

[SUMMARY: ACORE'S FORECAST FOR RENEWABLE ENERGY POTENTIAL IN KANSAS]

New research from the American Council on Renewable Energy (ACORE) concludes that previous renewable energy projections for Kansas - often referred to as the “Saudi Arabia of wind” - may have fallen far short of the state’s potential, and the nation’s expectations.

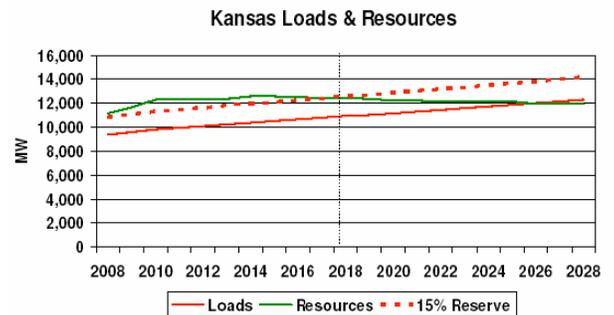
ACORE found that Kansas has the potential to generate over 20 gigawatts (20,000 megawatts) of renewables, including more than 19 GW of wind - in effect, **Kansas could meet a Renewable Energy Standard of 200%**. The potential economic benefits total billions of dollars.

This report begins a conversation about how, when, and by what means Kansas will answer this call.

(The full report can be found at <http://www.climateandenergy.org/FileLibrary/FileImage/ACOREplanforKS.pdf>)

THE PRESENT

- Kansas is exploiting less than **1%** of its enormous wind resource (3rd best in nation).
- As of March 2009, more than **6,200 megawatts (MW)** of wind projects were proposed in the state.
- Data from the Energy Information Administration (EIA) shows that **96%** of Kansas electric generation currently comes from baseload sources.
- Research from the **Kansas Energy Council** shows that Kansas is not in immediate need of building baseload capacity.

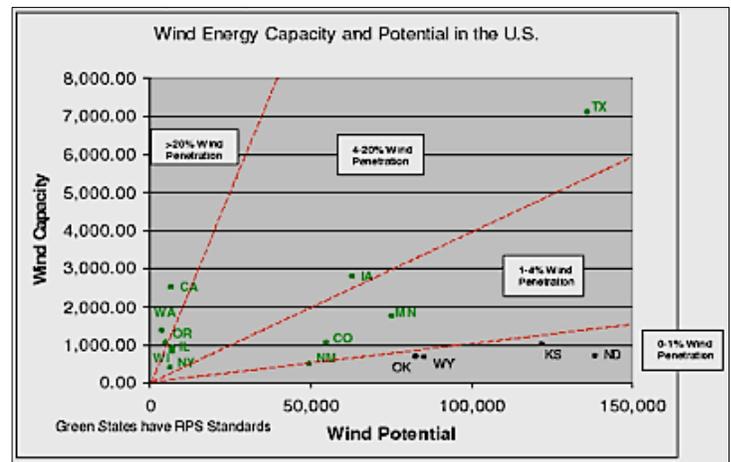


Source: Kansas Energy Council Electricity Committee, Forecast Capacity and Load Summary, 11/24/2008. Southwest Power Pool

THE SCENARIOS

Wind

- *The floor* - In 2008, DOE, NREL, and AWEA studies confirmed that at least **7 gigawatts (7,000 MW)** of wind development in Kansas was feasible by 2030 (including the 1,000 MW of wind already built).
- *The ceiling* – In 2009 the Joint Coordinated System Plan (a group of regional transmission operators in the eastern interconnect, including SPP) concluded that the entire SPP region could generate around **60 gigawatts** of wind by 2024. The ACORE analysis calculated that Kansas could provide **19 gigawatts** of that total.



Kansas is achieving less than 1% of its wind potential, and falling behind other states with lesser wind resources.

Solar and Biopower

- ACORE concluded that the solar resource in primarily western Kansas could support at least **1,600 MW** of Concentrating Solar Power (CSP) (four 400MW plants) built between 2012-2024.
- ACORE also concluded that Kansas has **1,100 MW** of biopower potential for electric generation, which could convert the oldest and dirtiest coal-fired power plants in Kansas through biopower conversion and co-firing.

Manufacturing

ACORE incorporated data from the Renewable Energy Policy Project report for Kansas - development of wind, solar, geothermal manufacturing could yield over **11,000 jobs** and **\$1.97 billion** in investment in **425** existing Kansas manufacturing firms.

ECONOMIC BENEFITS

The economic benefits of renewables – from development to manufacturing – would distribute across the entire state of Kansas. Wind development would create a sustainable construction industry, plus steady operations and management (O&M) job growth ramping up over time.

