Tennessee Renewable Energy Economic Development Council

VISSOLIS
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Columbia, TN USA - March 9, 2012

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Lincoln Farms 3.0 MWp Solar

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Developers of world-class PV power plants

We engineer, procure, construct…

…finance, own and operate PV

More than 25 MWp of PV to date

GLOBAL Network / LOCAL Focus

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Lincoln Farms - Tennessee

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Fayetteville, Lincoln County, TN

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4 Systems @ 750 kWp = 3 MWp

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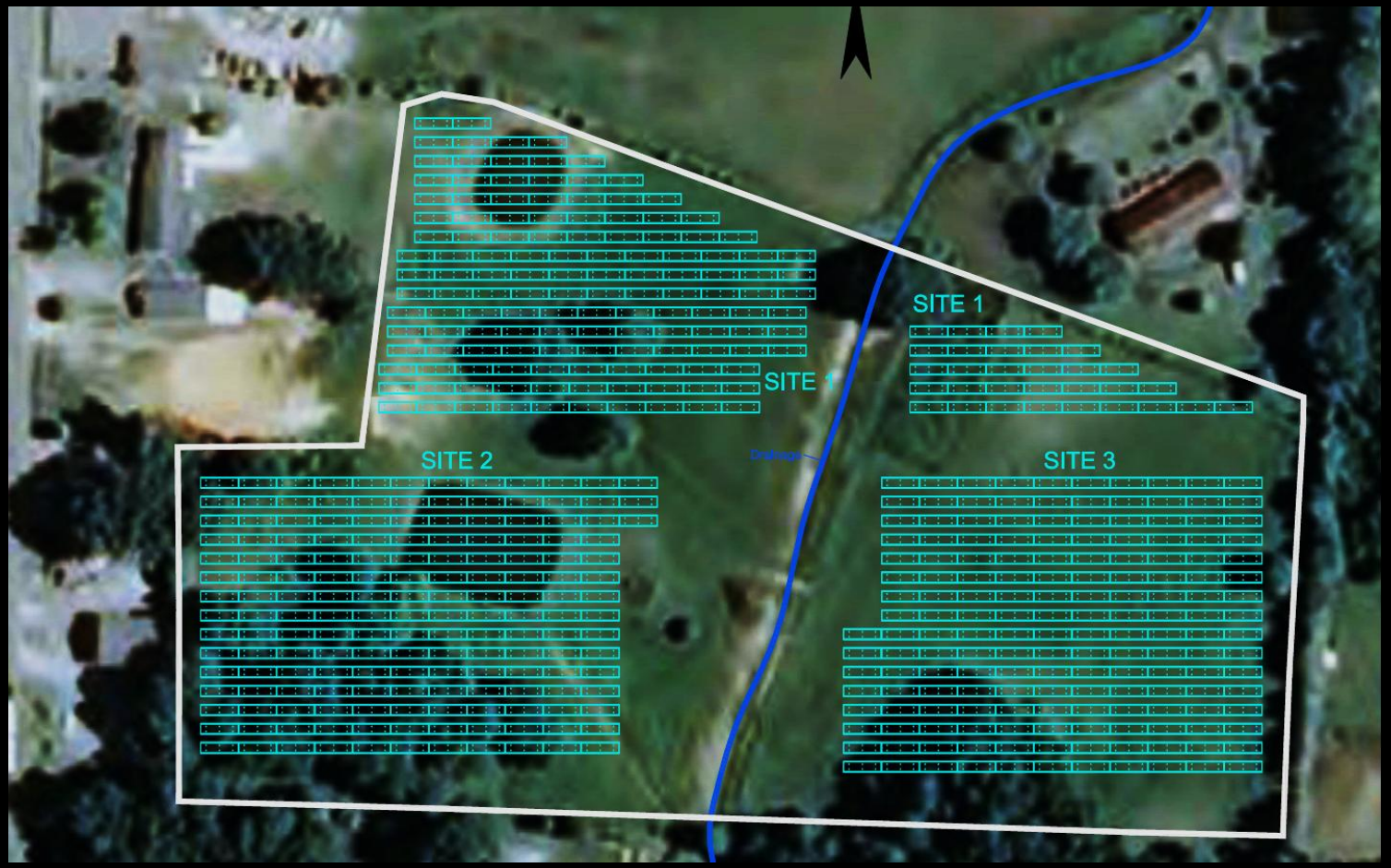
Lincoln Farms 1,2,3 Site



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Lincoln Farm I

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Lincoln Farm I

Lincoln Farm II

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Lincoln Farm III

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Lincoln Farm IV Site - Before

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Lincoln Farm IV - After

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Survey and Layout

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Post Driving

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Post Driving

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Post Driving

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Racking

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Racking

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Ballasting

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Racking

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Quality Control

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Module Planning

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Mounting Photovoltaic Modules

