SOLAR IN SCHOOLS

RETHINKING POWER

PRESENTED BY:

ODYSSEY LLC
GLOBAL SOLUTIONS

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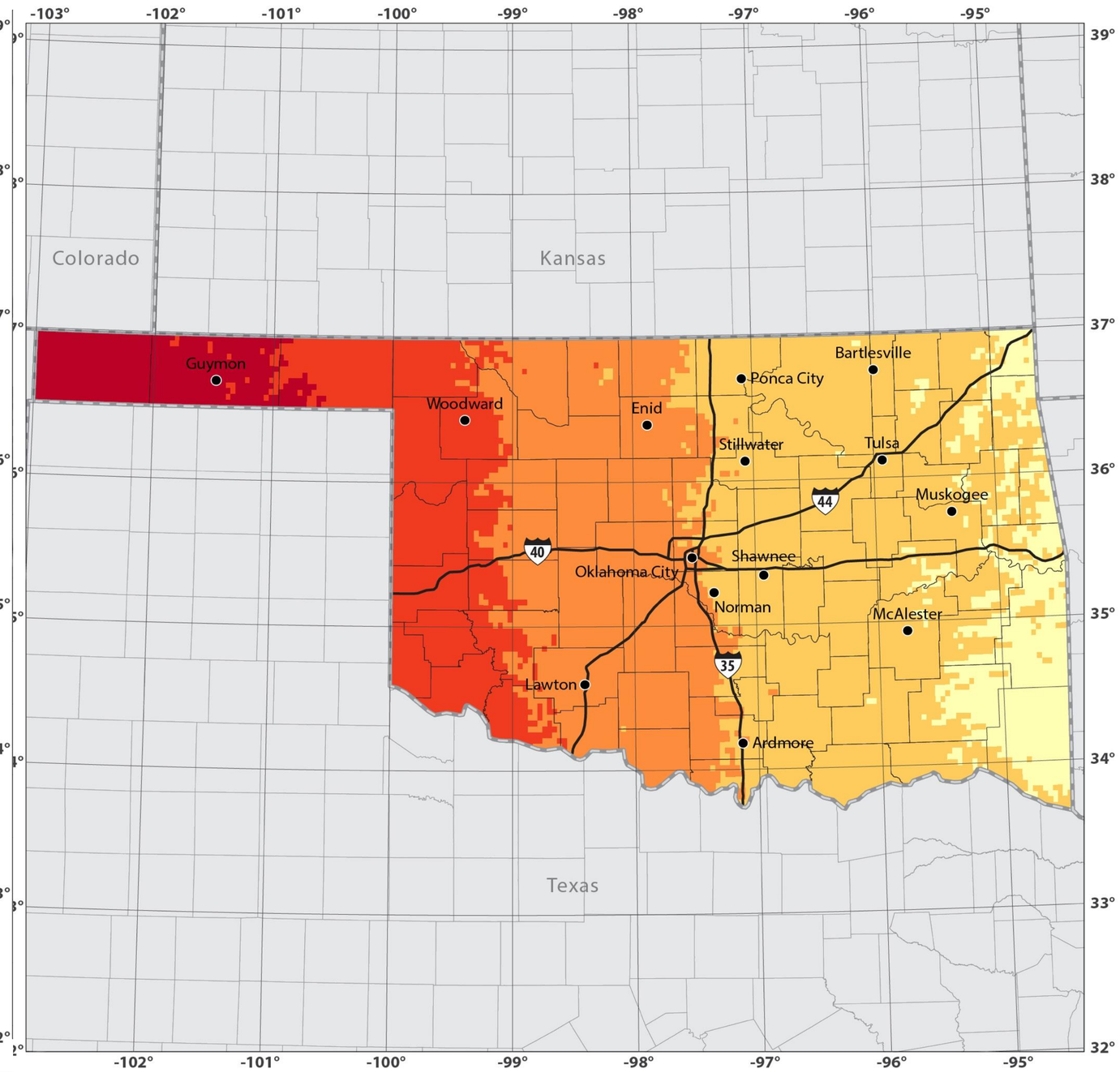
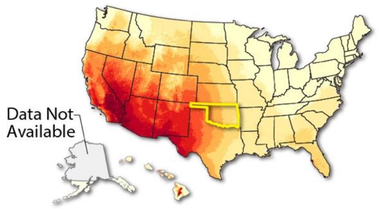
GLOBAL SOLUTIONS

