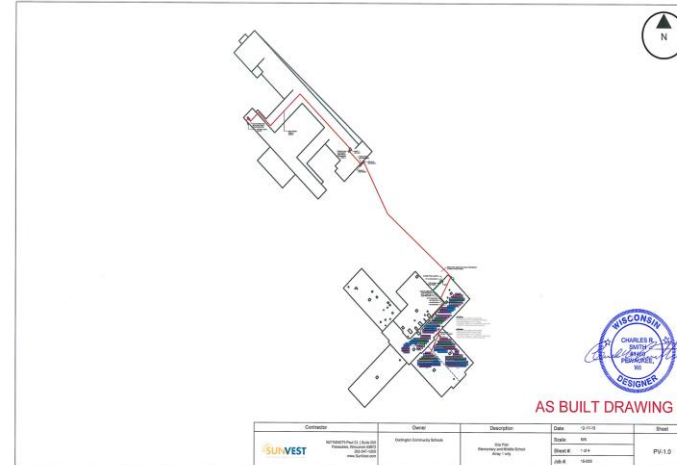
Interconnection Agreement

Alliant Energy required both buildings be electrically isolated of each other

Installed two way electrical meters

Ensured that in case of power loss, PV system would not energize power lines down hill of school

Inspected and passed by Wisconsin sta



Benefits of solar

Excellent technology curriculum (science, biology, and STEM classes)

Long life expectancy

Low maintenance

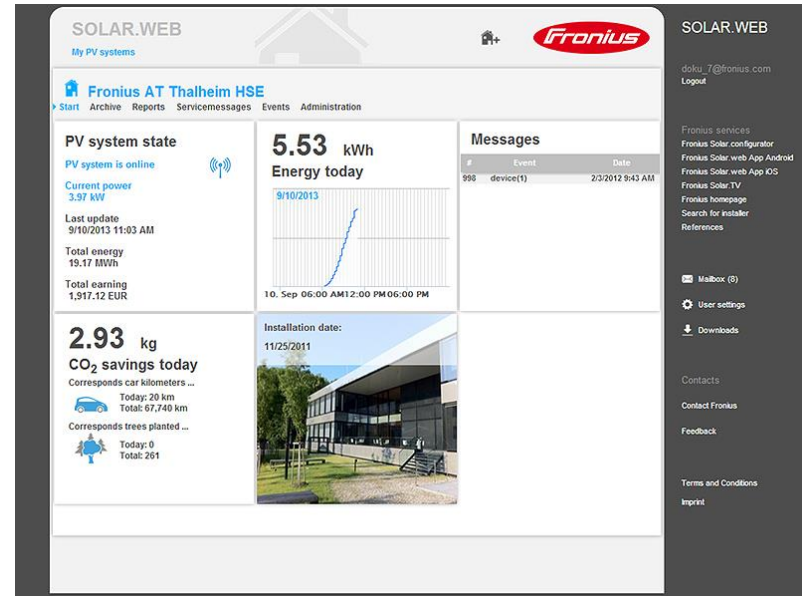
Summer school classes - air conditioning

Off site monitoring

Fronius inverters provide wireless monitoring

Emailed error codes

Sunvest provides 24/7 support



Questions?

Contact:

Darlington Community School District

Dr. Denise Wellnitz – Superintendant

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Video:

<https://www.youtube.com/watch?v=Vxd3LoIM9t8>