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Mounting

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Mounting

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Mounting Complete

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Connecting

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Connecting

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Wiring

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Wiring

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Wiring

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Equipment Pads

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Equipment Pads

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Equipment Pads

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Inverters and Transformers

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Inverters and Transformers

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FPU Grid Upgrades

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Interconnection

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Interconnection

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Interconnection

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Final Inspection

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Meter Install

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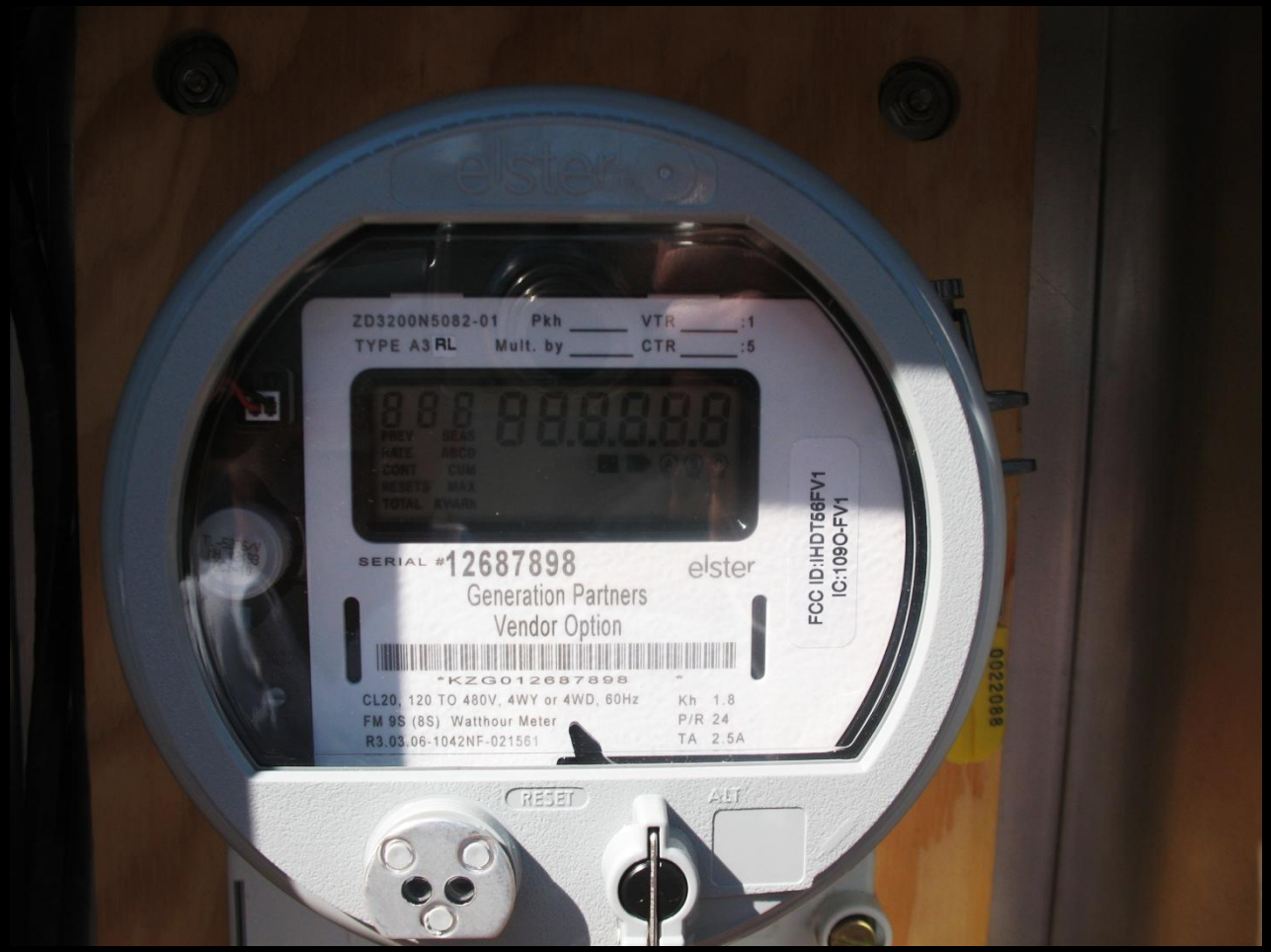
Generation Meters



