

NATURE, IMPACTS AND IMPLICATIONS OF RISING NATURAL GAS AND ELECTRICITY COSTS FOR COMMUNITY RECREATION DEVELOPMENT IN ALBERTA

**A Study prepared by WillowBridge Consulting
for the Alberta Recreation and Parks Association
Spring 2001**

Albertans have recently witnessed dramatic increases in natural gas and electricity prices. The purpose of this study is to investigate how those increases have effected - and are likely to effect - community recreation facilities in the Province.

The general outline of this paper is as follows:

- A discussion of deregulation of both electricity and natural gas, particularly as it effects municipalities;
- An analysis of the rebate provisions of the Alberta Government and their impacts on community recreation facilities;
- Case studies of municipalities in the Province and how they are coping with the changes;
- A summary of findings regarding electricity and natural gas prices and impacts on community recreation facilities;
- Some recommendations for the Alberta Recreation and Parks Association (ARPA) regarding mitigation of increased energy prices.

ELECTRICITY DEREGULATION

Reasons for Electricity Deregulation

Electric utilities in Alberta have traditionally been vertically integrated, with the generation, transmission, distribution, and retail of electricity all usually owned by one entity and *regulated* by the Alberta Energy and Utilities Board (AEUB) or the councils of owner municipalities.

The former arrangement meant that customers had no choice regarding who provided their service. Location dictated ownership and hence supplier. The AEUB or municipal council was responsible for a fair assessment of what the charge of electricity should be, taking into account the costs of supply and allowing for some return on investment. In essence, the industry was regulated by the AEUB or owner municipalities in order to counter the potential disadvantages of the monopolies that supplied electric power.

In the early nineties, the Province of Alberta decided to initiate the study of electricity deregulation. The

reasons for this included:

- The generation of electricity had evolved to the point where it was no longer necessary to have large, expensive, central generating facilities which could only be financed by large companies;
- In place of these older-style generation facilities, one of the intents of deregulation would be to promote new and more environmentally friendly methods of producing electricity, such as co-generation or wind power - sources which are cheaper and faster to build than the giant coal-fired plants;
- Regulatory costs - the costs, both in terms of time and money associated with regulatory procedures and hearings - were becoming increasingly higher;
- It was feared that a regulatory system would not be responsive enough to the forces of rapid change occurring around the world;
- Given the slowness of the regulated system, and the time that it took to get applications approved, regulators were required to forecast power needs a decade in advance. This often led to very costly timing errors regarding the building of new plants. This was one of the signs that the system was slow to respond to changing needs and demands.
- Other jurisdictions began developing unregulated systems, ones intended to be more responsive, efficient, and flexible and it was feared that Alberta would be out of step in the global environment;
- Deregulation had been successfully applied to a number of industries, again throughout the world, including telecommunications and airlines;
- The competitive marketplace that would result from deregulation would result in the “natural” functioning of supply and demand forces, thereby putting a downward push on prices in the long run;
- Competition encourages and promotes efficiency, which should also combat rising prices;
- A competitive process would encourage retailers to offer various combinations of services and prices to customers, allowing customers the ability to choose which retailer best suited their needs, instead of having this dictated to them by location.

The Electricity Deregulation Process

The timelines for the deregulation of electricity in Alberta have been as follows:

- 1992: Consultation with industry players began.

- 1995: The *Electric Utilities Act* was passed, opening up the door to deregulation.
- 1998: Amendments to the Act were made, aimed at encouraging individuals and businesses to pursue energy development opportunities on a level playing field.
- 1998: Three new, independent bodies were established to ensure open, competitive, and fair market access: The Power Pool, the Transmission Administrator, and the Market Surveillance Administrator.
- 1998-2000: Interest in new kinds of electricity supply began, including co-generation, biomass, and wind micro-turbines.
- 2000: Codes of conduct for retailers were established.

Sale of Power Purchase Agreements took place through the Power Pool, indicating prices that retailers are willing to pay for electricity in the future.

- January 1, 2001: Customer Choice began. All residents and businesses in Alberta now have the opportunity to choose their own retailer.

