



RENEWABLE ENERGY IN AMERICA

Utility Workers Union of America “Power for America Conference”

**Las Vegas
April 22, 2009**

**Michael Eckhart
American Council On Renewable Energy (ACORE)
www.ACORE.org**

Topics

- Washington
- ACORE
- Renewable Energy Technologies
- State-level activity
 - Kansas
 - Texas
- Conclusions

Presidential Election

Obama Energy and Climate Plan



New Vision:

- Three major pillars of domestic policy are energy, health care and education
- “Double alternative energy in three years...”

New Team:

- Carol Browner, White House
- Nancy Sutley, Chair, CEQ
 - Van Jones, Green Jobs
- Steven Chu, DOE
 - Cathy Zoi, EERE
 - David Sandalow, Policy & international
- Lisa Jackson, EPA
- Ken Salazar, DOI
- Tom Vilsack, USDA

Stimulus Bill: Direct Spending

- **\$11B - Grid Development:**
 - \$11B Modernizing the nation's electricity grid
- **\$4.8B - Research, Development and Demonstration:**
 - \$2.5B Applied research and development of renewable energy
 - \$2.0B R&D programs
 - \$300m Research: Department of Defense
- **\$6.0B – Renewable Energy Deployment:**
 - \$6B Loan Guarantees – supports \$60B in loans
- **\$3.3B - Electric Transportation, Alternative Fuels and Efficient Vehicles**
 - \$2.0B Advanced Battery Manufacturing grant program
 - \$400m Transportation electrification activities.
 - \$300m Alternative Fueled Vehicles Pilot Grant Program
 - \$300m Vehicles for the federal fleet
- **\$0.6B - New Energy Economy - Workforce – Green Jobs**
 - \$500m Workforce Development
 - \$250m Job Corps programs

U.S. Congress



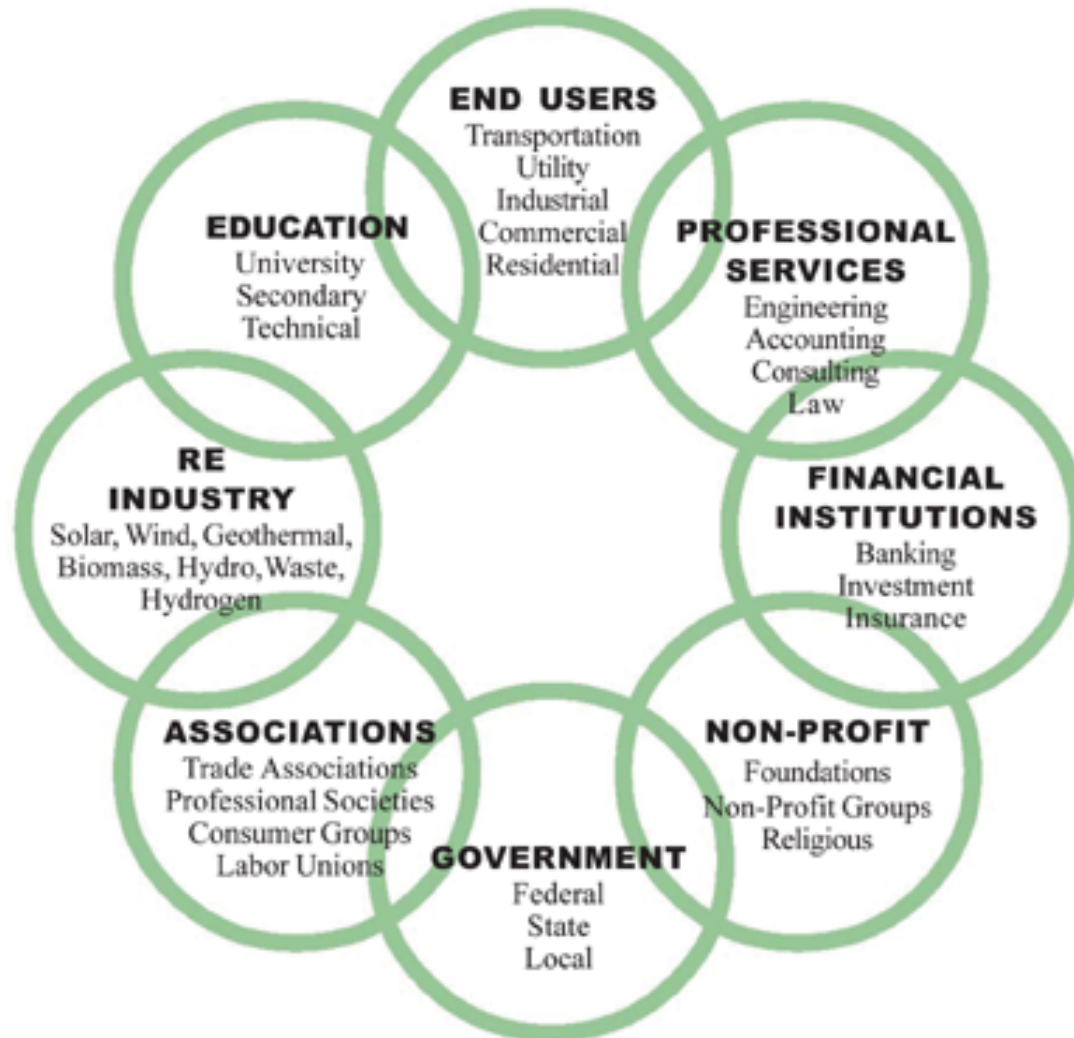
- **2009 Priorities:**
 - Financial crisis (banking)
 - Economic recovery (auto, others)
 - Iraq and Afghanistan / terrorism
 - International relations
 - **Climate legislation**
 - **Energy bill**
 - Health care
- **Energy-related:**
 - Renewable Portfolio Standard
 - Renewable Energy Rates / FIT
 - Transmission grid
 - Biofuels and farm policy
 - Nuclear power
 - Coal / CCS
 - Oil and gas offshore drilling

