

New Renewable Energy Opportunities for Industry

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aweea american wind
energy association



Obama Administration

- Signed stimulus package in Denver on February 17, 2009
- Amendment 37
- Governor Ritter: “New Energy Economy”
- Vice President Biden: “bold action”
- President Obama: “double renewable energy in three years”

2009 Stimulus Act

- American Recovery and Reinvestment Act
February 17, 2009: stimulate the economy, create jobs, promote energy independence
- \$80 billion in energy provisions—largest new energy law in history
- Climate, conservation, transmission, fuel efficiency, batteries, and renewable energy funding

ARRA Renewable Energy Provisions

The breakdown is roughly:

- Renewables - \$22 billion
- Energy conservation and efficiency – \$42 billion
- Transmission and smart grid – \$11 billion
- Fossil energy – \$3.4 billion
- Other forms of energy – \$1.6 billion

ARRA Tax, Bonds, Grants

PTC extension, broader ITC, Treasury Grants, Loan Guarantees, CREBs, QECBs

- PTC to 2013 for wind, to 2014 for solar, geothermal, landfill gas, MSW
- ITC for wind at 30 percent of project cost
- Treasury grants are 30 percent of project cost, up front for 09-10 projects
- CREBs at \$1.6 billion, interest payments to bondholders, essentially interest free loans
- Qualified Energy Conservation Bonds, efficiency or renewable energy projects, work like CREBs

DOE Funding

- \$38 billion in spending
- \$100 billion for loans
- Rapid deployment, funds for renewable energy and transmission
- Innovative Technology Loan Guarantees
- BPA and WAPA borrowing authority \$3.25
- Smart Grid
- State Energy and Weatherization Programs, Block Grants
- Monitoring, verification, oversight provisions

AWEA Legislative Priorities

- Wind Energy for a New Era: An Agenda for the New President and Congress, at
- [Production Tax Credit \(PTC\)](#)
- [Small Wind Investment Tax Credit](#)
- [Renewable Electricity Standard \(RES\)](#)
- [Renewable Energy Transmission Highways](#)
- [National Climate Change Legislation](#)
- [Federal Agency Support for Siting Wind Power Projects and Transmission Lines](#)
- [Research and Development](#)

AWEA Legislative Priorities

- Production Tax Credits
- Small Wind Investment Tax Credits
- Renewable Energy Standards
- Renewable Transmission Highways
- Climate Change Legislation
- Federal Agency Siting Support
- Research and Development
- www.NewWindAgenda.org