ELI PAGEL

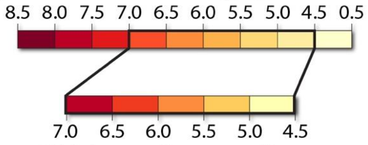
President



Direct Normal Solar Resource of Oklahoma

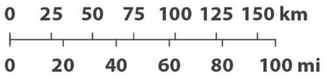


Fifty-state Resource Range (kWh/m²/Day)



Oklahoma Resource Range

This data provides annual average daily total solar resource averaged over surface cells of 0.038 degrees in both latitude and longitude, or, nominally, 4 km in size. The insolation values represent the resource available to concentrating systems, and were created using the PATMOS-X algorithms for cloud identification and properties, the MMAC radiative transfer model for clear sky calculations, and the SASRAB model for cloud sky calculations. The data are averaged from hourly model output over 8 years (2005-2012).



This map was produced by the National Renewable Energy Laboratory for the U.S. Department of Energy.
Nicholas Gilroy, April 4, 2017

NREL
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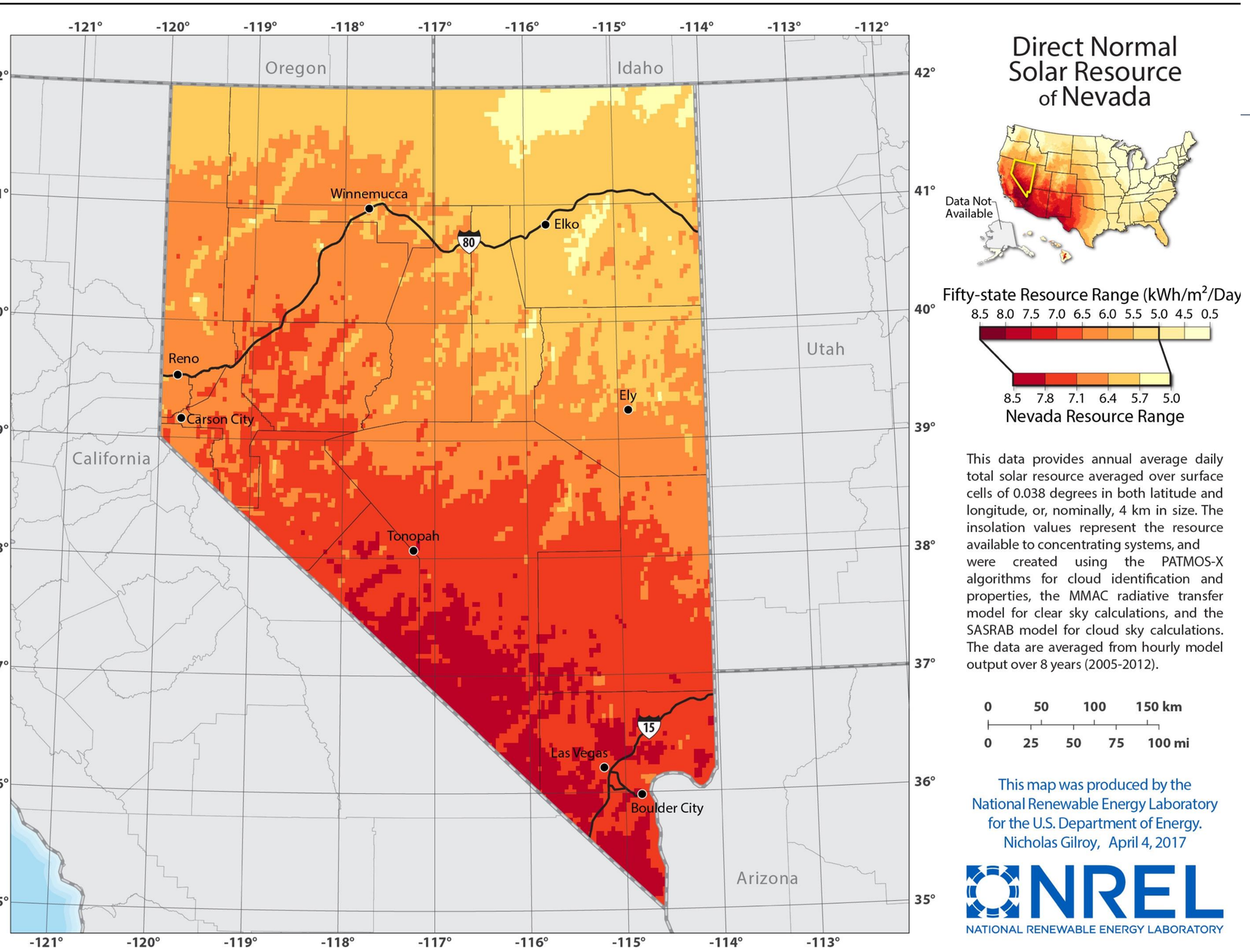
Oklahoma has the solar potential to be a Top Ten state in solar energy production.



