



NorthWestern
Energy
Delivering a Bright Future

**2009
South Dakota
Integrated
Resource
Plan**

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Preface

2009 SD Electric Integrated Resource Plan

NorthWestern Energy's ("NorthWestern") 2009 SD Electric Integrated Resource Plan ("Plan" or "2009 Plan") is being presented to the NorthWestern Energy Supply Board. The Plan describes: NorthWestern's 2009 planning process, the Midwest region's energy landscape, steps taken as NorthWestern evaluated renewable portfolio standards, and the results of NorthWestern's planning analyses. Planning for the supply and capacity obligations must be flexible and capable of responding to ever-changing conditions. This Plan should not be viewed as a rigid blueprint that will dictate future actions. Instead, it should be seen as a guidance document as resources and their parameters identified in the Plan's preferred resource portfolios may not be reflected in a future portfolio that ultimately provides electricity to supply customers. This Plan provides insight into the types of resources and characteristics that are believed to best serve customers, and will help shape any capital expenditures and Requests for Proposals ("RFPs") NorthWestern develops in the future.

Executive Summary

2009 SD Electric Integrated Resource Plan

This Plan provides a disciplined economic evaluation of supply and demand side resources that could meet the next 10 years of NorthWestern's load serving obligation. The Plan employs quantitative risk analysis to help understand the potential effects from environmental and market uncertainties at a time when utilities, including NorthWestern, are struggling to minimize consumer rate increases while maintaining reliability, increasing energy efficiency, and meet growing demand. The Plan's conclusions will guide NorthWestern's investments on behalf of Customers and Shareholders.

This plan is based on current information that is available. Depending on future legislation and environmental requirements, this plan will be modified to reflect the updated requirements.

Capacity Needs

NorthWestern has acquired resources that substantially meet the resource requirements through mid 2012 and much of the existing portfolio's price risk has been fixed. Forecasted for 2013, NorthWestern estimates a capacity obligation of 374 MW. With NorthWestern current baseload and peaking capacity of 313 MW, NorthWestern will need to increase its capacity portfolio to meet capacity obligations. The results indicate that the portfolios under consideration are generally choices between sizes in investments in new thermal generation and NorthWestern's appetite for renewable resources. With the assumption of a significant tightening of the future availability of market capacity and energy in NorthWestern's region, the models from the Modeling and Results section tend to lean toward baseload energy resources supplemented by peaking capacity investments. In this predominantly coal generation region, the risk exposure presented by potential high carbon cost adders is considered equivalent in the open market to the construction of new coal plants. Absent significant clarification of carbon tax uncertainty or increased regional baseload power supplies, and a recovery of the current economic conditions, the market price of energy will likely be more volatile and higher. The passage of time between now and 2012 is expected to result in decreased regional baseload electricity supply with corresponding upward pressure on price. As a result, total reliance upon spot market energy supply prices rather than longer-term forward market acquisitions is an unattractive option. The model assumes that the market energy supply price will increase directly with costs associated with the carbon tax legislation. If the supply portfolio for the region changes from the status quo, corrections will need to be made for the forecasted energy supply costs.

Base Load

Coal

Opportunities to invest in coal baseload plants are limited, although they provide favorable overall costs even considering a possible carbon tax at \$28 because of the abundance and price of coal in the region.

Natural Gas

Natural gas has not been used as a baseload fuel in the MAPP/MISO region due to price and availability compared to regional coal supplies. Natural gas is typically used for a heating resource in this region and availability to provide natural gas baseload generation is limited by the capacity of the interstate pipelines in eastern SD.

Wind

Several of the preferred portfolios support additional quantities of wind resource. NorthWestern has an opportunity to double its wind footprint and will continue to evaluate additional renewable requirements as they develop in SD.

Biomass

NorthWestern is continuing to evaluate biomass technologies. Feed stock availability and an increased development activity may provide NorthWestern an opportunity to add this clean resource, which can qualify as a renewable resource to its portfolio.

Alternative Renewable Energy

NorthWestern is continuing to evaluate photo voltaic, pressure step down, and other generating technologies. Increased development activity may provide NorthWestern an opportunity to add this clean resource, which can qualify as a renewable resource to its portfolio.

Peaking

NorthWestern's SD retail electric load is characterized by a relatively low annual load factor with short periods of high load, typically during the summer air conditioning season. As a result, peaking generation capability will continue to be needed. The existing fleet of peaking units, along with seasonal capacity purchase contracts, is sufficient for the near term through 2012. However, forecasted increases in peak demand along with needed retirement of a number of small, old, and high O & M cost diesel engine units indicates a need for additional capacity.

Energy Efficiency

NorthWestern will continue with its Demand Side Management (DSM) programs as presently designed and will continue to evaluate DSM opportunities. The annual DSM goal is 0.5 MW per year. The annual load growth forecast is a little over 1% annually.

Conclusion

The Plan's analysis of the three best performing portfolios provides valuable insights about desirable portfolio characteristics. The three most favorable portfolios generally indicate

the need for capacity to a certain degree. These options add to the existing 210.9 MW of base load, 102 MW of peaking, and 25 MW of wind. The options indicate:

- A need for an additional 50 to 75 MW of base load generation
- A need for 45 MW of peaking generation
- Possible need of 25 MW of additional wind – Renewable Energy Standard (RES) driven
- Implementation of a DSM program initially targeting 500 KW per year.
- Evaluating benefits of different rate structures that encourage energy efficiency.

The results of this Plan should not be viewed as the definitive decision regarding which resource types will be added, but rather the Plan sets the backdrop against which any resource options will be considered. Uncertainties discussed in the Plan such as the status of a carbon tax will have great influence on future resource choices.

Background

NorthWestern's Planning Process:

The 2009 Plan details NorthWestern's systematic efforts to plan for the investment and procurement of a portfolio of electric resources consistent with sound planning practices. This plan details NorthWestern's efforts to provide adequate, reliable, and reasonably priced electrical service.

The basic analytical steps involved in developing this Plan are:

- Background/status of portfolio showing historical load curves and current resources;
- Forecasting the load to be served over the next ten years;
- Decreasing the forecast by the estimated energy conservation for the DSM planning horizon;
- Developing CO₂ tax scenarios based on current legislation at the time of this writing;
- Creating various portfolios of feasible resources that NorthWestern could pursue;
- Analyzing the costs and major risk factors inherent in various portfolios and selecting the best options;
- Selecting and performing a qualitative analysis of the best portfolios; and,
- Creating an Action Plan with items for NorthWestern to undertake over the next three years and beyond.

While this Plan provides significant guidance to the utility, it is intended to also provide the South Dakota Public Utilities Commission (SDPUC) and our stakeholders and opportunity to understand the critical issues associated with the ongoing development of NorthWestern's electric portfolio.

Upper Midwest Landscape

MID-CONTINENT AREA POWER POOL (MAPP)

MAPP is an association of electric utilities and other electric industry participants that organized in 1972 for the purpose of pooling generation and transmission. MAPP membership is voluntary and includes electric utilities and other industry participants who have interests in the Upper Midwest. Its members are investor-owned utilities, cooperatives, municipals, public power districts, a power marketing agency, power marketers, regulatory agencies, and independent power producers from the following states and provinces: Minnesota, Nebraska, North Dakota, Manitoba, and parts of Wisconsin, Montana, Iowa and South Dakota. MAPP serves over 16 million people and covers nearly 1,000,000 square miles.

Figure 1: MAPP Regional Reliability Area:

The 2009 MAPP Load and Capability Report, covering 30 member utilities with a forecasted 22,900 MW Summer and 21,500 MW Winter Load, indicates that the region will be approaching minimum generating reserve levels during the 2013/2014 timeframe. NERC's Long Term Reliability Assessment for this region indicates a similar forecast. These forecasts reflect anticipated slowing of demand growth due to the current recession for the next few years.

During the last year or two, a number of companies in the MAPP Generation Reserve Sharing Pool (GRSP) have exited the MAPP GRSP and joined the MISO Planning Reserve Sharing Group (PRSG) or the Southwest Power Pool (SPP). As a result, the MAPP GRSP does not have enough membership with adequate generating capacity to remain viable. Therefore, the remaining MAPP members, including NorthWestern, voted to terminate the MAPP GRSP at the end of 2009. NorthWestern is currently evaluating the options of either joining the Midwest PRSG or the SPP in order to maintain a minimum acceptable level of generating capacity reserves.

Midwest Independent System Operator (MISO)

The Midwest ISO is an independent, nonprofit organization that supports the constant availability of electricity in 15 U.S. states and the Canadian province of Manitoba.

This responsibility is carried out by ensuring the reliable operations of nearly 94,000 miles of interconnected high voltage power lines that support the transmission of more than 100,000 MW of energy in the Midwest, by administering one of the world's largest energy markets, and by looking ahead to identify improvements to the wholesale bulk electric infrastructure that will best meet the growing demand for power in an efficient and effective manner.

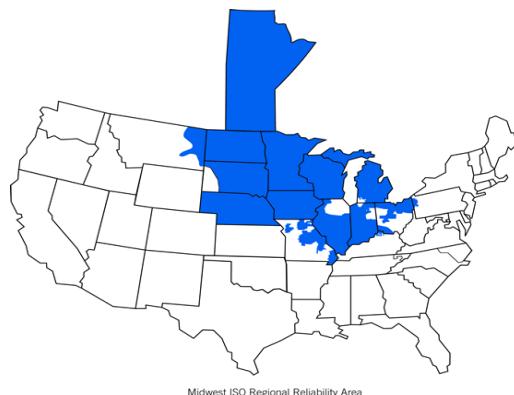
The Midwest ISO was approved as the nation's first regional transmission organization (RTO) in 2001. The organization is headquartered in Carmel, Indiana with operations centers in Carmel and St. Paul, Minnesota.

Following is an excerpt from the Executive Summary of the MISO 2008 Long Term Assessment Reliability Report -- this discussion highlights the forecast shortage of generating capacity within the MISO footprint during the next decade.

“The projected Midwest ISO reserve margin ranges from 23.3% in 2008 to 10.8% in 2017. In the 2014 to 2015 timeframe, the projected reserve margin drops below the minimum

reserve requirement established by State Authorities and Planning Reserve Sharing Groups. Although, current forecasts show conditions exceeding planning benchmarks in 2014, there is a greater probability that actual conditions will reach those levels much sooner. Regulatory delays, an increasing volume of queue requests, uncertainty around carbon regulations, and an aging generation infrastructure are all uncertainties that have a possibility to negatively affect out-year resource adequacy. Given the amount of time required to build both new units and transmission lines, action is needed soon in order to ensure resource adequacy for the next ten years.”

Figure 2: MISO Regional Reliability Area



Western Area Power Administration (WAPA)

Western Area Power Administration markets and delivers reliable, cost-based hydroelectric power and related services within a 15-state region of the central and western U.S. WAPA is one of four power-marketing administrations within the U.S. Department of Energy whose role is to market and transmit electricity from multi-use water projects. WAPA’s transmission system carries electricity from 57 power plants operated by the Bureau of Reclamation, U.S. Army Corps of Engineers and the International Boundary and Water Commission. Together, these plants have an installed capacity of 10,395 megawatts.

NorthWestern relationships with WAPA include a load control and power marketing contract, network transmission service agreement, and spinning reserve supply.

Renewable Energy

The South Dakota Legislature has provided guidance concerning a renewable and recycled energy objective.

South Dakota Renewable Energy Objective: Section 49-34A-101 established the State renewable and recycled energy objective. “There is hereby established a state renewable and recycled energy objective that ten percent (10%) of all electricity sold at retail within the state by the year 2015 be obtained from renewable energy and recycled energy sources. The objective shall be measured by qualifying megawatt hours delivered at retail or by certificates representing credits purchased and retired to offset non-qualifying retail sales. This objective is voluntary, and there is no penalty or sanction for a retail provider of electricity that fails to meet this objective. The objective applies to each retail provider of electricity in the state, regardless of the

ownership status of the electricity retailer. Any municipal or cooperative utility that receives wholesale electricity through a municipal power agency or generation and transmission cooperative may aggregate its renewable and recycled energy objective resources to meet this objective.” (Source: SL 2008, ch. 244, § 1.)