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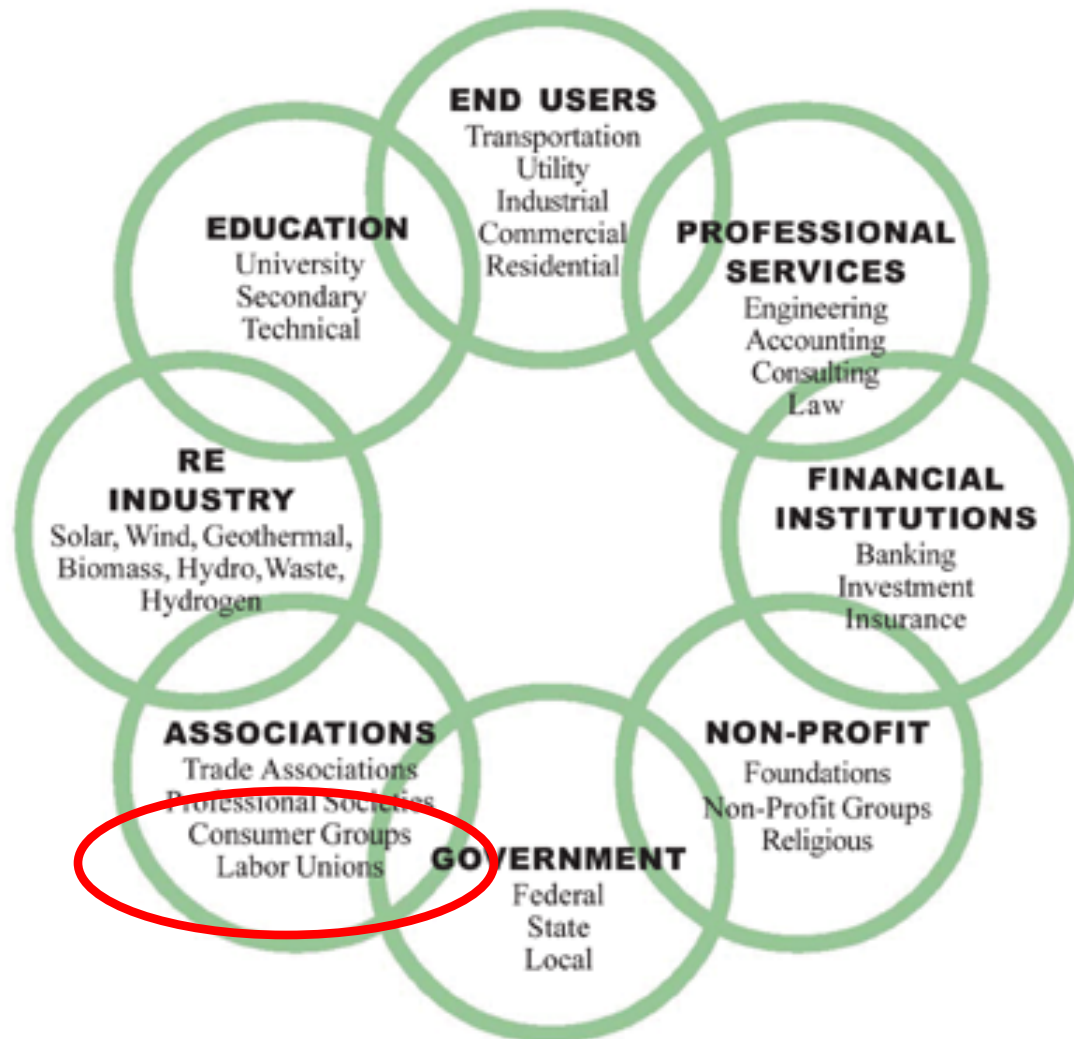
ACORE's 600+ Organizational Members

Strategy to Assemble All the Players Necessary to
Make Renewable Energy Successful in the U.S.



ACORE's 600+ Organizational Members

Strategy to Assemble All the Players Necessary to
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ACORE's D.C. Headquarters

1600 K Street, Suite 700



- Occupies entire 7th floor at 1600 K street in the heart of Washington
- 8,000 sq ft. of office space for up to 30 employees
- Current staff of 22 + interns
- 2 blocks from the White House
- Opened San Francisco office in 2008



Policy Conference

“Phase II of Renewable Energy in America”

Cannon Caucus Room, Washington, DC

December 3-4, 2008



RETECH 2009

Renewable Energy Technology Conference & Exhibition

Las Vegas Convention Center

February 27-29, 2009



www.retech2009.com

Finance Conference

Renewable Energy Finance Forum–Wall Street

Produced with Euromoney at Waldorf-Astoria Hotel in New York City
June 23-24, 2009



ACORE Leadership Council

Mission: to bring together the nation's renewable energy leaders to plan and manage the success of renewable energy in America



- Chairmen
- CEO's
- Presidents
- Managing Directors
- Managing Partners
- Government officials
- University Presidents
- Association directors
- Nonprofit leaders
- Other leaders

2008 Leadership Dinner in the Library of Congress

Washington International Renewable Energy Conference (WIREC 2008)

March 4-6, 2008

- 8,600 attendees from around the world
- Ministerial Summit hosted by Administration
- Trade Show hosted by ACORE and Associations
- Visit and speech by President George W. Bush



DREAM Initiative

Doubling Renewable Energy in America



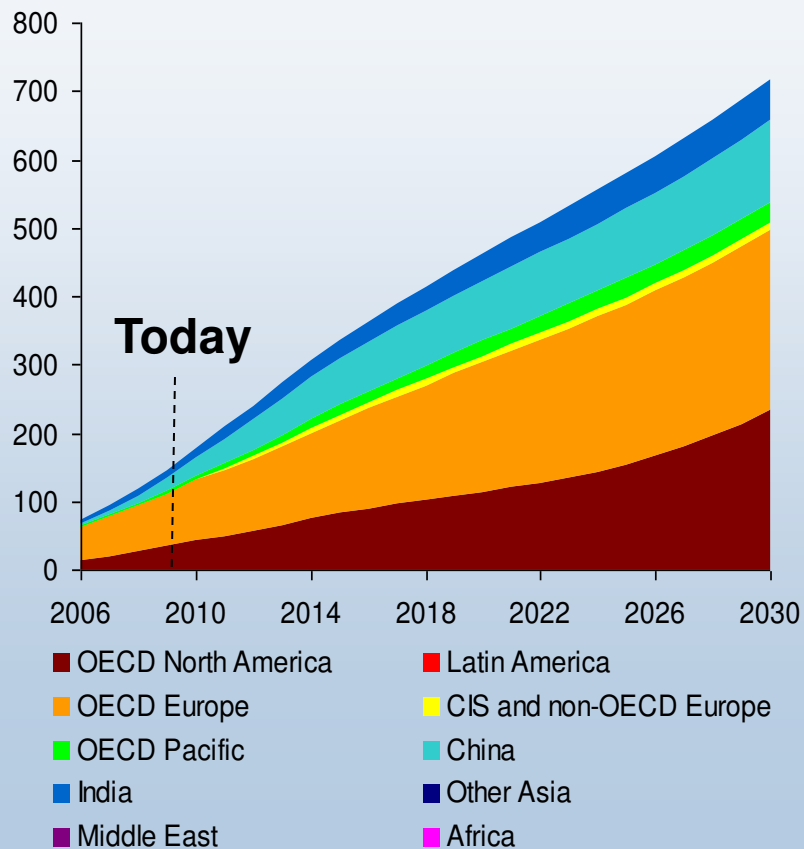
"We will double the production of alternative energy in the next three years... modernize more than 75 percent of federal buildings and improve the energy efficiency of 2 million American homes..."