Direct Normal Solar Resource of Nevada

Fifty-state Resource Range (kWh/m^2/Day

8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 0.5

8.5 7.8 7.1 6.4 5.7 5.0

Nevada Resource Range

This data provides annual average daily total solar resource averaged over surface cells of 0.038 degrees in both latitude and longitude, or, nominally, 4 km in size. The insolation values represent the resource available to concentrating systems, and were created using the PATMOS-X algorithms for cloud identification and properties, the MMAC radiative transfer model for clear sky calculations, and the SASRAB model for cloud sky calculations. The data are averaged from hourly model output over 8 years (2005-2012).

0 50 100 150 km

0 25 50 75 100 mi

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Oklahoma has the solar potential to be a Top Ten state in solar energy production.

Nevada ranks #1 for percent of school with solar.

A DIVERSE ENERGY PORTFOLIO

OKLAHOMA'S CHANCE TO BE A LEADER

OIL AND GAS

Our Core resource remains the core provider.

WIND

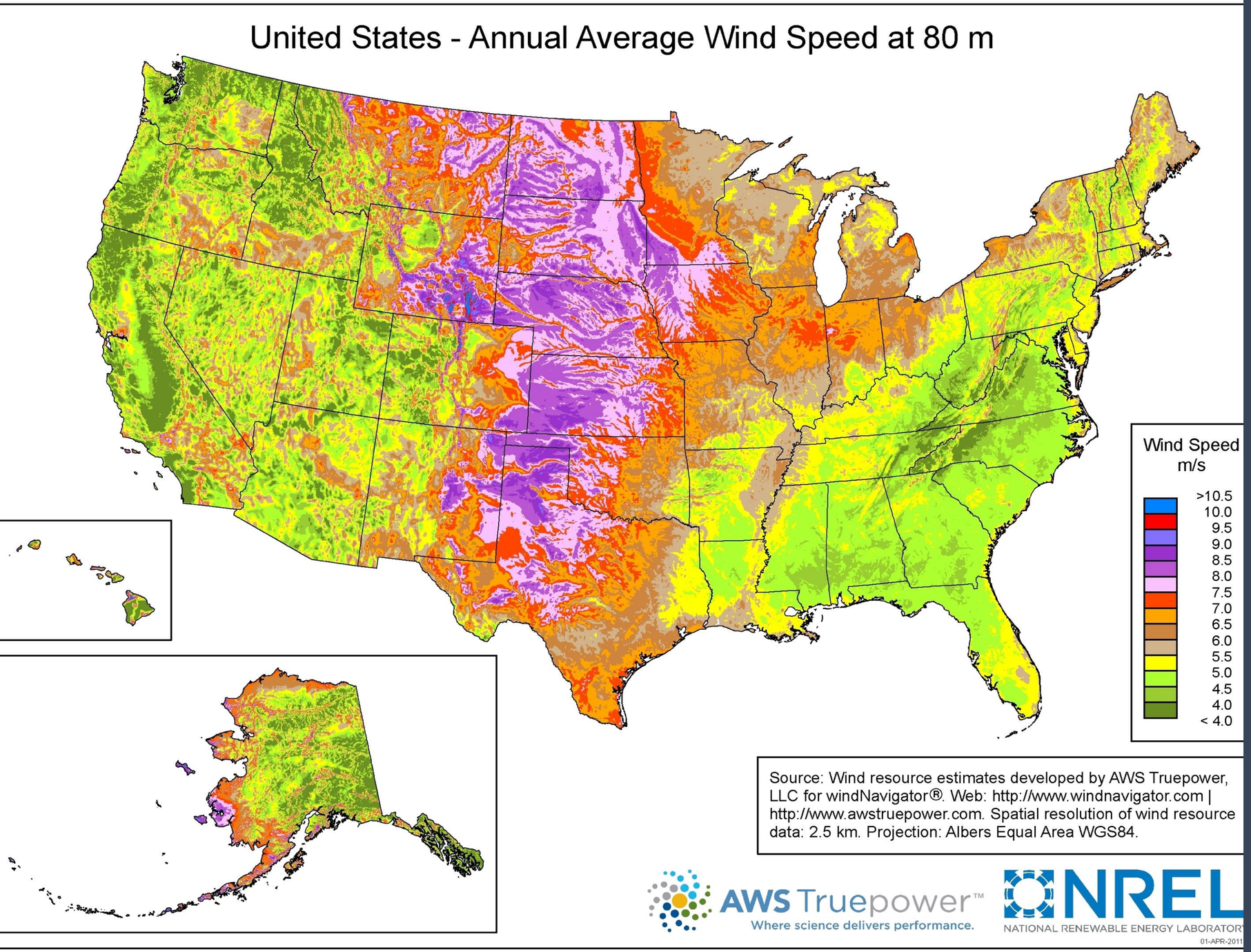
Oklahoma ranks high in wind energy potential AND production.