Future Direction

The SD PUC is evaluating following the Federal Renewable Energy Standard, when one is adopted. The latest discussions are looking at a possible 20% Renewable Energy Standard (RES) with up to 5% coming from energy efficiency by 2020.

NorthWestern has also begun a process to look at swapping energy between jurisdictions in Montana and South Dakota. One company that we have had dialog with is Basin Electric Cooperative which has indicated a possible look at swapping 25 MW between Montana and South Dakota side. They are interested in receiving an additional 25 MW in Montana where in South Dakota they could possibly furnish us 25 MW of energy and capacity. We will continue to evaluate these options.

As referenced earlier, the MAPP GRSP is set to sunset at the end of 2009. As a result, NorthWestern is evaluating the options of either joining the Midwest PRSG (part of MISO) or the SPP in order to maintain a minimum acceptable level of generating capacity reserves. In recent years, the MAPP GRSP planning reserve requirement has been 15% of annual system peak load. For comparison purposes, the Midwest PRSG requirement for their west region is 14.2% while the SPP requirement is 13.6%.

Generation Construction (National)

A report by the National Energy Technology Laboratory provides an overview of proposed new coal-fired power plants that are under development. The report does not represent all possible plants under consideration but was intended to illustrate the potential that exists for installation of new coal-fired power plants. Recent experience has shown that public announcements of new coal-fired power plant development do not provide an accurate representation of actual new operating power plants. Actual plant capacity commissioned has historically been significantly less than new capacity announced. A summary of the report is listed below and the complete report can be provided:

- Five plants (1,442 MW) have become operational in 2009.
- “Progressing” projects have decreased by seven plants in total MW involved (from 22,236 MW to 19,421 MW)
- 1,595 MW of new capacity have been proposed and 1,553 MW have been canceled maintaining approximately 20,000 MW of progressing projects
- The net decrease of total proposed capacity, if the five operational plants were not removed from the tally, is 1%
- 48% of canceled plants (capacity) were at the announced stage

SD Regulatory Climate

The South Dakota PUC has had an open mind to future needs in the State. They have stated support for the coal fired baseload options. They have also shown support for renewable

resources including wind and internal combustion peaking facilities that are part of NorthWestern's near term supply portfolio.

Carbon

Environmental concerns for carbon levels and future legislation will affect current and future baseload fossil fuel generation feasibility. The effects of a tax or a cap and trade on NorthWestern coal resources will be discussed further in the Environmental Issues section starting on page 14.

Conclusion

In summarizing the status of the utility landscape in the Upper Midwest, the overriding theme is the uncertain environment in which resource decisions and acquisitions are taking place. There is significant risk and uncertainty confronting utilities and regulators. Regarding future regional load/resource conditions, the apparent difficulty in deciding whether to construct new baseload resources to serve load growth raises the specter of energy and capacity shortfalls in the future, which will exacerbate an already volatile energy market. In the event utilities do manage to construct new coal base load plants, it is assumed that some form of carbon assessment – either in the form of a carbon tax or a cap and trade process – will make up a portion of the resources cost. Deriving a reasonable estimate of these cost adders and their resulting impact on the market and other resource costs is nearly an impossible task. As a result of the high level of uncertainty, regional utilities appear to be focused on the development of smaller scale renewable resources, DSM and planned reliance on the wholesale market, although significant investments in new thermal generation are being considered. NorthWestern approaches this environment as a utility with a recognized substantial resource deficit beginning in 2013.

Status of Portfolio

Existing Resources

A list of the following current resources for South Dakota Generation is as follows:

1.) Base load (summer ratings - 2010)

- Big Stone I - 111.2 MW
- Neal 4 - 56 MW
- Coyote - 42.7 MW
- Total - 209.9 MW

Estimated 2008 Emissions

	Big Stone Emission	Neal 4 Emissions	Coyote Emissions	Units
Capacity	475	650	427	MW
SO ₂	13,537	14,906	12,995	Tons
NO _x	13,851	5,421	13,186	Tons
Hg	.11	N/A	.15	Tons
CO ₂	4,076,354	5,018,233	4,214,737	Tons

2.) Peaking

- Diesel and natural gas turbine mix
- Eighteen units at seven locations providing 102 MW. A detailed list of the units can be found in Appendix A.
- These units provide peaking as well as emergency back-up services for various communities.

3.) Current capacity agreement with Mid-American for up to 80 MW thru 2012 resulting in a total of 392.9 MW

Asset description:

- **Big Stone I** – coal-fired, cyclone burner, non-scrubbed base load plant located in NE South Dakota. Built in 1975. Unit rated at 475 MW with NWE-SD equity share of 23.4% or 111 MW. Fuel source is Powder River Basin sub-bituminous coal delivered by the BNSF RR.
- **Neal 4** – pulverized coal, non-scrubbed base load plant located in NW Iowa. Built in 1979. Unit rated at 656 MW with NWE-SD equity share of 8.681% or 57 MW. Fuel source is Powder River Basin sub-bituminous coal delivered by the UP RR. Carbon dioxide (CO₂) emissions estimated to be approximately 1.13 tons per MWH. Heat rate is 10,300 BTU/KWH.
- **Coyote I** – coal fired, cyclone burner, dry scrubbed base load plant in west-central North Dakota. Built in 1981. Unit rated at 427 MW (transmission limited) with NWE-SD

equity share of 10% or 42.7 MW. Fuel Source is North Dakota lignite from an adjacent mine owned by Dakota Westmoreland. Carbon dioxide (CO₂) emissions estimated to be approximately 1.20 tons per MWH. Heat rate is 11,900 BTU/KWH. The owners of the plant are currently evaluating options for fuel supply beyond 2016 when the current long-term lignite coal contract expires. Options include rail delivery of PRB coal and continued use of North Dakota lignite.

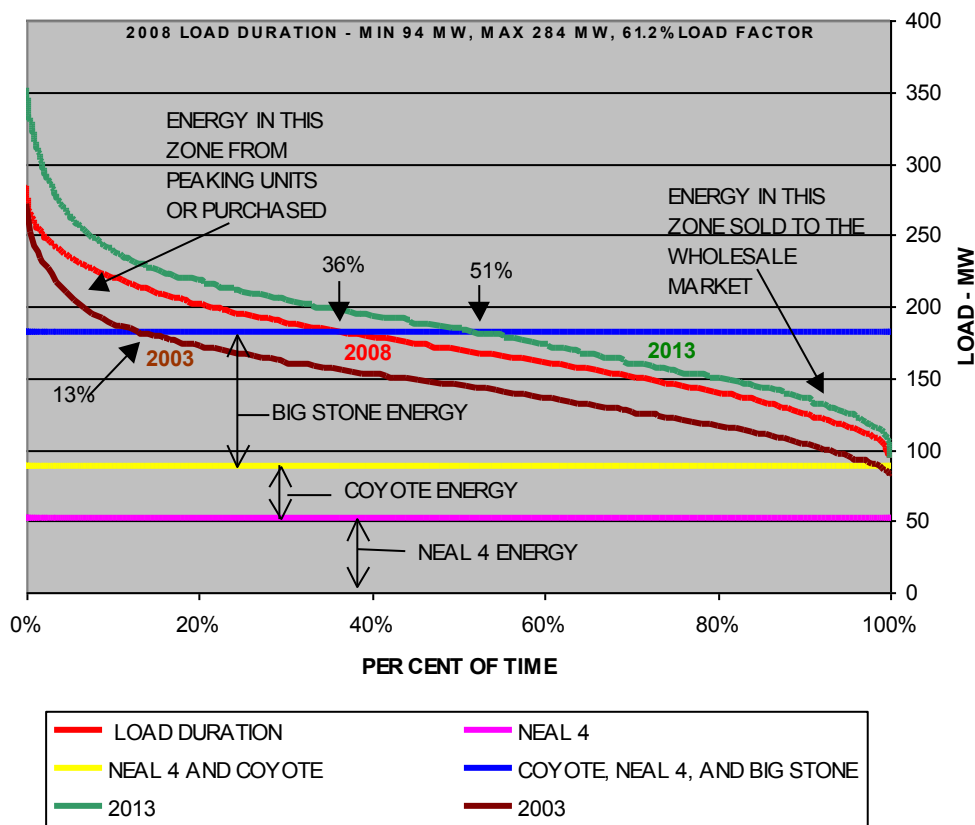
- **Peaking Units** – this is a mix of diesel engine and combustion turbine peaking generators fueled by fuel oil or natural gas located at various points within the NWE-SD service territory. The units range in vintage from the late 1940’s to 2008. The largest unit is a 44 MW combustion turbine at Huron. Heat rates range from approximately 11,000 to 15,000 BTU/KWH. Regulated emissions are negligible, due to the very low number of annual operating hours.
- **Capacity Agreements** – 2009 is the last year of a three-year capacity agreement with MEC. A successive three-year agreement with MEC has been executed for 74 MW in 2010, 77 MW in 2011 and 80 MW in 2012 for the summer months of June thru September.

Load Balance

Energy

As displayed in the chart below, Northwestern-SD’s retail energy sales growth over time has and will result in increased amounts of purchased power and decreased amounts of surplus energy available for re-sale to the wholesale market. Furthermore, this load growth pattern increases the average price of purchased power because of the increased number of “on-peak” versus “off-peak” hours during which purchases are needed.

Figure 3: 2008 Load Duration



Capacity

The Mid-continent Area Power Pool (MAPP) generating capacity requirement states that firm generating capacity must equal or exceed annual peak demand plus a 15% reserve. Historically, NorthWestern’s peak loads have occurred during summer months and, therefore, that is the period requiring peaking capacity. However, recent load patterns indicate that additional capacity will also be needed during winter months. Please refer to the discussions above concerning alternative power pool participation and the resulting potential reduced planning reserve requirements.

Renewable Portfolio

NorthWestern –South Dakota will begin utilizing 25 MW of wind in a PPA with BP Alternative Energy North America Inc. beginning in 2010 with the Titan I project. NorthWestern will have additional options for wind as projects develop. Wind energy will have its place in the energy market, however, not as a substantial base load resource. Make some comments that wind will play a larger portfolio in the future. In 2010, NorthWestern will distribute a RFP for additional equity/ownership of a 25 MW wind project moving NorthWestern within the SD REO guidelines and positioning NorthWestern in a position to meet undetermined RFS national standards.

Efficiencies

Demand Side Management Resource

NWE SD plans to implement a DSM plan in 2009. This resource is anticipated to reduce the current load by approximately 0.25 MW in 2010 with additional annual load retrofits of 0.50 MW per year beginning in 2011. The DSM program includes:

Residential & Small Commercial Energy Audits

- Inspection, education, & direct installation of some measures
- Trained personnel are used

Residential Natural Gas Retrofit Program

- Measures
- Rebates
- Fall Events

Residential & Commercial Lighting Rebate Programs

- Multiple methods to deliver prescriptive rebates
- Partnerships with retailers

The early stages of the DSM project are focused solutions with available technology and are more affordable for the customers. At this point the residential reductions may be saturated so additional annual savings beyond 0.50 MW per year are not anticipated.

Residential

- Energy efficient fluorescent lighting (CFLs)
- Insulation (ceiling, wall, floor, tank & pipe)
- Programmable thermostat
- Low flow faucets, showerheads & aerators

Commercial

- High efficiency heat pump
- Energy management system
- Energy efficient fluorescent lighting (T8, T5)

Sometime after 2013, the commercial large building packages will be targeted. These packages are more costly for the customer and require additional planning and budgeting for implementation and cost recovery.

Future Programs - Commercial

- HVAC
- Variable air volume
- Variable speed drives
- Controls, sensors, sweep controls & photocells
- LED exit signs
- Motors and much more ...

- Customized incentive program for commercial/small industrial
- New Construction
- Demand Response ... many variants

A draft plan is being finalized and NorthWestern will proceed with the following steps introducing the program in the fall of 2009.