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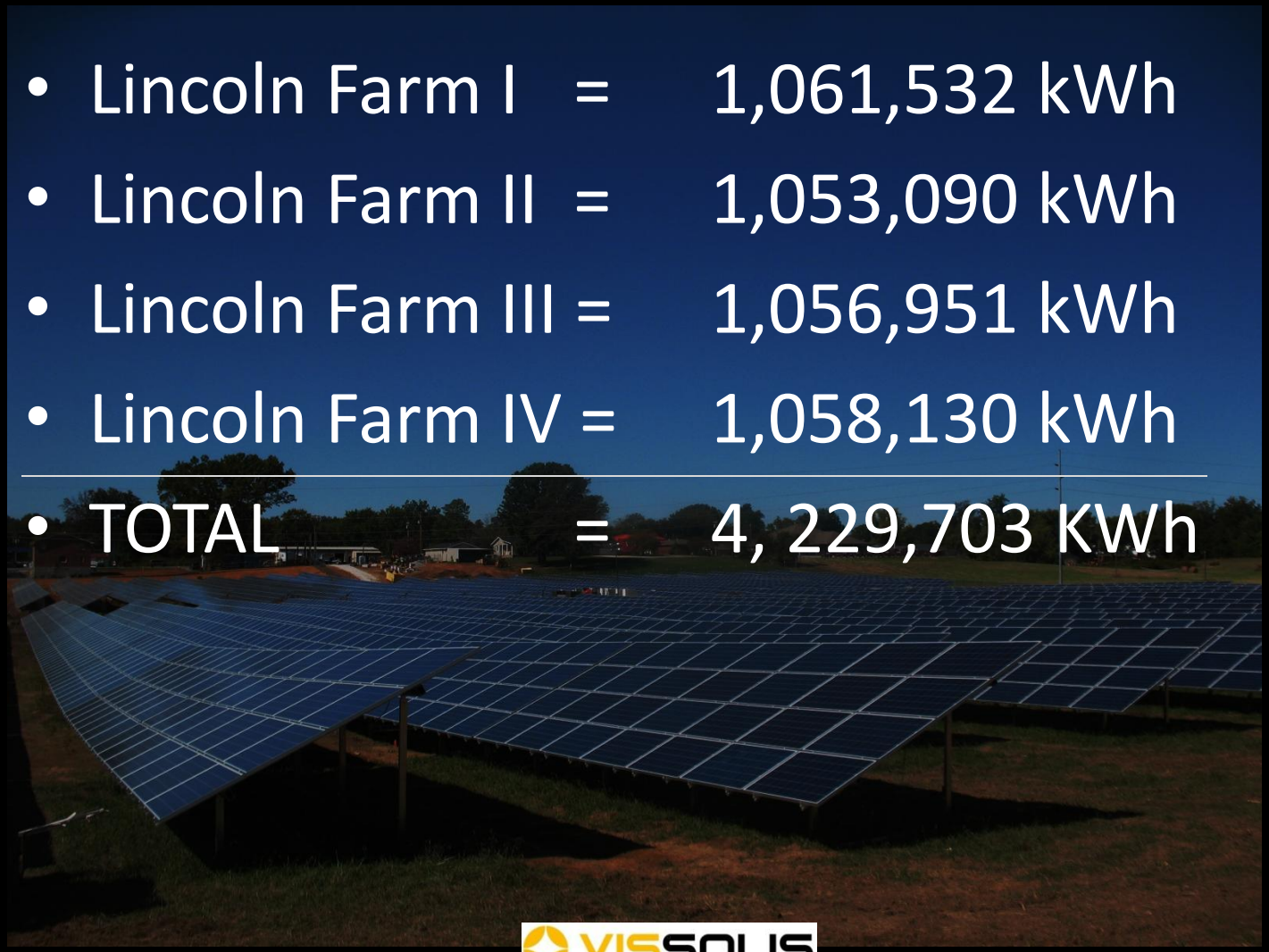
Projected Annual Generation



- Lincoln Farm I = 1,061,532 kWh
- Lincoln Farm II = 1,053,090 kWh
- Lincoln Farm III = 1,056,951 kWh
- Lincoln Farm IV = 1,058,130 kWh

- TOTAL = 4, 229,703 KWh

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Technical Data

PV Array Characteristics

PV module	Si-poly	Model	**CHSM 6610P-235**		
		Manufacturer	Astronergy		
Number of PV modules		In series	28 modules	In parallel	114 strings
Total number of PV modules		Nb. modules	3192	Unit Nom. Power	235 Wp
Array global power		Nominal (STC)	**750 kWp**	At operating cond.	663 kWp (50 °C)
Array operating characteristics (50 °C)		U mpp	+/-369 V	I mpp	899 A
Total area		Module area	**5242 m²**	Cell area	4660 m²
Inverter		Model	**Solaron 333**		
		Manufacturer	Advanced Energy Industries, Inc.		
Characteristics		Operating Voltage	+/-330-550 V	Unit Nom. Power	333 kW AC
Inverter pack		Number of Inverter	2 units	Total Power	666 kW AC

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Keys to Success

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Global Team – Local Focus

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Fayetteville Public Utilities