**Submit Your
DREAM
Action Plan
at
www.acore.org**

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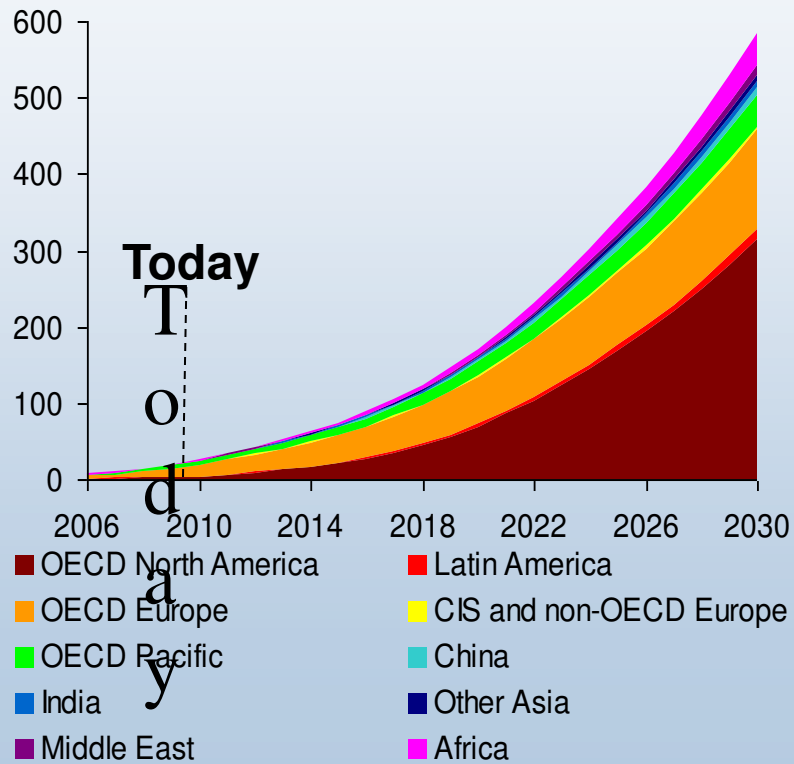
On-shore and off-shore cumulative installations: GW



Source: New Energy Finance Global Futures
2009.



Global Solar PV cumulative installations 2006-2030: GW



Source: New Energy Finance Global Futures 2009.





Residential Installations



Urban Installations



Small Commercial



Concentrating Solar Power

418 MW operating:

- 354 MW SEGS
- 64 MW Solar One

Tremendous VC-backed backlog

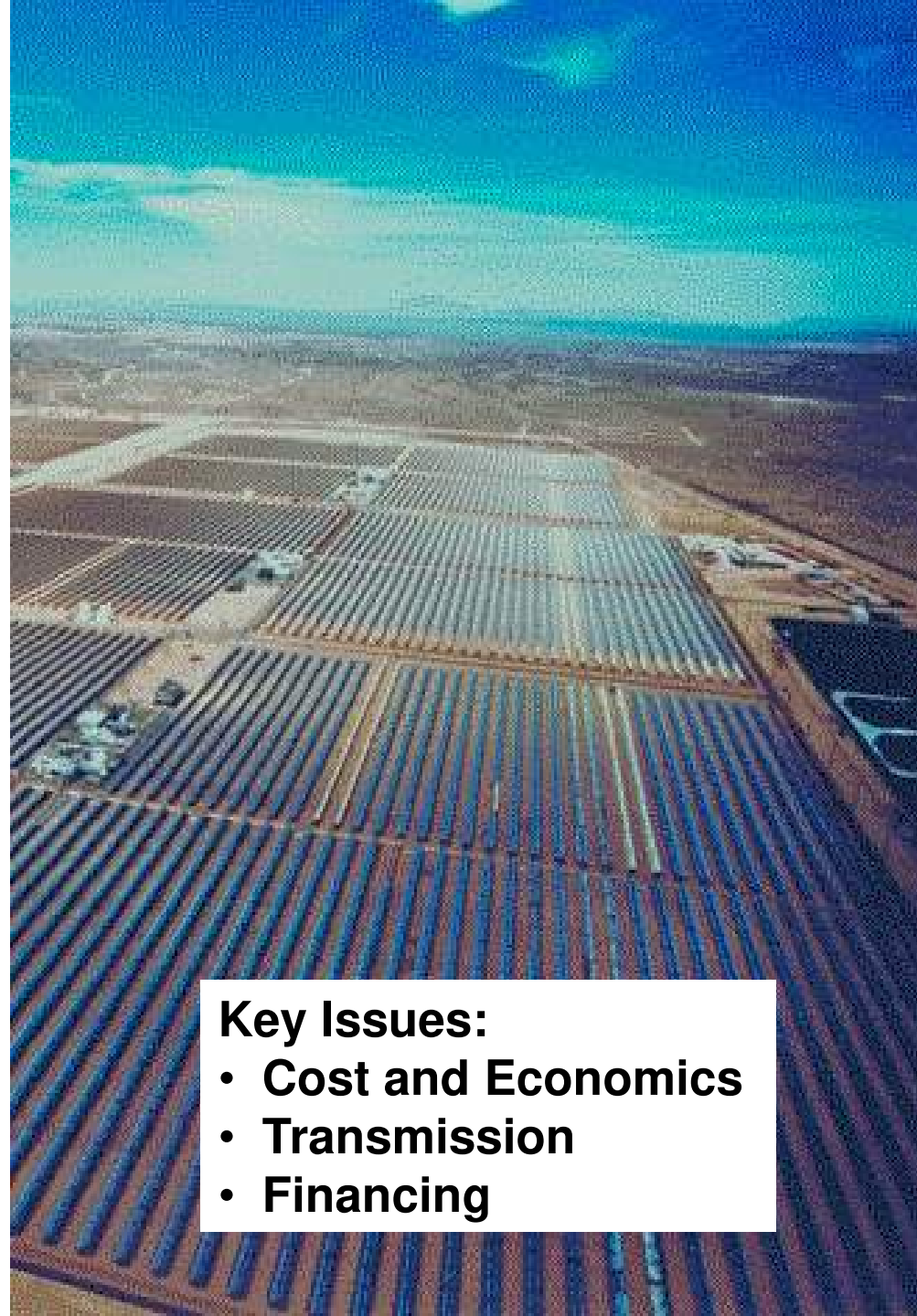
- 4,000 MW under contract
- 20,000+ MW planned

Stimulus Bill:

- RD&D Funding
- 30% ITC
- Accelerated depreciation
- Loan guarantees

Key Issues:

- **Cost and Economics**
- **Transmission**
- **Financing**



Geothermal Energy

2,957 MW in operation

4,000 MW in development:

- 103 Projects
- 13 states
- 50% in CA and NV

Impact from the Stimulus Bill:

- 30% ITC and Grant
- \$400 Million RD&D

Vision: 100,000 to 200,000 MW
potential – displacing coal



Key Issues:

