2007 Update

Clean Energy, a Strong Economy and a Healthy Environment

Western Governors' Association Clean and Diversified Energy Initiative 2005 -2007 Progress Report

Western Governors' Association - June, 2007

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After electricity price spikes and shortages in 2000-2001, Western Governors began working together to ensure that the region had a more reliable, affordable, diverse and environmentally clean energy portfolio. At the 2004 North American Energy Summit, our efforts converged on three common goals that will allow us to increase reliability, accommodate growth, encourage economic development, strengthen energy security, and respond to environmental challenges. These goals were to:

- *Develop an additional 30,000 megawatts of clean energy by 2015 from both traditional and renewable sources;*
- *Achieve a 20 percent increase in energy efficiency by 2020; and*
- *Ensure a reliable and secure transmission grid for the next 25 years.*

We convened a team of experts to advise us whether these goals were realistic and, if so, what actions were needed to get us there. Our Clean and Diversified Energy Advisory Committee concluded that the West had the potential to meet, and possibly exceed our goals.

We have worked individually and collectively to move the region toward our ambitious energy goals. This annual report details the progress the region has made towards achieving our regional energy goals. On behalf of all Western Governors, we would like to thank the William and Flora Hewlett Foundation for generously funding this report.

Governor Bill Richardson

Governor Arnold Schwarzenegger

Governor Dave Freudenthal

Governor John Hoeven

Governor Jon M. Huntsman, Jr.

Table of Contents

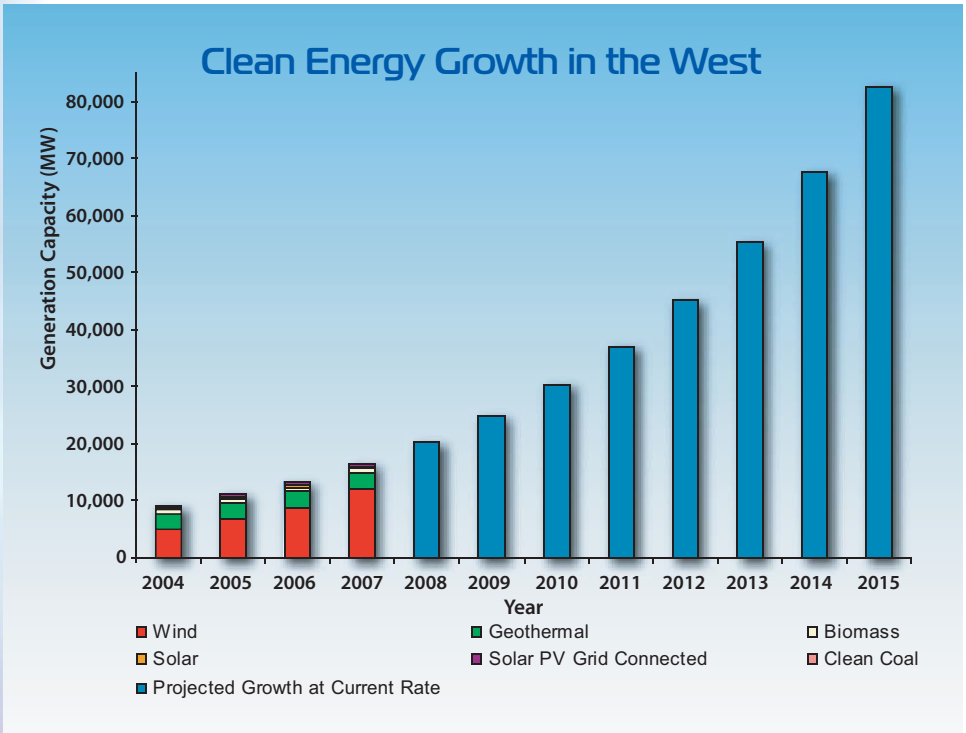
NOTE: This is the Governors' first progress report since they adopted their clean and diverse energy goals in 2004. It includes actions taken to meet those goals from 2005 through May 2007. Every attempt has been made to include all of the efforts underway in the region, and any omissions are unintended.

Increased Clean and Diverse Energy Generation

In 2004, Western States had 9,134 megawatts of nameplate, clean and diverse energy generating capacity. Since the Governors adopted their goal of adding 30,000 megawatts, the West's clean energy generating capacity has been steadily increasing. New clean generating capacity added in 2005 totaled 1,986 megawatts with an additional 2,092 megawatts coming online in 2006 – an increase of approximately 20 percent annually in clean generating capacity. Of the total new electric generating capacity added in the region in 2005, nearly 25 percent was from clean energy sources.

Industry estimates for 2007 show continued robust growth in clean energy capacity in the region. If projections are accurate, industry in the West will add over 7,500 megawatts of the Governors' goal of 30,000 megawatts of clean and diverse energy between 2005 and 2007. With appropriate state, regional and federal policy support and future growth that stays consistent with the clean energy activity seen since 2004, the West will have over 80,000 megawatts of clean and diverse energy generating capacity by 2015.

As a percentage of total generating capacity, clean energy sources increased from 3.1 percent in 2004 to 3.6 percent in 2005. If generating capacity from all sources in the West continues its growth rate of approximately two percent and clean sources continue their 20 percent growth rate, clean energy will represent an impressive 19 percent of total generating capacity in the West by 2015.



Wind

The West has some of the best wind resources in the world, accounting for a majority of the nation's wind generating capacity. Seven of the top 10 wind producing states are in the West. Construction of new wind facilities continues to soar, accounting for over 93 percent of new clean energy-capacity in both 2005 and 2006. This trend is likely to continue with an additional 3,160 megawatts of wind power projected for 2007. Several states have encouraged the development of wind energy through targeted efforts.

In 2006 Texas Governor Rick Perry announced a major public-private initiative designed to increase wind-generated energy in the Lone Star State by approximately 7,000 megawatts. Eight companies have committed to invest more than $10 billion in new wind projects with the understanding the state's Public Utility Commission will authorize construction of the necessary transmission lines. In that same year, Washington Governor Christine Gregoire signed legislation changing the tax treatment for wind facilities to make the projects more favorable for developers as well as local governments. Southern California Edison signed the largest contract ever for renewable energy in December 2006 and committed to purchase over 1,500 megawatts of wind power for its customers. This year, Idaho passed legislation clearing the way for wind farms on state endowment lands and directing that royalties received from wind power generation go to benefit Idaho schools.

Geothermal

Geothermal additions were relatively modest in 2005 and 2006, but they are projected to increase dramatically over the next several years as current proposals are evaluated and move into construction. The Geothermal Energy Association indicates that 133 megawatts of capacity are under construction and projected to come online in 2007 and that 1,925 megawatts of new geothermal capacity have been proposed or are currently under discussion.

Nevada is leading the charge on many of these proposals and is expected to quadruple its current capacity to have a total of over 1,000 megawatts of geothermal energy online in the next several years.

Clean Energy Generating Capacity in the West

Type	2004 (MW)	2005 Additions (MW)	2006 Additions (MW)	Projected in 2007 (MW)	Total Additions (MW)	Total Installed (MW)
Wind*	4,989	1,859	1,954	3,160	6,973	11,962
Geothermal**	2,765	30	1	133	164	2,929
Biomass***	686	-	17	75	92	778
Central Station Solar****	384	-	1	64	65	449
Solar PV Grid Connected****	310	97	119	N/A	216	526
Advanced Coal	-	-	-		-	-
Total	9,134	1,986	2,092	3,432	7,510	16,644

* Data Obtained from the American Wind Energy Association
** Data Obtained from the Geothermal Energy Association
*** Data Obtained from the USA Biomass Power Producers Alliance
**** Data Obtained from the Solar Energy Industries Association

Biomass

As with geothermal, biomass generating capacity is expected to grow rapidly this year. With relatively small growth in 2005 and 2006, biomass generating capacity is expected to jump with the addition of relatively large facilities in Washington (30 MW) and Arizona (24 MW). Because of its scalability and the diversity of feedstocks, data for biomass generating capacity is harder to come by, and the figures in the table above may well be lower than what actually exists in the West.