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FPU Distribution System

Tennessee Valley Authority

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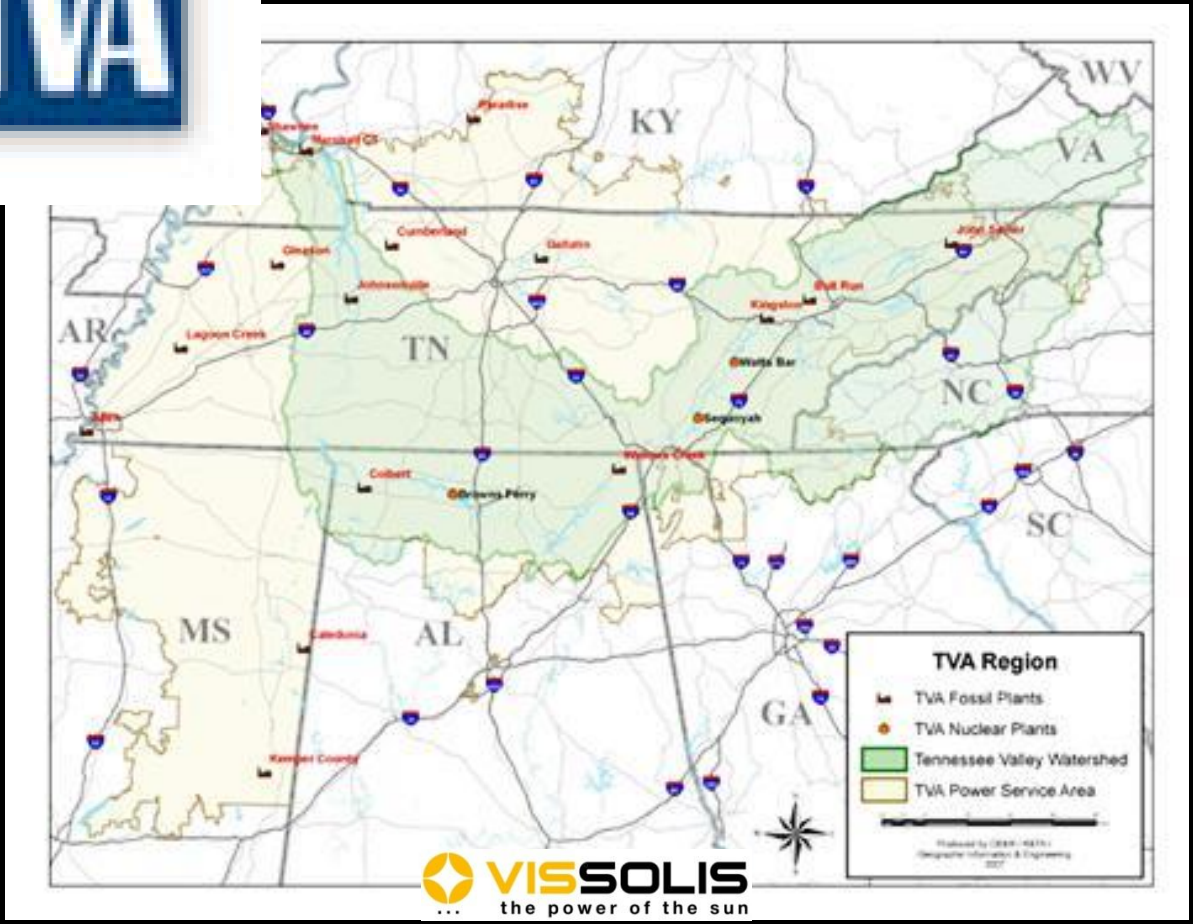
Generation Partners



Extensive Solar Experience

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Committed Install Teams

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Perseverance

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What's Next?