Solar

Through Residential, Commercial, and Utility Scale adoption Oklahoma begins to live up to its potential.

Geothermal - Hydroelectric

GRDA has hydroelectric in eastern Oklahoma and geothermal is a valuable source of energy as well.



Oklahoma jumped on the potential for Wind energy and should so the same for solar.

Solar Setup

Carports, Shade, Rooftop, and Ground Mount

Carport and Shade

This is quickly becming the most popular option at schools. From the bus barn to the parking lots.

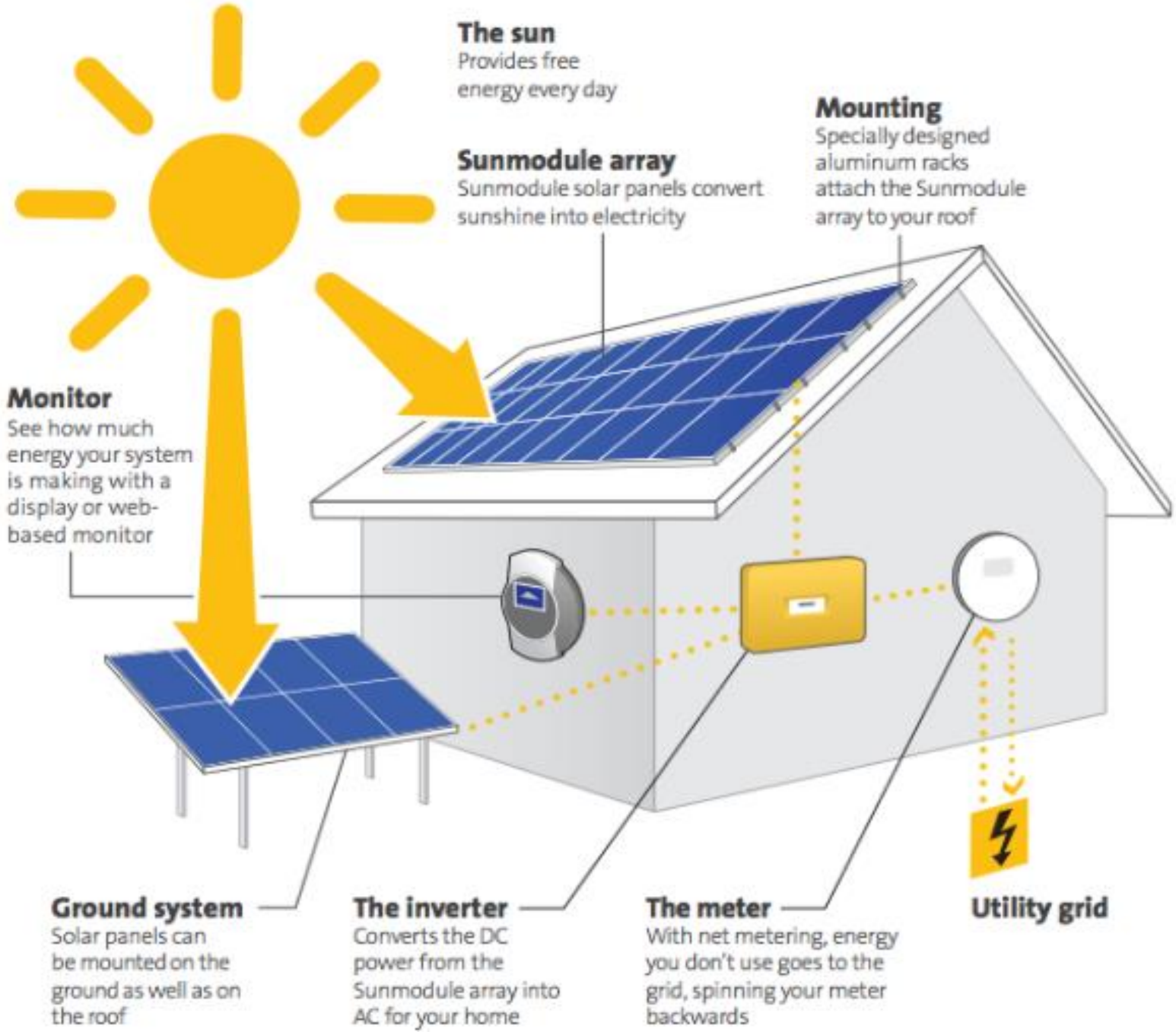
Rooftop

This is probably what you think of when you think of solar.

Ground Mount

When land is available and rooftop space is not. This is a great option for many schools.

How solar works



Opportunities With Solar

How Solar Can Help Your School

Cost Reduction

Utility savings are the primary driver for the adoption of solar in schools. Solar creates a consistent long term source of energy savings. These systems are designed to last 25-35 years.

Emergency Preparedness

A solar system can be designed in such a way to serve as emergency power in the midst of a natural or man-made disaster. The school can function in the event of a power loss or serve as a refuge in the event of a disaster or power outage.

Educational Opportunities

Imagine if your STEM curriculum was interactive. If your students could walk outside with a pyronometer and begin calculating the production of a solar system. Imagine if you could teach students about current and conductivity through solar system that is attached to your building.

CASE STUDIES

SCHOOLS THAT HAVE DONE IT

Greenfield School District (Missouri)