To encourage small-scale biomass expansion, Southern California Edison issued a new power contracting option in May 2007 -- Biomass Standard Contract-- designed to help smaller biomass generators contribute to the grid. Prior to SCE's new initiative, California biomass projects with generating capacities between 100 kilowatts and 1 megawatt had limited opportunities to sell their energy. SCE's new Biomass Standard Contract opens the door for these projects and provides a faster, simpler way for biomass projects under 20 megawatts to sell their power to utility customers. The utility plans to accept up to 250 megawatts of new biomass capacity through the new program. Final agreements are subject to review and approval by the California Public Utilities Commission.

Solar

Investment in new solar technologies continues to grow and has been highlighted by several major announcements over the past two years. Notably, Xcel Energy announced in 2006 its plans to build the country's largest central-station photovoltaic solar facility (8 MW) in southeastern Colorado, which is expected to be online by the end of 2007. Nevada Solar One is also set to have 64 megawatts of concentrating solar power online by the end of 2007, making it the largest such plant built in the last 15 years. The Solar Energy Industries Association reported at the end of 2006 that utilities planned to build more than 2,000 megawatts of new concentrating solar over the next decade in the West. They also estimated that photovoltaic installations nationwide grew by more than 20 percent in the U.S. in 2006 alone. Photovoltaic generating capacity tied to the grid is estimated at 526 megawatts.

One of the drivers encouraging solar power is the program California Governor Arnold Schwarzenegger signed

Concentrating photovoltaic cells, such as this array in Arizona, help the West take advantage of its vast solar resources. Photo Courtesy NREL/Pix - Robert McConnell

into law in 2006, which created a $3.35 billion solar program to install 3,000 megawatts of solar photovoltaic systems. In addition, the law raised the net metering cap to help meet the state's 3,000 megawatts goal. In total, 15 Western states now permit net metering, which allows individuals to sell energy back on to the grid through distributed generation. In 2005 Governor Gregoire signed the country's most aggressive small-scale solar incentive, providing customers with increasing per-kilowatt incentives based on generation and the source of the system installed.

Advanced Fossil Fuels

While no clean-coal plants are slated to be operational in the West by the end of 2007, there has been a rush of announcements proposing advanced coal facilities in the West because of provisions Congress included in the 2005 Energy Policy Act (EPACT) and in 2006 legislation. A report recently released by the National Energy Technology Laboratory details proposals for 16,674 megawatts of new coal generation using the advanced generation technologies specified in WGA's 2006 report of the Clean and Diversified Energy Advisory Committee. The following table provides a summary of these facilities, which are in various stages of study or planning.

Proposed New Coal Generation Using Advanced Technologies

Technology	Facilities	Megawatts
Circulating Fluidized Bed	7	2,270
Super Critical	7	8,220
Ultra Super-Critical	1	950
Integrated Gasification Combined Cycle	7	4,330
Gasification	3	904
Total	25	16,674

A variety of state actions have sought to encourage the development of advanced coal technologies. In 2006, Colorado directed its public utility commission to consider proposals for a demonstration gasified-coal plant, which would include an experiment of sequestering carbon dioxide (CO_2). In 2007, the Wyoming Infrastructure Authority selected PacifiCorp Energy as its partner to develop an Integrated Gasification Combined Cycle plant in the state. Montana recently passed House Bill 3, which provides tax breaks for new, clean coal-fired plants.

State Legislative and Regulatory Action to Encourage Clean Energy

Clean and diverse energy has been an increasingly important issue in many state legislatures in the past few years. The policies detailed below set renewable energy goals, provide incentives and streamline permitting procedures. They are expected to move the region closer to the Governors' target of 30,000 megawatts.

Renewable Energy Goals

Nine Western states now have renewable energy standards (RES) or renewable energy portfolio standards (RPS). In 2007, North Dakota created a statewide renewable and recycled energy objective. In addition, Gov. Kulongoski led an effort to set a 25 percent renewable standard for the state, which the state legislature recently approved. Washington voters enacted an RPS by ballot measure in 2006, while five other states in the region have strengthened or amended existing RPS requirements. Below is a list of actions taken by Western states by year.

2005

Texas enacted legislation requiring approximately five percent of the state's energy come from renewable sources by 2015 and setting a goal of 10 percent by 2025. The bill further helps diversify the state's sources of energy by requiring that 500 megawatts be produced by renewable sources other than wind, such as biomass and solar power.

2006

Arizona's corporation commission voted to expand the state's renewable portfolio standard to 15 percent by 2025, with 30 percent of that to come from distributed generation technologies — potentially resulting in up to 2,000 megawatts of solar.

Hawaii strengthened its RPS law by adding penalties if the utilities do not achieve the targets. Hawaii's law requires 10 percent renewable electricity and/or electricity savings by 2010, 15 percent by 2015, and 20 percent by December 31, 2020.

Washington voters passed the Clean Energy Initiative (I-937), which created a renewable electricity standard. The new RES requires the state's largest utilities to reach 15 percent renewable energy use by 2015. It also requires electric utilities to pursue low-cost energy conservation opportunities with their customers and in their communities.

2007

California passed legislation to speed up implementation of the 20 percent renewable electricity standard for California's

largest utilities and also require all utilities to take carbon emissions into account when developing their long term plans.

Colorado amended its previous RPS to require that investor owned utilities (IOUs) and cooperatives to produce 20 percent and 10 percent, respectively, of electricity sales from renewable sources.

Kansas Governor Kathleen Sebelius announced a goal in her State-of-the-State address, of 10 percent wind energy by 2010 and 20 percent by 2020.

New Mexico Governor Bill Richardson signed legislation (Senate Bill 418) doubling New Mexico's RPS for investor-owned utilities and creating a separate standard for rural electric cooperatives in March 2007. The new law directs investor-owned utilities to generate 20 percent of total retail sales to New Mexico customers from renewable energy resources by 2020, with interim standards of 10 percent by 2011 and 15 percent by 2015.

North Dakota enacted legislation that establishes a state renewable and recycled energy objective that 10 percent of all electricity sold at retail within the state by the year 2015 be obtained from renewable energy and recycled energy sources.

Oregon legislators passed the Oregon Renewable Energy Act (Senate Bill 838), which set a statewide renewable portfolio standard of 25 percent by 2025. The bill is to be reviewed by the Senate for concurrence before being presented to Gov. Kulongoski.

Market Incentives

Eighteen Western states provide some type of tax incentive for clean energy. Between 2005 and 2007, nine states enacted additional tax incentives or amended existing incentives.

2006

Arizona established a tax credit for solar and wind installations in commercial and industrial applications in June 2006. The tax credit is equal to 10 percent of the installed cost of qualified "solar energy devices."

Hawaii increased the tax credit ceiling for certain solar and wind installations.