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Tracking Arrays

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Tracking Arrays

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Tracking Arrays

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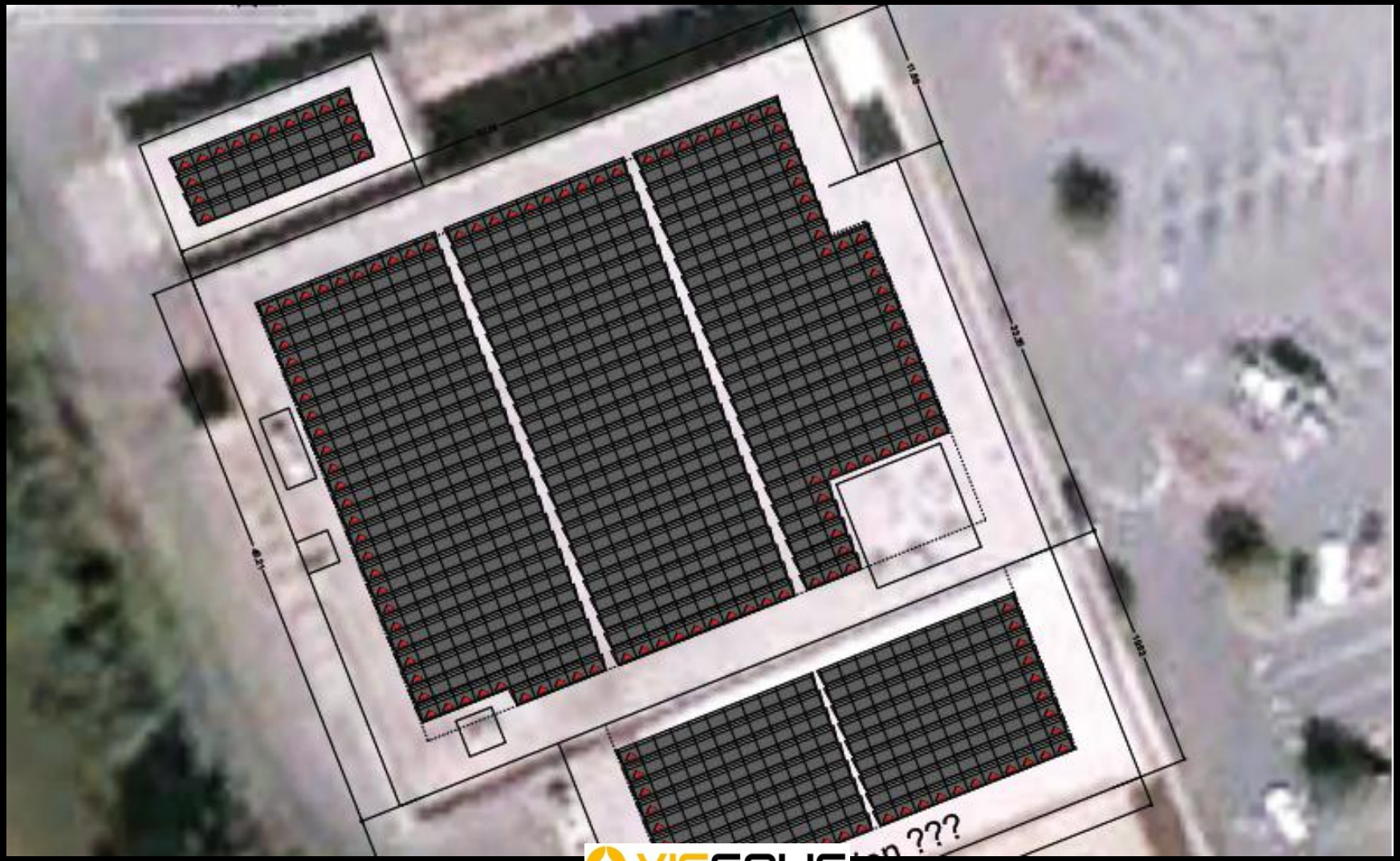
Tennessee 200 kWp Systems



vis solis - Arizona 6.2 MWp

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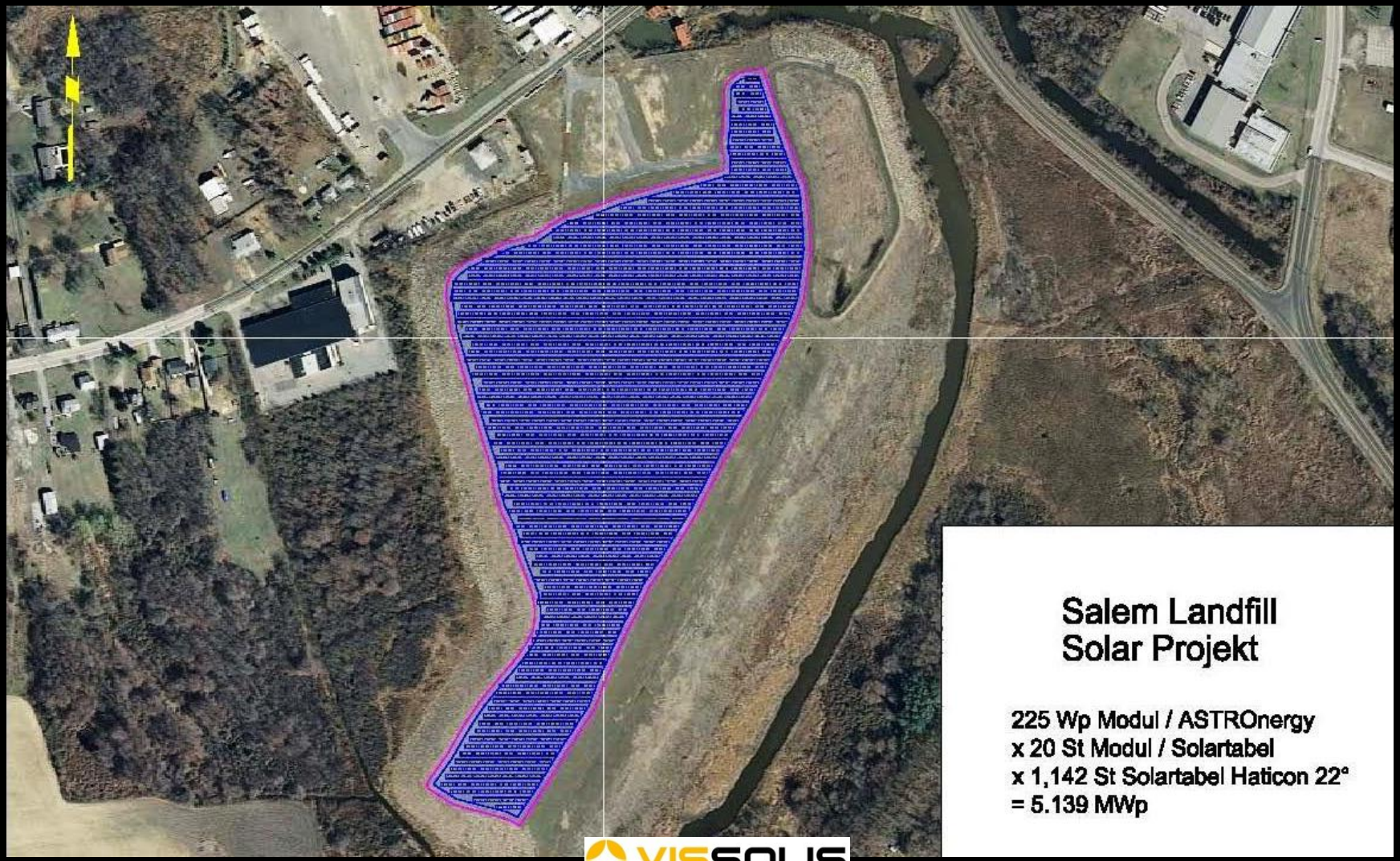
New Jersey


