National Conference of State Legislatures

Electricity Policy Options for Montana

A Report and Discussion of Policy Options

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Executive Summary

NCSL completed this study at the request of the Montana Legislature's Transition Advisory Committee (TAC). The TAC requested an independent analysis and discussion of the policies available to it to address, in particular, electricity service for small customers in Montana.

Montana's situation is distinct from that of many other states that have adopted electric industry restructuring policies.

- It is small, with a widely dispersed load.
- Its major investor-owned utility has sold off its generating plants and its transmission and distribution wires business.
- It has significant renewable and nonrenewable resources within the state.
- Its transmission system is constrained, limiting its ability to export power.

Montana is like many states, however, in that it has begun to allow both small and large customers the option to choose an alternative electricity provider. Also like many states, it has seen a good deal of switching among the largest customers and very little switching among the smallest customers. It is precisely this limited amount of switching activity among the small customers that led to this study. If, as seems likely, the current set of policies will not achieve the objectives laid out in SB 390, then what steps can the state take? The study poses a selection of policy options divided into three primary areas.

1. Redesign the system to either offer financial incentives to people who switch or raise the prices for people who do not switch such that they see economic value in switching.

2. Recognize that, at least for a while, small customers are not likely to switch. Attempt to find policy approaches tailored to the needs of small customers that bring the benefits of competition but leave in place the protections of regulation. These approaches might best be classified as hybrids of regulation and competition.

3. Step back entirely from the idea of a competitive retail market and, instead, explore ways for the government to be directly involved in the procurement and sale of electricity. This set of approaches is best exemplified by the failed "Buy the Dams" initiative in 2002.

This study focuses most heavily on the policy approaches in the second segment above, since that is the area about which Montana policymakers expressed the greatest interest. It focuses

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on ways to adopt an approach used in Oregon that offers consumers a choice of electricity products, some of which are marketed by an independent company and sold by the utility. It also focuses on one approach used in Maine to put out for bid the privilege of serving small customers. The bidder with the best price and terms wins the privilege of serving those customers, and the utility commission does not review the prudence of the contracts underlying that bid. Finally, the report focuses (as requested) on the possibility of aggregating the load of the customers within a local government's jurisdiction. This aggregated load would be put out for bid and awarded to the bidder that offers the best price and terms. The common theme in all the above approaches is that they do not treat the small consumers on an individual basis; they treat small customers on an aggregated basis. Larger, aggregated groups of customers can in this way exercise greater buying power and in certain situations may be able to secure greater consumer protections.

The study also touches on two other issues that the TAC requested. One is transmission of electricity and the other is a set of overarching issues.

Transmission, or the business of delivering electrical energy from generator to loads, is under shared jurisdiction of the state and federal governments. The report focuses on the state role, which is in the area of power line siting and permitting, power line financing and taxation, and in the area of planning for new transmission on a state and regional basis.

The study also lays out two over-arching issues. One is the concept of developing a comprehensive state energy plan and planning process. The other is the idea of a renewable portfolio standard, such as those that have been adopted in 12 states. A portfolio standard is a requirement that any electricity retailer have within the portfolio of resources that it sells a certain percentage of renewable energy resources. Two states—Illinois and Hawaii—have adopted a nonbinding renewable energy target or goal. This study attempts to set out the advantages and disadvantages of each approach without taking a particular position on any.

Background and Purpose

NCSL performed this study at the request of the Montana Legislature's Transition Advisory Committee (TAC). The study's primary goal is to present an analysis of the policy options available to the Montana Legislature to serve default supply electricity customers, particularly the residential and small commercial customers. The primary aim of this analysis is to identify policy options that will take effect after 2007, by which time the existing system for serving default supply customers through Northwestern Energy will have expired.

This report identifies policy options that are available to Montana, and provides an analysis of these options in the Montana context. Ultimately, the decision about which options to pursue rests with the state Legislature. NCSL submits this report with the hope that it will provide useful guidance in the Legislature's decision-making process.

This report lays out a range of policies that includes several designed to encourage consumers to choose and marketers to market to small consumers, several that explore new means to bring benefits of choice to large groups of small consumers, and some that examine new institutions for delivering power to small consumers. The report is inclusive of policies rather than exclu-

sive, and provides a brief description and analysis of each. More detailed analysis of individual policies will follow, based on the TAC's interest.

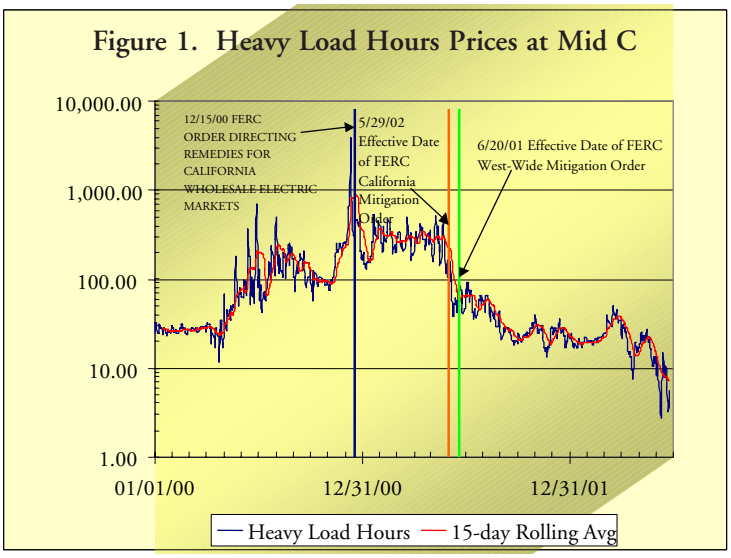
Organization of the Report

The report is divided into three sections. The first sets out the Montana context and background, with a description of Montana's situation compared to the rest of the country. This section provides important background for analyzing the policy options laid out later in the report. The second section addresses other Montana and other states' experiences to date with electric industry restructuring. The final section sets out a series of policy options that are available to Montana.

Prices Are Down; Why Consider New Policy Now?

After more than a year of near-blackouts, job losses, high electricity prices and economic disruptions on a scale that most people would have thought impossible at the close of the 1990s, the power markets have calmed. As figure 1 demonstrates, electricity prices have settled at levels that have not been seen since 1997 and 1998. Natural gas prices have fallen, and it appears that the threat of imminent blackouts has subsided. The crisis and the atmosphere of crisis that pervaded during 2000-2001 have receded, leading some observers to wonder what happened to the crisis.

Figure 1. Heavy Load Hours Prices at Mid C



Source: Northwest Power Planning Council, 2002.

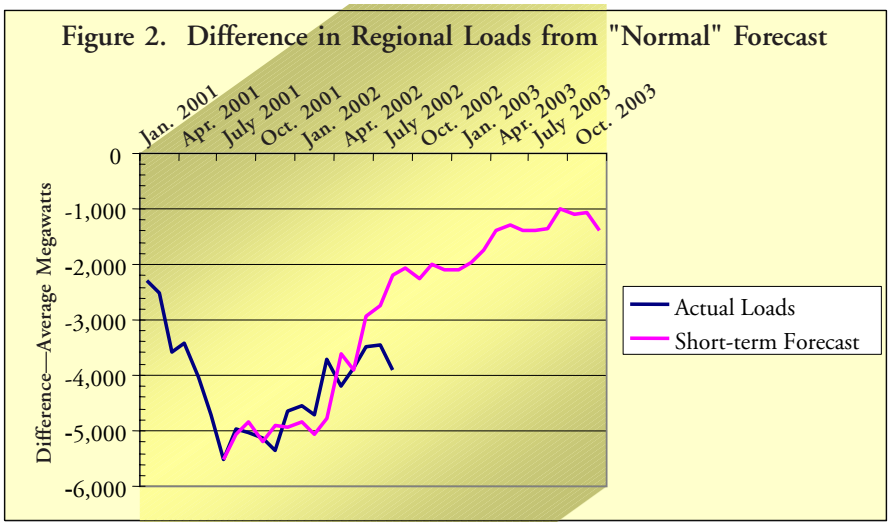
Yet this very atmosphere of calm offers an opportunity to assess and reassess state electricity policies in the context of the lessons of 2000 and 2001. The current atmosphere of calm also may mask some hidden risks in the power system. Some of the high and volatile power prices that came about in 2000-2001 are unlikely to recur and some of that price volatility will almost certainly recur. The risks may not be immediate, but instead may be seen in the longer term of two or three years.

The power market difficulties of 2000 and 2001 resulted from seven major factors:

- High natural gas prices
- A drought in the west
- Lack of sufficient generating resources to supply a growing economy
- An inadequate transmission system
- An immature wholesale power market
- An almost nonexistent connection between retail consumption and wholesale electricity markets, and
- An energy market subject to manipulation.

Since 2001, the economy has slid into recession and the demand for power has fallen as a result. Figure 2 shows that the demand for power currently is significantly below normal levels.

Figure 2. Difference in Regional Loads from "Normal" Forecast

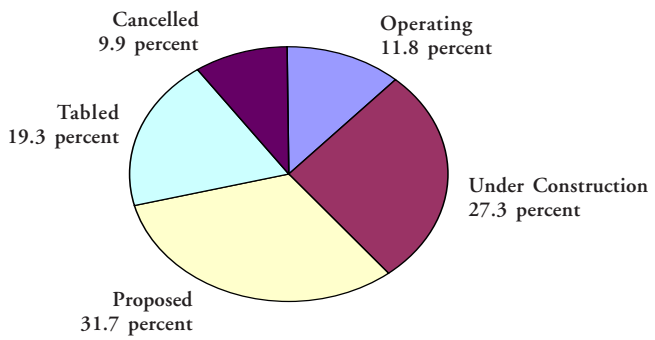


Source: Northwest Power Planning Council, 2002.

