

## **Environmental Externalities**

This Resource Plan includes the environmental externality cost values as required by Commission order with the exceptions noted below. The environmental cost values as required by Commission order were updated through 2006 and published on July 12, 2007. Because 2008 is the base year for our plan, we escalated the Commission's values to 2008 using our 1.88 percent growth rate. For CO<sub>2</sub> values, we used values derived from our study and following discussion with environmental parties. This is consistent with the 2004 Resource Plan Order. Although different than the Commission's range, these values provide important assessment of potential CO<sub>2</sub> emission regulation. We note that the Commission considered this issue recently in Docket No. E-999/CI-07-1199 discussions were still in progress. However, we are not inconsistent with the Commissioners' direction in this docket.

The second change is in our evaluation of the costs of oxides of nitrogen ("NO<sub>x</sub>"). Because the Clean Air Interstate Rule ("CAIR") will impose a NO<sub>x</sub> allowance trading system on electric generating facilities by 2009, Xcel Energy included the estimated costs of NO<sub>x</sub> allowances on future NO<sub>x</sub> emissions, rather than apply NO<sub>x</sub> externality values. We believe that the NO<sub>x</sub> allowance costs represent a more accurate picture of future environmental costs on our system. Including both NO<sub>x</sub> allowance costs and externality costs would amount to a double counting of emission costs on our system. This change is consistent with the Commission's handling of the sulfur dioxide ("SO<sub>2</sub>") allowance trading program, in that it eliminated the SO<sub>2</sub> externality value when the SO<sub>2</sub> allowance trading system was fully in effect.

The first step in the process of applying externality values is to identify the emission rates associated with existing Xcel Energy generation facilities and purchased power contracts and estimate emission rates for each pollutant for new generation additions. Estimates are incorporated into Strategist modeling. The next step is to assign a location category to each resource so that the appropriate externality range can be applied to emissions from the resource.

The third step in estimating externality costs for resource options is to estimate the energy production throughout the planning period, using the Strategist model. For each resource, total energy production is multiplied by the unit heat rate and emission rate to estimate total emissions of the pollutant in question from each resource for the planning period. Total emissions are then multiplied by the appropriate externality value for the location. Total externality costs for all facilities in the scenario are summed to establish an estimate of total scenario externality costs.

### **CO<sub>2</sub> Analysis**

The issue of global climate change is in the forefront of public policy debates in the United States. Today, Congress, state legislatures and policy makers across the country and around the world are gradually identifying and adopting policies to address greenhouse gas (“GHG”) emissions. In Minnesota, Governor Pawlenty and the Legislature have made global climate change a top priority, most notably through the Next Generation Energy Act.

Global climate change and the likelihood of future GHG regulation underlie the approach proposed in this Resource Plan. Xcel Energy believes that by the time we file our next Resource Plan, the nation will be subject to regulations designed to reduce GHG emissions, and that those regulations will have a significant impact on the Company’s operations.

Global climate change is a complex issue that affects the Company in many ways. This discussion touches on the major aspects of global climate change as a resource planning factor, beginning with federal, state and regional policy initiatives, continuing with the impacts of climate policy on our business landscape including the pricing of CO<sub>2</sub>, and concluding with the implications for this Resource Plan.