2007

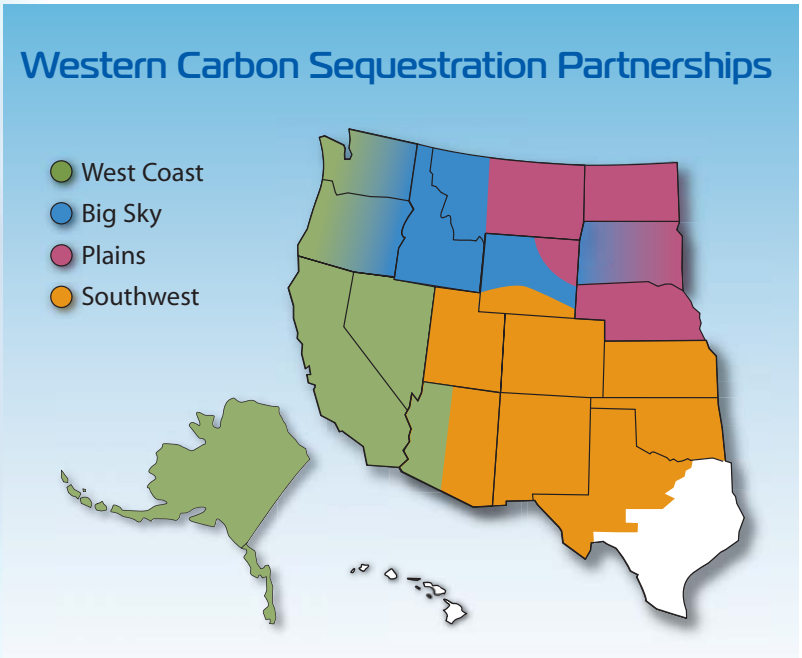
Colorado approved legislation that allows cities, towns and counties to offer tax credits or rebates to property owners who install renewable energy-producing fixtures on their property, such as solar panels and wind turbines. House Bill 1087 established a "Wind for Schools" grant program. And, in separate action, municipal electric utilities serving more than 40,000 customers in Colorado must now offer an optional green-power program that allows retail customers the choice of supporting emerging renewable technologies.

Idaho enacted House Bill 189 restructuring the method of personal property taxation to ease the burden on Idaho wind farms in the early years of operation.

Kansas HB 2038 provides various tax incentives for renewable electric cogeneration facilities and certain waste heat utilization systems. The Kansas Development Finance Authority is also authorized to issue tax-exempt revenue bonds to finance construction of cogeneration facilities and waste heat utilization systems at electric generation facilities in the state. Additionally, this legislation creates an income tax credit for tax years 2007 through 2011 for investments in the construction of cogeneration facilities and in real and tangible personal property used in the facility, as well as providing for an income tax deduction based on accelerated depreciation of a cogeneration facility.

Montana legislation created up to 75 percent property tax incentive on transmission lines that move clean and green power such as wind, new hydro, clean biomass or integrated gas combined cycle (IGCC) power with carbon sequestration; a 75 percent property tax incentive for sequestration pipelines and equipment; a 50 percent incentive for the first 10 years for renewable energy manufacturing (wind power, solar power, electrical or hybrid vehicles and fuel cell plants); and a 50 percent incentive for clean and green research and development. House Bill 3 included a tax break, which provided for a rate of 1.5 percent, for clean-technology power plants.

New Mexico SB 463 approved several tax incentives, including a sustainable building tax credit, an advanced



energy product tax credit, and a solar energy system gross receipts tax incentive. In addition the bill amended the existing renewable energy production tax credit.

North Dakota HB 1233 created $3 million of tradable income tax credits for installation of geothermal, solar and wind energy devices. HB1317 extended a property tax deduction for wind generation units from 3 to 1.5 percent.

Utah SB 223 reauthorizes the investment credit for residential and small commercial projects and created a new production credit of 0.35 cents for each kilowatt-hour produced for large commercial projects. The credit was expanded to include geothermal sources.

Carbon Capture and Sequestration

Carbon capture and sequestration (CCS) is viewed as having technology hurdles that must be resolved to construct advanced coal facilities. Several states are trying to lower those hurdles.

2006

California passed AB1925 which requires the Energy Commission to prepare a report to the Legislature by November 1, 2007 on "recommendations for how the state can develop parameters to accelerate the adoption of cost-effective geologic sequestration strategies for the long-term management of industrial carbon dioxide".

California passed SB 1368, which sets greenhouse gas emission standards for long-term investments in electricity generation to be at least as low as greenhouse gas emissions from new, combined-cycle natural gas power plants.

2007

Kansas HB 2419, the "Carbon Dioxide Reduction Act," requires the Kansas Corporation Commission to establish CO2 injection rules and regulations by July 1, 2008. It also exempts CCS property and any electric generation unit utilizing CCS from all property taxes for five years following completion of construction or installation of the property and allows for accelerated depreciation of CCS equipment.

New Mexico created the first tax credit in the nation to cover carbon capture technology and include specific capture goals at coal-fired power plants.

North Dakota created a fund to accelerate development of environmentally friendly production of electricity, natural gas and alternative fuels including coal-to-liquid, coal gasification and carbon sequestration technologies.

Montana adopted a carbon dioxide emissions performance standard for electric generating units constructed after January 1, 2007. The state PUC is directed not to approve an application to generate electricity that is primarily fueled by coal unless it captures and sequesters a minimum of 50 percent of the carbon dioxide produced by the facility. Carbon dioxide captured by a facility or equipment may be sequestered offsite from the facility or equipment. HB3 also decreased taxes by 75 percent for pipelines that carry carbon emissions captured at clean energy facilities.

Washington passed SB 6001, which sets goals for a reduction in air emissions and sets an emissions performance standard for new power plants.

Permitting

2006

Washington passed HB 2402 which streamlines permitting for renewable resources in Washington.

2007

Nevada Governor Jim Gibbons signed an executive order which focuses on streamlining the permitting process for renewable energy projects in Nevada. Furthermore, the executive order tasked the State Office of Energy to serve as a central informational resource for all renewable energy-related permitting issues.

Integrated Resource and Procurement Planning Rules

2006

Idaho passed House Concurrent Resolution No. 62, which directed the Legislative Council Interim Committee on Energy, Environment and Technology to develop an integrated state energy plan that addresses the state's power generation needs.

Washington passed HB 1010 that requires all large utilities to conduct some form of integrated resource planning starting in 2007.

Utility and Customer Action to Encourage Clean Energy

Utilities and their customers in the West did their share to encourage clean energy generation in the region as well. According to the Energy Information Administration, over 4,000 more residential customers began feeding clean energy back into the grid in 2005 through what is called net metering. The number of industry customers using net metering grew by 63 percent during the same time period. Only four states (Alaska, Kansas, Nebraska and South Dakota) in the region do not offer customers net metering.

Net Metering Customers in the West

	2004	2005	Change
Residential	12, 942	17,457	+ 35%
Commercial	1,282	1,266	- 1%
Industrial	161	263	+ 63%
Total	14,385	18,986	+ 32%

Source: U.S. Energy Information Administration

In 2007, the New Mexico Public Regulation Commission unanimously approved a large expansion to the state's net metering policy to allow electric utility customers to net-meter electricity generated from renewable energy systems with a peak capacity of up to 80 megawatts. Previously, net metering in the state was limited to systems smaller than 10 kilowatts.

The number of utility customers buying green power also saw significant growth in 2005. Nearly one third of a million residential customers in the West participate in these programs, and the number of commercial and industrial customers is growing at an astounding rate. Utilities in all Western states, with the exception of Kansas and Nevada, offer green power options to customers.