- Complete NorthWestern Energy internal review
- File DSM Plan with South Dakota PUC
- Comments & interaction with PUC and staff
- Make adjustments to Plan as indicated and warranted
- Initiate contracts with service providers
- Service Providers establish and build presence in South Dakota service territory
- Program support materials and marketing/outreach plans are finalized
- Program introduction in Fall 2009

Inverted Rate Blocks

Additional strategies utilized in various degrees by other utilities are inverted rate blocks structures. The concept would consist of rates that are implemented for the summer months providing a pricing incentive for customers to use less energy during the summer peaking months. This concept could also apply to an increasing demand for NorthWestern's winter loads.

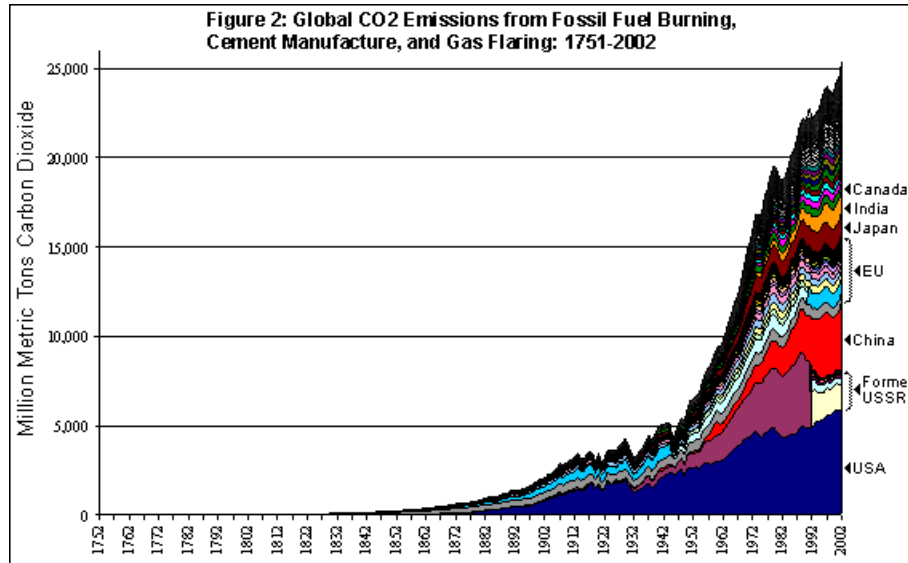
Environmental Issues

The environmental issues related to meeting power demands are numerous. They include land and water use issues, impacts on wildlife and plants, emissions related to generation including mercury, SO_x, NO_x, particulates and greenhouse gases (GHGs).

Carbon Dioxide

A predominant environmental issue when considering decisions about which generation types are best for the portfolio is the emission of greenhouse gases, particularly carbon dioxide. Looking at the historical trend, the emission of carbon dioxide worldwide has risen precipitously, particularly in the United States. See the global carbon emissions Figure 4 below.

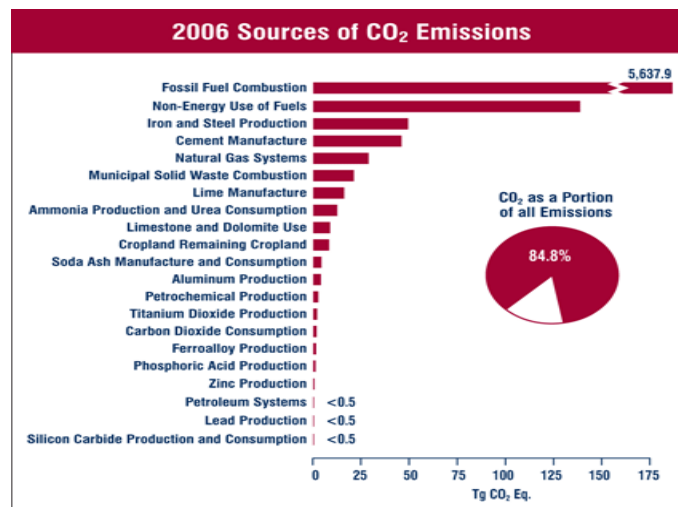
Figure 4: Global CO2 Emissions



Source: [Carbon Dioxide Information Analysis Center](http://www.epa.gov/climatechange/emissions/globalghg.html) <http://www.epa.gov/climatechange/emissions/globalghg.html>

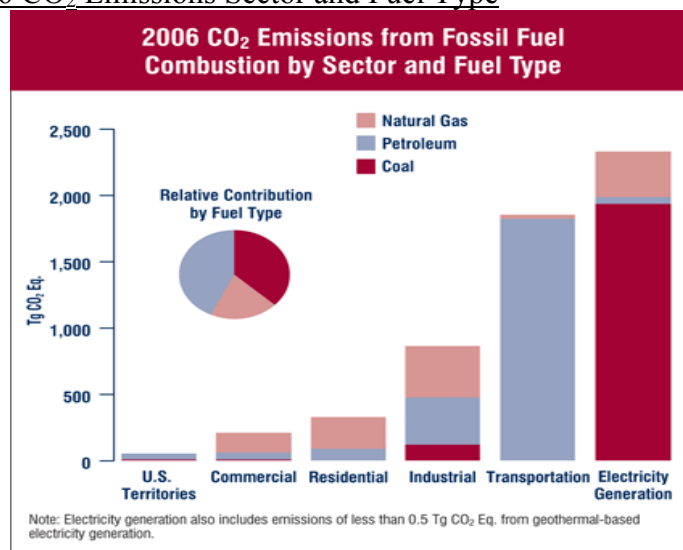
The largest source of CO₂ emissions in the U.S. is from fossil fuel combustion. Figure 5 displays a breakdown of sources of CO₂ emissions in the U.S. in 2006.

Figure 5: Sources of CO₂ Emissions



Source: [U.S. Greenhouse Gas Emissions Inventory](http://www.epa.gov/climatechange/emissions/downloads/08_ES.pdf) (y-axis units are teragrams of CO₂ equivalent) http://www.epa.gov/climatechange/emissions/downloads/08_ES.pdf

The single largest source of man-made carbon dioxide emissions is power production. Figure 6 shows the emissions by fuel type from power production.

Figure 6: 2006 CO₂ Emissions Sector and Fuel Type

Source: [U.S. Greenhouse Gas Emissions Inventory](http://www.epa.gov/climatechange/emissions/downloads/08_ES.pdf) (y-axis units are teragrams of CO₂ equivalent)

With mounting public and political pressure to address emission trends, it is becoming more certain that regulatory steps will be taken. That is certainly the case as a result of Supreme Court decision, *Massachusetts v EPA*, where the Court found that carbon dioxide is a pollutant to be regulated by EPA and EPA's recent endangerment finding. The questions about possible regulatory actions are; will EPA proceed to regulate carbon dioxide, what steps will be implemented, what will they be from a policy perspective, how will resource costs be impacted, and what limitations will be placed on resource construction.

American Clean Energy Act of 2009 (a.k.a. ACES or Waxman-Markey Legislation)

Based on formulas contained in ACES, passed by the U.S. House of Representatives on June 26, 2009, NWE's SD 2012 electric retail emissions will be 1,697,056 metric tons. Under the current allowance allocation formula in ACES, NWE will receive allowances of 1,057,500 metric tons CO₂, leaving us short 639,556 metric tons. Each metric ton of CO₂ that is produced and not covered by the allowance allocation formula is priced at \$28 per metric ton for a total of \$17,907,568 of annual carbon tax dollars. For NorthWestern customers, preliminary estimates indicate an approximate increase of \$0.013 per KWH in 2012 increasing to \$0.036 in 2030 that will be a result from CO₂ taxation.

In addition to the pricing of allowances affecting energy prices, Waxman-Markey assumes a sufficient amount of domestic and international offsets and low offset prices that would mitigate the impact of purchasing allowances. There has been much discussion about such assumptions and so it is unclear how offsets will affect the rate impact on customers. There will also be a Renewable Energy Standard with an energy efficiency requirement that will also impact the rates customer will pay for energy. These assumptions will be affected by future changes leading up to the final version of the bill.

CAMR

Clean Air Mercury Rule (CAMR) was set as an EPA administered cap and trade program back in March 2005. CAMR was vacated on February 8, 2008 with a rehearing denied. The mercury issue will likely be addressed in future legislation.

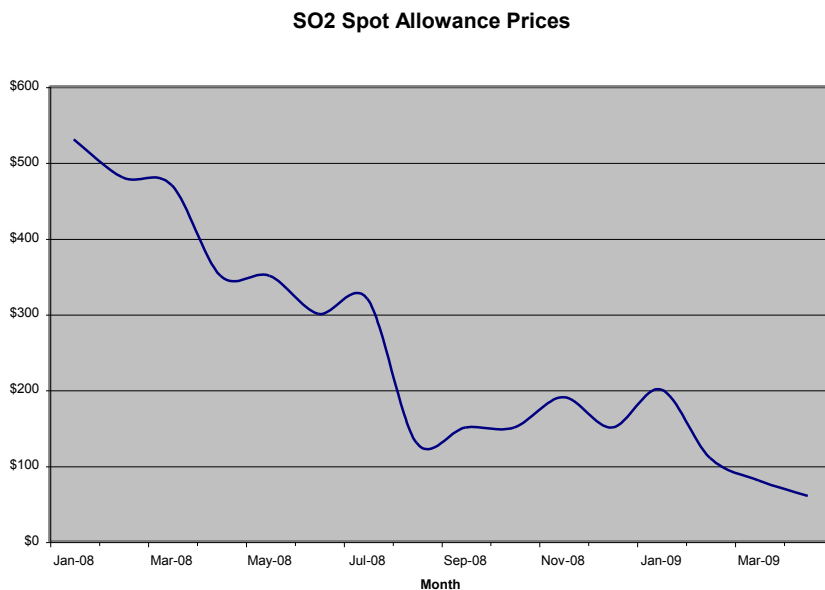
CAIR

Clean Air Interstate Rule (CAIR) issues should not affect plants west of the Mississippi as they are excluded from the rule. Furthermore, on December 23, 2008, the court remanded CAIR without vacature. CAIR will remain in place until the EPA revises the rule (no timetable for remanded rulemaking). It is possible that EPA will seek to apply any new rulemaking to the plants west of the Mississippi.

Sulfur Dioxide

Currently, NorthWestern is entitled to sufficient Sulfur Dioxide (SO₂) allowances to meet NorthWestern’s requirements for the foreseeable future. Allowance market values for SO₂ have declined to a level below \$100.00 per ton. The figure below displays the historical annual allowance price for SO₂. Future trends appear relatively flat.

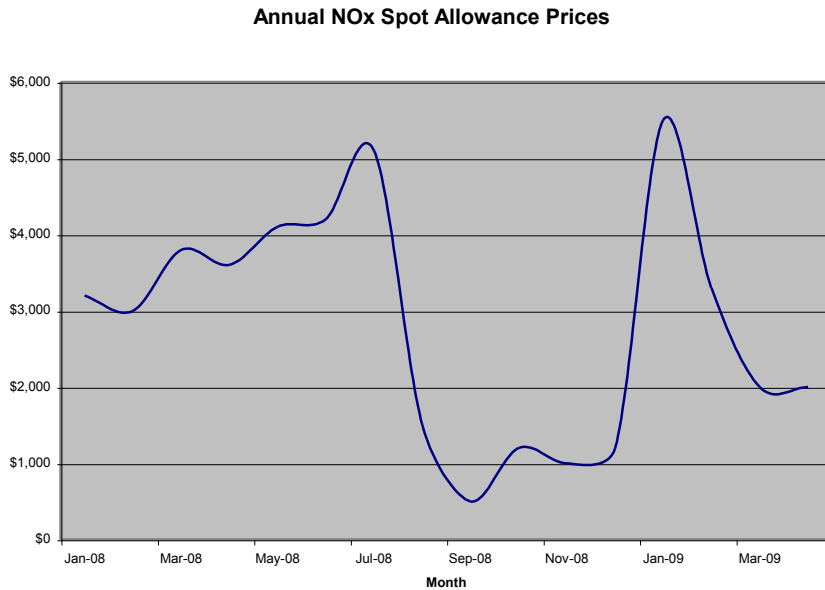
Figure 7: SO₂ Spot Allowance Prices



Nitrogen Oxides

The forward price forecast for NO_x is on a downward curve. Current prices for NO_x are at about \$1,000 per ton and are forecasted to decline below \$500 by 2011. The following figure displays the historical annual allowance prices for NO_x. Future trends appear relatively flat.