Natural gas prices have fallen again, and power generators stimulated by high electricity prices that existed during the period, brought approximately 15,000 megawatts of new generation on line in the West with approximately 5,000 more under construction. As a result, the near-term forecasts for 2002 through 2004 or 2005 show a system that is better balanced and unlikely to experience major problems.

Yet, the energy business of late 2002 is beginning to bear similarities to that of the late 1990s, prior to the crisis atmosphere of 2000. As electricity prices having fallen again, the incentive to invest in new generation has diminished. The capital markets now look askance at most new investments in power generation, partly as a result of the Enron bankruptcy. Of the many thousands of megawatts of new generation announced in 2000 and 2001, a significant portion now have been delayed or cancelled. Figure 3 shows this trend.

Figure 3. New Generation Planned or Cancelled



Source: EEI "Corporate Restructuring Activities," 2002.

Natural gas prices now hover near the levels that they exhibited prior to the 2000-2001 crisis. Although these prices have translated into lower power prices in an industry that is increasingly reliant on gas as a feedstock, it also has meant that the number of new gas wells has again declined. Because more than 90 percent of new power plants use natural gas, this bodes poorly for the future of low, stable gas prices.

Finally, although the economy is now either in recession or close to a recession, it will eventually recover, and economic recovery will increase demand for power.

These risks introduce a question: Is the Montana electricity policy sufficiently prepared should a new crisis appear, even if it is one of a smaller magnitude than that of 2000 and 2001? What changes have been put in place to insulate the state and the state's electricity users from the effects of such a crisis, should it again occur?

The Montana Context and Background

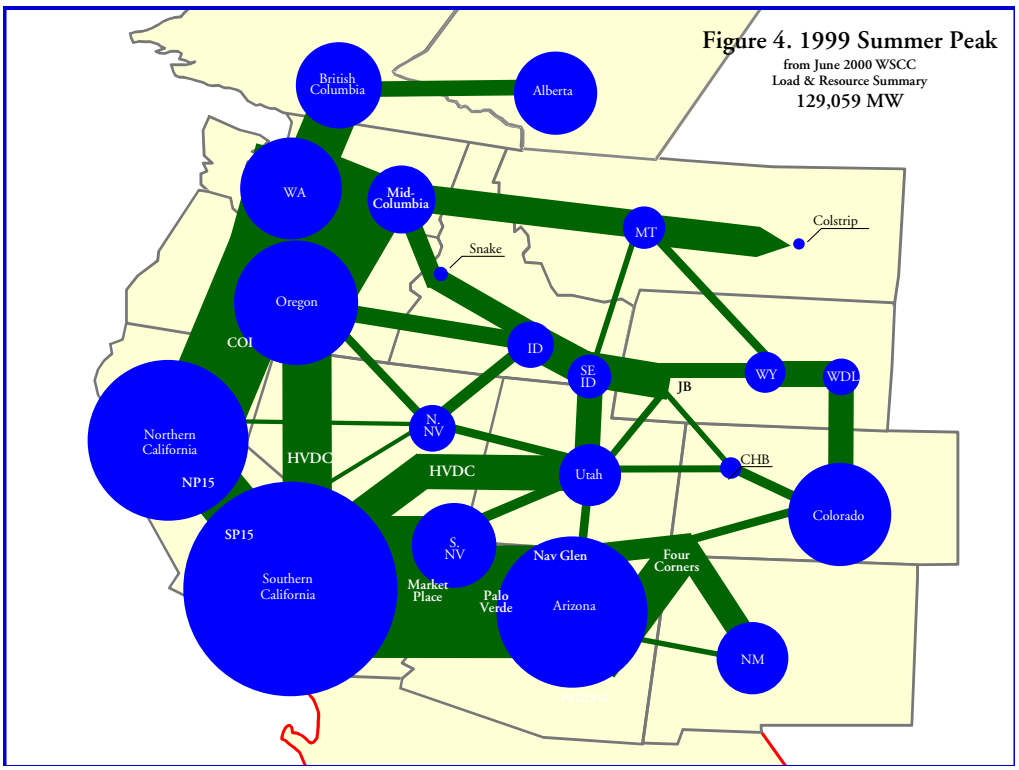
Montana differs from most other states that have adopted electric industry restructuring laws, and its approach to restructuring policies must be a careful balance of policies that have shown promise in other states and policy approaches that are unique to Montana. This section is important to Montana policymakers because not all the policies that the final section presents will be feasible for Montana, and it is Montana's unique situation that will determine what is feasible for the state. It is important that at least eight features about Montana's electric industry be considered.

1. Montana's Load Is Small

Montana's electricity usage is small compared to the rest of the country. The U.S. Department of Energy's Energy Information Administration shows that Montana electricity consumption ranked 41st in the nation, at approximately 13.5 million megawatt hours (MWH) in 1999.

Figure 4 shows how Montana's electricity consumption compares to that of other western states. The size of the circles indicates the size of the electric load in each state. Montana's relatively small load is important to consider in any general policy that considers attracting new marketers to the state, or to parts of the state.

Figure 4. Montana's Load Compared to Other Western Jurisdictions



Source: Western Interstate Energy Board, 2001.

2. Montana's Population Is Widely Dispersed

Montana's population of slightly more than 900,000 is the third most dispersed in the country, and the state's population as a whole ranks 44th in the nation.

3. Montana Relies Heavily on Electric Cooperatives for Power

Rural cooperatives serve a little less than one-third of Montana's customers, with investor-owned utilities serving the remainder. Cooperatives work in a far different situation from that of other power providers in the state, with long-term contracts in place to meet their power needs. Although cooperatives are not required to open their power markets to competition, they are allowed to do so. This situation stands in contrast to Northwestern Energy, which allows customers to shop, but is also assembling a portfolio of shorter-term power purchase contracts to meet the needs of customers who do not choose. Only two cooperatives, Flathead Electric and Glacier Electric, have opened to competition. Any electricity policy that Montana develops would benefit from addressing the special needs and situation of the rural cooperatives.

4. Montana Is Somewhat Transmission-Constrained

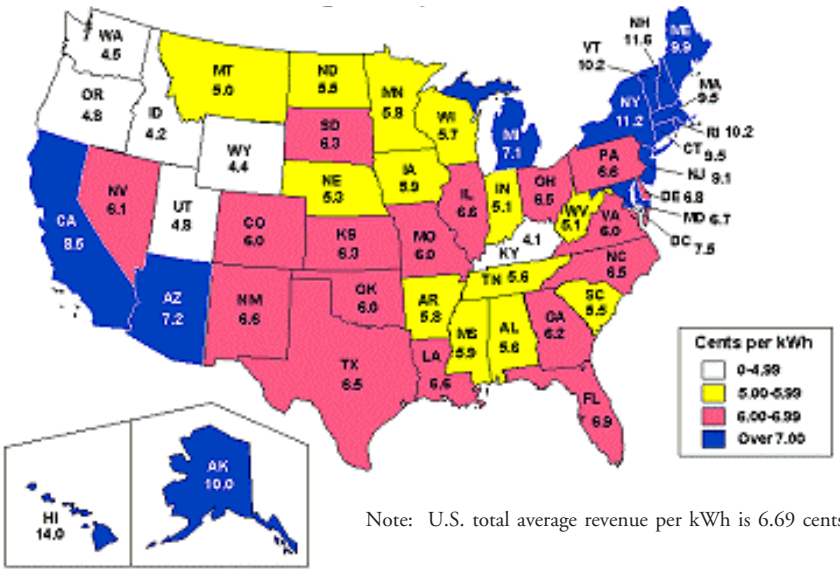
Like the power industry in most of the country, Montana built its power transmission system to serve local electricity loads. Over time, the transmission system grew to connect generation to more distant loads. Fundamentally, however, much of the power system in the West was not constructed to export vast amounts of power from Montana to the load centers that need the power in California or elsewhere in the West. An exception to this is the transmission lines built to accommodate the power that flows mainly from Montana's large Colstrip generating plants.

According to the Montana Department of Environmental Quality, Montana's transmission is contractually constrained for power flowing out of the state for much of the time. In other words, a new generator that wanted to sell power outside of Montana would have a difficult time guaranteeing itself access to the transmission system that would allow it to ship power out of the state. The physical constraints on the system are somewhat less severe than the contractual constraints and might allow better and more efficient use of the system under a new system of allocating the rights to use the transmission system. Such a system is under development and is subject to federal jurisdiction.

5. Montana's Power Rates Have Been, and Remain, Among the Nation's Lowest

Among the states in the continental United States, New York had the highest rates at 14.1 cents per kilowatt-hour (kWh). New Hampshire and Vermont ranked second and third at 13.6 cents per kWh and 12.1 cents per kWh, respectively. Washington reported residential rates at 5.2 cents per kWh. Kentucky and Idaho ranked second and third at 5.3 cents per kWh and 5.4 cents per kWh, respectively. As shown in figure 5, Montana is one of several other states (Nebraska, North Dakota, Oregon, Tennessee and West Virginia) where rates are less than 6.5 cents per kWh.

Figure 5. U.S. Per-Kilowatt-Hour Energy Prices



Note: U.S. total average revenue per kWh is 6.69 cents.

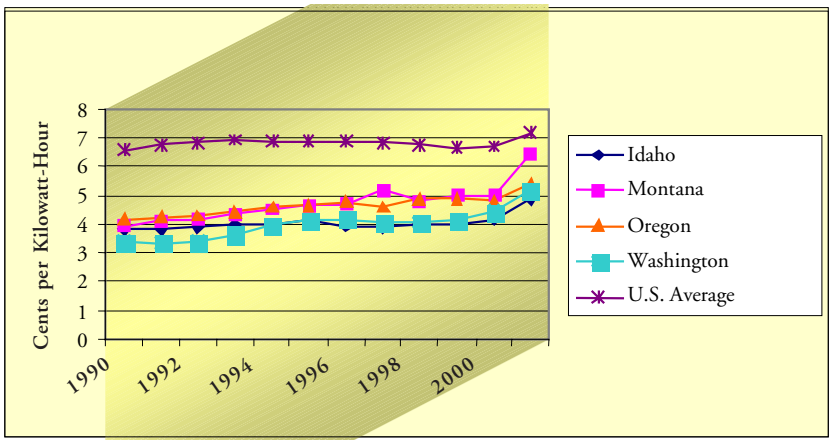
Source: Energy Information Administration, 2000.