Salem Landfill
Solar Projekt
225 Wp Modul / ASTROnergy
x 20 St Modul / Solartabel
x 1,142 St Solartabel Haticon 22°
= 5.139 MWp
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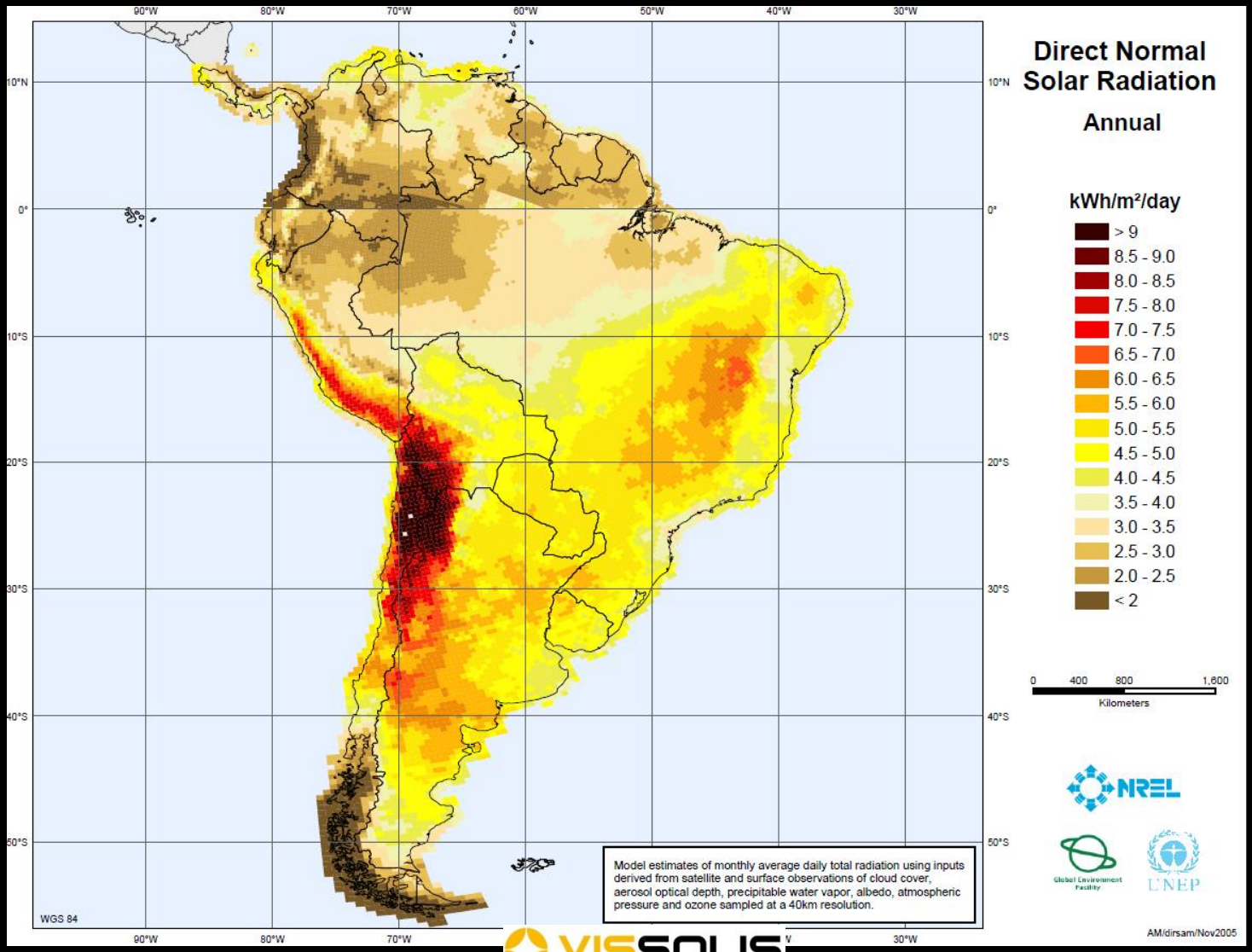
South America