Figure 8: NO_x Spot Allowance Prices



Description of Resources Modeled

While developing this Plan, NorthWestern considered a number of possible resource options for inclusion in the supply portfolio. Typically, the resource can be described by the fuel source (coal, natural gas, wind, etc.) and the technology utilized to convert the raw fuel supply into electricity. This chapter contains qualitative descriptions of resources considered in developing this Plan. Note that a few of these resources, such as solar, tidal and wave power, were not ultimately included in the modeled portfolios based on their current lack of availability as a tested and reliable source of power. Future procurement plans will continue to evaluate advances in generation technology and will modify the resources evaluated as appropriate.

Description of Available Future Resource Options

Brief Descriptions of Generating Resources – The following descriptions provide basic information about available generating resources to be considered that may satisfy NWE-SD’s forecasted need for baseload energy and peaking reserve capacity requirements in concert with existing resources. Some of the generating resource options were previously planned projects utilized below as proxies for what could be available in the market.

Baseload Facilities

While the Big Stone II project has been cancelled, the economic studies related to it are still representative of the projected costs for such a facility in this region. Therefore, that data will continue to be used as a benchmark for evaluating such resources.

Big Stone Plant II

The formally proposed 500-580 MW coal-fired unit was to be located at the site of the existing 475 MW Big Stone Plant I in northeastern South Dakota (NWE has a 23.4% equity interest in BSP I). BSP II was designed as a super-critical, pulverized coal, wet scrubbed unit utilizing sub-bituminous coal from the Powder River Basin of Wyoming with rail delivery by the BNSF. Capital cost was estimated at \$2,750 per kilowatt escalated thru completion. This estimated cost does not include transmission service cost.

NextGen Project – Basin Electric Power Cooperative Project

This 500-700 MW coal-fired unit is being proposed by Basin Electric Power Cooperative (BEPC) and would be located in north-central SD with tentative completion during the 2015-2017 timeframe. However, information provided on BEPC’s website indicates that the time-line of this project is being re-evaluated due to current regulatory, technology and economic uncertainties.

Initial inquiries with BEPC indicated that they may be interested in either an equity partnership or a Power Purchase Agreement (PPA), but, further details, including costs, are not available at this time due to the uncertainties mentioned above.

Natural Gas Baseload Generation

Natural gas has not been used as a baseload fuel in the MAPP region due to price and availability of natural gas supply compared to regional coal supplies. Current carbon tax legislation being considered would reduce the price differential between gas and coal fuels due to lower carbon dioxide emissions from natural gas (approx. 58.5% of coal).

The most likely option for NorthWestern would be to install a Combined Cycle Combustion Turbine (CCCT) Power Plant that burns natural gas for fuel. The minimum size considered for feasible economics of the current technology is 150 MW. The unit would consist of 3 Combustion Turbines (CT) and 1 Steam Turbine (ST). Any of the three CT's could be used for Peaking duty. NorthWestern would need to contract out the excess capacity. A cost comparison is modeled in the options below as baseload generation. Options for use as an intermediate duty generator are discussed in the next section.

Natural Gas Intermediate Generation

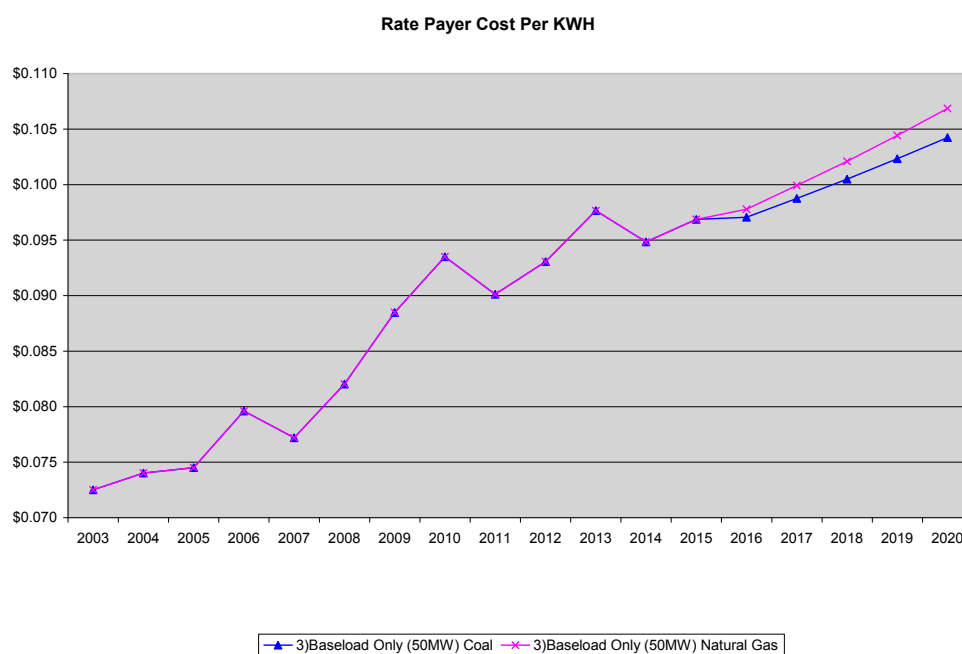
Basin Electric Power Cooperative will be constructing a 300 MW intermediate power supply plant near White, SD. The power plant will use natural gas from Basin Electric's Dakota Gasification Company via the Northern Border Pipeline and a new 14-mile underground natural gas pipeline to the plant. Construction will take about 18 months. When the plant is operational it will employ between 25 and 30 people. The project is scheduled to be completed in June 2012. At this time, there have not been solicitations to participate in this plant.

Baseload Coal vs. NG Intermediate Generation Comparison

Options for baseload generation are limited in the MAPP region. Plants that are being considered are coal and natural gas intermediate power supply. Because of NorthWestern’s load profile and market sales availability of natural gas generation, natural gas intermediate power supply was used to compare with baseload coal below. The charts assume a production of 150,000 MWH annually with an average supply cost of \$7.50 per MMBtu of natural gas. This comparison includes a carbon dioxide cost adder (\$28 per ton CO₂) as defined by the Waxman-Markey bill that is being considered.

The results of this high level comparison show a minimal difference between a natural gas intermediate generation plant and a baseload coal plant for ratepayer costs in the figure below. Due to fluctuation in natural gas pricing, rates to customers have an upward risk. If natural gas prices were at \$6.00 per MMBtu average, the lines would be overlapping. The risk of increased pricing would magnify the difference.

Figure 9: Coal vs. NG – Rate Payer Cost Per KWH



Wind Turbine Farms

Commercial wind generators currently range in size from around 1 to 3 MW per unit. Wind generators are generally arranged in a series of farms to capture economies of scale with some farms having total installed capacity of several hundred megawatts.

While not technically a dispatchable “baseload” technology due to the variable nature of wind, these facilities may offer solutions to a portion of baseload energy requirements. However, relatively low capacity factors limit their contribution as solutions to capacity requirements. They have the advantages of zero fuel cost and zero air emissions and the

disadvantage of requiring load balancing reserves due to their non-dispatchable nature. To date, the ancillary service cost of load regulation for wind has not been specifically identified or filed as a tariff within the immediate WAPA balancing authority, but this is likely to change as saturation of wind resources increases. MAPP accredits monthly capacity from these facilities based on a three-year running average output history. Typical accredited monthly capacity factors in this area range from a low of less than 10% to more than 40% of design rating depending on time of year. Summer ratings are usually the lowest, with highest ratings during winter and spring months.

A number of wind energy developers have shown interest in locating facilities in or near the NWE-SD service area with either equity partnership or PPA arrangements. NWE-SD's first experience with a wind resource is a PPA for 25 MW of wind to be located in NWE-SD's service area and on line by early 2010. This facility, known as Titan I, is expected to provide for approximately 5% of NWE-SD annual retail sales energy requirement. NorthWestern will be conducting an RFI in 2009 for additional 25 MW to 30 MW of renewable resources.

Peaking Capacity Facilities

The NWE-SD annual load profile has the characteristic of a relatively low load factor historically averaging around 50%. In other words, the annual average system demand is typically about one-half of the annual peak hourly demand. This is due primarily to a high saturation of residential and commercial air conditioners used only during summer. The net result is the need for peaking resources to satisfy high demand for only a very few number of hours during the summer months. (Note: Recent load patterns show some winter months approaching the need for peaking resources.)

Simple Cycle Combustion Turbines

This technology uses either natural gas or fuel oil as the fuel source and can be readily located within the NWE-SD service area. (NWE-SD currently has approximately 75 MW of combustion turbine capacity). These units have relatively low capital and fixed O&M requirements compared to baseload units, but have higher fuel cost due to the use of distillate or gas fuels. Heat rates are in the range of 10,000 to 11,000 BTU/KWH. They offer remote control and provide area protection for increased system reliability as well as satisfying the need for required reserve capacity. (NWE-SD currently has a 45 MW combustion turbine unit budgeted and scheduled to be installed in the 2011-2013 time frame in Aberdeen.)

Small Distributed Generators

Having much the same resource characteristics as combustion turbines, these units are typically small (between 1 and 5 MW) diesel engine generators generally using fuel oil as the fuel source. (NWE-SD currently has 32 MW of distributed diesel units). Due to their smaller size they offer the advantage of providing area protection in distant, lower load areas and can help defer transmission upgrades otherwise required solely to cover short duration peak loads. However, they generally exhibit higher non-fuel operations and maintenance costs per MW than combustion turbines due to controls, maintenance and communications.

Capacity Purchase Contracts

This resource has historically offered economically attractive peaking reserve capacity for the summer months. In addition to the capacity cost, firm transmission service must also be purchased. Based on responses to RFP's in recent years, the availability of summer capacity contracts in this region appears to be decreasing. This reflects a similar forecast to that which MAPP, MISO, and NERC have predicted which was discussed previously in the Upper Midwest Landscape section. The magnitude of MWs purchased each year has grown to represent nearly 25% of NorthWestern's current annual peak demand and is now purchased for 4 months per year. Also, recent NWE-SD system load trends indicate that additional reserve capacity beyond owned assets may be needed during winter months for the first time in company history. This resource should continue to be considered, but it may be best used as a "filler" between steps in acquisition of owned assets.

Forecast and Resource Inputs

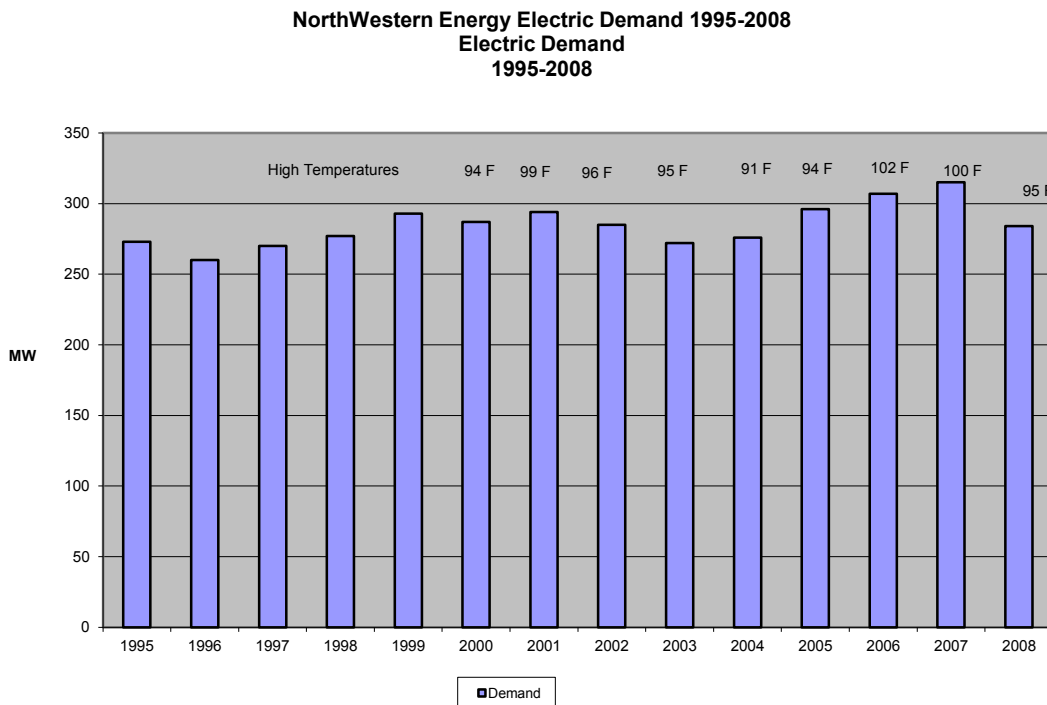
One year ago South Dakota Production gave the Energy Supply Board an update on need for peaking and base load generation with South Dakota load growth forecasts. During the current recession, the market has seen a slightly lower load growth pattern. In the Forecast Chart (Figure 7) the annual growth has been trimmed from 3 MW to 2.3 MW per year growth. However, there still seems to be continued growth in new residential construction with a decline in the commercial sector within NorthWestern's service region.