The low rates in Montana are important for two reasons:

1. Low rates leave less room for rate reductions than high rates found in some other areas of the country. This is not to assert that electricity rates cannot be lower, or that large power users could not benefit from price reductions.

2. Montana's low rates are matched or even out-matched by still lower rates in surrounding states. To the extent that large consumers have the opportunity or motivation to move operations within the region, the regional difference in power rates can be significant. Figure 6 illustrates the regional comparison.

Figure 6. Comparison of Power Rates



Source: Northwest Power Planning Council, 2002.

6. Montana Is One Part of an Integrated Western Electric System

Montana generated 29.3 million kilowatt hours of electricity in 1999 but used only 13.874 million kilowatt hours of electricity. Its power generators export the remainder to other states. Montana's utilities have contracts to buy some of their generation but then buy the rest in the spot, short-term electricity market. The markets that determine the prices for both the long-term contracts and the short-term purchases are regional markets that reflect Montana's specific circumstances. They are not Montana-only markets.

These regional markets have exhibited volatile prices for the last several years due to circumstances generally beyond Montana's direct control. These circumstances included high gas prices, drought and low output from hydroelectric plants, lack of investment in new generation or energy efficiency over a period of several years and immature power market rules that would have encouraged appropriate investments and discouraged market manipulation.

To some extent, Montana is at the mercy of these outside, regional circumstances. To a large extent, however, Montana can develop policies to partially insulate itself from the volatility of the power markets. The final section of document sets out some of the policy responses that could give Montanans this opportunity.

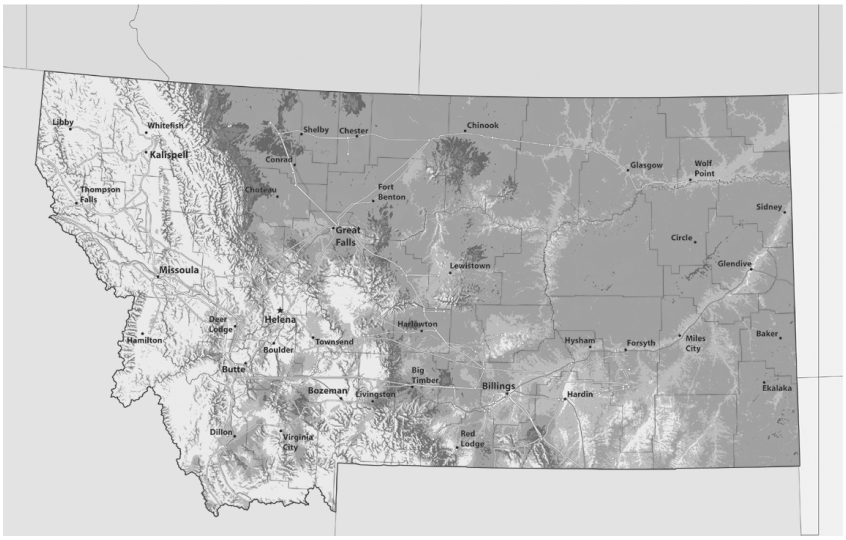
7. Montana Is Well-Endowed with Both Renewable and Nonrenewable Resources

Montana is home to some of the nation's most abundant and best quality renewable and non renewable energy resources. These resources give Montana significant long-term potential to export power if a high-capacity transmission system were constructed to allow those resources to reach market. Montana can also rely upon many of its own resources to supply its own needs.

Wind Resources

Montana's wind resource is the best of the 11 states in the western power grid. Its wind energy installations currently total less than 1 megawatt. Figure 7 shows the quality of the wind resource in the state. Wind sites in much of the eastern three-quarters of the state are characterized as good to excellent (described as class four or five). This high-quality wind resource means that both large-scale wind generators (in which power is pumped into the general grid) and small-scale wind generators (in which customers build and operate their own small scale wind generation) have a great deal of potential.

Figure 7. Wind Resources in Montana



Source: Renewable Energy Atlas of the West, 2002.

Solar

Montana's solar resource is strongest in the eastern one-third of the state, and is strong enough to support many cost-effective applications. Solar resources often work best in non-grid-connected applications such as water pumping, irrigation or other agricultural uses.

Figure 8. Solar Resources in Montana

Source: Renewable Energy Atlas of the West, 2002.

Geothermal

Montana's geothermal resource is strong in the area around Yellowstone National Park.

Coal

Montana's coal reserves are the highest in the nation, but its coal production is only sixth in the nation, largely because of comparative severance taxes. However, these figures are important only in a larger context of the particular type of coal that Montana produces, and what infrastructure exists to ship coal out of the state. Several points are relevant to Montana coal:

- About one-half of the coal produced in Montana contains higher sulfur levels, meaning that with current U.S. Environmental Protection Agency requirements the high sulfur coal can only be used in power plants that have scrubbers that capture and reduce sulfur emissions. The low sulfur coal (at 0.3 to 0.4 percent sulfur) in Montana comes out of the Spring Creek and Decker mines. The high sulfur coal (at 0.6-0.9 percent sulfur) comes out of other mines, including Big Sky and Colstrip. Wyoming coal, by comparison, often is in the neighborhood of 0.2-0.3 percent sulfur.

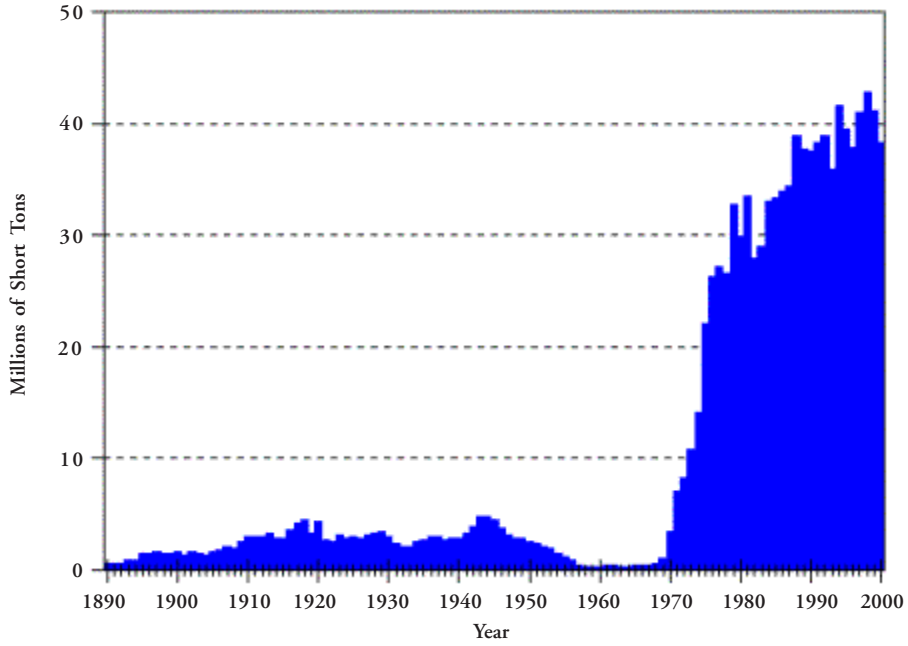
- A significant percentage of Montana coal contains high amounts of sodium. Since many existing boilers cannot handle high-sodium coal, the Montana coal market often is limited to new coal plants, or to coal plants that can use a blend of low- and high-sodium coal.

- Montana coal is generally of high Btu (energy) value, averaging around 9,000 Btu per pound. This is somewhat higher than Wyoming coal (which ranges from a low of 8,000 Btu to 8,800 Btu in energy value).

- Montana's coal market is regional, with about one-quarter of production used in-state, one-quarter shipped to Minnesota, one quarter shipped to Michigan and the remainder to

other states. Given the limited railroad infrastructure, this situation is unlikely to change significantly. Figure 9 illustrates the growth in Montana production, which escalated in the early 1970s with the shift from eastern coal motivated by EPA air quality regulations.

Figure 9. Growth of Coal Production in Montana



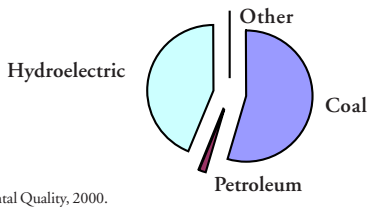
Source: Energy Information Administration, 2002.

- Montana coal is relatively high in mercury content, which may portend challenges for the Montana industry in the future if the U.S. EPA issues strict guidelines for mercury.

This abundance of resources in Montana is good news for Montana's ability to generate electricity. However, the transmission constraints referenced above limit the state's ability to ship power out of state. This limitation on the ability to ship power out of Montana will in turn hamper the ability to finance large-scale new generation of any sort. At the same time, the resources available to the state offer an opportunity; can the state use its native resources to diversify its own resource base?

It also is important to note that, aside from coal resources, Montana has not yet developed large amounts of its native energy resources. Figure 10 illustrates the current generation mix in Montana.

Figure 10. Electric Generation in Montana, 1999



Source: Montana Department of Environmental Quality, 2000.

8. Montana Already Has Established a Corporate Separation of its Generation and Transmission and Distribution Operations.