7,000 MW (7 GW) of wind by 2030

\$136,807,500 - Property tax/ payments in lieu of taxes (PILOTs)

\$141,525,000 – Total landlease payments

\$2,017,000,000 - Total economic impact of construction

\$146,000,000 - Direct O&M impacts

19,000 MW (19 GW) of wind by 2030

\$435,652,500 - Property tax/ payments in lieu of taxes (PILOTs)

\$450,675,000 - Landlease payments

\$6,376,000,000 - Total economic impact of construction

\$324,000,000 - Direct O&M impacts

Report also calculated additional numbers on indirect and induced economic impacts.

If Kansas could capture 20% of wind manufacturing for in-state wind:

Wind energy jobs would increase by 48%

Earnings would increase by 65%

Economic output would increase by 81%

If Kansas could capture 100% of wind manufacturing for in-state wind:

Wind energy jobs would increase by 238%

Earnings would increase by 324%

Economic output would increase by 405%

1,600 MW of solar CSP from 2012-2024

\$45,000,000 – By 2024, annual property and sales tax revenue per year

\$2,589,000,000 - Total economic impact of construction

\$26,000,000 - Direct O&M impacts in wage and salary

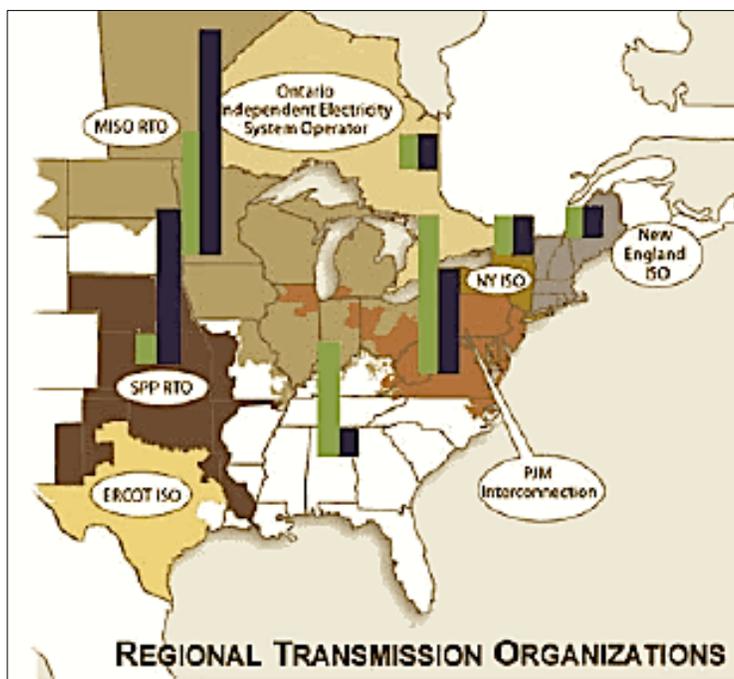
1,100 MW biopower

By 2018, could sustain over 2,500 jobs per year with a total annual economic impact of over \$400 million.

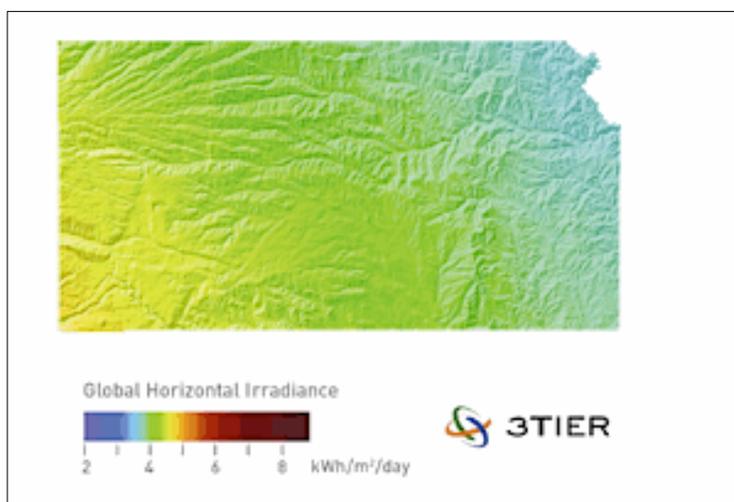
TRANSMISSION

The state's development of renewables is also largely dependent on building new transmission - **Extra**

High Voltage lines (765 kV) within the SPP region, and large **direct current lines** (800 HVDC) that transport wind energy to urban markets in South and East.



The SPP region – of which Kansas is a member – enjoys the highest export potential in the Eastern Interconnect. (The light green line represents the renewable energy needs of the region; the dark blue line is the excess renewables for export.)



Kansas has a good solar resource, especially in western Kansas.