376 kW system - $676,000 cost

Reduce bill from $8,000-$10,000/mo to $2,000 - $3,000/mo

$3 Million savings over 30 years

Sacajawea Middle School - Montana

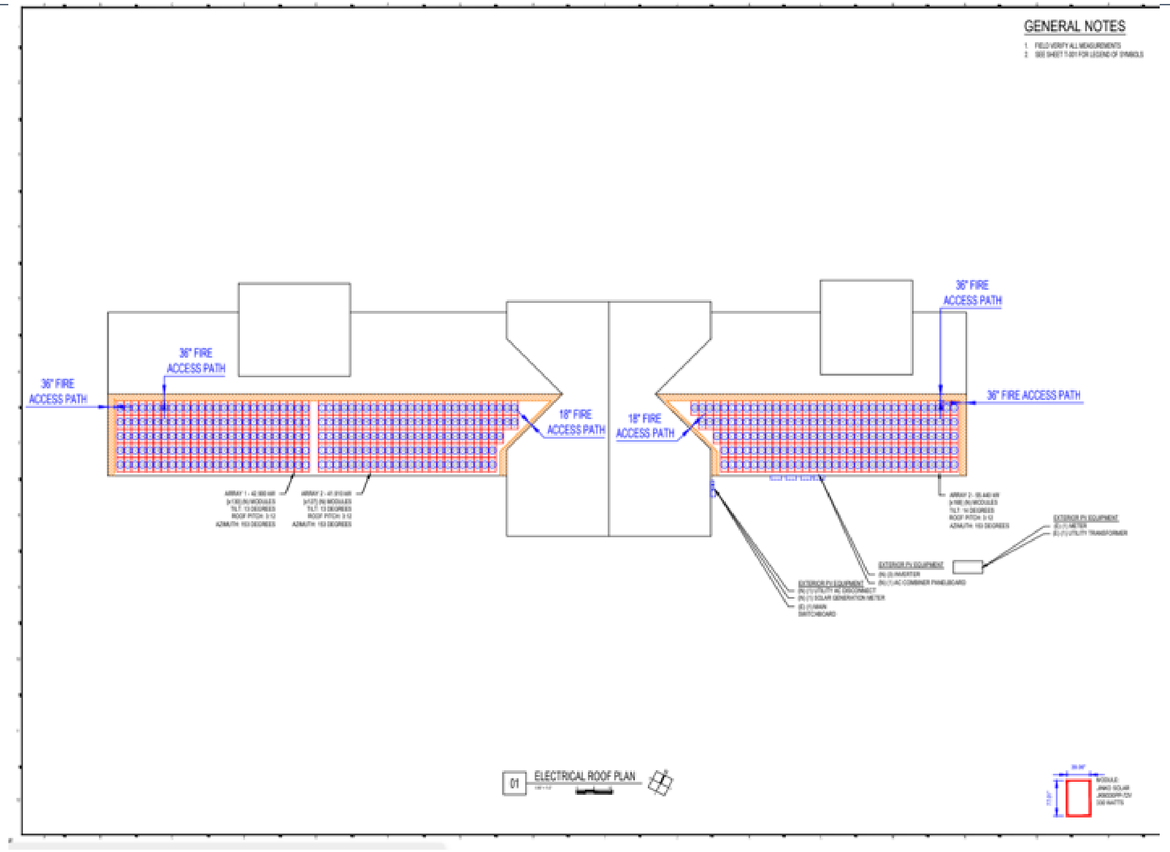
50 kW system - $115,000 cost

9 year payback

Student Led Initiative – 70% paid for by grants