The Regulated Rate Option

In order to provide for transition to a competitive system, a *Regulated Rate Option* has been introduced for an interim period, allowing consumers to take their time in determining their retailer. This option is available to about 85 % of Alberta's electricity consumers. It is available to small industrial and commercial consumers for three years - to the end of 2003 - and to farm and home consumers for five.

Any community recreation facility which has an individual power meter with a reading of less than 250,000 kWh annually is eligible for the Regulated Rate Option (RRO). This involves virtually all such facilities across the Province. They are eligible for the RRO until the end of 2003, having been grouped with the "small industrial and commercial consumers".

Local distribution companies are responsible for providing the Regulated Rate Option (RRO). Depending on where a customer lives, this may be an investor-owned utility, a municipally owned system or a rural electrification association.

The RRO approval process is similar to the procedures of the former regulated system in that the investor-owned utilities must have their RRO approved by the AEUB while municipal wire owners will be able to go to their local councils.

The Four Components of Electricity under Deregulation

As noted at the beginning of this section, in the past the four components of electricity - generation, transmission, distribution, and retail - were generally vertically integrated within one company and were regulated by the AEUB or owner municipalities. Under deregulation, the four components of electricity have been *split up* and are now structured as follows:

- Generation - deregulated
- Transmission - regulated
- Distribution - regulated
- Retail - deregulated

The rationale behind this structure is as follows:

- *Generation and retail are deregulated* in order to permit and promote competition. Without regulations, the forces of demand and supply will be allowed to prevail.
- *Transmission and distribution are regulated* in order to ensure that all providers of electricity have fair and equal access to the electric wires through which the electricity must flow.

In essence, regulation in the system only remains so as to ensure that the deregulated parts can operate in a fair, open, and competitive manner. The remaining aspects of the system which are still regulated operate as follows:

- A *Transmission Administrator* has been established to ensure open and non-discriminatory access to the transmission system throughout the Province by buyers and sellers. It sets rates for accessing the system and coordinates the overall operation of the transmission system.
- Utility companies, municipalities, and rural electrification associations (REAs) who own their own distribution systems charge all retailers for the use of their wires. This charge is passed on to the retailers by means of a *Distribution Tariff*. Utility companies must have their distribution tariffs approved by the AEUB whereas municipalities and REAs decide their own rates and file these with the Board.

Implications of the Four Components for Municipalities

When municipalities are trying to sort out what they need to know about the deregulated world, it is easiest to answer this question in terms of the four components.

Generation:

- This will be looked after by the open market, as businesses look for opportunities in Alberta. It is most likely that the only municipalities likely to become involved are Calgary and Edmonton, through their wholly owned electricity subsidiaries, ENMAX and EPCOR respectively. (It is always possible that as smaller and cheaper generation cells are developed, some municipalities may wish to get into the generation business, if they are willing to take the business-associated

risks.)

Transmission:

- No involvement by municipalities is needed. Pertinent matters are in the hands of the Transmission Administrator.

Distribution:

- At present, several municipalities in Alberta own their own distribution systems. These are: Edmonton, Calgary, Lethbridge, Medicine Hat, Red Deer, Fort McLeod, Crowsnest Pass, Ponoka, and Cardston. Since the owner of distribution wires is permitted to charge a distribution tariff to retailers, it is possible that more municipalities may wish to acquire their own distribution systems. In other words, if the asset is owned, money can be made on an ongoing basis through the distribution tariff. However, acquisition costs are likely to be quite restrictive.

Municipalities who do not own their own distribution systems can charge a franchise fee to the company that owns the distribution system within their boundaries. Under these “franchise agreements”, the utilities pay municipalities a fee in return for the exclusive right to construct, maintain, and operate the distribution systems serving the residents within the municipalities. However, municipalities should be aware that the company will include the cost of that franchise fee in their distribution tariff; in other words, the costs of franchise fees to the utility companies will somehow be passed on to consumers.

Retail:

- Municipal councils will definitely have to become knowledgeable about electricity retail, not for the individual residents and businesses within their boundaries, but in terms of *municipal needs*. These include such things as streetlights, community recreation facilities, and municipal buildings. Hence the bulk of this report will be focusing on the *retail* aspect of electricity.