Green Pricing Customers in the West

	2004	2005	Change
Residential	298,856	317,330	+ 6 %
Commercial	12,664	20,632	+ 63%
Industrial	263	638	+ 143%
Total	311,844	338,600	+ 9%

Source: U.S. Energy Information Administration

Regional Actions to Encourage Clean Energy

More than 400 stakeholders, from 11 Western states and two Canadian provinces, participated in the development process to create the Western Renewable Energy Generation Information System. WREGIS is a database designed to track all renewable energy generation in the geographic area covered by the Western Interconnection. The database is expected to become operational and WREGIS will issue its first renewable energy certificate in June 2007.

The Western Governors' Association is also assisting four Western carbon sequestration partnerships – Big Sky, Plains, Southwest and West Coast – with their outreach activities as they test various technologies to capture and permanently store greenhouse gases. The U.S. Department of Energy is currently providing support for the second test phase, which seeks to validate technologies, evaluate the most promising repositories for CO_2, and identify best-management practices through small-scale sequestration efforts. In late 2006, DOE announced over $450 million in funding for large scale demonstration projects; funds are expected to be awarded to the partnerships in the fall of 2007.

WGA is also working with Columbia University's Earth Institute, the NextGen Council and the World Resources Institute in examining the regulatory, liability and policy issues that may help to advance deployment of carbon sequestration technologies.

In 2005 the Interstate Oil and Gas Compact Commission released the report "Carbon Capture and Storage: A Regulatory Framework for States". The IOGCC Task Force on Carbon Capture & Geologic Storage, which includes state oil and gas regulators, attorneys, and representatives from industry and the regional carbon sequestration partnerships, is now drafting model, state regulations for carbon capture and storage. The model legislation is expected to be finalized in Fall of 2007.

Federal Actions to Encourage Clean Energy

Energy Policy Act of 2005

Clean and diverse energy has become an important federal issue. In August of 2005, Congress passed and the President signed into law the Energy Policy Act of 2005 (EPACT). EPACT provided $2.7 billion for a two-year extension of the renewable energy production tax credit (PTC), $1.6 billion for clean coal technologies, and $1.3 billion for energy efficiency and conservation. Western Governors advocated for the inclusion of many policies that are consistent with the recommendations of the CDEAC and the Western Governors' Association 2006 resolution. The following table provides a summary of the requests made by the Governors and the action taken by Congress

WGA Request	Resolution
Long-term extension of PTC	Extended for two years (until 12/31/07) (sec. 1301)
Open-loop biomass credit raised	No (sec. 1301)
30% ITC for solar technologies	Yes, but only for two years (sec. 1337) Residential capped at $2,000
Reauthorization of REPI program	Yes (sec. 202)
Clean Energy Bonds for Renewables	Yes (sec. 1303)
Geothermal leasing and permitting	Yes (Sec. 221 – 237)
20% ITC for clean coal facilities	Yes (sec. 1307)
Clean Energy Bonds for Coal	No
Clean Coal Initiative Authorization w/Western project	Yes (sec. 401 – 417) (sec. 413)
Innovative Technologies Incentives	Yes (sec. 1701 – 1704)
Energy Efficient Commercial Building Deduction	Yes, for 2 years (sec. 1331)
Energy Efficient New Homes Credit	Yes, for 2 years @ $1.80 per sq foot (sec. 1332)
Business Credit for Efficient Heating, Cooling, etc Equipment	Yes, for 2 years (sec. 1336)
Personal Credit for Efficiency Improvements to Existing Homes	Yes, for 2 years capped at $500 overall; $300 for windows (sec. 1335)
10% ITC for CHP Systems	No
Tax Exempt Status for Revenue Bonds	No
Accelerated Depreciation for Transmission Assets	Yes, 15 yr depreciation (sec. 1308)
Mandatory Reliability Provision	Yes (sec. 1211)
Oppose Mandatory Participant Funding	Yes (sec. 1242)

While this legislation is nearly two years old, many of EPACT's provisions will have a lasting effect well into the future. Western States continue to monitor the EPACT's provisions to ensure they are implemented and deficiencies are addressed.

The Tax Relief and Health Care Act of 2006, which passed in December, addresses some of these concerns and extends some of the provisions to 2008 that were set to expire at the end of 2007. Among these are the extension of the renewable energy production tax credit, the clean renewable energy bond program, and credits for energy efficient buildings. The Act also amended the performance requirement for sulfur dioxide so that an advanced coal facility would need to reduce sulfur dioxide levels by 99 percent to qualify for the 20 percent investment tax credit outlined in EPACT.

Congress is currently considering various legislative proposals that would extend many of the tax incentives that were provided in those earlier Acts, as well as new policies that will further the Governors' clean and diversified energy goals. Congress is expected to act on those proposals during the Summer of 2007. Western Governors will continue to work with Members of Congress and the Administration in furtherance of these policies.

Increased Energy Efficiency

There is no commonly accepted way to measure energy efficiency on a large scale. A proxy measure can be provided by examining per capita consumption over time, but this measure is obviously not a precise measure because the amount of energy used each year depends on non population-based factors, such as the industrial mix (service sector companies require less energy generally than manufacturing sector companies) and weather patterns (hotter weather increases demand for air conditioning). With this caveat in mind, the population in the West grew by 1.35 percent between 2004 and 2005. During that same time period, the number of megawatthours (MWh) of electricity used grew by 1.76 percent. The bottom line is electricity consumption outpaced population growth.

Another proxy measure of energy efficiency is sometimes used to compare consumption to economic output, which should, in theory, provide an estimate of how effectively energy is used to promote economic activity. The combined gross state product of the West grew at a rate of 6.8 percent from 2004 to 2005. Even accounting for inflation, the economy in the West grew by 4.7 percent. If energy use in the region grew by 1.76 percent during the same time period, the conclusions drawn about progress towards energy efficiency in this instance would contradict those in the preceding paragraph.

Imprecise measures of efficiency notwithstanding, Governors and legislators took action from 2005 through early 2007 that should lead to improved energy efficiency. Six states enacted specific goals for energy efficiency in state buildings and Utah Governor Jon Huntsman, Jr. set a statewide goal to increase energy efficiency 20 percent by 2015. In addition, eight states adopted energy conservation standards for public buildings.

State Efficiency Goals

2005

Arizona Governor Janet Napolitano issued Executive Order 2005-05, titled Implementing Renewable Energy and Energy Efficiency in New State Buildings. New buildings funded by the state will derive 10 percent of their energy from renewable sources; newly constructed state facilities will achieve energy efficiency standards established through state statute.

New Mexico enacted the Energy Efficiency and Renewable Energy Bonding Act which funds energy efficiency and renewable energy renovations at existing state, tribal and public school facilities by "capturing" energy utility bill savings to pay the debt service on bonds. New Mexico is the first state in the nation to approve of this funding mechanism.

2006

Utah Governor Huntsman issued an executive order on energy efficiency. The Governor's Energy Efficiency Policy set goals to increase energy efficiency 20 percent statewide by 2015.

2007

Hawaii Governor Linda Lingle directed state executive agencies to document completed and planned activities in energy efficiency and renewable energy.

Colorado Governor Bill Ritter, in his State of the State address, announced he would issue an executive order adopting the 20 percent energy efficiency goal set by the Western Governors' Association. Governor Ritter also signed an executive order establishing several goals for the reduction of energy consumption in state facilities and vehicles and for the use of efficient materials and resources by 2012, including reduce energy consumption at all state facilities by 20 percent. Senate Bill 51 established criteria for "high-performance" state buildings and is a companion measure to the "Greening of State Government" executive orders.