OKLAHOMA PROJECT

Purcell Public Schools



Purcell Junior High School

140 kW System - $380,000 price tag

12 year payback

Payback could be damaged by utility rate changes

Challenges to Oklahoma's Potential

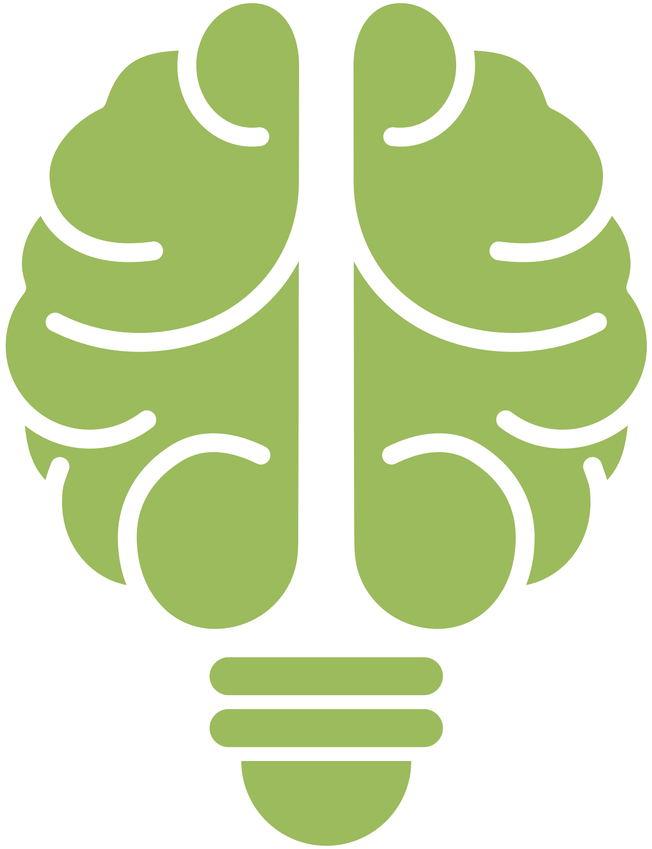
What's stopping solar?