Aggregation

One of the strongest weapons at the disposal of municipalities in order to deal with increasing prices in electricity is to band together and tender a joint request for proposals from retailers to supply their energy needs. In general economic theory, many users operating as a unit should be able to get a lower price for any good than an individual operating in the marketplace.

During 2000, the Alberta Urban Municipalities Association (AUMA) sought to reduce electricity costs for its members by means of an aggregate agreement. The founding principle was that, if members aggregated their needs, they would be likely to get a better price for electricity within the newly deregulated retail market, than if they were to individually try to strike deals with retailers. AUMA sought one retailer from whom a group of municipalities could purchase electricity, rather than each municipality going through the exercise of finding its own retailer.

Almost one-half of AUMA members and associate members signed the agreement with ENMAX Energy Corporation at the end of 2000: 194 of 410 members. These included approximately 170

member urban municipalities, plus associate members who included water commissions, rural municipalities, and non-profit groups. Essentially, these entities felt that the price being offered to them by ENMAX was better than the Regulated Rate Option.

In order to be able to sign the agreement, there were two prerequisites. Firstly, the entity had to be a member or associate member of AUMA. Secondly, each entity wishing to sign had to pay a membership fee to become part of this aggregate group. Generally, the larger municipalities (with the obvious exceptions of Calgary and Edmonton who have their own retailers) joined, while many smaller municipalities, particularly villages and summer villages, did not. Essentially, an aggregate agreement for electricity would be of no interest to an entity small enough not to have its own community recreation facilities, streetlights, or municipal buildings.

For municipalities who signed this agreement, one of the major reasons to participate would be because of the large expenses associated with community recreation facilities. The agreement includes not only municipally-run facilities, but facilities owned and operated by non-profit associations *listed in the agreement* whose bills go through the respective municipalities. Other major users include streetlights and municipal buildings.

The specific price structure agreed to under that agreement is not public and therefore cannot be recorded here. However, those municipalities who signed the agreement would argue that the main benefit of the agreement is *price stability*. Effective January 1, 2001, all entities signing the agreement have a guaranteed, consistent price per unit for electricity for five years. Of course, the main hope of the participants would be that they would get a *lower price* than if they had not aggregated. It will be impossible to conclusively determine whether or not participants were better off to join until all of the five years are completed, given the unpredictability and volatility of the market. Only hindsight will tell the tale. But, at least when preparing their municipal budgets over the next five years, they can be assured of a stable per unit cost of electricity being applied to all of their facilities. In times of such turbulence, there is a definite risk avoidance in this approach.

Part of the agreement includes time of use metering. Electricity will now be priced differently during peak and non-peak periods, with lower prices naturally being available during non-peak periods. Those members signing the aggregate agreement will therefore be encouraged to promote operational efficiencies that stress non-peak use. ENMAX Energy, within the terms of the agreement, will help signees regarding their use of interval meters and operational efficiencies. The concept of operational efficiencies and time of use meters will, of course, have impacts on the running of community recreation facilities. While municipalities will be encouraged to maximize off-peak use, the realities of the situation are that it will be difficult to force hockey teams and swimmers to use facilities during periods of lowest prices (e.g., typically from midnight to 6:00 a.m.) On the other hand, clear efficiencies can be had by reducing the use of ice making equipment at peak times.

At this time it is unknown whether ENMAX will extend its offer to other members during the course of the agreement. And, with this particular agreement being in effect until December 31, 2005, no thought has been given to renewing this agreement. The next five years will give evidence regarding future

approaches.

The Alberta Association of Municipal Districts and Counties (AAMD&C) has not done a similar kind of aggregate agreement. At present, there are sixty-seven counties, municipal districts, specialized municipalities, and improvement districts in the Province. As noted above, some rural municipalities are associate members of AUMA and have taken advantage of that aggregate agreement.