- Technology
- Resource risk

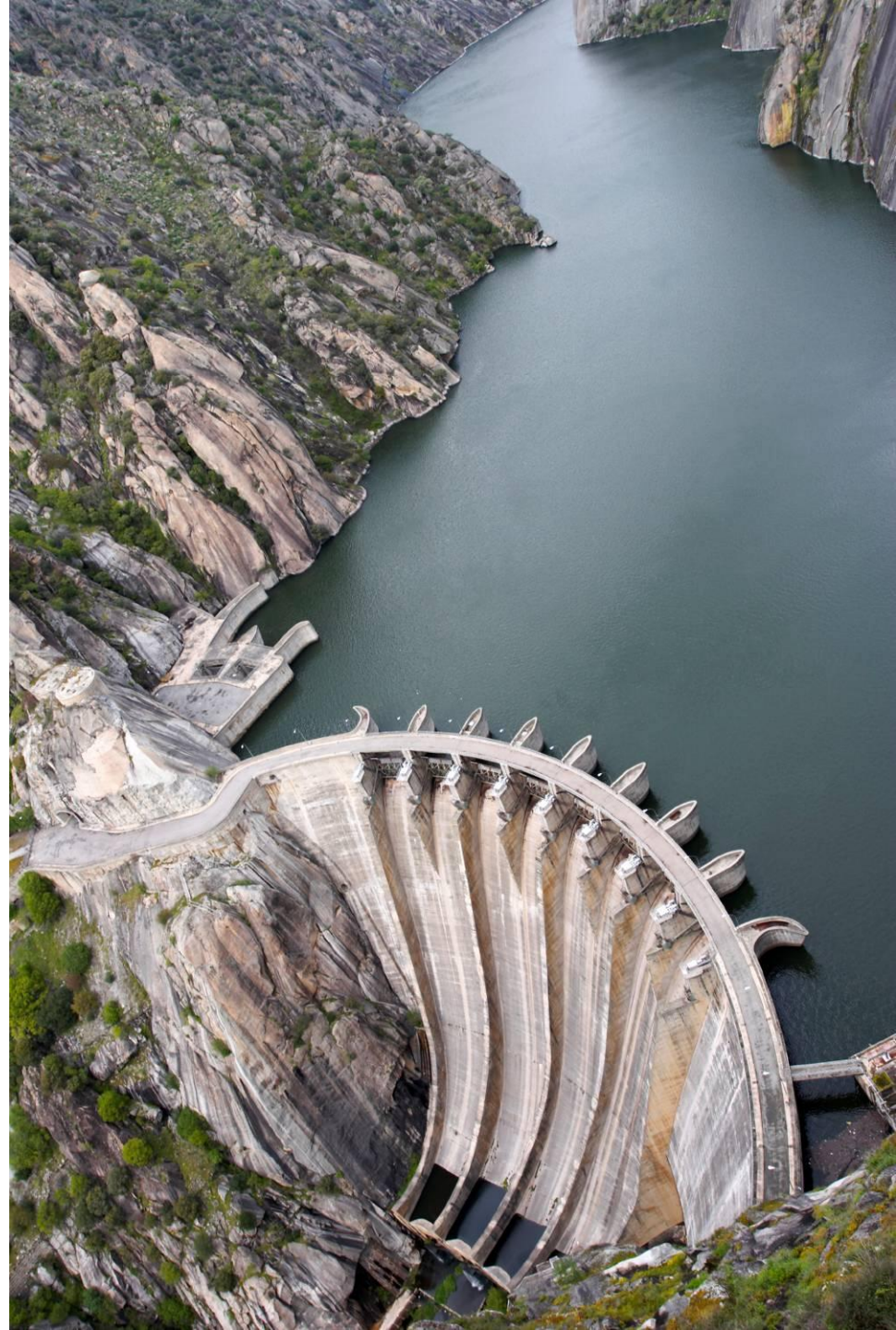
Hydropower

72,000 MW in place

23,000 MW additional
potential

- 3,000 MW incremental
- 20,000 MW small hydro

Stimulus Bill provides a
windfall 30% ITC



Ocean Power

Technology:

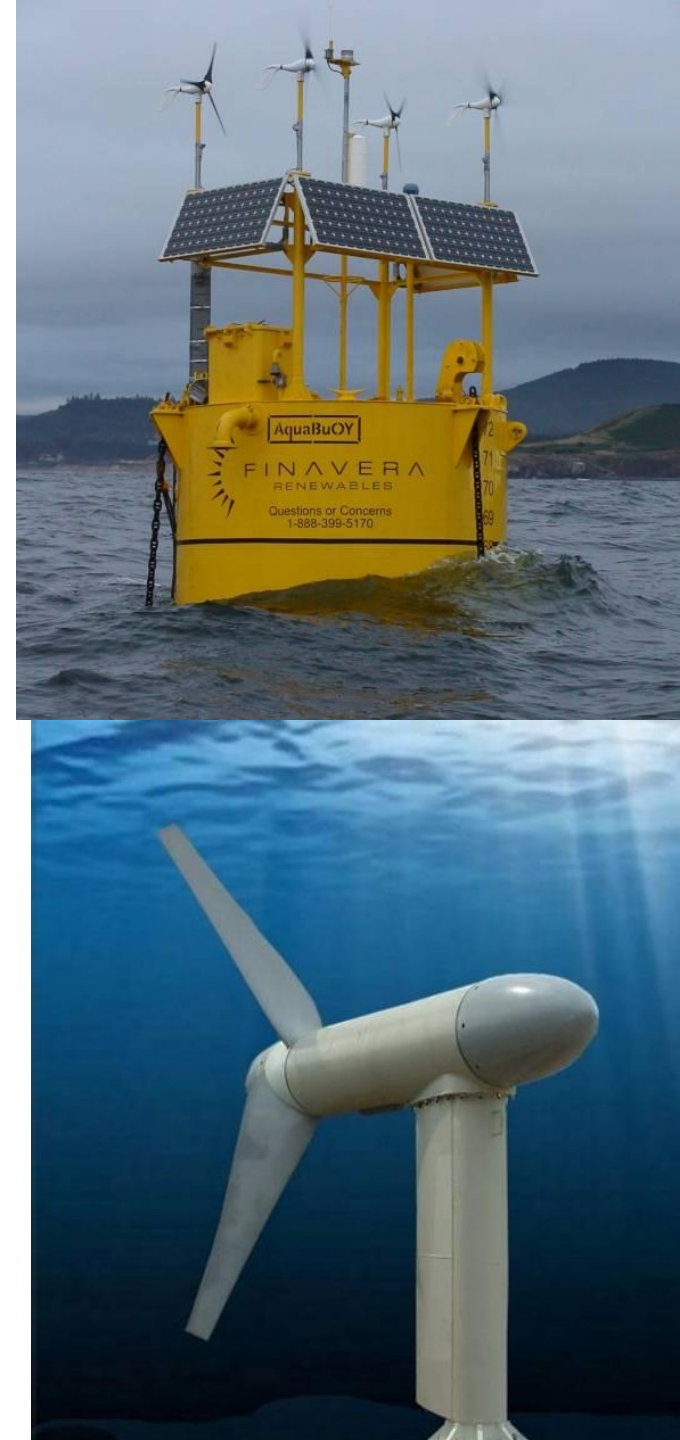
- Current / tidal
- Wave
- OTEC

Potential:

- East Coast – Gulf Stream
- West Coast – Wave & Tidal

Stimulus Bill provides:

- New RD&D funds
- 30% ITC
- Loan Guarantees





Biomass Energy

Biomass-fired power plants:

- 196 biomass-fired plants in U.S
- 72 larger than 40 MW

20 new plants proposed

- 8 by Duke-Areva

Stimulus Bill provides:

- \$800 M RD&D
- 30% ITC/Grant

2025: Over 100,000 MW of additional potential:

- Industrial CHP: 57,000 MW
- Utility: 37,000 MW
- Solid Waste: 10,000 MW

Key Issues:

- Economics
- Fuel supply risks



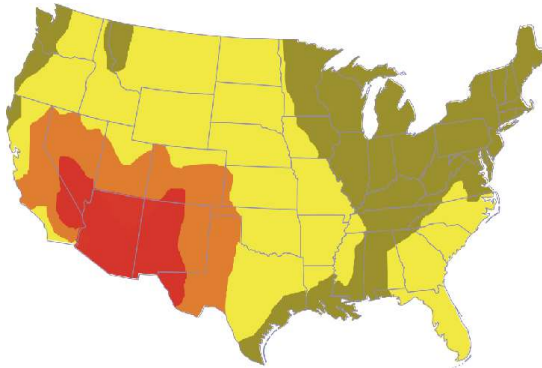
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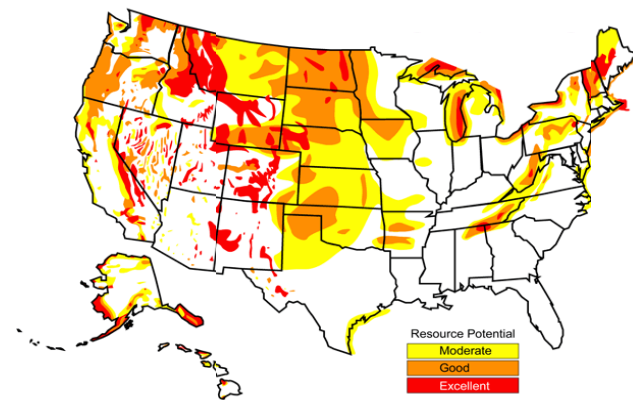
The Challenge of Putting RE into Use