Lack of Understanding

It's a new technology and some people simply won't use what they don't know.

Cost

In some instances solar is still not an economically viable option.



Legislation and Laws

From the utility level up to the state legislation, laws and policies can keep solar from happening in an effective way.

Utilities: Solar Tax

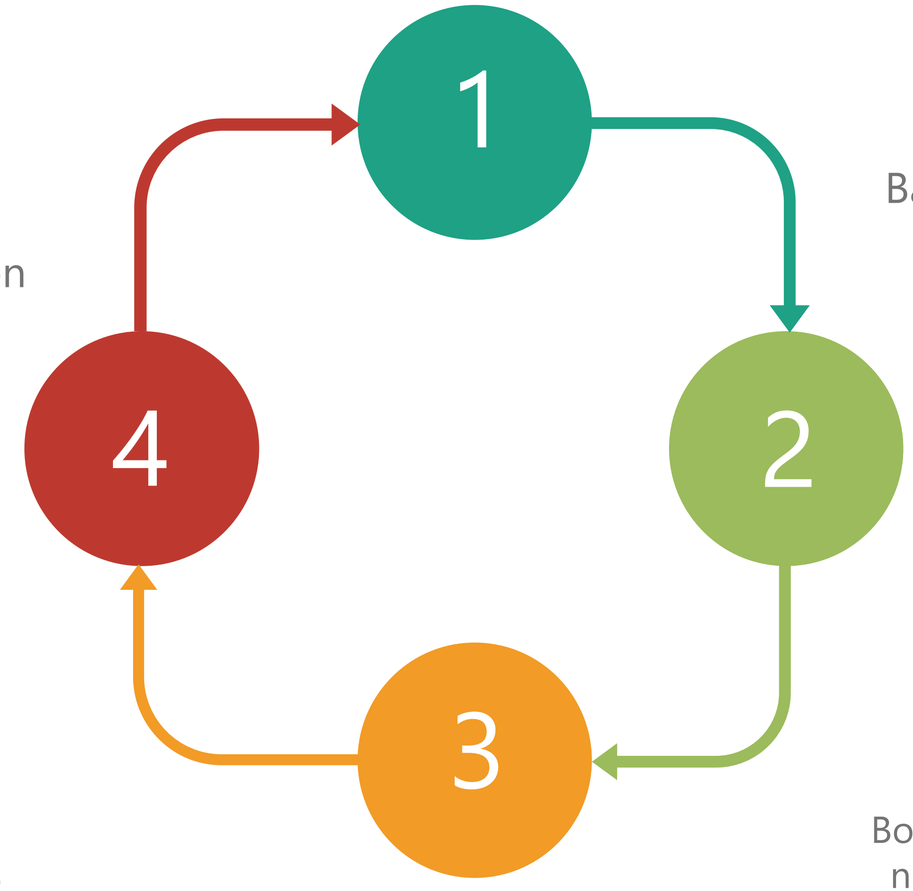
State: Disincentivizing

How To Get Solar

Does your school need solar?

Step One
Audit Your Energy

For many of you, energy costs are a significant portion of your budget.



Step Two
Optimize System Size

Based on energy use, budget, and space determine what size system would work for you.

Step Three
Figure Out Funding

Bonds, Leases, PPAs there are a number of ways to structure a deal for solar. Figure out which way works best for you and then start producing power.

Step Four
Build It

Now it's time to put the system in. Whether it's rooftop, carport/shade, or ground mount.

For more information about solar:
Call/Text - 405-412-9001
Email – odysseyglobalsolutions@gmail.com

THANKS FOR COMING

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