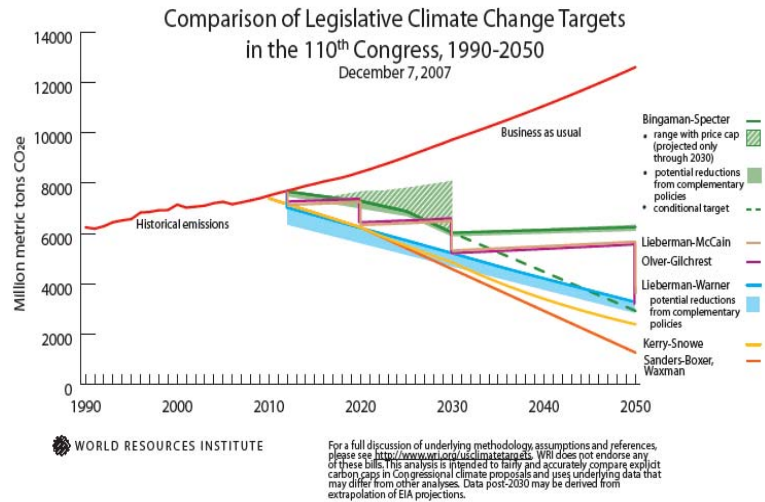
*Federal Legislative Proposals*

The current Congress is considering a number of bills that address global climate change. These bills include legislation sponsored by Senator Bingaman, Senator Lieberman, Senator Boxer, and Senator Kerry, among others. The bills usually have some bi-partisan support. Although these bills vary in structure and format, most of them share several common traits. On December 5, 2007, the Senate Environment and Public Works Committee passed the American Climate Security Act sponsored by Senator Lieberman and Senator Warner. Like the other climate policy bills under consideration, the Lieberman-Warner bill would impose CO<sub>2</sub> emission limits on the entire economy and target some level of emission reductions by 2020. The bills all target much more aggressive reductions by 2050. They would use a “cap and trade” policy structure – placing an overall limit on GHG emissions across the economy and allowing sources to trade emission allowances with each other to meet their emission targets. However similar, the bills vary dramatically in their particulars, including whether they incorporate “safety valves” (i.e. maximum carbon prices) and how they allocate emissions.<sup>1</sup> A comparison of the reductions proposed by the bills is shown in Figure 11-1.

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<sup>1</sup> Xcel Energy supports a national Clean Energy Portfolio Standard, which would use a mechanism similar to a renewable portfolio standard to promote the use of clean technology and limit GHG emissions from the utility industry.

**Figure 11-1**  
**GHG Emission Trajectories Under Proposed Federal Legislation**



Many of these programs are generally designed to reduce CO<sub>2</sub> emissions to levels that, according to many computer models, would put the U.S. share of global emissions on a trajectory to help stabilize atmospheric CO<sub>2</sub> concentrations at 450 to 550 parts per million, or roughly twice pre-industrial levels.

Most recently, on December 6, 2007, the House passed legislation that in addition to increasing fuel economy standards for cars and light trucks sold in the United States, the legislation requires utilities to produce 15 percent of electricity from renewable sources by 2020.

*State and Local Climate Policies*

The states are not waiting for Congress to act. States throughout the country are proposing CO<sub>2</sub> emission reduction programs and using other policy mechanisms to address GHG emissions. In Minnesota, the Legislature and Governor Pawlenty have already passed the most stringent renewable energy standard in the nation and both

aggressive energy efficiency requirements and statewide GHG emission reduction goals through the Next Generation Energy Act. This also requires a plan for regulatory action and establishes a formal stakeholder process (the Minnesota Climate Change Advisory Group) to make recommendations on future policies related to climate change. It further reinforces the regulatory process that requires CO<sub>2</sub> valuation in resource planning. Prospective state and federal climate policies have profound implications for the Company's resource planning.

*Impacts of Climate Policy on the Energy Industry*

To meet the challenge of global climate change and prospective regulation while continuing to provide reasonably priced, reliable energy service to its customers, Xcel Energy and the industry will need to undertake significant changes.

First, because of the long planning periods that must be employed in the utility industry, we need to act early and make decisions about our resources despite the fact that climate change regulation has not yet been implemented.

Second, there is today no single "solution" that will allow the Company to achieve significant GHG reductions while meeting its obligation to serve its customers. The Company must rely on a diverse portfolio of clean resources available today to bridge the gap to a clean energy future tomorrow. Integrated transmission planning will be a critical component of this strategy because it can link utility customers to the clean energy supplies (e.g. renewable energy resources and areas with good geologic sequestration opportunities).