Many states have sought to encourage their utilities to erect a wall between the regulated and non regulated parts of their business. This wall would ensure that the regulated side of the business did not somehow subsidize or give an unfair advantage to the non regulated side of the business. Specifically, it would discourage the power delivery side of the business from favoring the power generation side of the business. This concern about market power holds that a generator that owns transmission and distribution—and has access to lists of customers and their usage patterns—could exercise a competitive advantage over another generator or power marketer that does not have equal access to those same informational and physical resources. Although the debates over how to address this market power issues are still occurring in many states, Montana is (perhaps by happenstance rather than by plan) in a situation that addresses these market power concerns.

Different companies (PP&L Montana and Northwestern Energy) own the generation and the power delivery businesses in the former Montana Power service territory. This separation in some respects offers greater flexibility to the state and to the industry; it also poses a new set of questions. For instance:

- What is or should be the role of the power delivery company (Northwestern Energy)?
- Should Northwestern Energy's role be that of a simple wires company that runs maintains and charges for use of the wires?
- Should Northwestern Energy also be in the long-term business of securing energy for Montana consumers (Montana already has made a decision to place Northwestern Energy in the short-term business of procuring power for Montanans).
- How should Northwestern Energy be compensated for its involvement in the long or the short-term power supply business?
- Is Northwestern Energy considered the long-term default supplier in a situation in which a marketer (for example) goes bankrupt or leaves the Montana market. What is Northwestern Energy's responsibility in such a situation?

Together, these eight underlying circumstances suggest that Montana's solution for serving its default customers must be carefully tailored to Montana. Specifically, Montana's load is small, rural and dispersed. Its rates are low and its potential to generate power from renewable and non renewable sources is enormous—but it is constrained by an inadequate transmission system. Any solution can take into account experiences from other states and jurisdictions but also must be crafted to work in Montana.

Major Assumptions and Lessons from Small-Customer Retail Markets

By late 2000, Montana and some 23 other states had enacted legislation that would open their retail power markets to competition. These complex laws were the result of lengthy negotiations and compromise. With only two exceptions—Oregon and Nevada—the new state laws aimed to give all retail customers access to competitive power markets and to the benefits of innovation and lower prices that the competitive market could provide. The goal of these efforts often was to reduce prices in the short-term and make the power industry more efficient in the long-term. These laws set up sometimes-lengthy transition periods during which the large utilities would be able to recover stranded costs (costs that the utilities had incurred, with approval of their regulators, before the start of competition that they would not be able to recover after the transition to retail competition). These transitions also were meant to give customers protection and immediate benefit by requiring lower rates, or by freezing rates were meant to shield them from any chance that their rates might go up.

The results of these new laws have shown that for the most part competition has been slow to come to the smallest of consumers, while the larger consumers have received more attention from marketers and generally been able to take advantage of the competitive market. Given the high usage and power bills for many large customers, this trend is not surprising.

Tables 1 through 4 illustrate this situation in Montana, California, Massachusetts and Ohio.

Table 1. Montana Switching Data

	July, 1998	Sept. 1998	July 2000	July 2002	Sept. 2002
# of Residential Customers Switching		--	943	80	77
Small Commercial		20	1179	1340	1274
Industrial	1	24	33	35	38

Source: Northwestern Energy, 2002.

The California market showed few residential customers switching to new providers. Of note, though, is that the vast majority of the customers switched did so to buy a "green" environmentally friendly product.

Table 2. California Switching Data, October 2000

	Residential	Commercial	Industrial	Agricultural	Total
Customers Switching	1.7%	7.5%	12.8%	2.5%	1.8%
Load Switching	2.0%	16.1%	27.4%	6.9%	11.9%

Source: California Public Utilities Commission, 2000.

Massachusetts reflects a similar but perhaps even more dramatic situation, with fully 38 percent of the industrial load having switched while less than one percent of the residential customers switched to a new provider. As with California, the largest customers who represent a relatively small number of the electric meters but a large percent of the kilowatt-hours were switching.

Table 3. Massachusetts Switching Data, March 2002

	Residential	Small/Medium Commercial/Industrial	Large Commercial/Industrial
Customers Switching	0.4%	4.2%	24.8%
Load Switching (Industrial Only)	-	-	38%

Source: Massachusetts Department of Telecommunications and Energy, 2002.

In Ohio, it is similarly the case that only a few residential and small business customers have sampled a competitive product. The only situation in which large numbers of small customers switched providers is in the Cleveland, Ohio, area (and much of northern Ohio) where a new organization known as the Northeast Ohio Public Energy Council aggregated a group of more than 300,000 customers through an "opt-out aggregation" program. These customers who lived in close to 100 cities and towns were given the option to buy power on their own or to let their municipal government buy power on their behalf. The opt-out aggregation process assumed that the customers would be a part of this large, aggregated group unless they affirmatively stated that they did not want to be a part of the group. This process is one of the only ways that large blocks of customers have thus far switched to a competitive provider. Otherwise, few competitors are marketing to the small customers and few of them are switching to new providers.

Table 4. Ohio Customer Switching Data, 2002

	Residential Customers	Small Commercial/Industrial	Large Commercial/Industrial
Cleveland	55%	22%	18.8%
Toledo	5%	20%	4%

Source: Ohio Public Utilities Commission, 2002.

There are several reasons that the markets have been slow to develop; however five reasons are particularly prominent.

Marketing Costs

Interviews that NCSL has conducted with retail electricity providers during the previous several years reveal that the costs of acquiring a new retail electric customer are approximately $200 per customer. Sometimes they are less; sometimes more. One other somewhat analogous example comes from the telecommunications industry. Excluding all other costs for mailing, personnel and so forth, it has been common practice for telecommunications providers to send $75 to $200 checks to potential customers; cashing such a check signifies agreement to switch to a new provider. This figure places a lower limit on the amount that telecommunications companies are willing to pay to acquire a new customer. It does not include other administrative and transaction costs, which also can be substantial.

Small Dollar Savings for Small Customers

Small customers, by definition, use little electricity. The Energy Information Administration of the U.S. Department of Energy cites 700 kWh per month as a typical customer usage.

Savings to customers in competitive power markets, when customers have switched, have ranged from 2 percent to 10 percent.

Figure 11 illustrates the potential savings for a small Montana customer.

Figure 11. Potential Savings for a Small Montana Customer

Regulated Electric Charges

Residential Services

Monthly Bill

Description	Usage Input	Date Effective 7/1/2002 ---thru--- Present Current Rates Usage	Rate ($)	Total	Date Effective 5/8/2001 ---thru--- 7/1/2002 Prior Rates Usage	Rate ($)	Total
Residential Services							
	750						
Res. Supply-Energy Summer		750	0.037366	$ 28.02	750	0.025973	$ 19.48
Res. CTC-QF		750	0.002171	$ 1.63			
Res. Transmission-Energy		750	0.008107	$ 6.08	750	0.008107	$ 6.08
Res. Dist.-Service Charge				$ 4.60			$ 4.60
Res. Distribution-Energy		750	0.025234	$ 18.93	750	0.025234	$ 18.93
Res. BPA Exchange Credit		750	-0.002435	$ (1.83)			
Res. Sale Credit		750	-0.004468	$ (3.35)			
Res. USBC		750	0.001334	$ 1.00	750	0.001334	$ 1.00
Total Regulated Electric Charges - Monthly				$ 55.08			$ 50.09

Source: Northwestern Energy

A Typical Residential Customer's Bill:	$55.08
Amt. of Typical Bill For Power Delivery, Other Charges	($27.06)
Portion of Bill Subject to Competition	$28.02

Typical savings for a residential customer in other states have tended to be from 2% to 10%. If savings remain consistent with other states, the savings to a Montana residential customer will range from 56 cents to $2.80 per month.*

Note: This savings estimate is based on an assumed 750 kWh usage per month. Customers who do not use air conditioning or electric heat are likely to have lower usage, perhaps in the 400 kWh to 600 kWh per month range.

Source: Northwestern Energy, 2002.

Volatile, Evolving Wholesale Markets

Wholesale power markets have been volatile in most parts of the country between 2000 and 2002. In part because of rising gas prices, in part because the markets and the rules governing those markets were still evolving, and in part because of a long-term lack of investment in the power sector, these markets have gone from historically low prices to historically high prices and down again in a surprisingly short period of time. The volatility in wholesale markets has made it difficult for electricity retailers to make long-term commitments in the retail markets, since they often have not known how much their own power supplies would cost.

Retail Market Rules

The regulations placed on the so-called "deregulated" markets have had an important effect on the evolution of those "deregulated" markets. The regulated price for customers that do not choose an alternative provider usually determines the range of prices that competitors can charge. Yet, if that regulated price is set low enough (such that all customers whether or not they choose a competitor, see the lowest possible prices), it also may have the effect of excluding competitors from the market. Massachusetts set a regulated price of 2.8 cents per kWh in the early months of its restructuring at a time when wholesale prices exceeded 3 cents per kWh. Competitors found it impossible to make money in that market.

This choice in Massachusetts—and in most other states, including Montana—exhibits a choice that the most policymakers made to conceive default service as offering the lowest possible price. The alternative approach would be to conceive of default service as offering a "safety net" service that guarantees electricity service but does not guarantee it will be at the lowest possible price. Safety net service means higher rates for customers that do not choose a competitive provider and effectively creates a market that is more hospitable to competitors. This presents a difficult tradeoff between encouraging competition and seeking low rates; and few, if any states have chosen this course.

Small Margins on Serving Retail Load

With small retail margins, it has become clear that marketers need to have predictable conditions and few problems when they are in the small retail customer business. Small barriers make a big difference. If the goal is to create a market that encourages retail marketers, several circumstances must be in place.

- Wholesale markets must be predictable enough that retailers can absorb, or manage, their risk exposure.

- The pricing of the non competitive default service must be predictable and even high enough to allow the marketers to still make a profit.

- Retail market rules-including such items as billing, information disclosure, sharing of information, customer switching procedures and so forth-must be amenable to the retailers.