NorthWestern has received customer inquiries indicating interest in significant new electric loads. The range of inquiries indicates incremental growth potential from 5 MW to 70 MW in the next few years. However, because these inquiries may represent somewhat speculative projects, the load forecast is presented here without their impact included.

It should also be noted that the winter demand has grown over the last few years. During the winter of 2008/2009, NorthWestern established an all-time record winter demand of 276 MW. This pattern is likely to continue because of an indicated trend in large commercial and residential electric heat, heat pumps, electric boilers (in floor heat) and geothermal heating in new and existing buildings. As a result, NorthWestern's winter demand has reached approximately 97% of its capability.

The figure below represents NorthWestern (SD) electric demand over the past 14 years. During this period, the summer peak load records indicate annual growth in the 3-5 MW range. Peak summer demand is very dependent on weather. For example, at the time of the all-time record demand of 315 MW in 2007, the system-wide average temperature was 100 degrees Fahrenheit as compared to 2008, which had a summer peak of only 284 attributable to cooler seasonal weather.

Figure 10: Capacity/Supply Forecasts



The figure below compares NorthWestern Energy’s MAPP capacity obligation and the available resources to meet those needs. MAPP’s planning reserves require 15% above system peak demand. Beginning in 2013, NorthWestern is forecasting that it will be unable to meet its system capacity obligation unless additional resources are added to the portfolio. This is primarily due to the expiration of the MEC capacity contract in the third quarter of 2012. The capacity forecast included here was completed prior to the current recession and, therefore, may be somewhat conservative for the early years.

Figure 11: Capability & Obligation 2007 – 2020

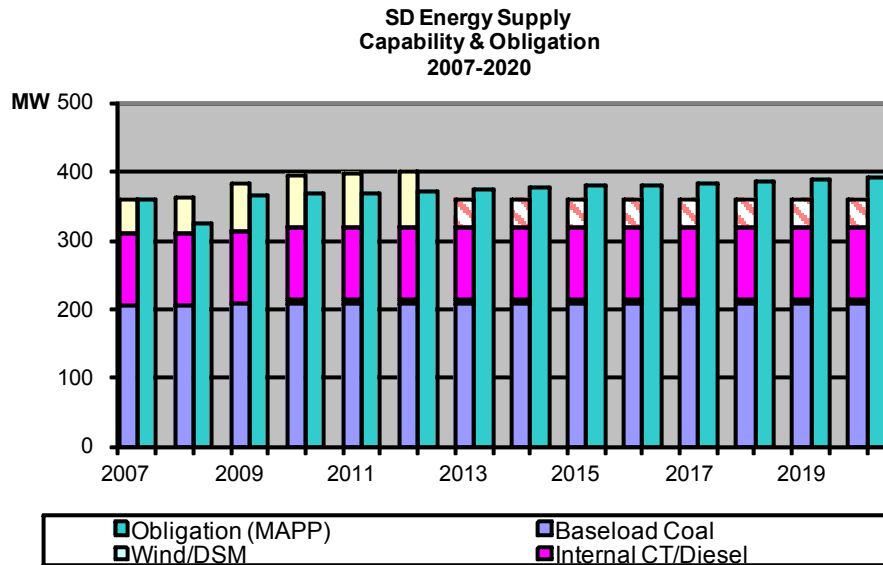


Figure 14 compares NorthWestern Energy’s retail energy sales requirements with available resources. As shown for future periods, NorthWestern is expected to become more dependent on power purchased from the market unless other, additional resources are acquired.

Figure 12: SD Retail Sales vs. Energy Resources

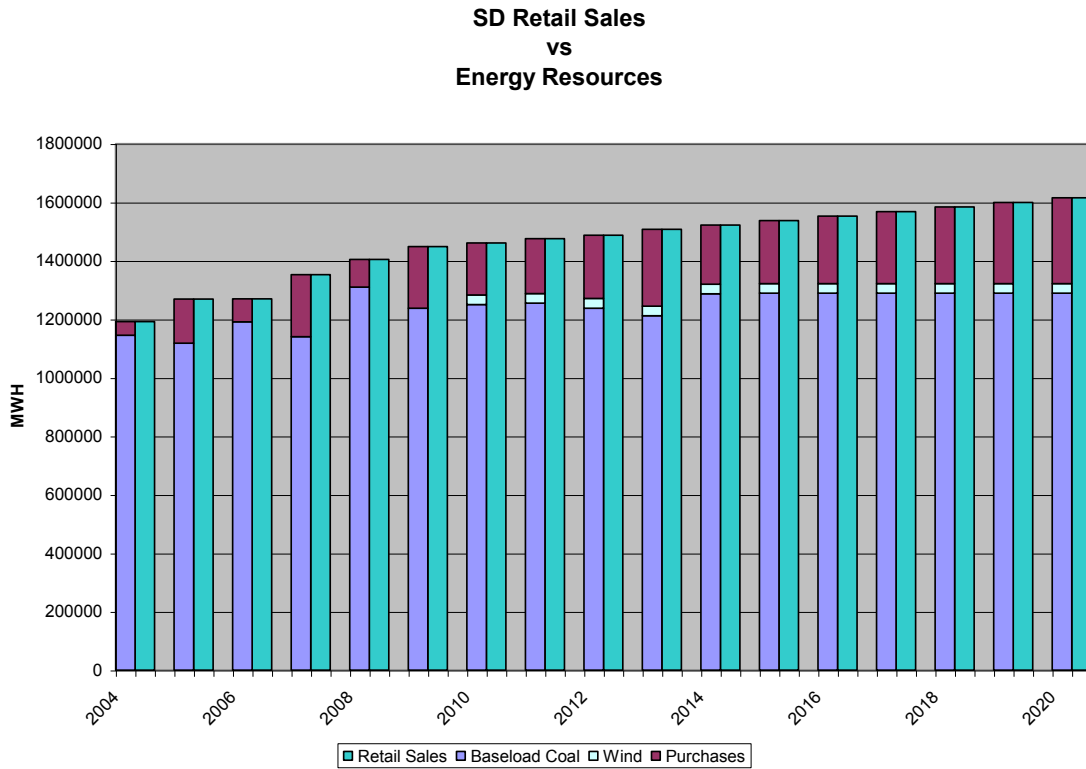
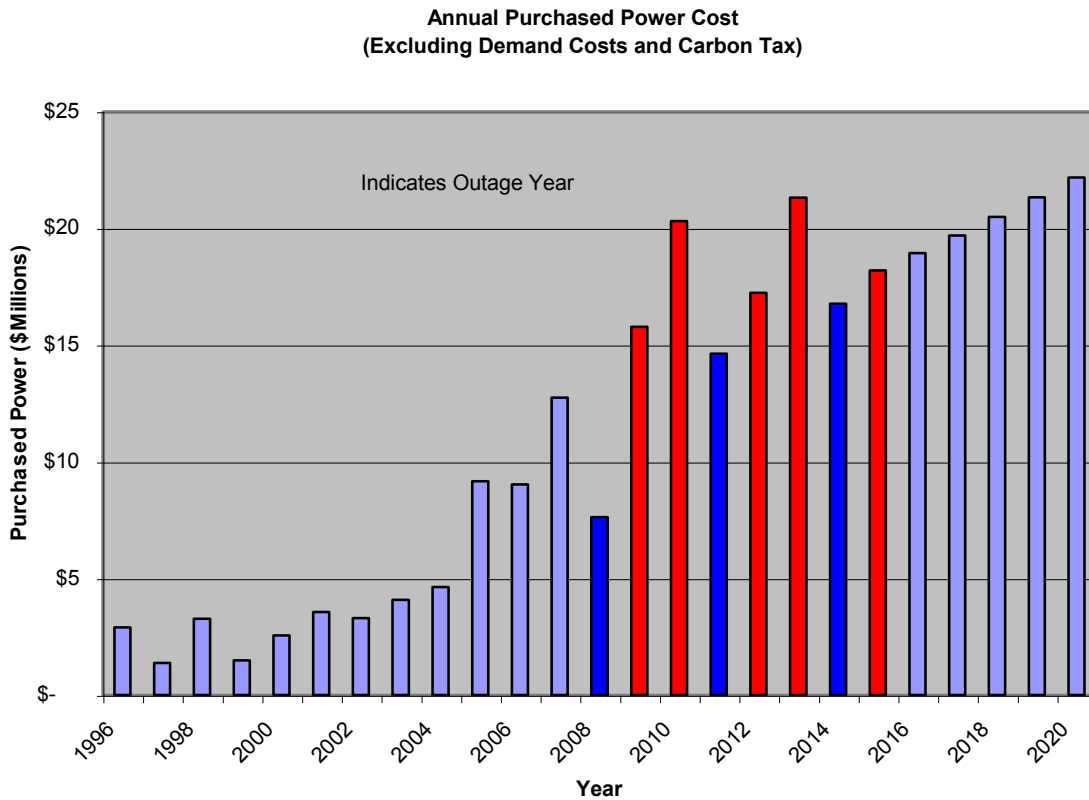


Figure 15 represents the forecast for total purchased power costs (with existing generating resources only). Forecasted assumptions used in developing Figure 12 include planned and typical unplanned generation outages and a 2.3 MW annual growth combined with forecast market price trends. Forecasted prices are based on a linear regression analysis of the last ten years of the market data.

Figure 13: Annual Purchased Power Cost



Risk – Uncertainty Analysis

RTO Structure and Transmission

NorthWestern – South Dakota status on joining a RTO still remains a question. The decision has been made to sunset the MAPP PRSG. With Mid-American joining MISO on September 1st of this year and the Nebraska companies going to the SPP, there are few left that have strong connections to the Western Area Power Administration (WAPA). WAPA remains neutral as to their interests in going to MISO or SPP. NorthWestern –South Dakota needs to wait and see what happens to WAPA before making a decision. Having nine connection points with WAPA makes NorthWestern almost bound to follow wherever WAPA goes. Although, the market has been in place for a couple years in MISO, they still seem to be working out the bugs. SPP is going to be starting its market shortly. They appear to have learned from MISO mistakes. This is the main reason that the Nebraska utilities decided to join SPP. We will continue dialog with WAPA on options they are looking at and try to express NorthWestern’s views on what should happen in everyone’s best interests. PRSG’s groups in MISO and SPP vary from the MAPP procedures regarding reserves, which could have an impact on capacity requirements.

Baseload Availability

There are no planned baseload plants in the region. If NorthWestern is unable to secure baseload or intermediate capacity, continued increases in energy purchase from the open market will be required, and additional peaking capacity may be required before 2016.

Future Capacity Contract Availability

A risk that also needs to be considered is available future contract capacity described above in the capacity purchase contracts section. Until NorthWestern determines ultimate participation in a planning reserve sharing group following MAPP’s termination, long term capacity purchase arrangements are difficult to identify. In the event that NWE were to join the planning reserve sharing groups of MISO or SPP, capacity-import limitations will also have to be considered.