Third, as these technologies evolve, we must have the flexibility to adjust our strategies. It is highly likely that investment in research, development and deployment will need to be reconsidered in order to meet the challenges of the new energy landscape. Today's programs may be supplanted by new approaches to innovative technology in the regulated utility context.

### *Carbon Dioxide Pricing*

There are many GHGs, but CO<sub>2</sub> is the most important for policy and planning purposes. CO<sub>2</sub> pricing provides a suitable representation of regulatory risk and climate policy direction. The two main types of GHG emission reduction policy proposals are “cap and trade” programs that require reduced levels of emissions in conjunction with tradable emissions allowances, and “carbon tax” programs that levy a fee on GHG emissions. Both impose a price for CO<sub>2</sub> emissions to fossil generators in the electric power sector. A CO<sub>2</sub> price could come from the market for emissions reduction under a cap and trade program, or could come directly from a carbon tax. In either case, the CO<sub>2</sub> price imposes a new operating cost to new and existing fossil power plants.

To develop our CO<sub>2</sub> emissions price scenarios, we have researched recent, publicly available analyses of mandatory greenhouse gas policies. Numerous analyses of U.S. GHG emission reduction policies have been performed and we have selected a set of analyses that we believe represent the range of current public thought about U.S. CO<sub>2</sub> pricing. In addition to these analytic results, we have also reviewed CO<sub>2</sub> price curves based on the statutory price ceiling or “safety valve” prices from three proposed federal bills. We have also included the carbon proxy cost of \$9/ton used in other dockets. On December 7, 2007, in Docket No. E-999/CI-07-1199, the Commission adopted new interim values for CO<sub>2</sub> to be used in resource planning for 2008, a cost estimate range from \$4 to \$30 per ton. An Order has not yet been issued in this case.

**Table 11-1  
 Levelized Carbon Dioxide Prices From Various Sources**

<b>Scenario Name</b>	<b>Note</b>	<b>Levelized 2010-2030 \$/metric ton CO<sub>2</sub>e</b>
Bingaman '06 (EIA)	EIA analysis from January 2007 of Bingaman 2006 cap proposal, "Phased Auction" or main case. Bingaman's policy has since been updated	\$9.16
Bingaman '06 (Safety Valve)	Carbon price set at statutory price ceiling (not a modeled result) from Bingaman 2006 cap proposal	\$10.15
Bingaman '05 (Safety Valve)	Carbon price set at statutory price ceiling (not a modeled result) from Bingaman/NCEP 2005 cap proposal	\$10.42
2003 PSCo Resource Plan Proxy Cost	2004 Settlement Agreement between stakeholders related to Comanche 3 coal plant	\$12.01
Bingaman '07 (NCEP)	NCEP analysis from July 2007 of Bingaman 2007 cap proposal. Based on EIA "High Technology" case	\$13.19
Lieberman '06 (EIA - Low Price)	EIA analysis from July 2007 of Lieberman-McCain S. 280 cap proposal, "Fixed 30 Percent" or high offsets case	\$16.10
Lieberman '06 (US EPA - Low Price)	US EPA analysis from July 2007 of Lieberman-McCain S. 280 cap proposal, "Senate Scenario," ADAGE model	\$16.24
Bingaman '07 (Safety Valve)	Carbon price set at statutory price ceiling (not a modeled result) from Bingaman 2007 cap proposal	\$17.40
Lieberman '06 (US EPA - High Price)	US EPA analysis from July 2007 of Lieberman-McCain S. 280 cap proposal, "Senate Scenario," IGEM model	\$22.99
MIT (Low Price)	MIT Analysis from April 2007 of a policy that includes a safety valve, titled "Core scenario: 287 bmt"	\$23.72
Lieberman '06 (EIA - Medium Price)	EIA analysis from July 2007 of Lieberman-McCain S. 280 cap proposal, "S.280 Core" or medium offsets case	\$25.19
Lieberman '06 (EIA - High Price)	EIA analysis from July 2007 of Lieberman-McCain S. 280 cap proposal, "No International" or low (domestic only) offsets case	\$32.97
MIT (Medium Price)	MIT Analysis from April 2007 of a 1995 by 2020, 50% below 1990 by 2050 policy, titled "Core scenario: 203 bmt"	\$54.79
MIT (High Price)	MIT Analysis from April 2007 of a 1990 by 2020, 80% below 1990 by 2050 policy, titled "Core scenario: 167 bmt"	\$71.18