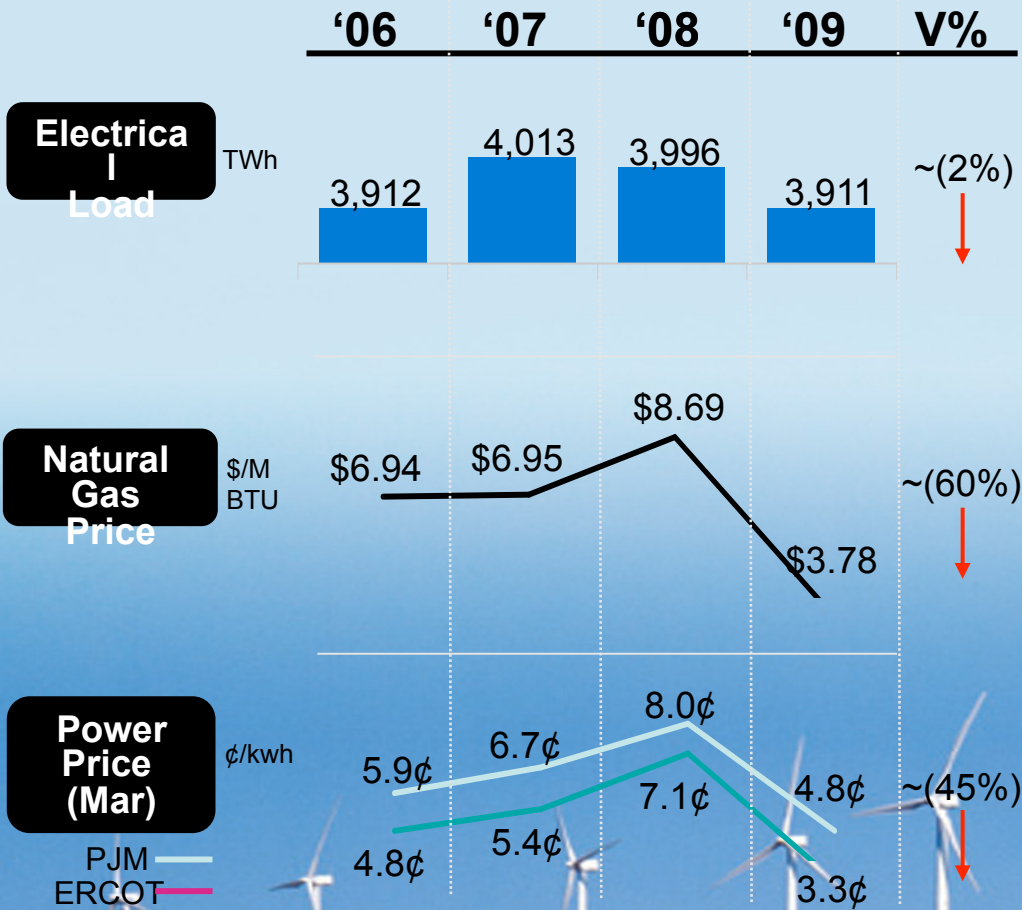
PTC, CREBs, Depreciation, Manufacturing Tax Credits

- Extended three years in ARRA to 12/31/12
- Convertible to 30% Investment Tax Credit
- ITC Convertible to Treasury Grant
- Conversion rules under development
- Bonus depreciation extended (2009-50%)
- CREBs authorized \$1.6 billion
- 30% credit for manufacturing investments
- DOE Loan guarantees (\$6 billion)

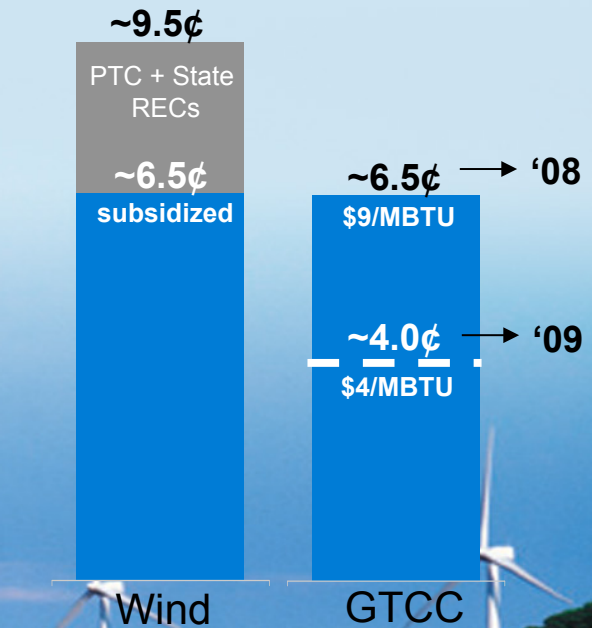
Renewable Energy Standard

- Obama: 25% by 2025
- House Energy and Commerce Committee (Markey-Waxman) 20% by 2020
 - 5% energy efficiency
 - 3% Governor efficiency option
 - 12% by 2020 result
 - Cash for clunkers
- Bingaman Senate Bill

National RES required to drive sustained wind growth in fluctuating energy environment



Cost of Electricity Dynamics (Cents/kWhr)



President's objective of doubling US renewables next 3 years in jeopardy without National RES