- Regional Resources, Economics and Politics -

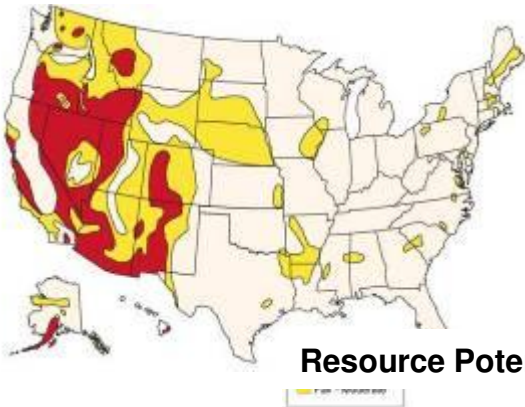
SOLAR ENERGY



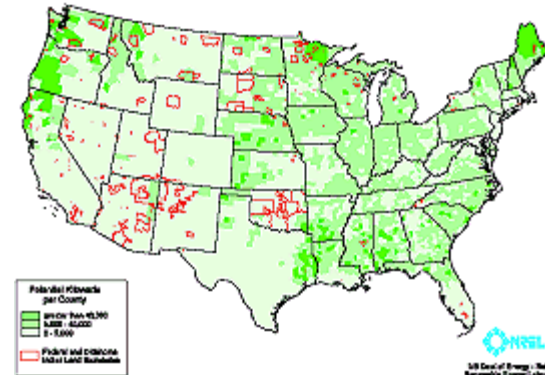
WIND POWER



GEO THERMAL



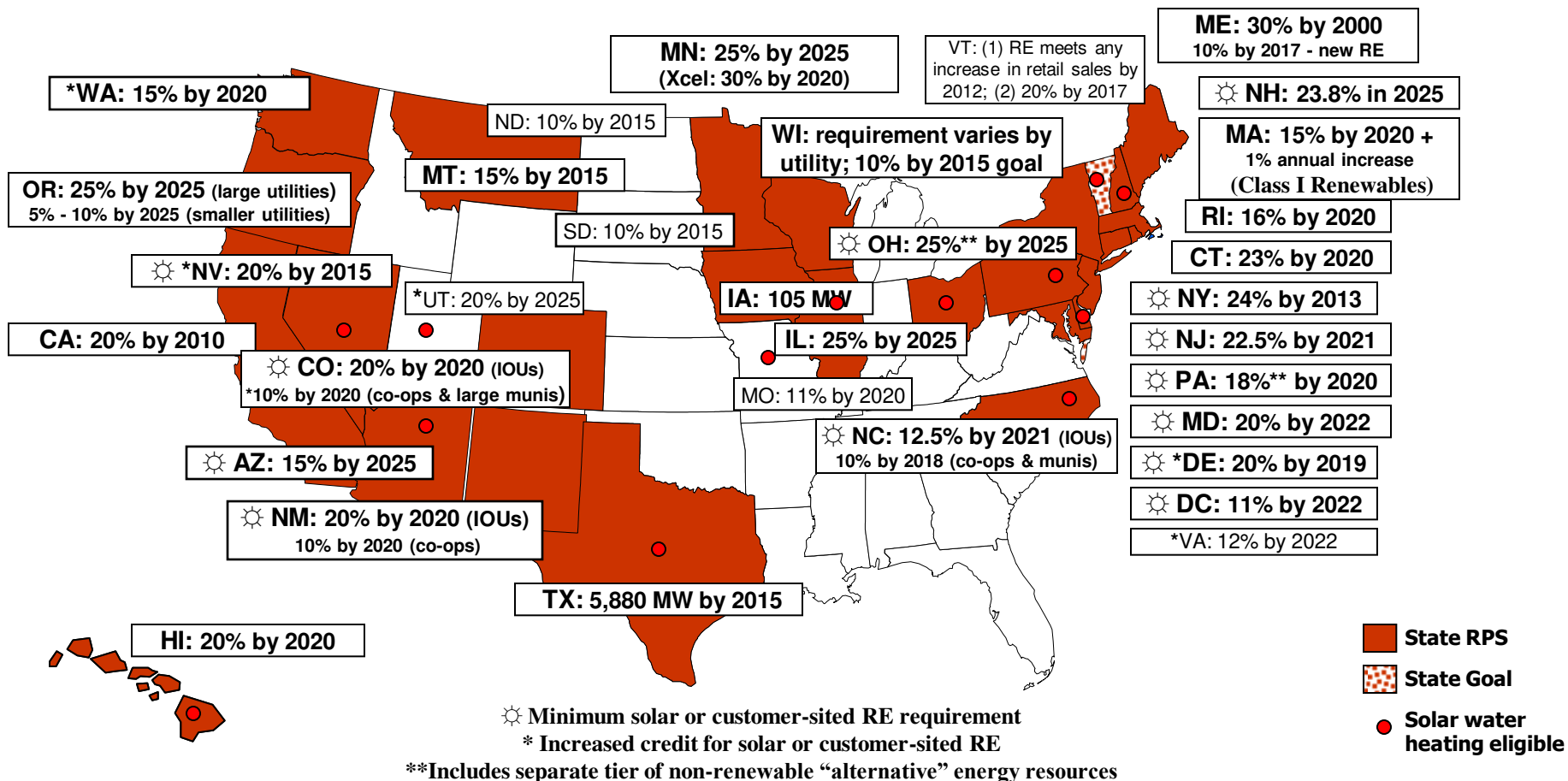
BIOMASS



State-Level Policy Work

Renewable Portfolio Standards

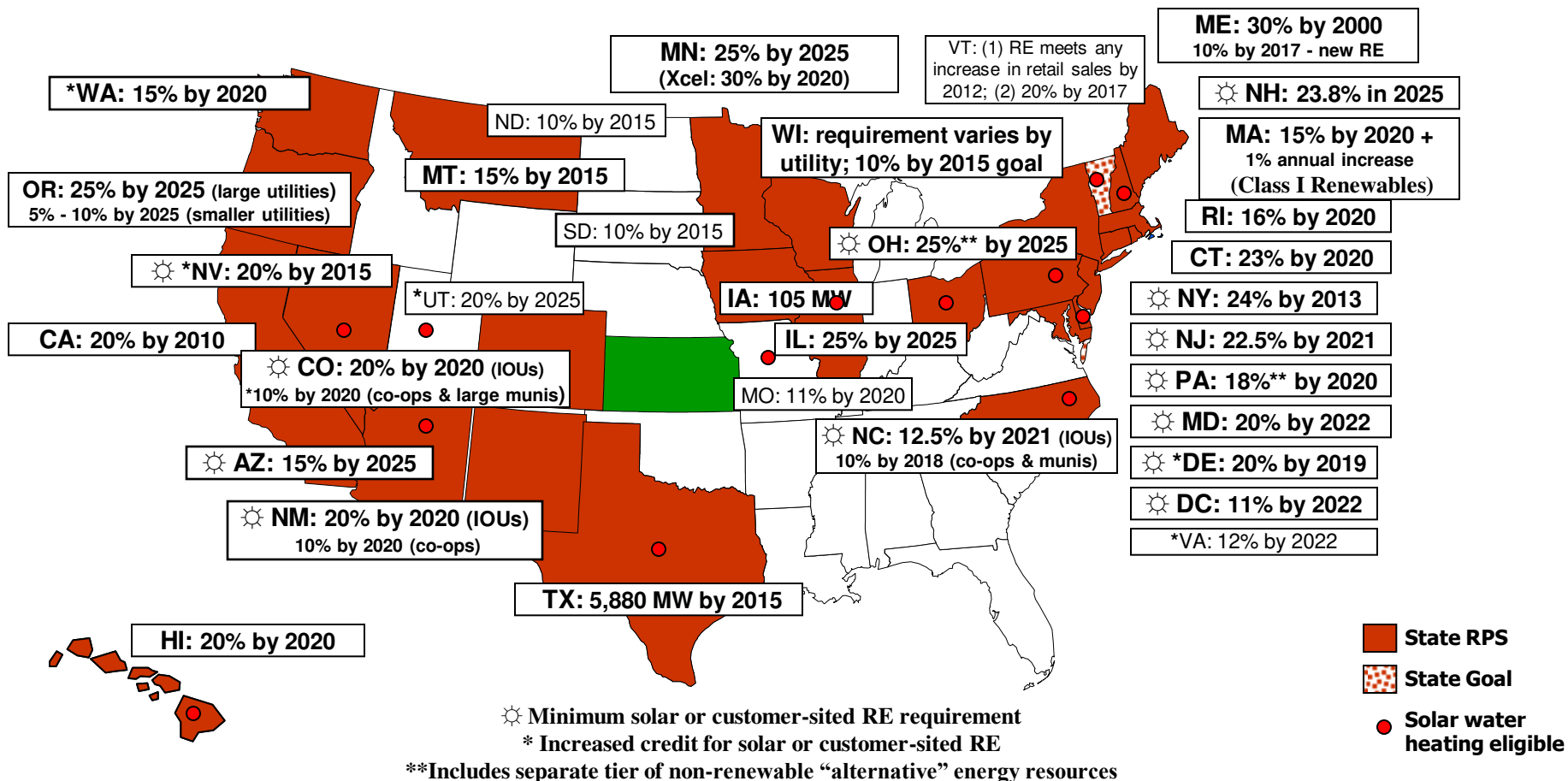
DSIRE Database



Kansas Looking at a 200% RPS !

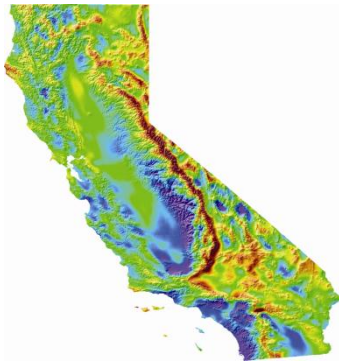
Renewable Portfolio Standards

DSIRE Database

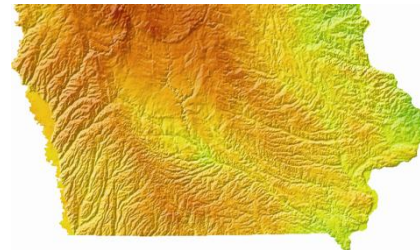