As demonstrated by the table above, there is a significant range of possible CO<sub>2</sub> values. Based on our research, we believe that the range of CO<sub>2</sub> price scenarios in the analyses shown above will encompass most likely GHG emission reduction policies. To better compare the CO<sub>2</sub> price curves from the analyses considered, we performed a simple levelization analysis. Levelization allows us to compare price curves from analyses and statutory “safety valve” prices with different starting years and escalation rates. To levelize the price curves, we calculated the net present value of each CO<sub>2</sub> price curve from 2010-2030 and then created a levelized series of annual prices from 2010 to 2030 with an equivalent net present value. We note that while these levelized values are useful for comparison purposes, we used CO<sub>2</sub> price curves rather than

levelized values in the actual Resource Plan modeling work. Table 11-2 below presents the levelized CO<sub>2</sub> price results used in our Plan. In light of the significant ongoing changes in the political climate regarding GHG emission regulation, we believe that the “Medium” scenario set forth below is the appropriate base case for modeling and analysis, and that the “Low” and “High” represent appropriate sensitivities.

**Table 11-2  
 2007 CO<sub>2</sub> Price Scenarios**

<b>Scenario</b>	<b>2008 Price</b> (\$/short ton CO <sub>2</sub> )	<b>2030 Price</b> (\$/short ton CO <sub>2</sub> )	<b>2010 Price</b> (\$/metric ton CO <sub>2</sub> )	<b>2010-2030 Levelized Price</b> (nominal \$/metric ton CO <sub>2</sub> )
Low	\$9.00	\$16.39	\$11.02	\$13.34
Medium	\$20.00	\$32.77	\$22.05	\$26.69
High	\$40.00	\$65.54	\$44.09	\$53.38

By including the prices above in our various planning scenarios, we have evaluated the costs of different carbon-regulatory scenarios and different resource mixes. Our Preferred Plan reduces our carbon footprint in excess of 20 percent over the planning period. By doing so, we will reduce our exposure to the costs of future carbon regulation. We believe this information provides an appropriate tool for considering future carbon regulation scenarios and attempts to incorporate the risk analysis required in the 2004 Resource Plan Order. Nonetheless, we believe the developments on CO<sub>2</sub> make our analysis an appropriate low, medium and high scenario and consider the needed resources to comply with the RES. Adding coal resources without sequestration would significantly add carbon and risk for our ratepayers.

**Clean Air Interstate Rule**

In March 2005, the U.S. Environmental Protection Agency (“EPA”) issued the Clean Air Interstate Rule (“CAIR”) to further regulate sulfur dioxide SO<sub>2</sub> and NO<sub>x</sub> emissions. The objective of CAIR is to cap emissions of SO<sub>2</sub> and NO<sub>x</sub> in the eastern United States, which includes Minnesota. CAIR addresses the transportation of fine



particulates, ozone and emission precursors to nonattainment downwind states. CAIR has a two-phase compliance schedule, beginning in 2009 for NO<sub>x</sub> and 2010 for SO<sub>2</sub>, with a final compliance deadline in 2015 for both emissions. Under CAIR, each affected state will be allocated an emissions budget for SO<sub>2</sub> and NO<sub>x</sub> that will result in significant emission reductions. It forms the basis for a cap-and-trade program where state emission budgets or caps decline over time. States can choose to implement an emissions reduction program based on the EPA's proposed model or they can propose another method, which the EPA would need to approve.