Small problems can become expensive and can make the marketers' job difficult. Yet, small—and sometimes even large—problems are common, if not inevitable in a transition as far-reaching as that being attempted in the U.S. electric power industry.

> The factors described above should not imply that retail competition cannot work, or that it will not work in the future for the smaller electricity customers. The results do imply that the model for retail competition in which marketers approach small customers on an individual—customer by customer—basis take longer than many policymakers had assumed, at least without some new structures in place. It also implies that there may be value in reexamining this model for retail competition for the smaller customers. As the TAC requested, this study provides options to serve retail electricity customers under various assumptions.

Policy Options

The policy options described below are offered under an assumption that the Montana Transition Advisory Committee is interested in exploring new options and policies to benefit the smaller electricity consumers. This effort has not focused on analyzing Montana's current policies.

Although the study focuses on policies that might not take effect until after 2007 and Montana has developed a structure to serve small default consumer loads through that time, it is not too early to develop new policies to take effect after 2007. The opportunity to discuss and analyze these policy options in a non-crisis atmosphere is valuable. The policy certainty that gives those involved the time to prepare and plan for how they will participate in the post 2007 structure is also valuable.

The policy options described below are grouped into three major categories, with a number of additional, over-arching policy options described, as well. These options are meant to illustrate the full range of policy options available to the Montana Legislature and to stimulate discussion on the range of policies. Subsequent direction from the TAC will determine which policies are explored in greater depth. The three major groupings of policies are:

1. Stimulate the retail market. Leave all segments of the market fully open to competition.

2. Recognize a longer transition for some customer groups than originally expected. Apply new, aggregation-based approaches to serving small customer loads. This set of options may be accomplished in the presence or absence of retail competition for small consumers.

3. Pull back from competitive markets for Montana customers. Explore means to involve government more fully in the provision of retail electric service.

Some overlap may occur among these three sets of policies. However, these categories are offered for discussion and organizational purposes. In addition to the three areas listed above, several potential policies stand on their own, or overlap all three areas.

A Question of Basic Policy

The Legislature faces an important, fundamental question of policy goals:

> Should the state *encourage* competition for small consumers because of its potential long-term benefits? Competition implies that consumers face both upside and downside risks and that those risks encourage them to make choices. A policy to encourage competition implies rates for the smallest, default customers that are not the lowest possible, but instead are "safety net" rates. "Safety net" rates are not the lowest possible rates, but they are high enough to encourage customers to switch to an alternative provider.

Or,

> Should the state *shield* default supply consumers from risks through mechanisms like price caps and low standard offer prices? Shielding consumers from risks and keeping prices low will remove the motivation for consumers to participate in competitive markets, but such a policy of explicit consumer protection is attractive, as well.

1. Stimulate the Retail Market. Leave All Segments of the Market Fully Open to Competition.

The first set of policy options explores several means to stimulate the market for the smaller customers. It is based on the following three assumptions:

- Some change to the existing system is warranted.
- Competition is achievable for all customer classes. However, to overcome economic barriers of high marketing costs and relatively low savings for small customers, some incentives are required.
- Competition, with incentives, is achievable for small customers on an individual basis, rather than on an aggregated basis.

Offer an Incentive to Customers that Switch to a New Electricity Provider

As described above, one major barrier to large-scale switching has been the relatively low electric rates in Montana (in comparison to those in other regions of the country) and the relatively small dollar savings that have been available to customers.

One means to counter this barrier is to give customers a financial incentive to switch to an alternative provider, much as many telecommunications providers currently do with incentive checks of $75 to $200. Electric marketers have not been able to offer incentive checks equivalent to the telecommunications providers. However, the incentive appears to achieve the objective of convincing people to switch to a new provider in the telecommunications industry.

Connecticut considered, and almost passed, this incentive during the 2002 legislative session. Ultimately, this approach was rejected as too burdensome for the default service customers that would have paid for the incentive.

> Montana could offer a customer incentive designed to convince customers to switch providers. If small customers switched to a new electricity provider, they would receive a check. The funding for this incentive could come from a small charge, structured like the Universal System Benefit Fund, on each customer's bill.

Raise the Standard Offer Price Now Given to Customers that do not Switch Providers

In their efforts to provide an immediate benefit and protections to consumers, most states either froze or mandated a reduction in electric rates, creating a low default service price. This low price has had the effect of 1) protecting consumers with low rates and 2) making it difficult for competitors to beat the low, stable price. The default service provider has passed through its

cost of power that was procured at wholesale. Marketers must compete against these wholesale prices, yet they still face marketing costs, described above.

One option to stimulate competition is to raise the default service price and, by doing so, to depart from the fundamental policy of lowest-possible-price default service to a philosophy in which default service is a higher-priced "safety net." Such a pricing structure would create room for marketers to both beat the default service price and sell power at more than the wholesale cost of energy. Such a rate structure would take into account a set of costs, such as retail marketing, that marketers must incur that the existing default supplier does not incur. Montana policymakers must find a balance between the two strategies of either raising electricity prices to encourage competition or keeping prices low to protect consumers' household budgets.

> Montana could change the concept of default service from the lowest possible price to a safety net philosophy, thus raising the default service prices and encouraging customers to switch.

Revise Rules for Customers Moving on or off the Standard Offer

A transition to a new market must strike a balance between encouraging companies or people to switch to a new competitive provider and offering a safety net for those customers to return to should their competitive option not meet their needs. The rules governing leaving and coming back to the standard offer default service offer this safety net, if customers are allowed back to the regulated service at a predictable rate. Such a safety net may give customers the confidence to know that they can return to the default supply in the event their competitive supply fails them. It is not desirable, particularly from the standpoint of the default supplier, however, to see customers entering and leaving default supply several times during the year. The default supplier is forced to maintain sufficient power reserves—and pay for those power requirements—to cover the unpredictability of customers that leave or come back to the standard offer.

Montana currently allows customers to leave the default supply and to return to default supply. Upon returning, however, the customer is required to stay on default supply for one year before re-entering the competitive market. This requirement is in place to allow the default supplier to effect adequate plans to meet its load.

The requirement that the returning customer stay on the standard offer for one year may have a dampening effect on the competitive market, by keeping customers who might otherwise buy from a competitor from doing so. Montana might consider two approaches.

Charge Customers to Come and Go

One approach is to allow customers to come and go from the default supply at will, but to charge them for the privilege of doing so. Such a charge could be structured to approximately compensate the default supplier for the costs that it incurs for meeting the needs of these customers.

Maine allows customers to go and to come as they please, but charges them two times the average of their previous two months' bills. The default supplier collects the two months of charges. Although Maine officials acknowledge that this may not be the exact, precise amount

that they should be charging, they assert that it has had its desired policy effect—to allow customers to come and go from standard offer service, and to offer some compensation to the default supplier.

> Montana could allow customers to come and go from default service, but charge them for the privilege of returning to default service after they previously had left.

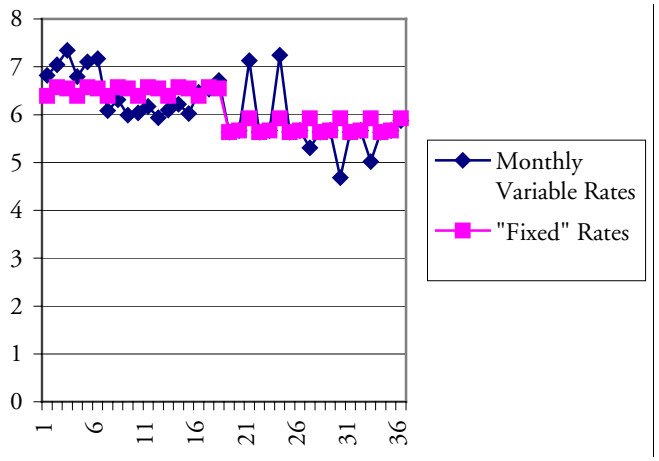
Establish a New Rate for Customers that Have Left and Want to Return to Default Service

Montana could establish a second, regulated rate class that more closely follows the market prices. Such a rate class would be modeled after an approach adopted in Massachusetts. Massachusetts forbids customers to return to what Massachusetts calls standard offer service once they have left it and, instead, places them in a different service class that the state calls default service. What Massachusetts calls default service differs from what Montana calls default service. Massachusetts' default service tracks market prices based on a forward curve of the market (predictions of future prices). It does not offer the stability of the standard offer price.

Massachusetts' default service is the generation service that is available to customers that do not receive service from a competitive supplier and who are not eligible for the regular default service because they have left that service or have moved within or into the service territory. As such, default service acts as a "generation service of last resort."

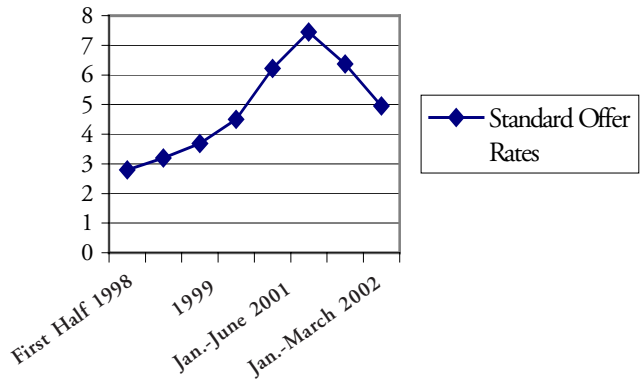
Massachusetts offers two pricing options to default service customers: 1) a variable pricing option in which the price changes monthly, and 2) a fixed pricing option in which the variable monthly prices are averaged and remain constant for six-month periods. Customers have the option to choose either of these default service options, depending on their risk tolerance. For illustration, the contrasting prices are listed below. Figure 12 illustrates the default service pricing in its two forms, variable and six-month fixed. Figure 13 illustrates the standard offer price. Standard offer pricing will be phased out in 2005. Note that as it gradually rises, customers will be encouraged to move off the standard offer toward competitive offerings. The steep rise in both prices in 2001 reflects fast-rising wholesale prices at the time, which were passed through to some degree in these rates as they were adjusted every year or six months.