Kansas Has Been Blessed with a Unique Resource Equal to or Greater than Other Key States

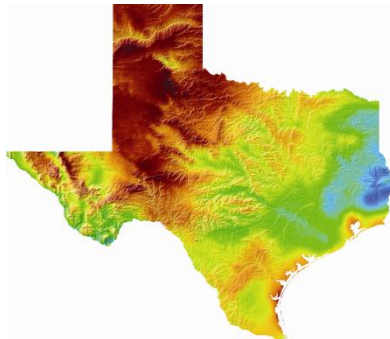
California's Wind Resource
6,770 MW Potential
2,517 MW installed



Iowa's Wind Resource
62,900 MW Potential
2,790 MW installed



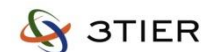
Texas's Wind Resource
136,100 MW Potential
7,116 MW installed



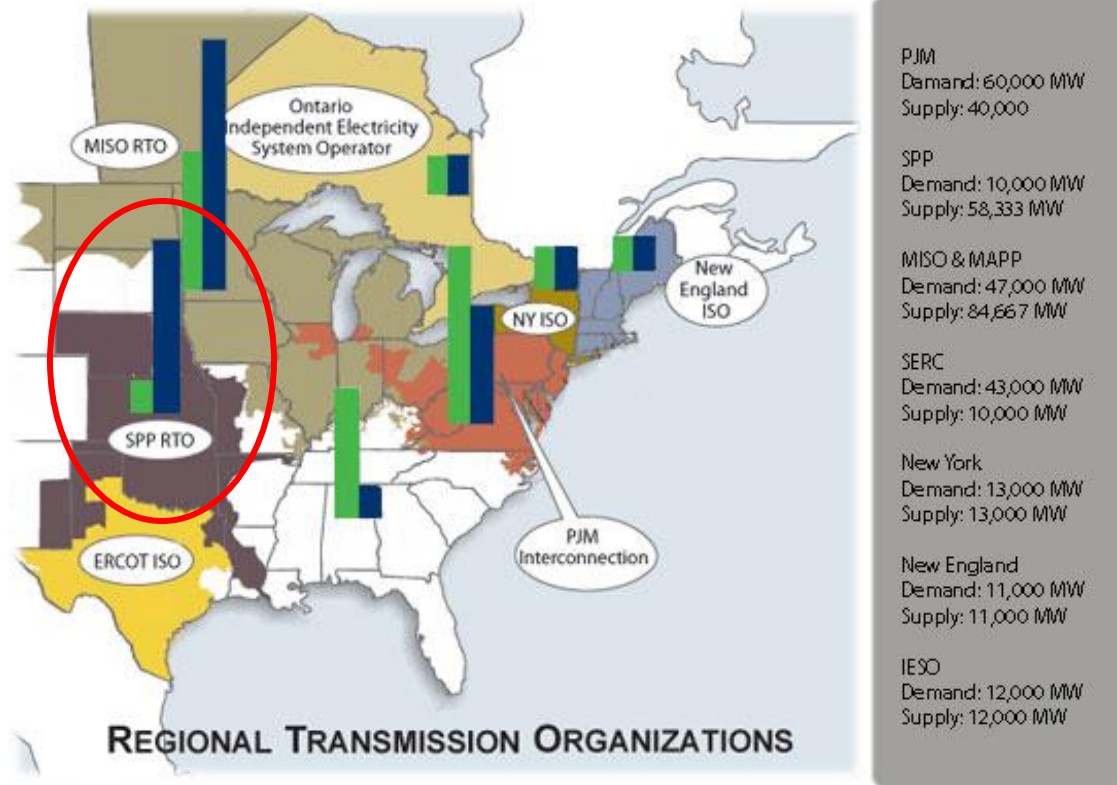
Kansas's Wind Resource
121,900 MW Potential
1,015 MW Installed