### **SO<sub>2</sub> Analysis**

SO<sub>2</sub> allowances will continue to be needed for affected units under the Acid Rain Program ("ARP"). The CAIR SO<sub>2</sub> program will work in conjunction with the ARP and will require allowances from the same pool of allowances as the ARP. CAIR will require the use of allowances at a ratio of two allowances per ton of emissions for allowances allocated from 2010 through 2014, and 2.86 allowances per ton of emissions for allowances allocated for 2015 or later. Additionally, banked ARP allowances allocated for years before 2010 can be used under CAIR at a ratio of one allowance per ton of emissions.

We hold a bank of allowances because the number of allowances we receive from the EPA each year is greater than the number of tons of SO<sub>2</sub> our units emit. Since the ARP uses a cap and trade system, allowances can be sold. We have recently completed a preliminary analysis of allowance needs and concluded that we will have a surplus of SO<sub>2</sub> allowances even with the more stringent requirements of the CAIR program. SO<sub>2</sub> reductions from the MERP will also contribute to our bank of allowances. No additional changes are needed for compliance with the ARP or the CAIR SO<sub>2</sub> program.

We plan to complete a more detailed analysis and submit a proposal to the Commission in 2008 that details the number of allowances we believe we could sell over time without jeopardizing any operations, and a proposal for use of the proceeds

from such sales. History has shown that it is very difficult to predict the forward market price of emission allowances. This is primarily due to trading volume and the availability of banking. Trading volume is important because a low volume of trading (a “thin market” with few participants) can lead to increased price volatility, and at times vulnerability to strategic bidding and speculative price manipulation. Banking is important because the size of the SO<sub>2</sub> allowance bank that has been built up has a long-term effect on the price of emissions by keeping the price lower than it would be otherwise through increasing supply and market volumes, strengthening price competition. The decision to bank or sell credits in excess of immediate compliance needs depends largely on a company’s risk management strategy. As a result, we will value the allowances and the amount we will propose to sell closer to the filing date of our proposal.

### **NOx Analysis**

Under CAIR’s cap-and-trade structure, we can comply with NOx requirements through capital investments in emission controls or purchase of emission “allowances” from other utilities making reductions on their systems.

Based on a comparison of projected NOx emissions for CAIR-affected units with scheduled allocations of NOx allowances, we expect to have enough allowances to comply with CAIR after our current projects to lower NOx emissions are completed. Whether or not there is a shortfall depends on the actual emission rates achieved and the demand on generating units. For any residual shortfall, we will purchase allowances.

There are several projects that are planned or that have been implemented that will lower NOx emissions: the Allen S. King plant MERP (construction complete), High Bridge plant MERP (coal-fired boilers are shut down), Riverside plant MERP (coal-fired boilers 6 and 7 will be shut down in 2008 and boiler 8 will be shutdown in 2009), and the Sherco plant NOx reduction projects. The Sherco plant NOx reduction projects consist of installing low-NOx burners, dampers, monitoring equipment and

controls. Work was completed on Unit 1 in 2007 and on Unit 2 in 2006, and is scheduled for Unit 3 in 2008.

These approved NO<sub>x</sub> reduction projects plus the option to purchase allowances if needed comprise the Company's strategy for complying with the CAIR NO<sub>x</sub> program. Our current analysis shows that additional NO<sub>x</sub> reduction projects are not cost effective, especially when allowance purchases could cover any periodic shortfalls. We will continue to forecast emissions as the projects that will reduce NO<sub>x</sub> emissions are completed and emission rates can be verified. The cost of purchasing NO<sub>x</sub> allowances in the first phase of CAIR (2009-2014) are estimated at \$5 million.

### **Mercury Analysis**

Xcel Energy, recognizing that mercury is a pollutant of concern, has undertaken research to better understand our mercury emissions and control technologies. We use low sulfur coals from Montana and Wyoming that have relatively low mercury concentrations compared to coals from other parts of the country. Mercury is regulated by both the federal Clean Air Mercury Rule ("CAMR") and the Minnesota Mercury Emissions Reduction Act ("Mercury Act") legislation. A description of each is provided below.