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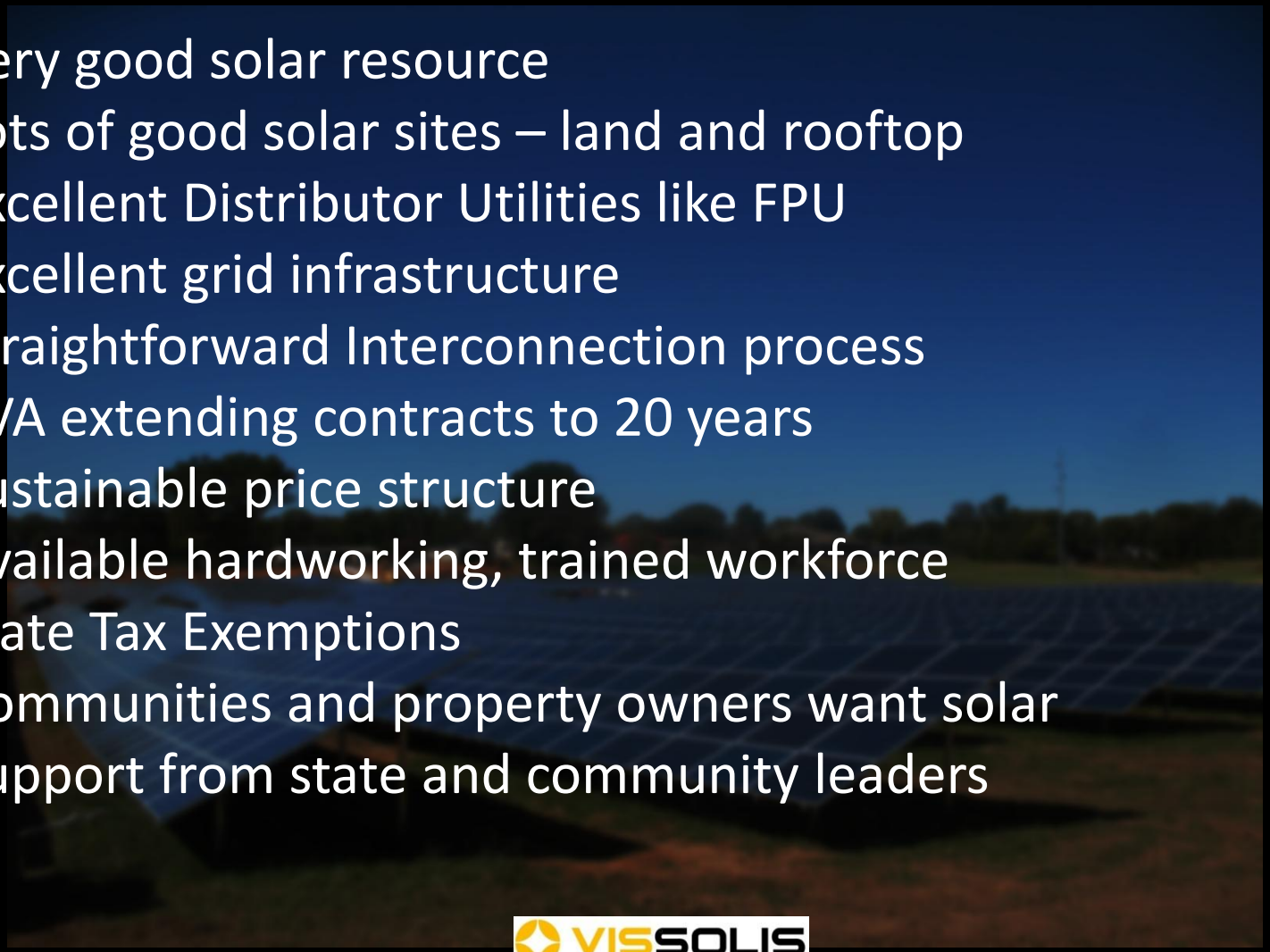
What is the Future of Solar in TVA?