Kansas Governor Sebelius, in her State of the State address, called for a five percent reduction in energy consumption by 2010 and a 10 percent reduction by 2020. The Governor also issued Executive Directive No. 07-373 targeting energy conservation and efficiency throughout state government. Also HB 2036 requires homebuilders or realtors to disclose information about the energy efficiency of new

homes to potential homebuyers. The bill also adopts the 2006 International Energy Conservation Code as the energy efficiency standard for new commercial and industrial structures. Finally, separate legislation (HB 2278) authorized electric and natural gas utilities to enter into agreements with customers for the financing of the purchase and installation of energy conservation measures. Customers would pay for the financing and other costs of the improvements through their monthly utility bills, with that amount being approved by the Kansas Corporation Commission.

Energy Efficiency Incentives

A number of states, including **Arizona, California, Colorado, Idaho, New Mexico, Nevada, Oregon and Washington**, have removed or are examining removing the disincentives utilities have to conserve energy. Currently, most utilities' profits are "coupled" to their total sales of electricity.

Oregon and California led the way on decoupling several years ago and several other Western states are now experimenting with it (Utah), considering it (Idaho and Washington) or use of some type of shareholder or related "performance incentives" (Nevada).

Washington held a workshop in May 2005 as part of a rulemaking to investigate decoupling natural gas revenues from sales volumes to eliminate disincentives to gas conservation and energy efficiency. The Utilities and Transportation Commission is addressing decoupling through specific proposals.

The **California** PUC approved expenditures of $2 billion over the 2006–2008 time period to promote utility-sponsored energy efficiency efforts for the four major California investor-owned utilities. Cumulative savings through 2013 are targeted at almost 5,000 peak megawatts, 23 terawatthours, and 444 million therms per year. The CPUC is currently analyzing the risk/reward incentive structure that will apply over this time for the utilities. The Idaho PUC has established a pilot project to allow Idaho Power Company to recover fixed-cost losses associated with new construction energy efficiency programs.

In 2006 **New Mexico and Arizona** began looking at utility incentive regulation. New Mexico's energy efficiency legislation adopted earlier in 2006 permits cost recovery of both gas and electric utility Demand Side Management. In 2006 Nevada's electric utilities obtained stakeholder input on DSM programs and have moved away from the traditional rate impact approach to a cost-effectiveness test.

Several states have also established revolving loan funds similar to **Texas'** Loan Star program, which aids state entities in conducting energy efficiency design and retrofit projects. In 2007, the **Utah** legislature passed HB 351 to provide

1. low-interest loans for energy efficiency projects of up to $5 million at K-12 schools and
2. technical assistance in making improvements and retrofits.

Similarly, **New Mexico** passed HB 825, which created a $500,000 revolving loan fund to help finance energy efficiency assessments.

State Energy Efficiency Building Standards

2004

California Governor Schwarzenegger signed Executive Order #S-20-04 requiring the design, construction, and operation of all new and renovated state-owned facilities to comply with Leadership in Energy and Environmental Design Silver standards. The state is pursuing LEED for New Construction for its projects at the Silver certification level and LEED for Existing Buildings certification for existing facilities.

2005

Arizona Governor Napolitano signed Executive Order #2005-05 requiring all state-funded buildings to achieve LEED Silver certification. The Executive Order also requires newly constructed state-funded buildings to incorporate renewable energy. This makes the state the first governmental entity in Arizona to adopt a mandatory green building standard.

Colorado Governor Owens signed Executive Order # D005 05 adopting LEED for Existing Buildings and incorporating LEED for New Construction practices for all state buildings. The order also creates a Colorado Greening Government Coordinating Council to develop and implement conservation policies.

Nevada legislation was signed into law requiring all state funded buildings be LEED Certified or higher in accordance with LEED or an equivalent standard. During each biennium, at least two occupied public buildings, whose construction will be sponsored or financed by the State of Nevada, must be designated as a demonstration project and be equivalent to a LEED Silver or higher certification, or an equivalent standard. The bill also provides tax abatements for property that has an eligible LEED Silver building and tax exemptions for products or materials used in the construction of a LEED Silver building.

Washington Governor Gregoire signed into law ESSB 5509 requiring state-funded projects over 5,000 square feet, including school district buildings, to achieve LEED Silver certification. Washington was the first state in the country to adopt LEED legislation.

2006

New Mexico Governor Richardson signed Executive Order #06-001 requiring all public buildings over 15,000 square feet to be LEED Silver certified.

Nevada's Commission on Economic Development adopted the process and resolution to allow property tax abatement to any private building achieving LEED Silver certification or higher, excluding single-family homes and residential structures three stories or fewer.

Oregon's 35 percent Business Energy Tax Credit for sustainable buildings is tied to the LEED certification level achieved. A LEED Silver rating is the minimum standard to obtain the tax credit for sustainable buildings and applies to LEED for new construction, commercial interiors, and core and shell certified buildings.

Utah adopted the 2006 International Energy Conservation Code on a mandatory statewide basis effective January 1, 2007.

2007

Kansas Governor Sebelius issued Executive Directive No. 07-373, which requires implementation of energy savings performance contracting on all state-owned buildings by 2010 through the existing Facility Conservation Improvement Program, accelerated marketing of FCIP to school districts and local governments, and development of a program to require energy audits and energy conservation improvements in state-leased buildings.

Hawaii state government passed HB #2175 requiring each state agency to design and construct buildings to meet the LEED Silver certified level, or a comparable standard.

Kansas HB 2036 requires homebuilders or realtors to disclose information about the energy efficiency of new homes to potential homebuyers. The bill also adopts the 2006 International Energy Conservation Code as the energy efficiency standard for new commercial and industrial structures.

Conservation

2005

New Mexico enacted the Efficient Use of Energy Act which authorizes and directs electric and gas utilities to implement cost-effective energy efficiency programs in order to reduce utility expenditures and keep energy dollars in the state.

2006

Washington Initiative 937 passed, which requires electric utilities to invest in conservation and renewable sources of energy.

Kansas' Housing Resources Corporation launched a statewide initiative to promote energy conservation and reduce home heating costs among its income-qualified homeowners. The Kansas Energy Efficiency Program allows homeowners who have an income at or below 120 percent of the state median income to borrow money to make energy efficient improvements to their homes.

2007

Colorado passed a Clean Energy Development fund (SB 126) that will produce about $7 million annually for the Governor's Energy Office to apply to efficiency and renewable energy projects. In addition, the Governor signed House Bill 1037, which directs natural gas and electric utilities to offer rebates to customers who use energy-efficient products. The savings to consumers come from using less energy through the years.