Figure 12. Default Service Pricing



Source: Massachusetts Department of Telecommunications and Energy, 2002.

Figure 13. Standard Offer Rates



Source: Massachusetts Department of Telecommunications and Energy, 2002.

Montana could offer three generation service options: 1) competitive service, provided by competitive suppliers; 2) default service, provided by distribution companies; and 3) market-based default service, also provided by distribution companies. The price that the customer pays for generation service depends on the type of service the customer receives. Montana already offers options one and two. Option three, for customers who are returning to default supply, would be new.

Treat New Customers Differently from Old Customers

New customers to the default provider can be treated differently from existing customers. Two options are possible.

Place *new* customers in the same market-based default supply as customers who have left and now want to return to default supply. This market-based default supply option more closely tracks the market and is the same as described in Option C above.

Require new customers to make an affirmative choice of provider when they sign up for electric service. This choice would consist of any competitive offerings, as well as the standard service offered by the default service provider or the market-based rate described above.

Finalize Rules for Information Disclosure

Uniform disclosure of price, fuel source and environmental information provides a way for consumers to compare the competitive products being offered to them on a consistent basis. Disclosure also gives consumers of monopoly electricity providers the opportunity to understand how their power is generated. It becomes particularly important when marketers make claims that the products they are offering have "green" attributes. Since one of the main ways in which marketers have tried to distinguish their products is to make "green" claims, this can be important.

Disclosure can be used in monopoly or in competitive markets, although it is viewed as primarily an *educational* tool for consumers in monopoly markets. In California, where few small

consumers moved to a competitive provider, a recent study showed that well over half the consumers who had received a product disclosure label did not realize they had received it. This experience would imply only limited use of disclosure if markets are not competitive.

The commission began an effort to establish disclosure rules. One option is to focus on these rules in more depth and to ensure that they are complete.

Examine Possibilities for Advanced Metering Through a Pilot Program

One critical issue that many states and the utility industry have yet to fully resolve is the flow of information (and use of information) from the customer to the power supplier or wires company and back. A detailed understanding of the electricity usage patterns can help the power companies to design systems that take into account when the system is under most stress. Advanced metering also allows power providers to better manage demand and to offer incentives to customers to reduce demand strategically. When accompanied by price signals, advanced metering allows customers to shift their load from expensive, peak periods to less expensive, more efficient off-peak times. Two types of policies for metering are real time metering and time of use metering. Each has different costs and different benefits.

Real time metering is generally used for the large customers, and allows customers to adjust their electricity usage very quickly—often several times a day—to take into account changing electricity prices. The prices that customers with real time meters pay for power change in tandem with wholesale electricity markets.

Real time meters benefit customers that have an incentive to watch their electricity prices closely—customers that use a great deal of electricity. They may be less useful to smaller customers, given the smaller economic value of adjusting very small electric loads. A real time meter costs approximately $200.

Time-of-use programs are described in more detail below, but may involve advanced metering. For example, Washington's Puget Energy uses a time of use metering program for its residential customers. Puget's customers get feedback on their usage and can adjust their usage according to that feedback and to rates that are higher during peak times and lower during off-peak times. Meters for this type of time of use program cost considerably less than the real time meters–approximately $85 installed, or less if the meters are leased rather than sold. The Puget program has prompted a shift of between 5 percent and 10 percent from on- to off-peak times.

Although the cost of real-time meters is high, a market may yet exist for such a service in small customer markets. An option for Montana to consider is to test the market for real-time meters for smaller customers through a pilot program. This pilot program would address a number of issues, including:

a. Who pays for the meters.
b. Who owns and controls the information that the meters produce.
c. How much different classes of customer will use such information.
d. Whether the information generated by real time meters and real time pricing offers a benefit to different segments of Montana consumers.

e. Whether such information can be used to stimulate greater demand response, rather than the standard, averaged electric rates that most consumers currently pay.
f. How best to structure a real time pricing program. Should it be combined with a safety-net cap on rates to ensure that they do not increase too much in a short period, for instance?

2. Recognize a Longer Transition for Some Customer Groups than Originally Expected. Apply New, Aggregation-Based Approaches to Serving Small Customer Loads.

The second set of policy options explores strategies to bring benefits to small electricity customers through means other than individualized, customer-by-customer retailing. It makes four assumptions.

- Retail competition, structured in a way in which the smallest customers would be approached on an individualized, customer-by-customer basis, is unlikely to attract marketers in the near term, nor is it likely to attract a great deal of interest on the part of the small customers themselves.

- The retail market will not stimulate private aggregators for the small customers because of the costs of doing so.

- Aggregating (putting customers and customer load together in large groups) offers a way to reduce to a minimum both marketing costs and reduce what customers are required to do in order to switch providers.

- For some options below, choice of product, if not always choice of product provider, is a desirable goal. Choice of provider either fits or does not fit into each of these options; these options can be structured to either shut down the competitive market for small customers or to leave it open.

Offer a Regulated Portfolio of Choices to Small Consumers

The experience to this point has shown that small customers approach the idea of competition differently than do large customers. Not only are their usage patterns different, but the volume of their usage also is different, and reaction to prices differs. In general, the smallest customers have tended to ignore the competitive possibilities offered them, and few marketers have tended to market to these small customers. Large customers have tended to switch in greater numbers. It is possible that different markets require different policies.

One policy option that presents itself as a result of this pattern in the small customer markets is to offer small customers a choice of product, but not necessarily a choice of provider. Oregon has developed a model that Montana might consider following. The Oregon model works as follows:

Oregon utilities had not sold their generation or wires property. As a result, the choice of default supplier was relatively clear. In this option, Montana would need to designate a default supplier or select it in another manner described in the next policy option, below.

Small customers do not have the ability to choose a new provider; large customers do have that ability, although they have tended thus far to stay on either a variable-rate utility plan or on a fixed tariff. Montana could follow this model or could leave the market open for customers to choose another provider. Leaving the market open would tend to increase the risk to the default supplier; a stable and predictable load will tend to reduce both risks and overall costs in the near term.

Oregon has approximately 1.2 million customers that are affected by the portfolio. Small customers have the option of choosing from four or five products, depending on which utility serves them:

The Fixed Renewable Option, through which customers pay a surcharge of $3.50 over their basic service rate to buy renewable power in 100 kWh blocks. The two programs under this option, run by the utilities, are outgrowths of their previous green energy programs. The funding that the extra charge generates goes toward acquisition of new renewable resources. In Oregon, this option is run by the utilities. As of Aug. 1, 2002, approximately 9,000 customers had signed up for this option.

The Renewable Usage Option, which is billed at a per kWh rate of an additional 0.8 cents per kWh, means that all the kilowatt-hours that a customer purchases are green. The standard that the Oregon Public Utilities Commission set was that 50 percent of the resource must be renewable, of which 15 percent must be new renewable. The remaining 50 percent must meet carbon and emissions standards. In practice, all the resources represented under this option are renewable. The provision of this service and marketing of the service were competitively bid out, with Green Mountain Energy selected to market and provide the service. As of Aug. 1, 2002, approximately 10,500 customers had signed up for this option.

The Habitat Option is structured similarly to the Renewable Usage Option (above), but with an extra charge of 0.99 cents per kWh to support fish habitat restoration. As of Aug. 1, 2002, approximately 4,200 customers had signed up for this option.

The Time of Use Option offers per kilowatt-hour prices that vary depending on the time of day. For example, on peak is defined as between 3:00 p.m. and 8:00 p.m. in summer and between 6:00 a.m. and 10:00 a.m. and 5:00 p.m. to 8:00 p.m. in winter, on weekdays. Portland General Electric, an investor-owned utility, offers this option. The generation component of the rates for on-, off- and mid-peak service are as follows:

On-Peak:	7.751 cents/kWh
Mid-Peak:	4.651 cents/kWh
Off-Peak	2.843 cents/kWh

These rates are for generation service only. A charge of approximately 2.596 cents/kWh is assessed for transmission and distribution, in addition to a fixed customer charge of $10 or $16.

Because electricity is more expensive to produce during the day, at peak hours, the electricity system and customers can benefit if customers shift their usage from on- to off-peak periods. Depending on the generation mix (i.e. which power plants are used at what time of day, and their emissions profile), this pricing program also can reduce emissions into the air, if the generation used at peak periods is dirtier than the generation used during off-peak periods. Finally, it also has the potential to increase energy efficiency if people reduce their overall usage–rather than shift all their usage to later periods of the day. This option requires installation of advanced meters. As of Aug. 1, 2002, slightly more than 3,000 customers had signed up for this option.

The Monthly Market Option is offered only by Pacific Power & Light. If gives customers a price that varies each month, over a 12 month period. Customers sign up for the option and are given a year-long, monthly list of prices that they will pay. Pacific Power & Light develops these prices based on a forward price curve. Customers commit to stay with this program for a 12-month period. As of Aug. 1, 2002, 1,432 customers had signed up for this option.

In general, interviews with various parties-from consumer advocate to power marketer to utility to utility commission-indicate a positive impression of Oregon's program.

Montana could adopt a variation of the Oregon program, taking advantage of the lessons from the program. These include the following.

Most parties in Oregon agree that there may be too many products offered. Instead of five products, Montana might consider reducing the total number of products to two or three. Oregon's initial legislation indicated that the utilities should offer a basic generation (similar to standard default supply) option, an environmental option and a market-based option. Oregon's combination of three environmental options shows in part the history of utilities that did not want to end their own renewable "green pricing" programs, as well as a particular interest in fish habitats.

In order to ensure ongoing analysis and input into the program, establish a committee to oversee and make recommendations to the commission on the direction of the program, products to be offered, contract terms, etc. Consider having the members of this advisory committee appointed by a combination of the governor and the House and Senate.