#### *Clean Air Mercury Rule*

In March 2005, the EPA issued CAMR, which regulates mercury emissions from power plants for the first time. The CAMR uses a national cap-and-trade system, where compliance may be achieved by either adding mercury controls or purchasing allowances, or a combination of both. When fully implemented, CAMR will reduce utility emissions of mercury from 48 tons per year to 15 tons per year; a reduction of nearly 70 percent. It affects all coal- and oil-fired generating units across the country that are greater than 25 MW. Compliance with this rule occurs in two phases, with the first phase beginning in 2010 and the second phase in 2018. States will be allocated mercury allowances based on coal type and their baseline heat input relative to other

states. Each electric generating unit will be allocated mercury allowances based on its percentage of total coal heat input for the state. Similar to CAIR, states can choose to implement an emissions reduction program based on the EPA's proposed model program, or they can propose another method, which the EPA would need to approve. We currently estimate that we can comply with CAMR through capital investments in emission controls or purchase of emission allowances.

#### *Minnesota Mercury Legislation*

On May 2, 2006, the Minnesota Legislature passed the Mercury Act, which provides a process for plans, implementation and cost recovery for utility efforts to reduce mercury emissions at certain power plants. The Mercury Act covers units at our A. S. King and Sherco generating facilities. Under the Mercury Act, we have installed and will maintain and operate continuous mercury emission monitoring systems. The information obtained will be used to establish a baseline from which to measure mercury emission reductions. Mercury emission reduction plans must be filed by utilities by Dec. 31, 2007 for dry scrubbed units such as Sherco Unit 3 and A.S. King and by Dec. 31, 2009 for wet scrubbed units such as Sherco Units 1 and 2. The Plans are required to indicate the technologies most likely to reduce emissions by 90 percent. Implementation of the plans is required by Dec. 31, 2009 for one of the dry scrubbed units, Dec. 31, 2010 for the remaining dry scrubbed unit and Dec. 31, 2014 for wet scrubbed units.

At the present time, we anticipate that sorbent injection using a form of chemically treated powderized carbon will be the most environmentally effective and cost-effective emissions control technology at the dry scrubbed units. Details of the available options and the analysis leading to a selection of specific mercury control projects for each unit will be filed with the Commission, Department, and Minnesota Pollution Control Agency pursuant to the Mercury Act requirements.

## **CO<sub>2</sub> Sequestration Analysis**

In addition to emissions trading, carbon capture and storage (“CCS”) offers the potential for contributing to the stabilization of atmospheric CO<sub>2</sub> concentrations. While the potential benefits of integrated gasification combined cycle (“IGCC”) and other technologies to support CCS are clear, there are significant infrastructure, regulatory, financial and liability issues that must be resolved before the sequestration of a significant percentage of the CO<sub>2</sub> emissions from a large energy project can become a commercially available, viable option.

“Geologic sequestration” refers to the disposal of CO<sub>2</sub> by injecting it at high pressure into suitable underground repositories. Several geological formations can accept and store CO<sub>2</sub> for extremely long time frames, according to research carried out to date. In some instances the CO<sub>2</sub> can be used to increase the flow of oil or gas fields, a technique known as enhanced oil recovery (“EOR”) that is employed by the petroleum industry in several parts of the world. Deep saline aquifers are another promising type of geologic formation for long term CO<sub>2</sub> sequestration.