Appliance and Equipment Energy Efficiency Standards

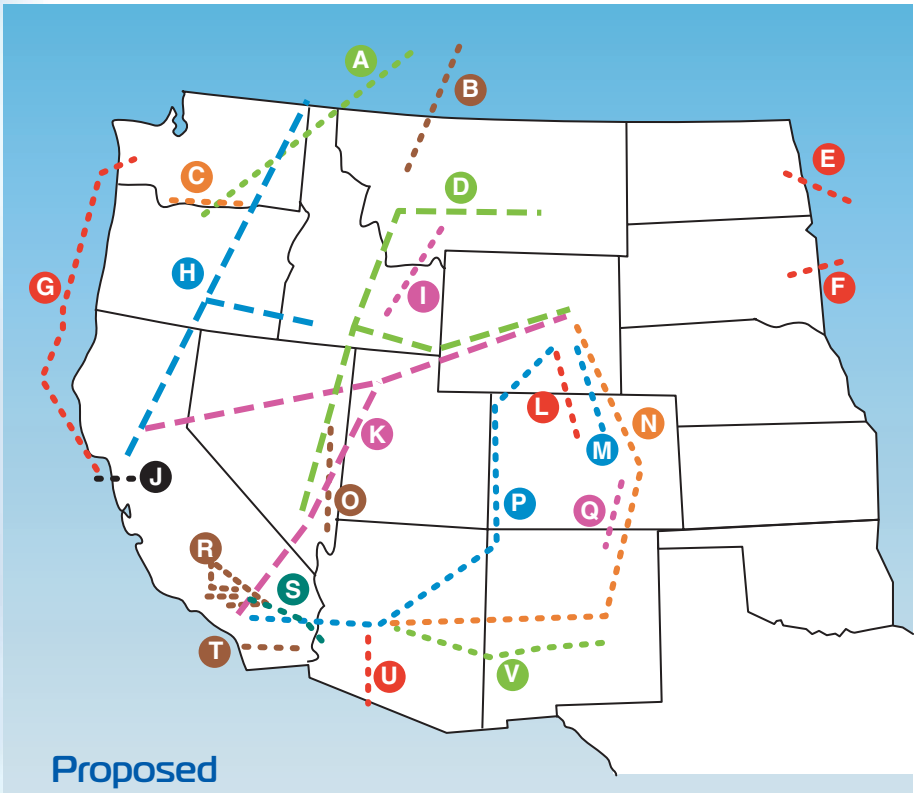
Four Western states – **Arizona, California, Oregon and Washington** – created appliance and equipment standards in 2005 and 2006. In 2005, President Bush signed into law the Energy Policy Act of 2005, creating federal efficiency standards for 16 products.

Of note nationally, in May 2007 major home appliance manufacturers, their trade organization, and a nationwide coalition of energy and water efficiency supporters announced an historic agreement to establish new mandatory federal energy and water efficiency standards; recommendations for new ENERGY STAR levels; and manufacturer tax credits for the production of super-efficient clothes washers, dishwashers, refrigerators, and dehumidifiers. The agreement, which seeks legislation for appliance efficiency standards and tax credits, represents significant energy and water savings for U.S. consumers.

Building Needed, New Transmission

Proposed Transmission Projects in the WGA States

Since 2004, many new transmission projects have been proposed in the West, including large mega projects that span multiple states and smaller projects. The map below shows major proposed and recently energized transmission projects in the WGA region. Several of these projects implement the findings of regional transmission planning processes initiated by Governors.



Proposed Transmission Projects

A) NorthernLights – Celilo Project
B) MT-AB Intertie
C) John Day-McNary
D) NorthernLights – Inland Project
E) CapX Fargo
F) CapX Brookings
G) Seabreeze
H) British Columbia to Northern California
I) Northwestern AMPS
J) TransBay
K) Frontier Line
L) Miracle Mile-Ault
M) TOT
N) High Plains Express
O) Robinson Summit – Harry Allen
P) TransWest Express
Q) Colorado-New Mexico Interconnection
R) Tehachapi
S) Green Path
T) Sunrise Powerlink
U) Tucson-Nogales
V) SunZia Southwest Project

As of May 2007, five mega projects started moving forward and are at various stages of planning.

- The Frontier Line project proposes transmission from Wyoming to load centers in California with connections in Utah and Southern Nevada. Four Governors signed an MOU initiating the study of the Frontier Line.
- The Northern Lights project features two distinct projects. The first line would bring power from Alberta to Celilo, Oregon. The second inland project would build transmission from the Wyoming/Montana area to Southern Nevada. Three Governors have signed an MOU to pursue this project.
- The TransWest Express project would bring power from Wyoming resources to the Phoenix/Tucson metro area.
- A proposed transmission project linking British Columbia to Northern California would bring renewable energy into Northern California.
- The High Plains Express project integrates multiple transmission projects on the eastern plains of Wyoming, Colorado and New Mexico to bring power into the Phoenix/Tucson load centers.

In addition, the Tehachapi line being proposed in Southern California takes a unique approach to building and funding modular transmission lines to location-constrained resources, which is consistent with the recommendations of the CDEAC.

Regional Initiatives to Expand Capacity

In July 2006, the National Wind Coordinating Collaborative and the Western Governors' Association hosted a Leadership Forum on Implementing Transmission Recommendations in the West. During the forum, attendees began outlining concrete steps needed to implement near-term wind and transmission goals from WGA's Clean and Diversified Energy Advisory Committee's report. A Western Transmission Leadership Group was formed in November 2006 to guide implementation efforts and reach out to leaders.

WGA and NWCC will again co-host a meeting on transmission in the Western U.S. in 2007, focused this year on integrating renewable energy including wind, solar and geothermal. The *Integrating Renewable Energy in the Western Grid Summit* is scheduled for September 27 – 28. The Western Transmission Leadership Group has been joined by representatives from the solar and geothermal communities to plan the summit.

The Bonneville Power Administration and the Northwest Power and Conservation Council convened CEOs from the region's utilities, as well as regulators, developers, advocates and a technical group, to research and write the Northwest Wind Integration Action Plan. The initial report found there is no technical barrier to the region integrating 6,000 megawatts of wind, and the report recommended many actions utilities can take to reduce the cost of integration and move forward on necessary transmission investments.

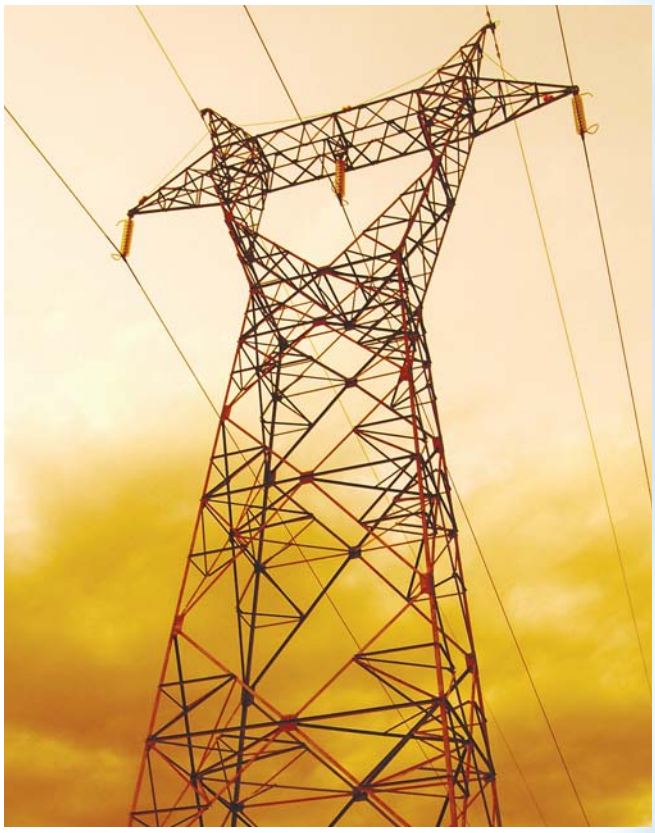
The National Renewable Energy Laboratory is launching a major wind integration study for the Southwest. The study will consider potential development of wind resources across Wyoming, Colorado and New Mexico that would be delivered to load centers in Arizona and Nevada. Sophisticated modeling of meso-scale wind data will enable researchers to evaluate the grid impacts from geographically diverse areas and the system impacts on operations. NREL will collaborate with General Electric, Wind Logics and other southwestern utilities in this study. NREL held a kickoff meeting on May 23, 2007 at its Wind Testing Center in Boulder.