5km Wind Map at 80m
Wind speed
3 6 9 m/s



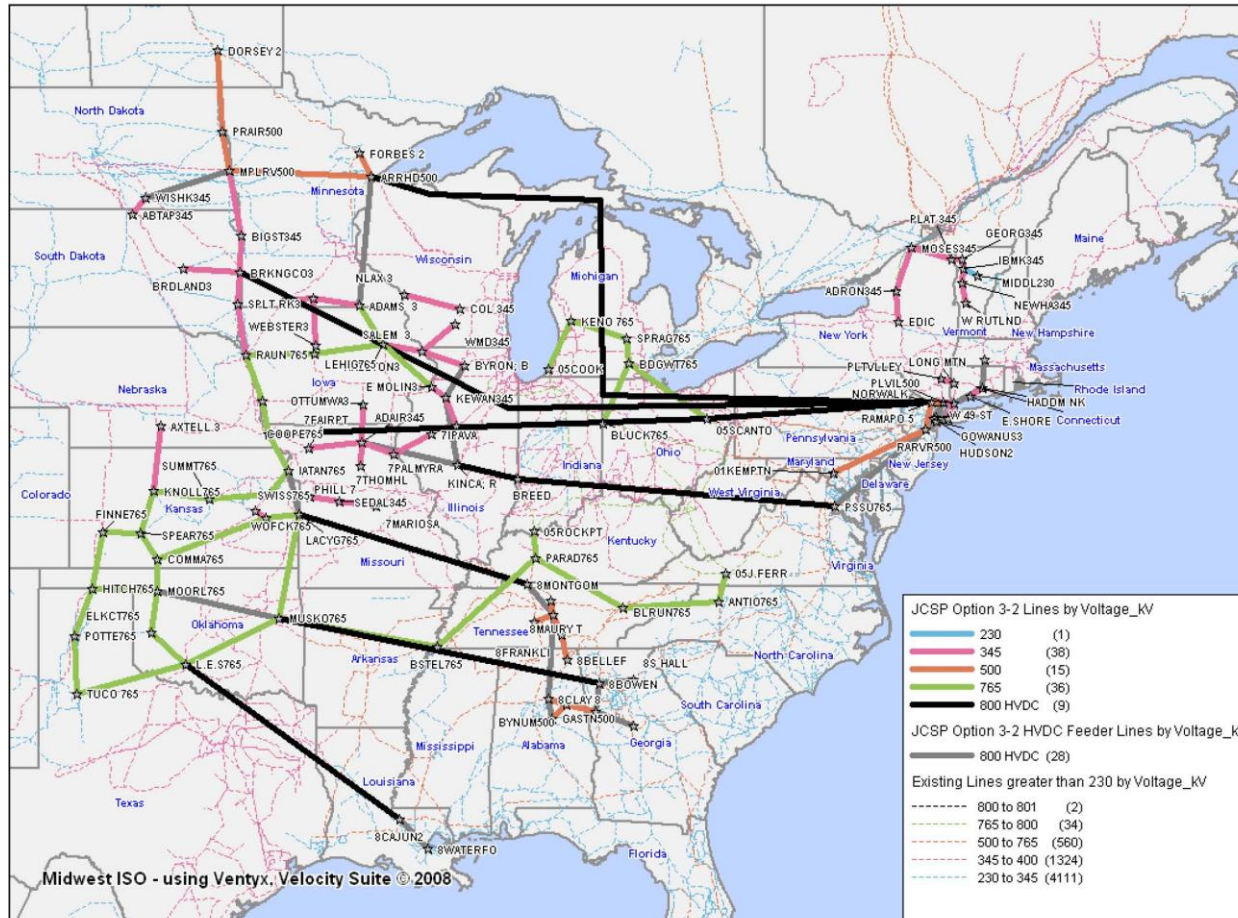
Kansas and the SPP enjoy the highest export potential in the Eastern Interconnect.



*The Eastern synchronous region is bounded by the Southwest Power Pool region. Nebraska joined SPP in 2009.

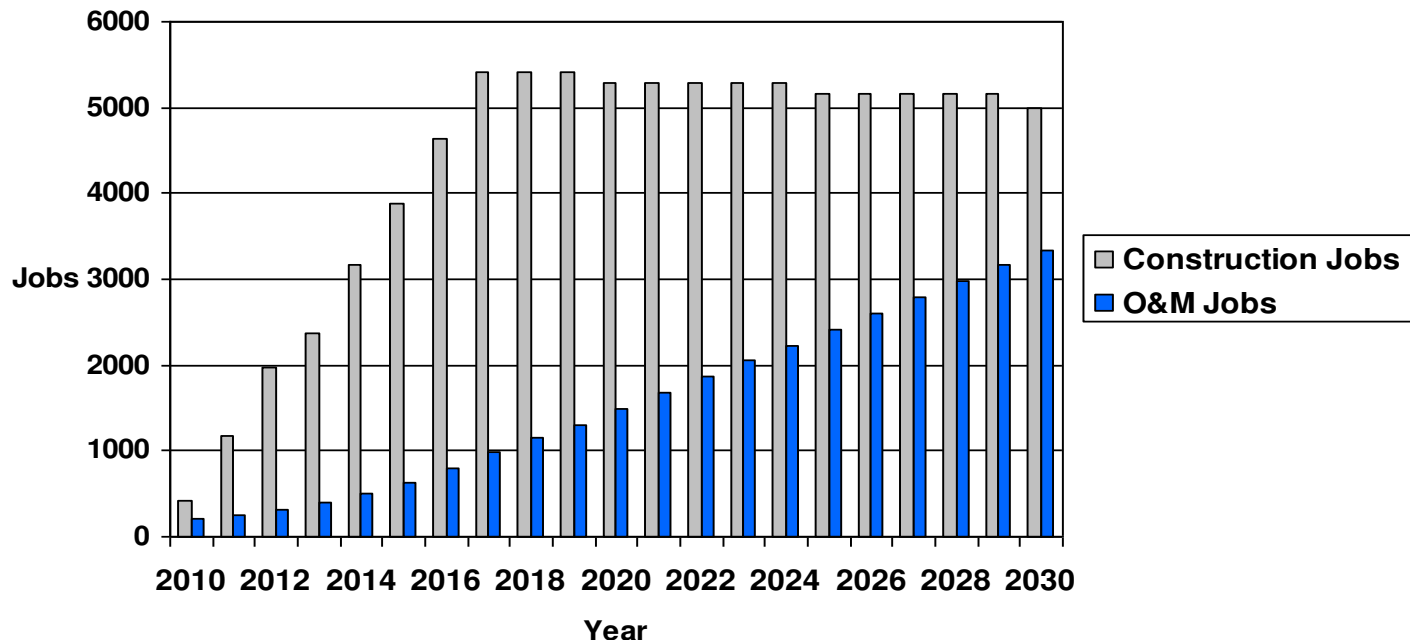
Source: Supply and Demand data from the Joint Coordinated System Plan, <http://www.jcspstudy.org/>

Joint Coordinated Systems Plan 60 GW from SPP



Results of ACORE's Study: 19,000 MW Scenario – 8,000 jobs in Kansas

Annual Construction and O&M Jobs Created, 2010-2030

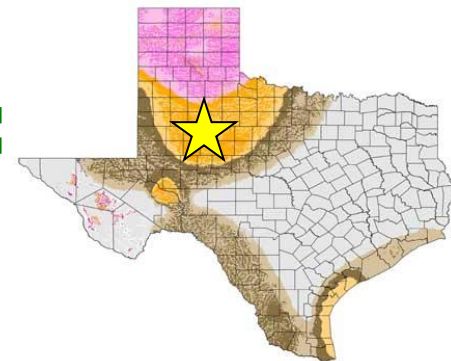


Source: ACORE analysis performed for the state of Kansas in 2009, using the National Renewable Energy Laboratory's Jobs and Economic Development Impact Model.