The AAMD&C has several ways of dealing with electricity prices. They are a strong lobbying force and will continue to express their concerns at the highest political levels, both on behalf of the municipalities themselves, as well as on behalf of their taxpayers. They are presently a members of Alberta Resource Development's Advisory Committee. And they will be included in the committee currently being set up - announced by the Premier in early February - to take a long-term look at electricity prices. Similar lobbying measures are used by AUMA.

Impact of Electricity Deregulation on Prices

All Albertans know that electricity costs have increased over recent years. However, Albertans cannot agree on why prices have increased. Some blame deregulation itself and the way the changes were implemented. Those who believe in deregulation may point to a number of other factors, including the increase in natural gas prices - especially at a time when natural gas is becoming more significant in the generation of electricity. Since the purpose of this paper is to discuss the impacts and implications of electricity price increases rather than the reasons for those increases, the latter will not be pursued here.

At present, the output of electricity in Alberta is about 10,000 megawatts per years. By the end of 2005, an increase of 4,400 megawatts is expected. It is predicted that this will be sufficient to keep up with demand. Hence, the increase in supply should have a positive, downward result on prices.

This has, in fact, started to happen. The electricity auction in December of 2000 resulted in a market price of between 11 and 12 cents per kilowatt-hour. By 2002, the auction price is 6.8 cents and, in 2003, the price is down to 6 cents.

As noted earlier, new legislation ensures a Regulated Rate Option for community recreation facilities until the end of 2003. The RRO for 2001 is 11 cents per kWh. What the future RRO will be, we do not know. However, given auction prices for 2002 and 2003, we can perhaps be hopeful that it will be lower than 2001. The Regulated Rate, decided at the discretion of the Provincial Government, will use this auction price as only one of the factors in determining the RRO. Other factors will include advice from policy makers and economists, the costs incurred by utility companies, retailers, and generators, and a determination of appropriate profit earnings by investors. Of course, participants in the AUMA aggregate agreement do not have to worry about the Regulated Rate Option.

Furthermore, on February 6, 2001, Premier Klein announced plans to create a multi-party advisory committee to advise on longer-term electricity planning. This advisory committee has been struck to

“...provide a longer-term outlook that will enhance stability and confidence in the Province’s energy future”. The members, composed of diverse stakeholders involved in the electricity industry, are to provide both policy recommendations and analysis to the Government. It will be incumbent upon interested groups to express their interest in this committee.

NATURAL GAS DEREGULATION

The Natural Gas Market

A diversity of players is involved in the buying and selling of gas: producers, marketers, midstream companies, utilities, industrial consumers, and commercial and residential consumers.

Natural gas is initially owned by a gas producer. The producer has the option of retaining ownership of the gas right up until it is delivered to the end-use consumer, or selling it at any of a number of points along the way: the wellhead, the processing plant, on the transmission system, or at the inlet to a utility system. The initial owner of the gas is responsible for paying any costs that may be incurred up to the point of delivery, including processing, storage, and transmission costs.

In most instances, the producer retains title to the gas until it leaves the processing plant or it reaches a clearing point on the Nova Gas Transmission system. At this time, it is then sold to a marketing company which has the transmission capacity to deliver the gas to a utility, a large industrial company, or other marketer. Alberta utilities typically buy from marketers and producers and transport the gas to the consumer’s gas meter.

When another retailer enters the picture and wishes to supply gas to a consumer, the retailer usually buys gas from a producer or marketer and arranges to deliver the gas to the utility that owns the local distribution system serving that consumer. The retailer needs to also hold transportation capacity on the utility’s system for delivery of the gas to the consumer on the consumer’s behalf.

The Gas Deregulation Process

Before 1975, there were no price controls on natural gas. At that time, natural gas was often still viewed as a by-product of oil; its use was very limited compared with today. For example, outside of Alberta, it was not frequently used to heat homes. Neither was it used by large industrial users nor in the generation of electricity as is the case today.

In 1975, as the demand for natural gas began to increase, a concern about a shortfall of supplies began to arise. In order to attract drilling activity, prices were regulated to *increase* the price of natural gas. Indeed, following hearings by the Energy Resources Conservation Board, the price of natural gas almost quadrupled, from about 16 cents a thousand cubic feet to about 60 cents. Prices increased to such an extent that consumers became concerned and the Federal Government threatened to intervene to keep prices low.