Use competition in delivering these services where possible. Oregon elected to have the utilities bid out the privilege of marketing and delivering two of the three green products. The result has been a collaborative agreement between the marketer that won the bid, Green Mountain Energy, and the utilities.

This element of the program brings a new party to the delivery of products to the marketplace, with a bottom-line incentive to make the program work. It also provides a safe environment in which a marketer may be able to test new products. As a program develops, it may be possible to bring in new marketers to offer products through this regulated program. Another possibility and variation comes from the experience in New York, where Niagara Mohawk allows several marketers-rather than a single marketer-to offer products to Niagara Mohawk customers.

Montana's load is smaller than Oregon's, which may influence the degree to which the program may be transferred to Montana. In previous situations, marketers have indicated that a load of at least 30,000 customers is necessary to make their investment in a new territory worthwhile. Montana load is higher than that level.

Monitor and evaluate the program on an ongoing basis in order to be able to change it as circumstances warrant.

Another option for Montana to consider would be to have the renewable product subject to less price volatility than a fossil-fuel-based product. Such a price guarantee is possible in a regime in which there are no fuel costs. It also may serve to attract more customers to the product option. Customers would in essence be paying more not only for the renewable product but also for price security.

This option can be set up in the presence of or in the absence of the ability to select an alternative provider. Establishing such a policy option when customers can still choose an alternative provider may raise other issues when customers move from the regulated green or time of use products to a competitive provider.

Montana could establish a program that offers a choice of products offered through, but not necessarily by, Northwestern Energy or any default supplier in place.

Bid Out the Privilege of Supplying Default Consumers

If the assumption remains that marketers will not actively market on a retail customer-by-customer basis to small customers, it still is possible to bring competition to the market by putting out to bid the load of these customers. The default suppliers, in other words, can be chosen through competitive means. Oregon, in the program described above, chose to designate a default supplier. Montana and many other states also have chosen to designate a default supplier. Maine has chosen the alternative approach of putting out for bid the privilege of supplying energy to non-choosing customers. This option involves the following steps.

- The utility commission, acting on legislative authority, puts out for bid the load of one or several customer classes. In Maine, the commission put out for bid the residential and small commercial loads, the large commercial loads and the industrial loads. Competitive

suppliers bid for the privilege of serving those loads and respond in their bids with price and terms for how they will serve the load.

- The accepted bids are not subject to a contract-by-contract prudency review. The marketer, by submitting and agreeing to a bid price, then is tasked with ensuring that it can deliver at that price. It is assumed that the marketer has developed a portfolio of generation and financial hedges to ensure that it will be able to deliver on its proposed price.

- The commission reviews the bids that marketers submit to it and may elect to narrow the number of bidders in order to negotiate with a smaller pool of bidders. In Maine, the commission hired a consultant to help analyze the bids during the initial years, but now has gained enough expertise that it does not need outside assistance. It remains a significant task for the commission to review the bids. In Maine, it requires approximately four months for three to four people to review the bids.

- Winning bidders are bound by force of law to deliver upon their promised bid. They do not sign a contract with the commission in Maine, since the flow of dollars does not involve the commission.

- The distribution utility can bill and collect—and can charge a fee for such service to the marketer. As an alternative, the marketer could bill and collect, while charging a fee to the utility for such service.

- This policy option does not necessarily shut down the ability of small consumers to choose an alternative provider; the ability to choose can co-exist with this approach.

- This policy option also may be combined with option 1, described above, in that the competitive default supplier could be required to offer a portfolio of specific products.

This option differs significantly from the approach taken to the default supply portfolio in Montana. In the Montana approach, Northwestern Energy was designated as default supplier and was required to assemble a portfolio of resources for the commission to review, contract by contract. In the competitive default supply option, the default suppliers are selected based on the price that they offer and that the commission accepts (perhaps after negotiation). The supplier is responsible for meeting the price, and no contract prudence review takes place. The commission's role is very different in this competitive situation, and its workload is heavy earlier in the process (in reviewing proposals) rather than later in contract prudence review. One risk of this approach is that the commission may put out a bid for default supply, and no one (or no responsive bidder) responds.

> Montana could put out for bid its default supply load (or portions of the default supply load).

Authorize Opt-Out Aggregation

Opt-out aggregation allows a municipality, county or other local branch of government to assemble the electric load of all or a part of the customers within its jurisdiction and let that load to the best bidder. The citizens of the municipality, township, county or other govern-

ment aggregator are assumed to be part of the buying group unless they affirmatively say that they do not want to be part of the group. The citizens of the municipality have the opportunity to participate in the process that determines whether the town will act as an aggregator. They then have the opportunity to either participate or to not participate in the aggregated group. Usually, they would do so by returning an opt-out postcard within, for instance, 21 days. Opt-out aggregation is a low-cost way to pool the buying power of a large number of customers because of the low marketing costs involved in signing up a large group of customers.

Opt-out aggregation is distinct from opt-in aggregation, in which an aggregator-such as church, a union, a not-for-profit or a for-profit group-arranges a power purchase on behalf of its members. Such aggregation requires the church, union or other aggregator to persuade each customer to affirmatively agree to be a part of the buying group. Montana law currently allows opt-in aggregation.

Opt-out aggregation also differs from municipalization, in which a municipality either generates or purchases power in order to sell it to customers within the geographic boundaries of the municipality. In opt-out aggregation, however, the transaction and payments are between a power marketer (selected by the government aggregator) and the individual customer. The government is neither buyer nor seller.

Opt-out aggregation has been successful in both Massachusetts and Ohio to pool the load of a large number of customers (approximately 45,000 in a Massachusetts pilot program and more than 400,000 in Ohio). These customers have received discounts ranging from approximately 2 percent to approximately 15 percent. The customers that received the smaller discounts also bought a product that included some "green" component, which had the tendency to reduce the size of the total discount.

State law must authorize opt-out aggregation because of its negative check-off element; without direct authorization, local governments cannot institute the negative check-off. Three states have enacted such a law: Massachusetts, Ohio, and Rhode Island. Rhode Island enacted its law in 2002 as part of an overhaul of its 1996 restructuring act.

Advantages

- Opt-out aggregation dramatically reduces marketing costs for power marketers and dramatically reduces the number of steps that a consumer must take in order to participate in the competitive market. For both these reasons, it has the effect of minimizing the fundamental economic hurdle facing small commercial retail markets.

- Opt-out aggregation can pool complementary electric loads. Aggregation can apply not only to the smallest consumers but can combine the loads of the low-income, government, commercial or even industrial loads, as well. This has the effect of smoothing the demand for power through the day or season, thus enabling the small customers with a poor load factor (i.e., those who use relatively little electricity and use it primarily at the peak periods) with those who have a better, or complementary, load factor. The net effect can be to reduce the contracted price for power.

- Opt-out aggregation can offer an element of local control over electricity purchases. Although a retail competition model in which individual customers purchase power on a customer-by-customer basis from marketers offers the ultimate in choice, opt-aggregation can move the decision-making process closer to the ultimate consumer. Consumers can express their preferences to the local government officials who structure the request, for proposals and bids with electricity suppliers.

Disadvantages

- Opt-out aggregation does not offer the ultimate level of choice that the customer-by-customer model of retail restructuring offers. It is instead a model in which customers are switched to a new provider. Experience from Ohio shows that even though the aggregator may make best efforts at contacting and informing each customer of the need to send in a postcard or vote in an election on aggregation, some customers still will not understand what is happening until after they have been switched.

- Opt-out aggregation requires expertise. It is not without costs to the aggregator. The opt-out aggregation efforts in Ohio and Massachusetts have required local governments to hire consultants to help them evaluate bids and to devote considerable time to developing requests for proposals. Montana may be in an advantageous situation because the League of Cities has both experience and expertise in negotiating and evaluating bids for electric service.

- Aggregation, if successful, will have the effect of quickly separating large groups of customers from the default supply. If the remaining customer base is characterized by a worse load factor than those customers that left, aggregation could have the effect of raising prices for the remaining customers.

Montana could authorize opt-out aggregation.

Reexamine how the decision is made about when and whether to phase out the above options. Montana has set a date certain at which the current portfolio assembled by Northwestern Energy is set to end and had previously set another date certain. The state may elect to continue to rely on setting a date, regardless of circumstances, or it could set conditions for the Public Service Commission to evaluate as to whether the market should be opened for retail competition.

Montana could remove rate caps and other protections based on a set of predetermined criteria, rather than on a pre-specified date.

3. Pull Back from Competitive Markets for Montana Customers. Explore Means to Involve Government More Fully in the Provision of Retail Electric Service.

The third set of policies offers means to further involve the government—defined as either the state or as local or county government—in the provision of power to Montanans. It relies on the following three assumptions.

The competitive market will not result in meaningful competition for the small electricity consumers.

Local control is important to the power industry.

Private interests will not provide the benefits to Montana consumers that a public, Montana-based organization would provide. The private, investor-owned model for the power industry offers only a short-term view of the investments needed in the industry. Government involvement will shift the investment focus to an outcome based on longer-term investments that benefit Montana.

Establish a State Commission to Buy or Condemn Hydroelectric Resources

This policy is based on the Buy the Dams initiative that will shortly be before the Montana voters. Placed in a national or regional context, this is one of a number of proposals to increase public ownership of utility assets. In Oregon, for instance, there are two proposals to issue public bonds to buy the assets of Portland General Electric. One option is that the City of Portland would buy the assets; the other is that a consortium of counties would do the same. The second option, described below, is similar.

Rather than describe the initiative, NCSL will discuss some of the issues that such a proposal brings up. This list of issues is not meant to be exhaustive, but is meant to provide perspective. Less time is devoted to this initiative, since it is beyond the control of the Legislature.