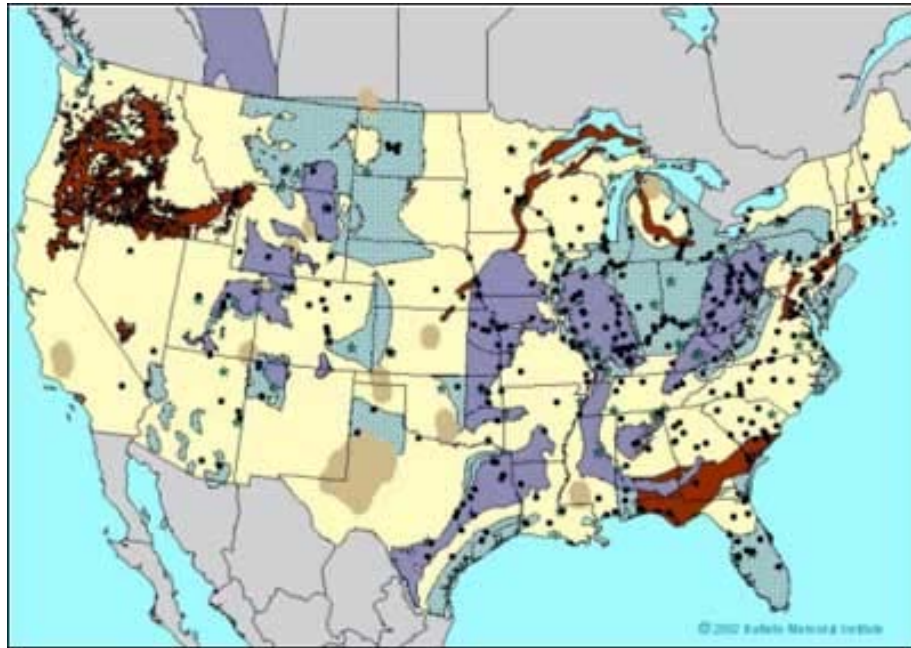
### *Geologic Sequestration Potential*

A recent document published by the Global Energy Technology Strategy Program (“GTSP”) on CCS suggests that there are not any viable CO<sub>2</sub> sequestration opportunities available in Minnesota.<sup>2</sup>

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<sup>2</sup> Carbon Dioxide Capture and Geologic Storage, Global Energy Technology Strategy Program, page 26.

**Figure 11-2**  
**Geological CO<sub>2</sub> Sequestration Potential in the US**



In 2007, the Minnesota Legislature commissioned the Minnesota Geological Survey to conduct a study of the potential capacity for geologic carbon sequestration in the Midcontinent Rift system in Minnesota. The study must be presented to the Legislature, by the Commissioner of Natural Resources no later than February 1, 2008. While the initial draft research findings from the Midcontinent Rift study appear to be promising, there is very little known about many aspects of the rift. Identifying the potential for geologic sequestration is only a very small first step. Exploration, mapping, and tests at the experimental and demonstration scale would be required to develop a better understanding of the geological sequestration opportunities for the Midcontinent Rift. This effort has not even begun and will take large-scale effort over a long period.

Therefore, any projects to capture CO<sub>2</sub> from a clean coal plant in Minnesota would presumably need to first complete a comprehensive study and possibly field demonstration of potential Minnesota geologic capabilities, or construct a pipeline to transport the CO<sub>2</sub> outside of Minnesota for geologic sequestration.

#### *CO<sub>2</sub> Pipeline Transport Potential*

CO<sub>2</sub> is transported in a supercritical fluid state to maximize piping efficiency. The closest connection point into an existing CO<sub>2</sub> pipeline to Minnesota is in Beulah, North Dakota, requiring the construction of hundreds of miles of new pipeline.

Recent research indicates that it may be preferable to locate a power facility that will capture and store CO<sub>2</sub> nearest to the load thereby reducing transmission losses and costs and pipe the CO<sub>2</sub> to the closest reservoir for sequestration. This suggests that a future power system with significant amounts of CCS will require a very large CO<sub>2</sub> pipeline infrastructure.<sup>3</sup> Today, only a modest network of CO<sub>2</sub> pipelines exists, carrying 49 Mt of CO<sub>2</sub> per year. Plausible capture rates of CO<sub>2</sub> from U.S. electric power production would produce a CO<sub>2</sub> stream of approximately 2,000 Mt of CO<sub>2</sub> per year. The CO<sub>2</sub> pipeline infrastructure necessary for sequestration of CO<sub>2</sub> emissions is likely to be on the same scale as the existing natural gas pipeline infrastructure.<sup>4</sup>

#### *Infrastructure Integration*

The large-scale integration of the CO<sub>2</sub> capture, transportation and storage components for a large-scale energy project has not been commercially demonstrated.

