

CASE STUDY

STACY M. DIY OFF-GRID HOMEOWNER

“Stacy was one of the coolest customers I have ever worked with. We hit it off right away and it felt like talking to an old friend. We talked about his trip to go fishing in Alaska, and I told him about our local fly fishing scene. It’s awesome to see his system turned out so well.”

Wil Burlin

Senior Design Tech at Unbound Solar

Stacy reached out to us to help design an off-grid solar power solution for his property in Washington. He had spoken to the utility about running a power line to his property, but it was far too expensive and he needed a more economical solution.

We went to work putting together an array and a battery bank that would produce and store enough energy to power his life off the grid.

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Challenges

Stacy's property is just over a quarter mile from the closest power line. He inquired about the possibility of **running underground power lines** to his home, but the **price was astronomically high**. The sticker shock left him looking for alternate ways to bring power to his property.

The other challenge was Stacy's **lack of DIY experience**. He knew that building his own system would save him thousands of dollars in contractors fees, but he had no prior DIY background and wasn't sure if he was capable enough to do the job.

Since **battery-based systems can be more complex** than grid-tied systems, he needed someone to guide him during the design process and give him the confidence that he could install it himself.



Solutions

Stacy worked with our senior designer Wil to plan a system to meet his energy needs. After he supplied some data about his daily usage, Wil put together a **system to account for factors unique to his project:**

- Local sun exposure
- Seasonal peaks and valleys in production and demand
- Product inefficiencies and self-consumption
- Natural degradation of production over time

Since Stacy is off-grid, Wil put special focus on making sure the system had **enough capacity to get through Washington's chilly winter months** where days are shorter, and production drops due to inclement weather. This ensured he had enough storage to get him through snowy days when the array is producing at a reduced rate.

In the end, Stacy opted for a system that included:

- Panels: 24 [295 watt SolarWorld Solar Panels](#)
- Battery Bank: [Crown AGM Battery Bank](#) with 16 [Crown 6CRV390 batteries](#)
- Power Center: [Dual Magnum 8.8kW Power Center w/2 charge controllers](#)
- Racking: [IronRidge XR1000 Rail System](#)

To aid with installation, we pointed him toward our **resource center** with videos and articles to guide him through the installation process. He also had free access to our **tech support team** to answer any questions. In the end, Stacy followed along with our installation videos and was **able to build the system without any help from outside contractors!**

“It was a fantastic feeling to start up the inverter and charge controller and have everything work so smoothly—quite easy after watching the video on unboundsolar.com.”



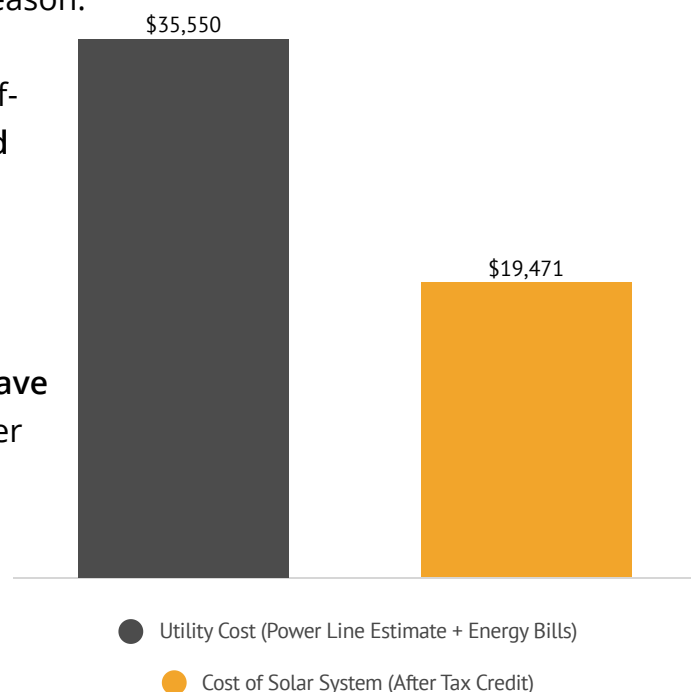
Results

The main goal was to find a solution that was cheaper than running underground power lines to Stacy's property, which could cost an estimated \$20-30K for a quarter mile run. (That's just the cost to connect to the grid - he would still have to pay for electricity each month!)

Stacy paid \$24,815 for his system, plus an estimated \$3,000 in installation costs, for a total of **\$27,815 up front**. The system was eligible for a 30% tax credit, which put **\$8,344 back** in his pocket come tax season.

In total, Stacy spent **\$19,471** on his off-grid system—**less than the estimated cost to run power lines to his house**.

On top of that, he won't need to pay monthly utility bills because he is generating his own power. That will **save him an estimated \$15,550 in bills** over the life of his system.





It's Your Turn!

Interested in going solar?

Unbound Solar has been designing systems since 2002. We've shipped over 100 megawatts of solar to date, with an emphasis on off-grid systems.

Learn more about [DIY Solar](#) and sign up for the DIY Solar Workshop!

If you're ready to get started with sizing your system, call us at **1-800-472-1142**, or [Request a Quote](#) online today. And check out some of our educational resources to get started:

[Getting Started Guide »](#)

[Solar Panel Guide »](#)

[Racking Guide »](#)

[Inverter Guide »](#)

[Battery Guide »](#)

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