Environmental Policy Risk

CO₂ Tax

Based on the formulas contained in the current version of the Waxman-Markey legislation under consideration in Congress, NWE's SD 2012 electric retail emissions are estimated to be 1,697,056 metric tons. NWE would receive carbon allowances totaling 1,057,500 metric tons, which results in a shortfall of 639,556 metric tons. Each metric ton is priced at \$28 that totals \$17,907,568 in annual carbon tax costs. NorthWestern used \$28 per metric ton because it believes that the price of carbon will be at the Strategic Reserve price. For NorthWestern customers, preliminary estimates indicate an approximate increase of \$0.013 per KWH in 2012 increasing to \$0.036 in 2030. The price of domestic and international offsets is proposed to mitigate the rate impact to customers, but it is unclear whether the availability or

price of those offsets will have the intended affect on rates. In addition, the proposed Renewable Energy Standard with an energy efficiency requirement may also have an effect on rates. The final form of the legislation that is signed into law by the President will affect these cost assumptions. New coal-fired generation plants are not expected to receive carbon allowance allocations. Under current legislation, being considered in Congress, carbon allowance allocations will initially be based on historical output and retail sales for the base years of 2005 through 2008.

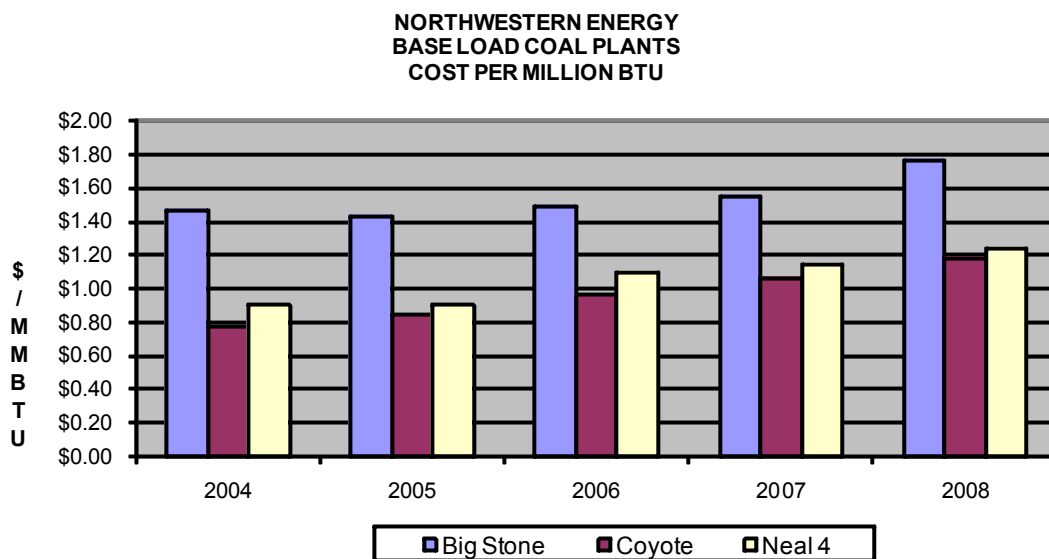
Load regulation with WAPA for Wind

To date, a discrete ancillary service charge for load regulation of wind has not been identified within the WAPA balancing authority, but this is likely to change as saturation of wind resources develops.

Coal Price

Jointly Owned coal-fired plants were used to generate 83.5% of the electric energy utilized for South Dakota operations during 2008. The balance was supplied by power purchased from the open market. Fuel for NorthWestern’s jointly owned baseload generating plants is provided through supply contracts of various lengths with several coal companies. Coyote is a mine-mouth generating facility. Neal #4 and Big Stone I receive their fuel supply via rail. Upward pressures on coal and transportation costs can result in increased in costs to customers through fuel cost recovery mechanisms in rates. The average cost, inclusive of transportation costs, by type of fuel burned is shown below for the periods indicated:

Figure 14: Coal Plant Fuel Costs



The average cost by type of fuel burned and the delivered cost per ton of fuel varies between generation facilities due to differences in transportation costs and owner purchasing power for coal supply.

The Big Stone I facility currently burns sub-bituminous coal from the Powder River Basin delivered under a contract through 2010. Neal #4 also receives sub-bituminous coal from

the Powder River Basin delivered under multiple firm and spot contracts with terms of up to several years in duration. The Coyote facility has a contract for the supply of lignite coal that expires in 2016 and provides for an adequate fuel supply for Coyote's estimated economic life.

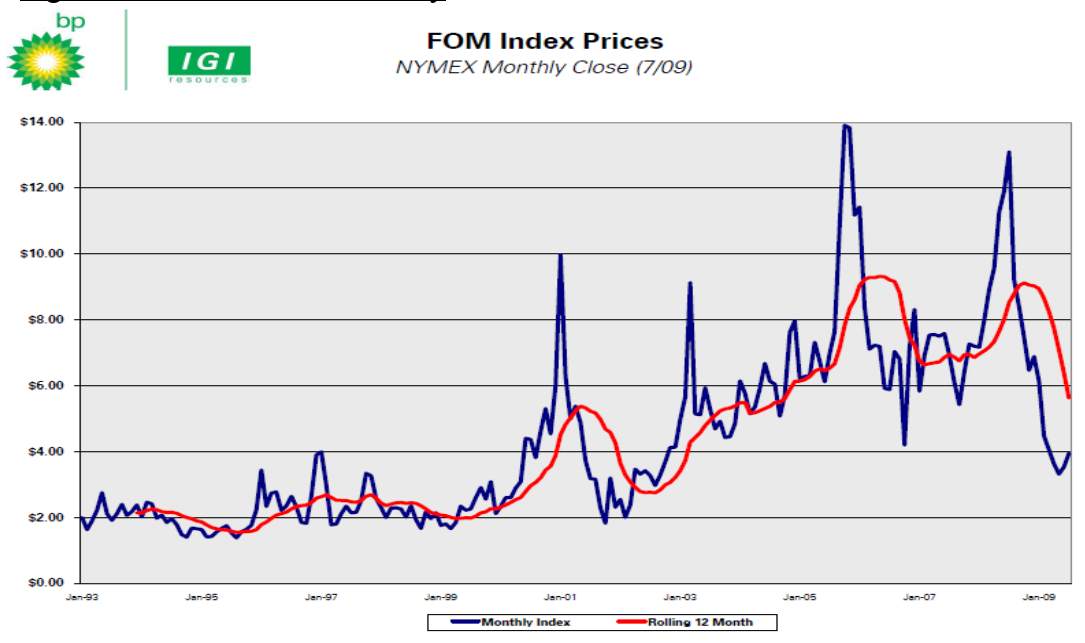
A contributing factor in future coal-based energy pricing involves the potential implementation of a tax on CO₂ emissions (a.k.a. carbon tax). While the outcome of federal energy legislation is unknown at this time, any federally mandated costs related to carbon emissions would increase retail energy rates.

Due to the preponderance of coal-based electric generation in the upper Midwest, viable alternatives to coal are few. Natural gas-based generation would be assessed a carbon tax, albeit at a reduced rate and would be subject to the higher volatility of the natural gas commodity price. Limited availability and higher, more volatile pricing of natural gas and fuel oil reduces the desirability of these fuels for large base load generation.

Fuel Price Volatility

The figure below displays the historical First Of Month (FOM) natural gas prices at NYMEX. Since 1993 the Natural gas prices have ranged between approximately \$2 and \$14.

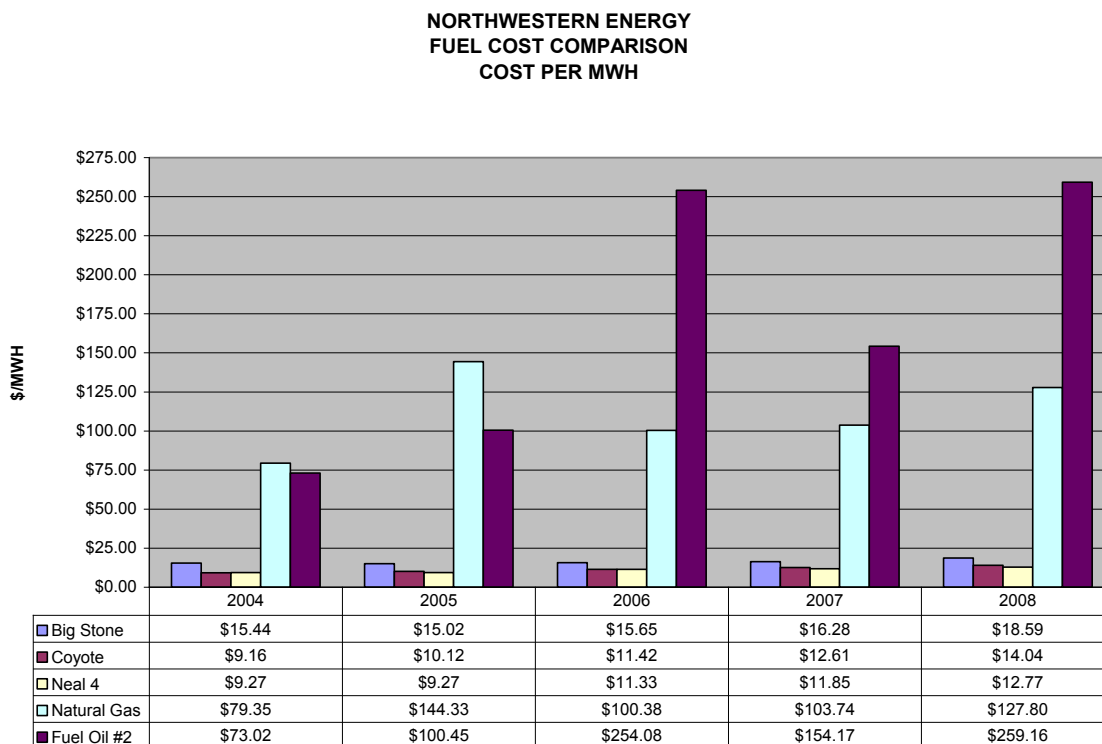
Figure 15: Natural Gas Volatility



Fuel Price Comparison

The figure below shows the relative price rank of fuels used by NorthWestern for generation. Historically, coal has much better price stability and overall lower cost when compared to natural gas or fuel oil.

Figure 16: Generation Fuel Costs Comparison



Purchase Power Price

NorthWestern’s average purchase price has increased approximately \$5 to \$6 per MWH annually over the past nine years. The purchase price during peak periods is very volatile and is dictated by current and future market conditions such as high gas and oil prices. Gas prices over the past 12 months have been as high as \$12/MCF and as low as \$4/MCF. Oil pricing has also seen a dramatic rise and drop over the same time frame. Purchased power costs tend to follow the markets. Costs per MWH of purchased power in 2008, 2007 and 2006 were \$80.77, \$73.41 and \$68.80 respectively. In 2009, because of a combination of extended moderate weather and the current recession, regional market prices are somewhat lower than the last few years. This trend is likely to be reversed upon return of normal weather and economic activity.

NorthWestern Energy’s need for purchased power is higher during the time periods when one or more of its jointly owned coal fired units is off-line for maintenance. Unplanned outages lead to higher replacement power costs than planned outages due to market timing.

Modeling and Results

Assumption – General

- All cases include 25 MW of wind from the Titan I project that will begin in 2010.
- Capacity expected to be accredited from Titan I is 3 MW (summer season).
- Wholesale margins increase by 2% per year.
- CO2 costs are excluded for modeling purposes because most alternative energy sources are expected to include similar or same cost impacts.
- Purchase Power Prices are projected to increase by 3.5 to 5% per year.
- Annual Peak Load Growth is assumed at 2.3 MW per year
- Capacity penalties are figured at \$113,490 per MW including transmission service.
- NERC could assess capacity deficiency penalties of up to \$1,000,000 per year. This forecast does not include this outcome.
- Wholesale margins from the proxy base load plant are assumed to be shared 85% ratepayer, 15% shareholder based on a recent settlement by OTTR.
- Market supply will directly reflect the increases due to carbon tax.

Financial

- ROE for rate cases is assumed at 10% based on recent rate case outcomes.
- Debt Equity Ratio is 50/50.