TVA MARKET STRENGTHS



- Very good solar resource
- Lots of good solar sites – land and rooftop
- Excellent Distributor Utilities like FPU
- Excellent grid infrastructure
- Straightforward Interconnection process
- TVA extending contracts to 20 years
- Sustainable price structure
- Available hardworking, trained workforce
- State Tax Exemptions
- Communities and property owners want solar
- Support from state and community leaders

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WEAKNESSES

- Dramatic phase down of system size
- 1,000kWp to 200kWp to 50kWp to ???
- Reduced efficiencies drive up solar costs
- Nuisance rules
- Killer deadlines, no extensions
- The project death penalty if anything prevents making the deadline
- Investor uncertainty about TVA
- Will TVA open the door wider again for solar or…?

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OPPORTUNITIES

- TVA become a world leader in solar generation
- TVA become a net exporter of solar electricity
- TVA become a net importer of electricity revenue into local economies
- Increase solar volume / Drive down solar prices
- TVA provide long-term market certainty for investment in solar generation
- TVA take solar seriously in its generation portfolio

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THREATS

- Lack of clear commitment by TVA to take full potential of solar and open a consistent market
- Continued phase out of solar opportunities
- More hurdles for successful deployment of solar
- Decrease solar volume / Drive up solar prices
- Loss of the solar industry infrastructure that has been developing in the region
- Sending mixed signals to potential investors
- One foot on the gas, one foot on the brakes

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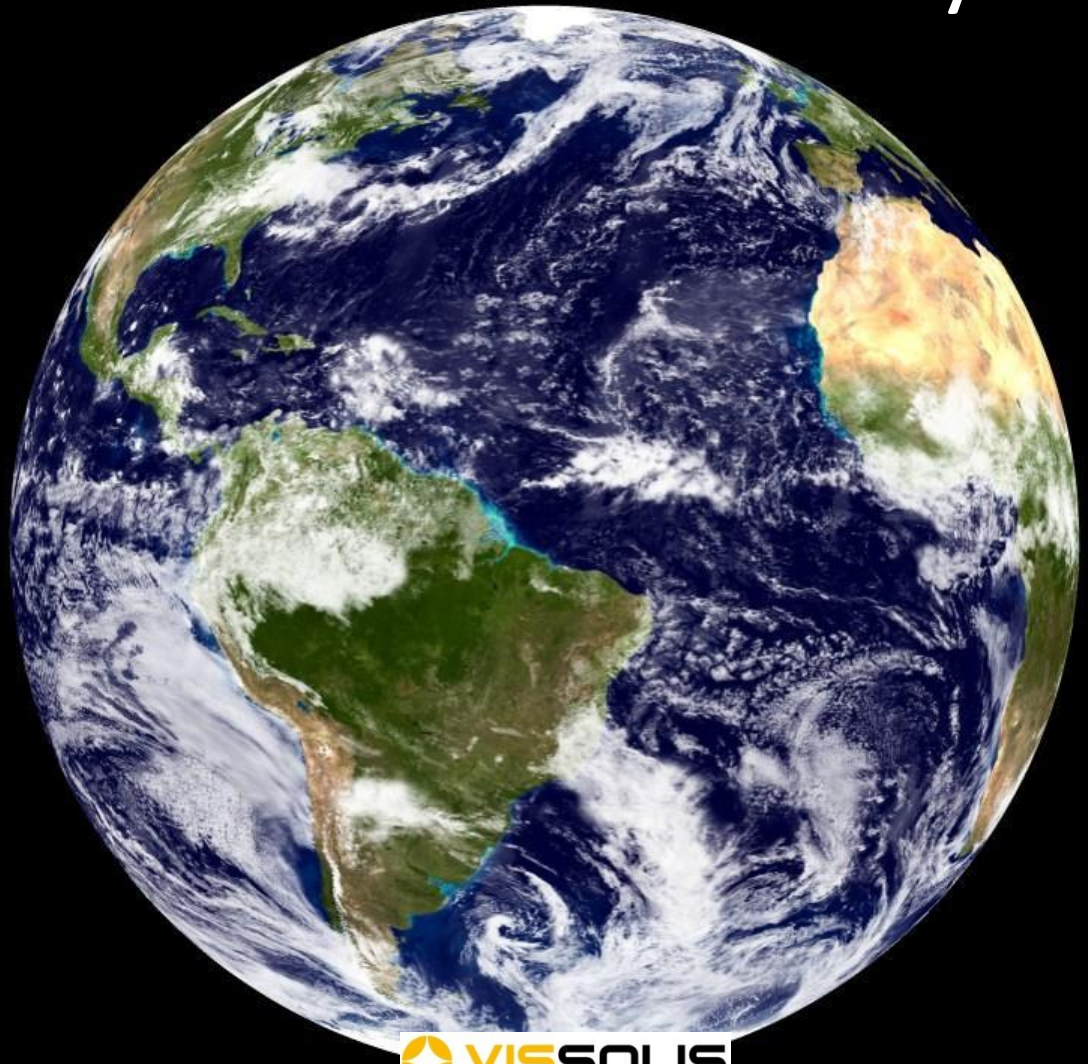
970 Trillion kWh of energy shine on the earth every day



How much sunshine will Tennessee put into the grid to meet its energy needs?

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Thank You!

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