State Initiatives to Expand Capacity

In 2001, Western Governors initiated a new era in proactive transmission expansion planning in the West with the release of the report, *Conceptual Plans for Electricity Transmission in the West*. Governors also launched new sub-regional planning efforts and spurred the Western Electricity Coordination Council to conduct interconnection-wide planning. Governors have been very active in supporting the new large transmission projects cited above. In addition, several states have taken action to help speed the transmission siting process.

2005

North Dakota created the North Dakota Transmission Authority to aid in the development of new transmission lines. In 2007 Basin Electric will begin the process of siting a new electric transmission line with the help of the North Dakota Transmission Authority. Basin Electric will construct a 67-mile, 230-kV transmission line that will connect an existing substation near Belfield to a proposed new substation near Rhame.



Texas created Competitive Renewable Energy Zones which are areas suitable for renewable resource development that would be accessed by planning and cost recovery for new transmission.

2007

Washington passed legislation giving permitting authority to the state for transmission projects crossing multiple local jurisdictions.

New Mexico created a Renewable Energy Transmission Authority (RETA) that will support and facilitate development of new transmission designed to carry 30 percent renewable energy.

Colorado created a new transmission policy (SB 100) that requires utilities to identify areas with energy resources that need transmission; plan for transmission to the resource development areas (instead of planning transmission to generators as has been done in the past); and, on October 31 of each odd-numbered year, file for PUC approval of the resource areas and transmission investment plans. The PUC has six months to decide whether to grant, amend or deny utility applications. The new law provides utility incentives in the form of current cost recovery for transmission to be built to such zones.

California Public Utilities Commission approved Southern California Edison's application to build the first segments of the Tehachapi renewable transmission project. When all phases are developed, the Tehachapi project will include a series of new and upgraded high-voltage

transmission lines capable of delivering 4,500 megawatts of electricity from wind farms and other generating companies that are proposed for northern Los Angeles and eastern Kern counties.

Montana included a provision in House Bill 3, which provides permanent tax breaks for new transmission lines that are used to bring clean power to the market and also enacts a temporary tax rate of 1.5 percent over 15 years for these same projects.

Federal Actions Related to Transmission

Open Access Transmission

On February 16, 2007, the Federal Energy Regulatory Commission issued Order 890 reforming important aspects of its open access transmission tariff established in 1996. Western Governors urged many of these reforms in an August 2006 letter to FERC. The rules implement a number of the CDEAC's recommendations.

Transmission Planning

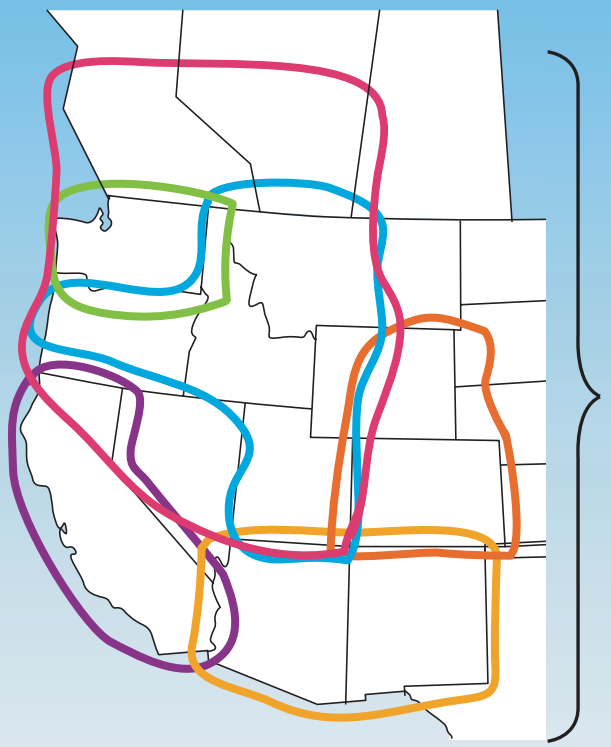
Transmission providers are required to participate in coordinated, open and transparent transmission planning as part of FERC's open access transmission tariff. The planning process must meet nine planning principles: coordination, openness, transparency, information exchange, comparability, dispute resolution, regional coordination, economic planning studies and cost allocation.

These principles comport with the standards set by Western Governors for open, transparent, stakeholder-driver regional transmission planning and which are prevalent in nearly all regional transmission planning in the West. Transmission providers must submit a compliance filing to FERC by October 11, 2007 that either describes how its existing planning process complies with the nine planning principles or sets forth a proposal for a planning process that complies with the nine planning principles. The following map shows the regional and sub-regional planning processes in the Western Interconnection. Regional planning in the WGA states in the Eastern Interconnection is done by the Midwest ISO and the Southwest Power Pool. The Electric Rel iability Council of Texas does planning in most of Texas.

Available Transfer Capability

ATC measures the amount of transmission capacity available for further commercial use by transmission customers. Order 890 improves the consistency and transparency in ATC calculations. FERC requires new industry-wide reliability standards and business practices that ensure consistency for the ATC components and certain definitions, data and modeling requirements. Order 890 improves transparency by requiring transmission providers to explain their ATC methodology and provide a detailed description of specific mathematical formulas and steps used in the process.

Sub-Regional Planning Groups in the Western Interconnection



- **NTAC**-Northwest Transmission Assessment Committee
- **Columbia Grid**
- **NTTG** - Northern Tier Transmission Group
- **CSPG** - Californai Sub-Regional Planning Group
- **CCPG** - Colorado Coordinated Planning Group
- **SWAT** - Southwest Area Transmission

The largest geothermal field in the world is The Geysers, near San Francisco. Photo Courtesy NREL/Pix - Pacific Gas and Electric

Conditional Firm and Redispatch Transmission Services

Order 890 adopts new types of transmission service intended to improve efficient use of the existing grid. Western Governors recommended these reforms in a November letter to FERC. The new "conditional firm" service allows the customer to obtain long-term, point-to-point service that can be limited by either defined system conditions or an annual number of hours during which service will be conditional.

Transmission providers will also have to evaluate the provision of "redispatch" services from their own resources and provide customers with information on the capabilities of other generators to provide redispatch. In response to reliability concerns, FERC allowed transmission providers to avoid these two transmission services if they impair system reliability and limit the time period under which either option is offered.

Imbalance Penalties

Past FERC policy allowed transmission providers discretion to impose charges on generators for differences between scheduled and actual delivery of energy to a load (energy imbalances) and differences between energy scheduled for delivery and the amount of energy actually generated in an hour (generator imbalances).

This allowed transmission providers to impose penalties that exceeded the cost of such errors and imposed a high burden on intermittent generators that have little control over the variability in output. The new rule requires that imbalance penalties be based on a tiered structure similar to the Bonneville Power Administration. The imbalance charges must be:

1. related to the cost of correcting the imbalance,
2. be tailored to encourage accurate scheduling behavior, and
3. account for the special circumstances of intermittent generators.

Location-Constrained Resources

On April 19, 2007, FERC issued an order granting the petition of the California Independent System Operator for a new conceptual approach to financing the interconnection of location-constrained resources, such as wind, solar and geothermal. FERC determined that location-constrained resources present unique challenges because these resources are immobile fuel sources, are small in size relative to the necessary interconnection facilities, tend to come online incrementally over time, and are often remotely located from loads.