Eventually the Province of Alberta and the Federal Government came to an agreement on prices. This

involved a price schedule that saw different prices within Alberta, in Toronto, and outside Canada. As part of the National Energy Programme, gas prices were linked with oil prices. As oil prices went up in the early eighties, so did gas. In Alberta, the Government chose to subsidize natural gas prices to protect consumers.

However, the dramatic increase in natural gas prices had the effect of spurring on huge drilling activity. Suddenly there was a predicted thirty year surplus where only recently there had been fear of supply shortages. Under natural market forces, this increase in supply should have put a downward push on prices. However, the regulated price did not allow this to happen. Therefore, on October 31, 1985, with the signing of the *Agreement on Natural Gas Markets and Prices*- involving Alberta, British Columbia, and Saskatchewan, as well as the Federal Government - natural gas prices were deregulated. From this point onward, prices have been set by buyers and sellers. At the time, “buyers” were generally utility companies and large industrials while the sellers were gas producers.

In 1988, deregulation was extended to include small industrial consumers. Under the *Gas Utilities Statute Amendment Act*, passed in 1990, all Alberta consumers were given the right to select their gas supplier. It took five years of negotiation to determine the appropriate regulations to accompany this Act - regulations which would protect individual consumers and commercial enterprises. Therefore it was not until 1995 that rules regarding the sale of natural gas to residential and commercial consumers were established.

In late 1998, residential retailers began entering the Alberta marketplace. However, gas prices were generally so low that choice of supplier was not an issue with consumers. It is only recently, with the significant price escalations, that consumers have begun to demand choice. Likewise, the situation did not attract a lot of sellers. At this time, EPCOR is the only company selling natural gas across the Province.

Natural Gas Price Changes Under Deregulation

What has been the effect of gas deregulation since 1985? Initially, drilling increased, surplus increased, and prices fell. In 1986, natural gas prices averaged about \$1.50 to \$2.00 a GJ. From then until 1998, with a couple of minor “blips”, prices stayed relatively constant. By 1998, the surplus was being eroded across North America, as we began finding new uses for it. This began to force gas prices up and drilling picked up. By late 1998, oil prices began to drop and drilling went into a slump (Generally, when companies drill they do not know if they are going to find oil or natural or in what combinations - hence the price of oil has an impact of drilling for gas). By the end of 1999, consumers were paying between \$3.00 and \$4.00 per GJ for gas.

With the reduction of drilling in 1999, prices began rising significantly in 2000. As much of North America had one of the coldest early winters on record, demand in November and December of 2000 shot up to about \$10 a GJ. In essence, the two strongest influences dictating natural gas prices - weather and drilling - merged to increase prices. Since then, with warmer temperatures and more drilling, prices have been more in the range of \$7 a GJ. Given the time lag between drilling activity and when that gas is available to the consumer, the increased drilling in 2000 is liable to keep prices lower in

2001 than those witnessed at the end of 2000.

Predictions for the future indicate that the price of natural gas next January may be about \$5 US - or \$7.50 Canadian - per GJ. In the long run, forecasters are estimating that gas will drop to the range of \$3 to \$5 Canadian. This is about the same price range as we experienced in mid-2000. These projected figures are also about *double* those being paid in 1998. So, while we can assume that the last few months and the immediate future will be particularly harsh and that prices will go down, we cannot assume that prices will, in the foreseeable future, return to the rates to which we had become accustomed in the 1990's. *Hence, we must conclude that natural gas will not return to pre-2000 levels in the foreseeable future; this has significant implications for future planning by municipalities.*

Essentially, the gas market has undergone a fundamental change. New sources of demand, particularly for the generation of electricity, are arising. This is beginning to stretch frontier supply sources, and we are anticipating pipelines from Alaska and the Mackenzie Delta, as well as the transport of natural gas in liquified form from Australia and the Mid East. The increase in prices of natural gas is also encouraging the return of coal for electricity generation - in a much more environmentally friendly format. Of course, if these factors eventually lead to an over supply situation, natural gas prices could again fall at some point in the future.