Renewable Energy Transmission Highways

- \$3.25 billion to BPA and WAPA
- \$4.5 billion to DOE Electricity Program
 - \$80 million for E&W grid plans
 - \$10 million for smart grid
- FERC Chairman Wellinghoff: we will have a high voltage, national transmission grid overlay

Transmission Legislation

- Center for American Progress
- Energy Futures Coalition
- Reid/Bingaman bills
- Interconnection-wide transmission plans
 - WGA “WREZ” model: www.westgov.org
- FERC back stop authority
- Smart Grid
- Cyber Security

Climate Change

- AWEA: 15 to 20% carbon dioxide reduction by 2020
- Cap and Trade System
- Markey/Waxman: 17% by 2020
 - 83% by 2050
 - Allocations to electric, other industries

Federal Agency Siting

- ARRA \$315 million for BLM
 - \$40 million for renewable siting
 - \$6.5 million for renewable coordination offices
- Secretary Salazar: orders priority for renewable energy, offshore developments

Small Wind Tax Credit

- Small Wind Systems Tax Credit
 - 100 kw or less, 30% of system value tax credit
 - Equipment installed from October 3, 2008 to December 31, 2016
 - Passed in Emergency Economic Stabilization Act of 2008
 - Credit value uncapped in ARRA, so 30% limit is gone

Research and Development

- ARRA provides \$1.25 billion to DOE Energy Efficiency and Renewable Energy Program
- \$500 million for workforce training
- \$3.1 billion for State Energy Program to state energy offices (60x increase)
- AWEA: Increase the DOE wind budget

Business Opportunities

Serious attention to efficiency gains

Add wind to gas generation portfolio

Coordinate utility plans, acquisitions,
transmission for scale cost economies

Build on unique situations, competencies

Think globally, start to do business locally

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Wind Power References

Economics: <http://eetd.lbl.gov/ea/ems/re-pubs.html>

www.westernresourceadvocates.org

“Balanced Energy Plan”, Appendix A

www.awea.org/pubs/factsheets/Cost2001.PDF

Interwest Energy Alliance – consumer benefit study

www.interwest.org/backcast.htm

project locator:

<http://www.interwest.org/projects/default.aspx>

wind industry overview, economics, 20% report

www.windpoweringamerica.gov

Resource: www.energyatlas.org

Renewable Energy Atlas of the West

www.windpoweringamerica.gov

State wind power maps

Transmission: Primer: <http://www.ncouncil.org/primer.pdf>

Wind issues: www.nationalwind.org

Integration costs, capacity value:

www.uwig.org

Transmission Planning

MISO: <http://windonthewires.com/presentation.cfm>

Transmission Planning Update

Midwest Wind Power Development

Net Environmental Impact of Transmission

Buffalo Ridge Transmission Case Conditions

Wind Hydro Integration in the Missouri Basin

RMATS

www.westgov.org

WGA transmission report, WREZ project

www.ssg-wi.org

SSG-WI report

<http://psc.state.wy.us/htdocs/subregional/home.htm>

charter, participants, working groups, steering committee meetings, stakeholder meetings, Phase I report

Wind Transmission Issues

Timing mismatch: Wind 12-18 months, Transmission 5-10 years

Short term: Network service

Dynamic scheduling

Virtual wheeling, interchanges

OATT Tariff issues: Imbalance Penalties, Scheduling and forecasting, Firm and non firm service, rate pancaking

Physical congestion data: www.ssg-wi under “workgroups” and “reports” “Western Intconnection Path Flow Study” Feb 2003.