The CAISO funding mechanism for location-constrained resources would initially roll-in the costs to all grid users for interconnection facilities to an energy resource area. Each generator that interconnects to these facilities would be responsible for paying its pro rata share of the costs of using the line. Until the line is fully subscribed, all users of the grid would pay the cost of the unsubscribed portion of the line.

The proposal included special provisions designed to protect ratepayers by imposing an aggregate cap on costs for such facilities and safeguards reducing ratepayer exposure to stranded costs due to abandonment. FERC's order is an important step to reach the Governors' goal of secure transmission to tap the West's vast clean and renewable energy resources.

Reliable Transmission Grid

Compliance with standards to maintain the reliability of the power grid is necessary to achieve the Governors' transmission goals. Since 1997, Western Governors have urged Congress to make reliability standards mandatory, which was done in 2005. In April 2006, Western Governors petitioned FERC to establish a Western Interconnection Regional Advisory Body to ensure that the development and enforcement of mandatory grid reliability standards meets the needs of the region. Since its inception, WIRAB has provided continuing advice to FERC on the implementation of mandatory standards. In December 2006, Western Governors reinforced the message to FERC that WECC's Reliability Centers are critical to maintaining grid reliability and FERC should authorize funding of such centers. In April 2007, FERC adopted the Governors' views and approved funding.

Unfinished Business – Moving Forward

The Western States have been very proactive over the last three years in their efforts to develop more clean and diverse energy sources and expand transmission. If current trends continue, the Governors' regional energy goals appear achievable. However, continued action at the state and regional level could affect the pace of progress.

The Governors are advocating for specific actions at the federal level over the next few years. On December 31, 2008, the renewable production tax credit is slated to expire. The PTC is critical for development of clean and diverse energy generating units. For example, in previous years when Congress has not reauthorized the PTC in a timely fashion, the amount of new wind generating capacity fell dramatically as markets reacted to the uncertainty or unavailability of the PTC. (See the chart below.) The Governors' Clean and Diversified Energy Advisory Committee recommended a 10-year extension of the PTC, which would run through 2015.

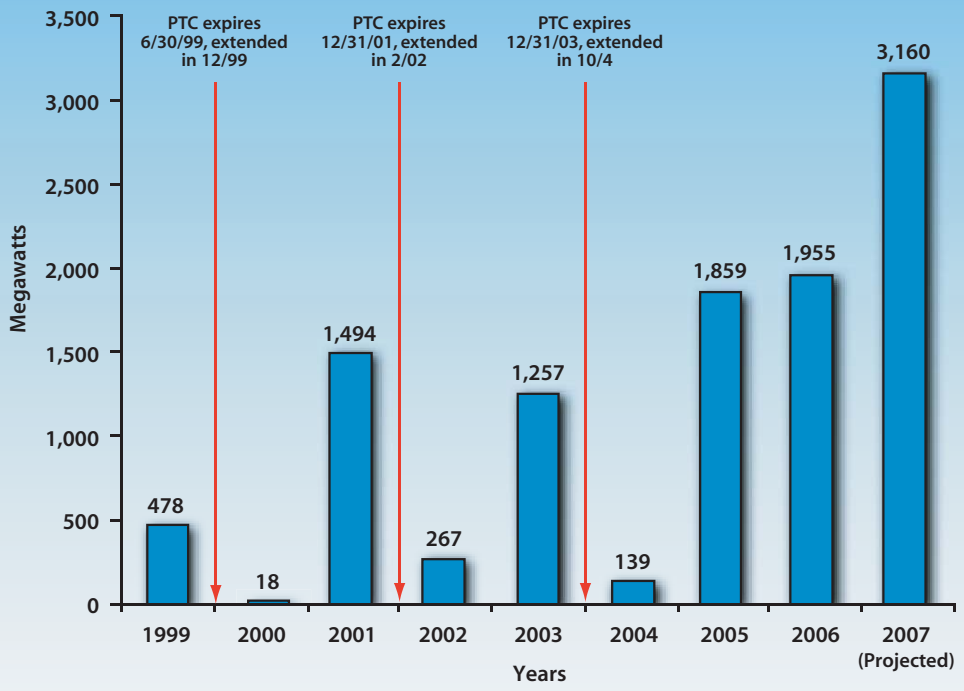
The U.S. Department of Energy and the Treasury Department are also set to initiate the second round of selecting advanced coal projects. Western applications for first round incentives under this initiative for IGCC projects were delayed because applicants were apparently unable to prove that they could achieve a certain level of sulfur reduction (most Western coal is already low in sulfur). Congress changed the sulfur reduction criteria in December 2006, which recognized that Western coal is inherently low in sulfur content, and a new round of solicitations is currently underway, which should result in tax credits being awarded in late 2007. DOE has yet to provide assistance for an IGCC plant at altitude or using Western coal.

The Governors are actively engaged in ensuring that Western interests are addressed in Congress and sent a letter to the Senate and House leadership in January 2007, which called on Congress to:

- Extend the renewable PTC to 10 years.
- Extend the 30 percent solar investment tax credit to 10 years and raise the cap to $10,000.
- Extend the tax credit for energy efficient technologies to 10 years.
- Extend the IGCC tax credit to five years.
- Create a five to10-year tax credit for carbon capture and sequestration.
- Extend and raise the cap on clean energy bonding authority.
- Authorize construction of additional IGCC pilot facilities that burn sub bituminous coal at high altitudes.

At the state level, several legislatures were still in session at the time of this report's publication. There are still clean energy bills under consideration, and WGA will be documenting passage of any bills in 2007 in an addendum to this report, which will be posted on our Web site (www.westgov.org). WGA is also currently planning energy efficiency and advanced coal workshops for later this year and will be co-hosting a summit with the National Wind Coordinating Collaborative in September.

Effects of Federal Renewable PTC on Western Wind Generation



Data for 2004 and 2005 are based on industry estimates.
Source: American Wind Energy Association

Western Governors' Association
Progress Toward Clean, Diverse Energy Future

2007

The Western Renewable Generation Information System (WREGIS) launches.

2006

Governors release the report: Clean Energy, a Strong Economy and a Healthy Environment. Governors' Clean and Diversified Energy Advisory Committee concludes the Governors' 2004 energy goals are technically and financially feasible and recommends non-mandatory, incentive-based policy mechanisms for achieving them.

2005

WGA's Clean and Diversified Energy Advisory Committee convenes to determine if Governors' 2004 energy goals are technically and financially feasible.

Governors agree to establish Western Interconnection Regional Advisory Body to provide advice to Federal Energy Regulatory Commission on regional electricity issues.

2004

Governors convene North American Energy Summit with Canadian and Mexican leaders and Governors set three clean and diverse energy goals for the Western U.S.

2003

Governors work with Congress and FERC to ensure federal energy legislation and regulation works in the Western Interconnection.

2002

Governors sign protocol to improve permitting of interstate transmission lines. The protocol is also signed by the U.S. Departments of Energy, Interior and Agriculture and the Council on Environmental Quality.

Western Governors support the creation of an independent regional tracking system to provide data necessary to substantiate and support verification and tracking of renewable energy generation.

Governors release report on Financing Electricity Transmission Expansion in the West.

2001

Governors convene roundtable to tackle electricity crisis, long-term energy policy.

Governors recommend short term actions to remove electricity transmission bottlenecks and expand capacity.

Governors release report on Conceptual Plans for Electricity Transmission in the West.

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