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<sup>3</sup> Adam Newcomer and Jay Apt, "Implications of generator siting for CO<sub>2</sub> pipeline infrastructure", Carnegie Mellon Electricity Industry Center Working Paper CEIC-07-11.

<sup>4</sup> CEIC-07-11.

The GTSP report suggests that large-scale CO<sub>2</sub> capture storage systems are probably still decades away.

### *Regulatory Issues*

There are a number of existing federal laws governing interstate pipeline activities, hazardous wastes, and underground injection wells and their controls, some of which may apply to CO<sub>2</sub> storage activities. At the state level, there are regulations governing capture, transport and injection that have been developed for the oil and gas industries and a wider range of injection activities. Site ownership issues also fall under the jurisdiction of state laws, which vary considerably from one state to another.

On October 11, 2007, EPA announced plans to develop regulations under the Safe Drinking Water Act to establish a clear path for commercial-scale geologic sequestration of CO<sub>2</sub>. EPA plans to propose regulatory changes to the Underground Injection Control program under the Safe Drinking Water Act in the summer of 2008.

### *Financial Issues*

As with other high cost and long-lived investments, financial issues play a large role in the development of a power plant. For new plants constructed with CCS, the costs of CO<sub>2</sub> disposal and transporting the CO<sub>2</sub> to the sequestration site will be site specific. These costs must be considered in the siting process and must be factored into the overall cost of the resource.

### *Liability Issues*

While the practice of injecting CO<sub>2</sub> into oil and gas fields to enhance oil recovery is not new, significant questions remain with respect to the ownership and liability for



the sequestered CO<sub>2</sub>. Potential legal issues include liability in the event of accident or leakage, and the property rights of landowners above geological storage sites.

The Department of Energy (“DOE”) site selection process for the FutureGen project considered the ownership and liability for CO<sub>2</sub> as a key criteria. In the July 21, 2006 submittal of the document from the FutureGen Alliance to DOE entitled “Results of Site Offer or Proposal Evaluation,” the Alliance indicates that, in part, its rationale for the selection of the two sites in Texas was attributed to the State of Texas’ agreement to assume title to and liability for the CO<sub>2</sub> produced from the project.

### **Conclusion**

Environmental regulation and uncertainty regarding future changes have a significant impact on our choice of future resource plans. In this Resource Plan, Xcel Energy is taking another major step toward a long-term vision. The Company is committed to making real progress on critical environmental issues including global climate change, mercury control, and other air emission reductions. Through a prudent, portfolio-based approach, we believe that the risk of future regulation can be effectively managed. Our conversion of coal plants to natural gas, renewable energy leadership, commitment to energy efficiency and conservation and continued upgrades to our most efficient coal and nuclear plants all contribute to this portfolio-based approach.

By taking immediate and proactive actions in this Resource Plan, Xcel Energy estimates that it can reduce CO<sub>2</sub> emissions by over 20% from 2005 levels by 2020. Going further will require additional investments, successful research and development and many other supportive steps by many parties. For the current Resource Plan period, this portfolio positions the Company and our customers to be ready for environmental regulations as they develop in various jurisdictions.

Our Five Year Action Plan includes the following:

- *We will complete our analysis of SO<sub>2</sub> allowances and submit a proposal to the Commission detailing the number of allowances we believe we could sell over time without jeopardizing operations and a plan for use of the proceeds from such sales.*
- *Explore other environmental opportunities, including Black Dog repowering.*
- *File our Mercury Plans.*
- *Select resources to meet the CO<sub>2</sub> reduction targets.*
- *File our Sherco Environmental/ Uprate Plan.*