Long term: Wind development plan

Wind resource development locations

Wind markets: local, export

Transmission study model, data, participants, process

Reliability + economics + diversity policies

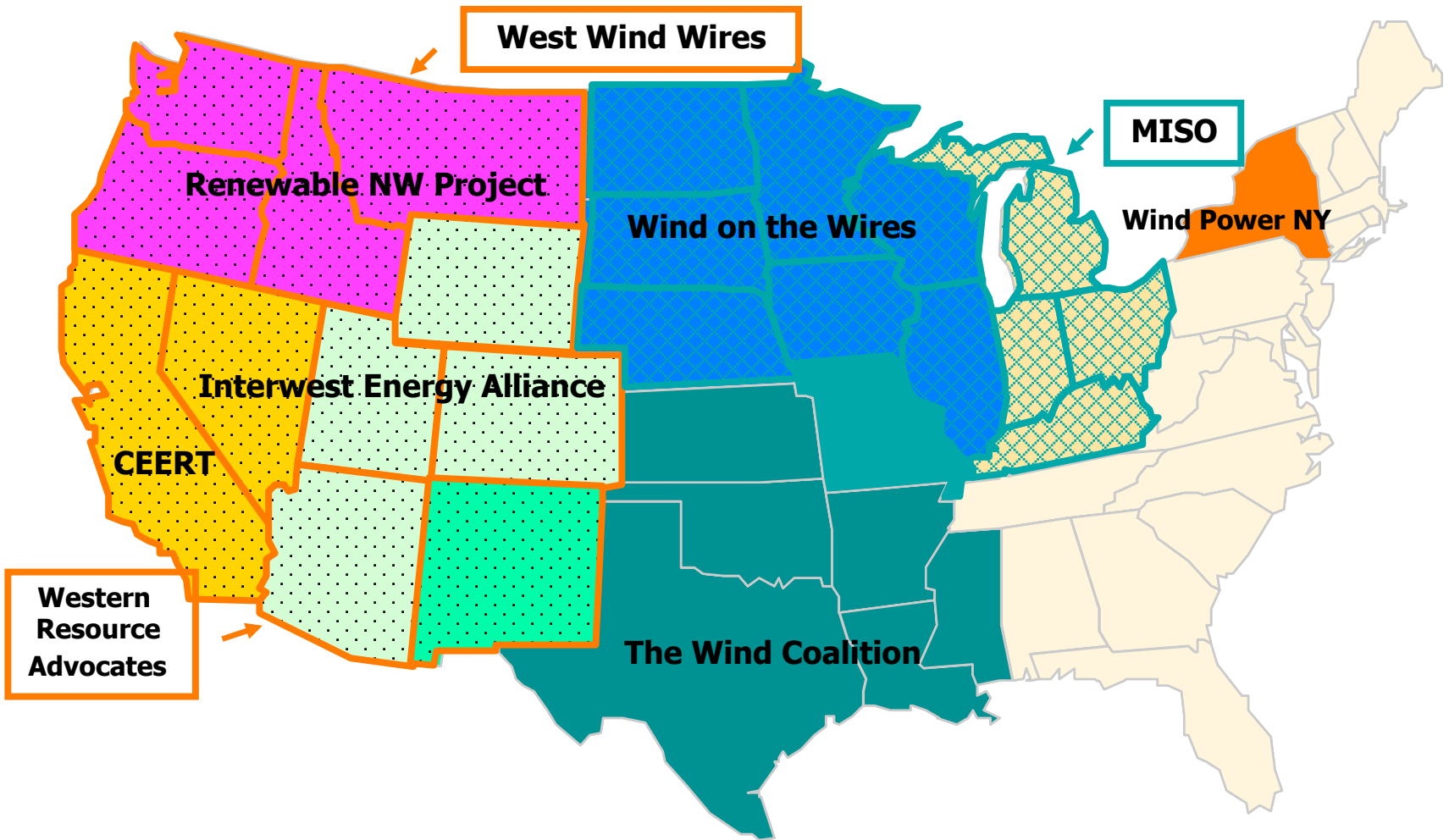
Existing transmission and upgrades

New transmission investments and cost recovery

Business case, risk reduction

Public policy case, generation diversity

NIMBY lawyer test



West Wind Wires

Renewable NW Project

Wind on the Wires

MISO

Wind Power NY

Interwest Energy Alliance

Western Resource Advocates

CEERT

The Wind Coalition

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