45 MW Peaker

- The 45 MW peaker is assumed to come on line to meet capacity needs in 2013.
- Peaker Plant Cost is \$1,000 per KW of installed capacity.
- No net energy is assumed to be produced by peaking plants.

Baseload Unit - Coal

- Use Big Stone II proxy for the estimated costs for baseload
- Big Stone II was projected on line for 2016.
- Big Stone II was estimated at \$2,750 per KW of installed capacity.
- Big Stone II energy is dispatched 40% to retail and 60% to wholesale.
- Big Stone II investment for 50MW or 75MW.

Baseload Unit – Natural Gas

- Information gathered in discussions with the Shaw Group
- 150 MW – minimum size. Assumes sale of excess capacity to other users.
- Estimated at \$1,500 per KW of installed capacity.
- Annual O&M of \$5 million
- Heat Rate – approx 7,000 BTU/KWH
- Life Expectancy – 20 years
- Natural gas costs starting at an estimate of \$7 per MCF

25MW New Wind (In addition to Titan I)

- The 25MW new wind project is assumed to come on line in 2013.
- Energy from the wind plant will be purchased at \$55 per MWH.
- 3 MW of accredited summer capacity is assumed for this project.

Options:

Option 1: Existing Resources Only

Existing resources include the 210.9 megawatts of base load, 102 megawatts of internal peaking capacity, and 80 megawatts provided through a capacity agreement with Mid-American through 2012 only. Also included is 25 megawatts from the Titan I wind project.

Option 2: Peaker Only (45 MW)

This option includes the existing resources and adding 45 megawatts from a combustion turbine peaking plant.

Option 3: Baseload Coal Only (50MW)

This option includes the existing resources and adding 50 megawatts of baseload generation.

Option 4: Baseload Combined Cycle Turbine (CCT) (50 MW)

This option includes the existing resources and adding 50 megawatts of baseload CCT natural gas generation.

Option 5: Baseload Coal (50 MW) + 25 MW New Wind 2013

This option includes the existing resources and adding 50 megawatts of baseload generation. Also included is an additional 25 megawatts of new wind generation.

Option 6: Baseload Coal (50 MW) + Peaker (45 MW)

This option includes existing resources and adding 50 megawatts of baseload generation. Also included is an additional 45 megawatts of peaking generation.

Option 7: Baseload Combined Cycle Turbine (95 MW)

This option includes the existing resources and adding 95 megawatts of baseload CCT natural gas generation.

Option 8: Baseload (50 MW) + Peaker (45 MW) + 25 MW New Wind 2013

This option includes the existing resources and adding 50 megawatts of baseload generation. Also included is an additional 45 megawatts of peaking generation and 25 megawatts of new wind generation.

Option 9: Baseload (75 MW) + Peaker (45 MW)

This option includes the existing resources and adding 50 megawatts of baseload generation. Also included is an additional 45 megawatts of peaking generation.

Option 10: Baseload (75 MW) + Peaker (45 MW) + 25 MW New Wind 2013

This option includes the existing resources and adding 50 megawatts of baseload generation. Also included is an additional 45 megawatts of peaking generation and 25 megawatts of new wind generation.

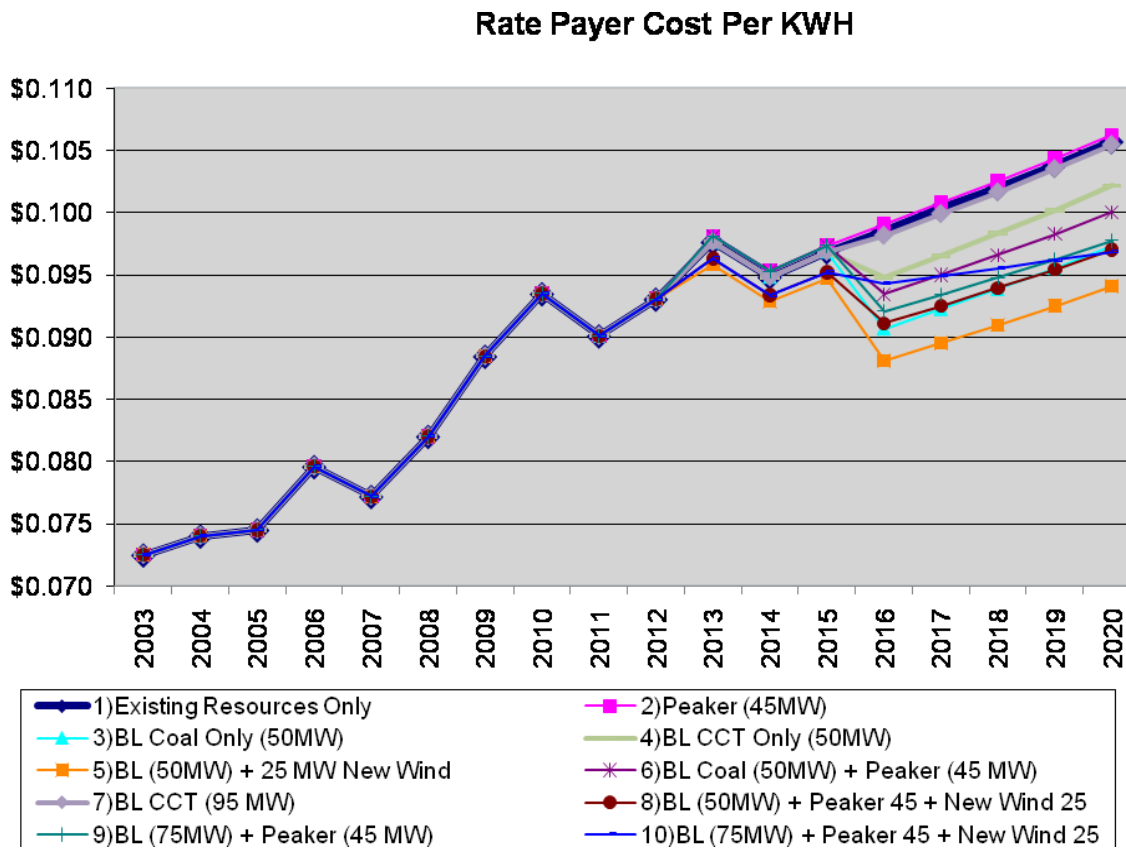
Summary Charts

Included below are graphs depicting the above options and identifying Rate-payer Costs per KWH, Capacity Penalties, and Power Purchases.

Rate Payer Cost per KWH

The cost per KWH shown here reflects the affect of each portfolio option on NorthWestern customers. The model indicates the need for base load generation at a level of 50 or 75 MW with 25 MW of new wind. Adding a 45 MW peaker will support local reliability and provide for needed capacity in the interim. Options 5, 3, and 8 appear to incur least costs to NorthWestern customers. Option 8 shows improvement over time.

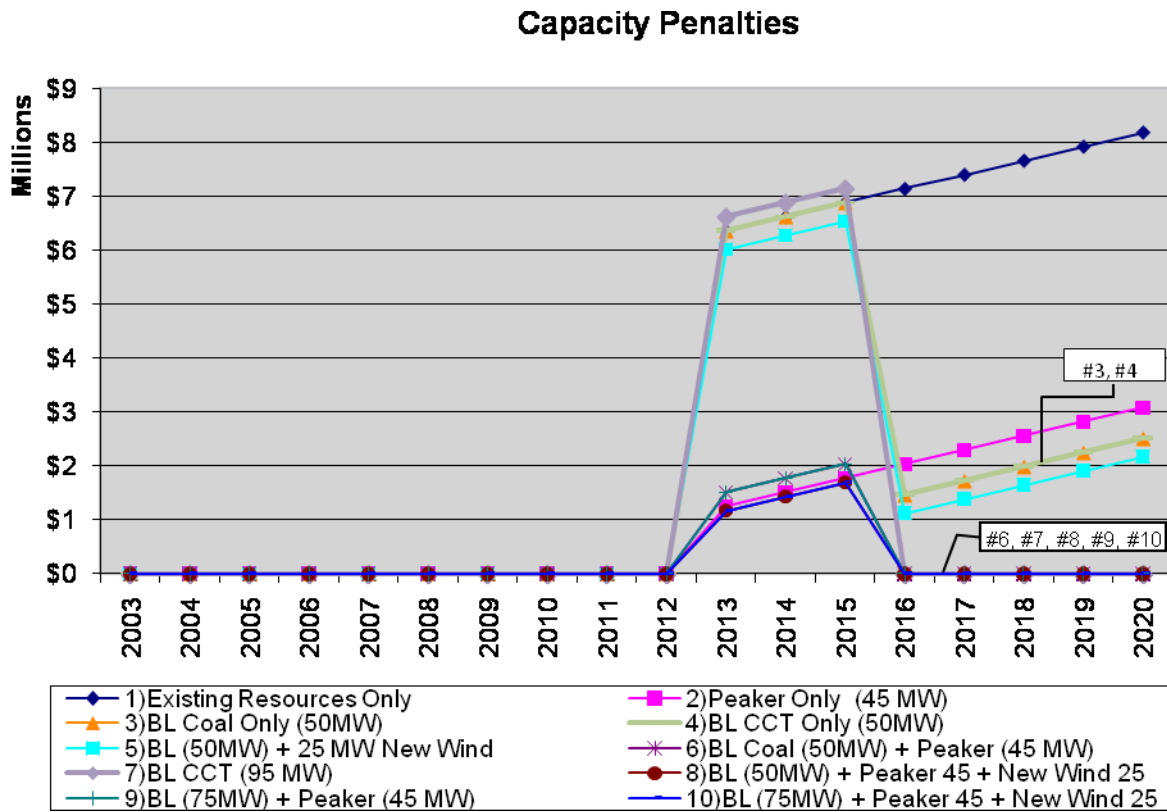
Figure 17: Rate Payer Cost per KWH



NorthWestern Capacity Penalties

NorthWestern is subject to financial capacity penalties through MAPP and possibly NERC. As the peak load requirements increase, exposure to penalties increases unless additional resources are available to cover the increased capacity requirements. The model indicates the need for base load generation at a level of 50 or 75 MW with 25 MW of new wind. Adding a 45 MW peaker will support local reliability and provide for needed capacity in the interim. Options 6 through 10 provide the additional capacity needed to minimize the effects of capacity penalties. Capacity penalties are based on current MAPP penalties which will change as noted previously in the document depending on the selected PRSG.

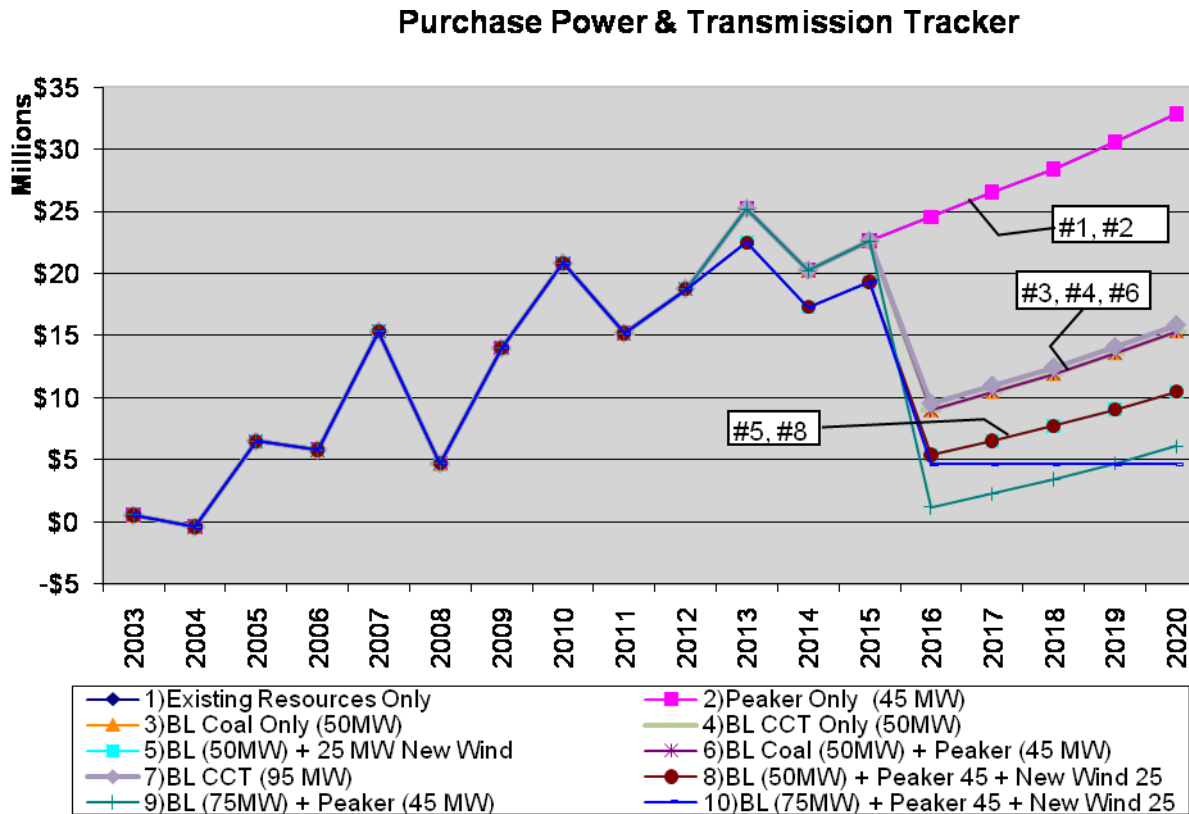
Figure 18: Capacity Penalties



NorthWestern SD Purchased Power

NorthWestern purchases additional power from the market during periods when base load resources are inadequate and when market prices are at or below the cost of peaking generation. The options that provide the least cost solutions to satisfy purchased power requirements are options 5, 8, 9, and 10.