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Economic Case Study: Nolan County, Texas

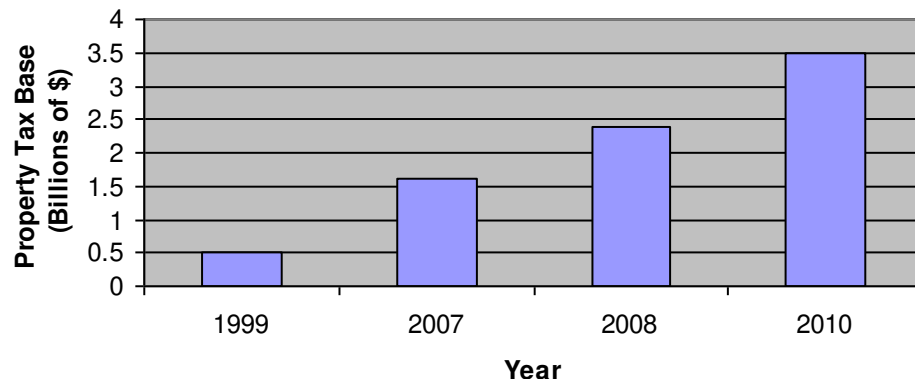


- Wind Installed Capacity: **2,500 MW**
- Future: **add 3,000 MW by 2009**
- **More wind capacity than California!**
- **1,124 direct jobs** in Nolan County
 - 20% of the county's workforce.
 - Permanent O&M jobs = 29% of jobs
- 2008 economic impact in Nolan County:
\$315 million/year

Source: "Nolan County: Case Study of Wind Energy Economic Impacts in Texas."
Prepared by New Amsterdam Wind Source LLC.

Property Taxes

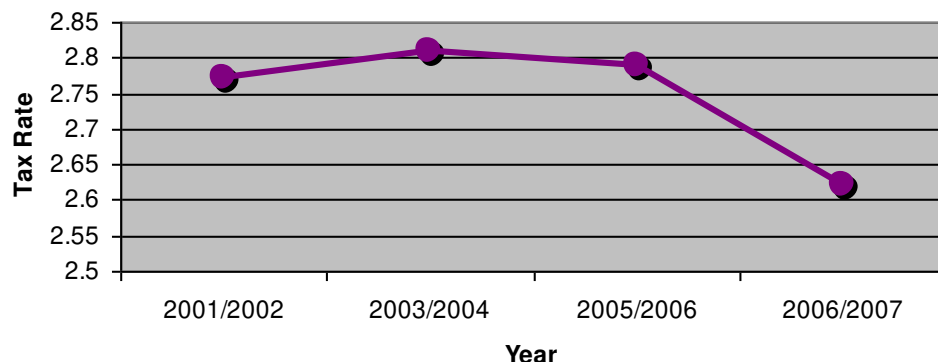
Property Tax Base in Nolan County, 1999-2010



**Tax base increased
500% since 1999**

Projected to continue
growing to **700%**

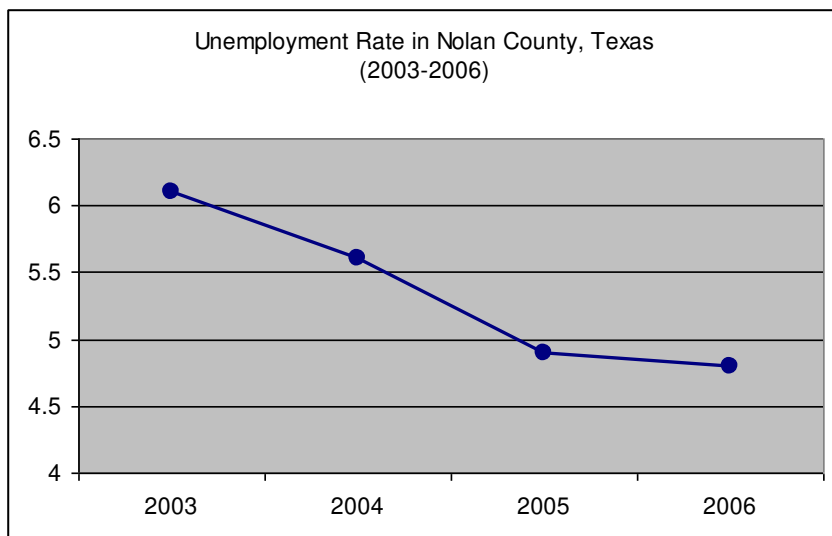
Property Tax Rate for Nolan County, Texas



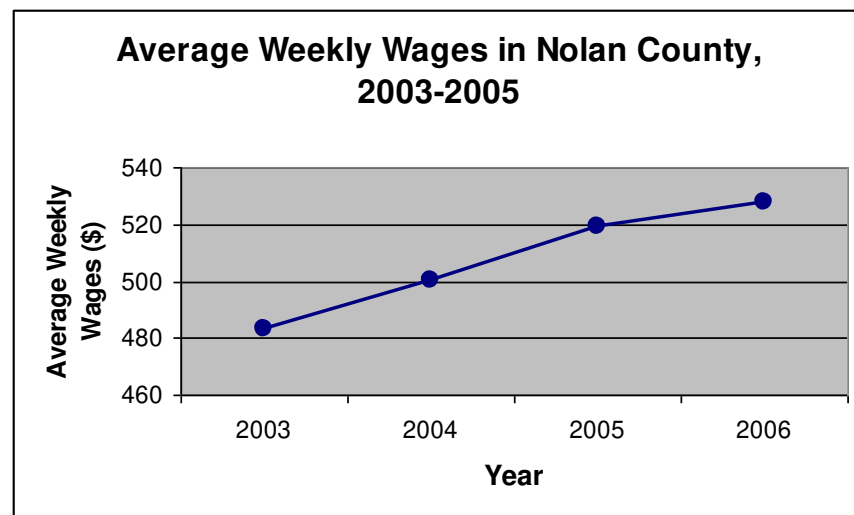
**Residential Tax Rates
decreased by 15%**

Nolan County, Texas

Since the Wind Boom Began...



**Unemployment went
DOWN from 6.1% to
4.8% since 2003**



**Real Wages went
UP by 9%**

Summary

- There is a new Federal Government program for renewable energy and the power grid
- Each renewable energy technology is in a commercial growth phase
- The real driver is state-level policy – about 30 states are playing while 20 are missing the opportunity
- The local economic impacts of renewable energy development can be tremendous
- Kansas might redefine the whole picture, calling for a 200% RPS and developing renewable energy for export



Thank You!

**ACORE welcomes
your organization
to be a Member**

www.acore.org