Local control—An initiative that allows the state to own and control dams will give the state greater control over these hydroelectric resources for uses beyond power generation.

Control over generating assets—State control over generating assets provides a physical hedge against volatility in energy prices. If natural gas prices rise, as they did in 2000 and 2001, the cost of those hydroelectric resources is not affected. The price of power from these assets also is not subject to the wholesale electricity markets. This is good if the wholesale markets are high, but may not be advantageous if wholesale electricity prices move below power rates charged for electricity generated by the hydroelectric plants.

Amount of load covered by the hydroelectric generation—Hydroelectric generation will cover only a portion of the total Northwestern Energy load in Montana, if they run at their full capacity. This leaves some exposure to other markets, whether the long-term power contract market or the spot market.

Hydroelectric generation is subject to drought and may force a move to spot markets—Although hydroelectric resources can be relatively inexpensive, a year of drought can cause difficulties. The public utility districts in the Pacific Northwest that experienced rate increases of more than 30 percent were dependent on hydroelectric power in 2000 and 2001. The drought forced them onto the western power market to buy power at high spot market prices. Unfortunately, a year of drought (or one in which the new power authority in charge of the dams could be forced to be on the wholesale

market) also tends to be a time of high prices. Good water years result in a good hydroelectric resource and low wholesale prices.

An initiative to buy the dams brings with it significant potential benefits, but also carries some risks.

Montana currently is considering this option through a ballot initiative.

Establish Public Power Districts to Build or Buy Generation for Montana Use

Like the initiative to buy the dams in Montana, a policy that would establish public power districts is similar to new initiatives in a number of states to bring a greater degree of local control to the power industry. Such an effort could focus not only on purchasing existing hydroelectric assets, but also on new generation or on facilities beyond hydroelectric. The state would need to authorize formation of such entities.

> Montana could authorize formation of public power districts.

4. Transmission-Related Policies

There is widespread agreement that the nation's and the Pacific Northwest's electricity transmission system needs attention. Few organizations—whether investor owned utilities, federal power agencies or others—made major investments in the transmission system throughout much of the 1990s. It is now becoming clear that this under-investment is creating problems. When merchant power plants consider building power plants, and when banks consider financing those power plants, they particularly consider whether they will to have firm and reliable access to the transmission system to allow them to ship their power to market. The rules that govern the transmission system require attention.

States and the federal government share jurisdiction over the transmission system, with the federal government asserting jurisdiction over major parts of this system. In general, the federal government holds jurisdiction over the rates and terms that transmission system owners can impose for others to use their transmission lines. The federal government also holds jurisdiction over the regional institutions that are being set up to govern the transmission system. The Federal Energy Regulatory Commission oversees these aspects of the federal control over the system.

State jurisdiction over the transmission system falls into four primary areas:

- Siting of transmission lines,
- Financing transmission,
- Participating in regional planning for transmission,
- Taxation of transmission companies.

Siting/Transmission

The most important state role in the transmission market is in siting of new transmission lines. Siting law is complex, particularly when considered in the context of a situation in which the need for power generation is out of the state, yet the power plants and power lines are built within Montana. Montana might examine three siting concerns.

- Explore possibilities for regional siting and collaboration in permitting and building of new transmission lines.

- Consider evaluating the "need" standard for transmission in the context of regional needs for power vs. in-state transmission impacts.

- Consider means to streamline the siting process for transmission lines.

This study is designed to identify issues for further examination in the transmission area. The issues noted above may be worth further examination.

Financing

The state could, if it desired take a direct role in financing new transmission either by making direct cash contributions to new transmission or by backing transmission financing with the credit of the state.

Numerous issues will need to be considered before taking such a step. Transmission is expensive, and any meaningful contribution could require either a significant cash outlay or the assumption of a significant risk. The state would need to consider the costs and benefits of taking such a step carefully. It is worth noting that no other state has yet taken such a step because of the risks and costs involved.

Transmission Planning

The electric power industry is now a regional industry, yet most laws that govern the industry are either state or federal laws. Montana's regulators already are heavily involved in a number of regional efforts on transmission. Some of these may eventually benefit from state legislation that supports regional planning and regional collaboration.

Tax and Other Financing Considerations

Montana has the authority to tax transmission companies and to offer tax incentives for transmission. It would be possible for the state to offer a tax incentive for building new transmission, although it would be important to determine what transmission investments might be made without such incentives. Similarly, the state could offer incentives for installation of new and efficient transmission technologies.

The state also might be able to use financial payments to ease the transmission siting process. Wisconsin recently enacted legislation to offer payments to communities affected by new transmission installations.

Finally, the state has the authority to ensure that whatever system is set up takes into consideration the alternatives to building new transmission. In some situations, it may be less expensive to build small-scale generation instead of building more transmission and shipping in more power. Similarly, it may in many cases be more cost-effective to make investments in efficiency in order to take the load off the transmission system. Such investments can, in some cases, obviate the need to build, finance and issue permits for new transmission lines.

5. Overarching Policies

In addition to the policies described above, several policy options are available that do not fit neatly into any one of the above categories. These could be enacted in combination with any of the above policies.

Establish a One-Time or Ongoing Energy Planning Effort

Throughout the interviews and discussion with various parties involved in Montana's energy industry (whether as advocate, industry representative, policymaker or consumer), NCSL has noted a lack of consensus over the state's energy policy priorities in both the long- and short-term.

An energy plan and planning process might provide one method for the state to establish planning priorities to guide industry, state agencies and policymakers in their long-term decision making process. An energy plan may address the following non-inclusive list of issues, among others.

- Will the state set a priority on developing certain resources, such as in-state coal or renewable energy?
- Will the state make a priority of encouraging competitive energy markets?
- Will the state encourage energy efficiency programs in public and private facilities, and through what means will it do so.
- How will the state marry economic development with energy use, prices and infrastructure development?
- What long term opportunities exist in certain new technologies such as distributed generation.
- What long-term issues might the state need to address in planning for new air quality regulations as they affect the energy industry?
- What long-term issues must the state address with regard to gas supply availability?
- What long-term issues must the state address with regard to electric transmission?

Several states now have energy plans in progress, or have developed such plans. If given sufficient authority, an energy plan can be a useful guide for both policymakers and industry. It also can serve as an important long-term planning exercise and document that would assist in identifying long to medium term risks to the energy system, as well as potential solutions.

Energy plans are generally developed by state agencies, including the public service commission, the Department of Environmental Quality and—sometimes—the transportation and economic development offices. Such plans generally are developed using a mixture of public input with detailed analysis.

> Montana could develop a comprehensive energy plan.

Establish a Renewable Energy Portfolio Standard

The renewable portfolio standard is a requirement placed on any retail seller of electricity, whether a utility or marketer, that a specified percentage of the kilowatt-hours that it sells shall come from renewable energy sources. Percentages vary from one or two percent (particularly for

portfolio standards that specify reliance on solar energy, which tends to be more expensive), and up to 30 percent in Maine. Maine already relies on renewable energy for more than 30 percent of its generation, so this was a means of preserving the use of in-state resources. California recently passed a 20 percent portfolio standard, and typical percentages range from between five and 15 percent, usually phased in over a period of several years. Fourteen states have a portfolio standard in place.

Issues to consider with the portfolio standard.

Percentage required—What percentage of the retail load should be served with renewable resources? In general this decision is based on an ultimate goal of renewable energy potential in the state and the costs of meeting some percentage of that load with renewable resources.

New load or existing load covered—It is possible to structure a portfolio standard to cover only new, load growth. This option does not integrate renewable resources into the grid as quickly as would an option of an immediate or phased-in requirement. It does, however, allow slower adjustment period for the providers.

Covered entities—It is possible to structure a portfolio standard to cover only certain entities, such as investor-owned utilities, default suppliers, rural cooperatives etc. Rural cooperatives that secure their power from Basin Electric or other Generation and Transmission cooperatives would need to examine their long-term power supply contracts, or to use the "green tags," described below.

Covered resources—In general, a portfolio standard covers solar, wind, biomass and sometimes geothermal resources. In occasionally will allow small hydroelectric, but rarely will allow large hydroelectric.

"**Green tags**"**—**Green tags are a new, market based system that allows the retailers upon whom the portfolio standard burden falls to avoid having to immediately build new renewable energy facilities. Instead, it allows the retailers to purchase credits for sale from other renewable energy facilities and providers. Thus, the credits may not immediately result in new renewable energy facilities being built in Montana but would, instead, result in resources built in the western power grid. The credits may be the least expensive means to structure a portfolio standard, since they take advantage (in theory) of the most cost effective and best resources available. Because of Montana's relatively good wind resources it is likely that this would result in new resources being built in Montana. Oregon allows the use of green tags for the green products in its portfolio, described above.

Penalties—Penalties for noncompliance with the portfolio standard are one way that states have ensured compliance with the standard. In general, the penalties have been set at a level that is higher than the cost of complying with the standard. Setting penalties below the level of the cost of compliance encourages non complying entities to pay the penalty rather than build or purchase new renewable energy resources.

Phase-in period—Portfolio standards typically are phased in over a period of five to 10 years.

Cost—The Texas portfolio standard is estimated to cost approximately five cents per month per customer. The Energy Information Administration estimates that the portfolio standard implemented on a national, 10 percent basis, would result in "small" cost increases. This study also indicated that the increased demand for renewable energy would offset demand for natural gas, thus relieving pressure on natural gas prices. The cost of a portfolio standard depends in part on its structure, but largely on the renewable resources available in the state. States, including Montana, that have good quality wind or other resources are likely to see small cost effects of the standard. NCSL has not performed a detailed cost analysis of the standard in Montana.

The portfolio standard is a mandate—Some states have rejected the idea of a portfolio standard because it is a mandate on retail providers. Others point out that although it is a mandate, it is imposed equally upon all electricity providers.

Montana could consider establishing a renewable energy portfolio standard.