Figure 19: Purchased Power



Conclusions and Action Plan

Plan Conclusion

The SD IRP provides a disciplined economic evaluation of supply and demand side resources that could meet the next 10 years of NorthWestern's load serving obligation. The Plan employs quantitative risk analysis to help understand the potential effects from environmental and market uncertainties at a time when utilities, including NorthWestern, are struggling to minimize consumer rate increases while maintaining reliability and meet growing demand. The Plan's conclusions will guide NorthWestern's investments on behalf of Customers and Shareholders.

This plan is based on current information that is available. Depending on future legislation and environmental requirements, this plan may need to be modified to reflect the updated requirements.

The Plan's analysis of the three best performing portfolios provides valuable insights about desirable portfolio characteristics. Those three portfolios generally fulfill the need for capacity to a certain degree. These options add to the existing 210.9 MW of base load, 102 MW of peaking, and 25 MW of wind. The existing 25 MW wind project and the DSM program are included in all of the options below.

- a. Option 8 – 50 MW Baseload, 45 MW Combustion Turbine Peaking, and 25 MW Wind.
- b. Option 9 – 75 MW Baseload and 25 MW Wind.
- c. Option 10 - 75 MW Baseload, 45 MW Combustion Turbine Peaking, and 25 MW Wind.

These three portfolios all minimize cost and market risk.

Capacity Needs

NorthWestern has acquired resources that substantially meet the resource requirements through mid 2012 and much of the existing portfolio's price risk has been fixed. Forecasted for 2013, NorthWestern estimates a capacity obligation of 374 MW. With NorthWestern current baseload and peaking capacity of 313 MW, NorthWestern will need to increase its capacity portfolio to meet capacity obligations. The results indicate that the portfolios under consideration are generally choices between sizes in investments in new thermal generation and NorthWestern's appetite for wind resources. With the assumption of a significant tightening of the future availability of market capacity and energy in NorthWestern's region, the models tend to lean toward baseload energy resources supplemented by peaking capacity investments. In this predominantly coal generation region, the risk exposure presented by potential high carbon cost adders is considered equivalent in the open market to the construction of new coal plants. Absent significant clarification of carbon tax uncertainty or increased regional baseload power supplies, the market price of energy will likely be more volatile and higher. The passage of time between now and 2012 is expected to result in decreased regional baseload electricity supply with corresponding upward pressure on price. As a result, reliance upon the spot market rather than longer-term forward market acquisitions is an unattractive option. The model assumes that the market energy supply price will increase directly with costs associated with the carbon tax legislation. If the supply portfolio for the region changes, corrections will need to be made for the forecasted energy supply costs.

Base Load

Coal

There is one baseload coal plants currently being evaluated in NorthWestern's territory. Opportunities to invest in new coal baseload plants are limited. The abundance of coal in this region has a stabilizing effect on the cost of coal fuel, however, the uncertainty of carbon tax legislation could add significant risk to coal based investments.

Natural Gas

Natural gas has not been used as a baseload fuel in the MAPP/MISO region due to price and availability compared to regional coal supplies. Natural gas is typically used for a heating resource in this region and availability to provide natural gas baseload generation is limited by the capacity of the interstate pipelines in eastern SD.

Wind

NorthWestern's analysis shows that it will meet the Renewable Portfolio Objective requirements in SD for 2008 and 2009. Several of the preferred portfolios support additional quantities of wind resource. NorthWestern has an opportunity to double its SD wind footprint and will continue to evaluate additional renewable requirements as they are developed in SD.

Biomass

NorthWestern is continuing to evaluate biomass technologies. Feed stock availability and an increased development activity may provide NorthWestern an opportunity to add this clean resource to its portfolio.

Peaking

As baseload generation and wind have their place, internal peaking generation still needs to be in the mix. The earliest any new baseload plant could be completed in the region is 2016. Wind is fine as an energy resource but does not add to reliability and capacity. This is where the need to add an internal peaking plant in the mix exists today. Several of NorthWestern's internal peaking units today are more than fifty years old. NWE-SD needs a viable solution to be able to retire some of its oldest and high maintenance units. Reliability shows a need for internal units today. Aberdeen and Mitchell have been identified as sites where this need could be fulfilled.

Energy Efficiency

NorthWestern will continue with its DSM programs as presently designed and will continue to evaluate DSM opportunities. The annual DSM goal is 0.5 MW per year.

Comments

Despite the considerable value of the planning process, inputs to the modeling have inherent limitations. Conclusions regarding portfolio performance must be tested under market conditions. For example, key inputs to the model, such as price forecasts, are simply an informed estimate of what will happen in the future. Historic market changes have demonstrated the

limited predictive value of natural gas price forecasts as actual market prices have far surpassed what best-informed analysts predicted. Other inputs have similar limitations.

The results of this Plan should not be viewed as the definitive decision regarding which resource types will be added, but rather the Plan sets the backdrop against which any resource options will be considered. Uncertainties discussed in the Plan such as the status of the federal legislative and policy treatment of CO₂ emission will have a significant influence on future resource choices.

Future electricity supply costs are likely to continue to increase. Ratepayers should take higher future costs into account when they make decisions about home construction, insulation, appliance purchases and their consumption behavior.

Action Plan

NorthWestern's Action Plan provides specific steps to implement the Plan. Primary Action Items

1. The South Dakota Integrated Resource Plan will be presented to the South Dakota PUC in the fall of 2009. NorthWestern will be requesting feedback from the Commission and other stakeholders.
2. Future Capacity Contracts – The pending contract with MEC for the 2010-2012 summer season transmission arrangements are being completed, as MEC has joining MISO on September 1, 2009. The months of July, August, and September will be in question until NorthWestern Energy can meet the MISO timeframe for transmission reservations, which requires a 17-month lead-time.
3. Peaker- As stated earlier, a recommendation of adding a 45 MW peaking unit starting in 2011 that would be on line by the end of 2012. This unit would be available beginning with the winter of 2012/2013. This should supply more than half of the remaining capacity needs for the future. The intent is to start looking in 2011 to satisfy remaining capacity needs for the years of 2013-2015. Without other alternatives in process by 2013, an additional 45 MW peaking unit would need to be installed and operational prior to 2016.
4. Base Load – Based on earlier discussions, a recommendation to pursue an ownership interest in a baseload facility at a range of 50-75 MW. NorthWestern is currently evaluating participation in current baseload projects being planned in the region.
5. Wind –To comply with the Renewable Energy Objective, NorthWestern will continue to work with South Dakota commission to develop appropriate requirements in the state. An additional 25 MW of wind will be evaluated with an anticipated RFI estimated deadline in 1st quarter of 2010.
6. Other Renewable Energy Resources- To diversify the renewable resource portfolio, renewable supply sources, including DSM, will be identified and where appropriate, solicited.

Appendix A

Electric Plant Capacities

**NORTHWESTERN ENERGY - SD/NE
ELECTRIC PLANT CAPACITIES
AS OF DECEMBER 31, 2008**

Updated by Cory Huber

LOCATION	SAP LOCATION	TYPE	GENERATOR NAME PLATE RATING (KW)	2008 CAPABILITY			INSTALL DATE
				SUMMER (5/08-10/08)	WINTER (11/07 - 4/08)	AT TIME OF PEAK	
<u>Aberdeen, SD**</u>							
Aberdeen	2ABABN0040	Combustion Turbine	28,800	20,520	28,000	20,520	1978
<u>Clark, SD**</u>							
Unit #1	2HUCLK0060	Internal Combustion	2,750	2,600	2,720	2,600	1970
<u>Faulkton, SD**</u>							
Unit #1	2HUFLK0061	Internal Combustion	2,750	2,600	2,720	2,600	1969
<u>Highmore, SD**</u>							
Unit #1	2HUHMR0063	Internal Combustion	675	560	600	560	1948
Unit #2		Internal Combustion	1,360	1,250	1,330	1,250	1960
Unit #3		Internal Combustion	2,750	2,630	2,750	2,630	1970
<u>Huron, SD*</u>							
Unit #1	2HUHUR0064	Gas Turbine	15,000	11,030	14,500	11,030	1961
Unit #2	2HUHUR0062	Gas Turbine	42,925	43,700	49,000	43,700	1991/92
<u>Redfield, SD**</u>							
Unit #1	2HURED0065	Internal Combustion	1,360	1,300	1,320	1,300	1962
Unit #2		Internal Combustion	1,360	1,300	1,320	1,300	1962
Unit #3		Internal Combustion	1,360	1,300	1,320	1,300	1962
<u>Yankton, SD*</u>							
New Plt. #1	2YKYNK0080	Internal Combustion	2,276	2,170	2,170	2,170	1974
New Plt. #2		Internal Combustion	2,750	2,750	2,750	2,750	1974
New Plt. #3		Internal Combustion	6,500	6,500	6,500	6,500	1975
New Plt. #4		Internal Combustion	2,000	2,000	2,000	2,000	1963
<u>Mobile Unit**</u>							
Unit #1	2HUHUR0021	Internal Combustion	500	500	500	500	1955
Unit #2		Internal Combustion	1,750	1,750	1,750	1,750	1991

* Manned less than 24 hours

** Unmanned

*** Retired Sep 25, 2008

Big Stone, SD

Unit #1	1BSBSP0600	Steam	122,850*	107,240	112,060	107,240	1975
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*Name Plate	525,000NWPS Share 23.4% = 122,850
Summer Capacity	458,290NWPS Share 23.4% = 107,240

Big Stone, SD

Diesel		Diesel	269*	235	235	235	1975
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*Name Plate	1,149NWPS Share 23.4% = 269
Summer Capacity	1,004NWPS Share 23.4% = 235

Sioux City, IA

Neal #4	1NLNLP0630	Steam	55,558*	55,910	55,910	55,910	1979
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*Name Plate	639,996NWPS Share 8.681% = 55,558
Summer Capacity	644,050NWPS Share 8.681% = 55,910

Beulah, ND

Coyote I	1CYCYP0620	Steam	45,578*	42,700	42,700	42,700	1981
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*Name Plate	455,780NWPS Share 10% = 45,578
Summer Capacity	427,000NWPS Share 10% = 42,700

TOTAL CAPACITY (kw)	Steam	223,986	205,850	210,670	205,850
	Other	117,135	104,695	121,485	104,695
		<u>341,121</u>	<u>310,545</u>	<u>332,155</u>	<u>310,545</u>

2008 Peak was 284,085 on July 11,2008.

2008 Capability: Summer (5/1/08-10/31/08)
 Winter (11/1/07-4/30/08)