REBATES

In order to counteract the increasing prices of natural gas and electricity, the Provincial Government introduced rebates towards the end of 2000. *It is essential to view the electricity and gas rebates as two distinct programmes.* The electricity rebates are being financed by the net proceeds of electricity auctions. The intent is to redistribute the \$2.2 billion received from these proceeds back to the people of Alberta during 2001. Gas rebates are coming from general revenue. The two rebate programmes, at this time, are intended to last for different periods of time.

Electricity Rebates

Virtually all community recreation facilities throughout Alberta - as long as they have independent metered readings of less than 250,000 kWh annually - will be eligible for the Regulated Rate for electricity through their suppliers. In addition, they will receive a rebate of 3.6 cents per kWh. With a regulated rate of 11 cents per kWh and a rebate of 3.6 cents, the net cost will be 7.4 cents per kWh. Therefore, when budgeting for 2001, those facilities on the Regulated Rate can assume a cost of 7.4 cents per kWh.

What is the impact on those facilities who are included in the AUMA Aggregate Agreement? Quite simply, whatever price they have agreed to pay, they will still get the 3.6 cents per kilowatt rebate for all of 2001.

There are no guaranteed electricity rebates after December 31, 2001.

Gas Rebates

Initially, gas rebates were only targeted at individual homeowners. Since the original announcement, there have been changes that quite clearly include municipalities and community recreation facilities. Unlike electricity rebates whose funding is coming from a specific, identifiable source, gas rebates are coming from general revenues.

Gas rebates will be in effect from January 1 to April 30, 2001. These months were chosen because they are when gas prices are usually at their highest and demand is peaked. Rebates will be in the amount of \$6 per Gigajoule up to a maximum of 5000 Gigajoules (GJ) per month for *each* of those four months. Every entity billed - e.g., each arena, swimming pool, or leisure centre - is individually eligible for this rebate. The rebate will automatically appear on each entity's bill every month of the programme.

The question is raised, then, as to the impact of this figure on community recreation facilities. A small rink uses about 800 GJ of gas per month. At \$6 per GJ, this will result in a rebate of \$4800 per month. A swimming pool using 1700 GJ per month will receive a rebate of \$10,200 per month. A large leisure centre, using 4300 GJ per month will get a monthly rebate of \$25,800. *Generally, the intent of the programme is to get rates back to what they were in 1998.*

In addition, a contingency fund has been set up to deal with cases of further need. The Provincial Government will review access to this contingency fund on an individual basis

There is no guarantee regarding rebates as of May 1, 2001. However, the present government is committed to monitoring the situation with the intent of not causing undue strain on Albertans.

CASE STUDIES

In order to get a better understanding into how price increases are impacting municipalities, case studies were pursued as part of this study. The following case studies were used:

- County of Yellowhead
- Town of Jasper
- Town of Vermillion
- City of Red Deer
- City of Edmonton (city owned and operated facilities)
- City of Calgary (facilities owned and/or operated with community partnerships)

County of Yellowhead

The issues of energy and electricity costs in the County of Yellowhead have begun taking on a high profile over the last few months. There are eight recreation boards throughout the County, composed of volunteers, who manage three curling rinks, an arena/agricultural complex, and several community

halls. The County itself only runs one swimming pool. Hence, the majority of facilities are run by non-profit groups.

In essence, these non-profit groups, assigned the task of running community facilities, have a significant role to play in the County. Like many volunteer groups, it is likely that their time is always at a premium and that this is not the only use of their volunteer time. To add to their burden, they must also deal with deregulation processes and rebates. The increases in energy and electricity costs and the need to manage these further put a significant onus on these volunteer recreation board members.

Another factor to which there may be a lack of sensitivity is the fact that each board runs its facility as an independent venture. In cases where municipalities run facilities, it may be possible to take money from one part of a budget to put into another. Recreation boards running individual facilities do not have this luxury; they are not part of a "bigger picture". Moreover, their ways of raising money - including some monies from the municipality, from Agricultural Societies, bingos, suppers, bake sales, etc. - are limited. All these factors together put quite a pressure on board members.

Energy and electricity prices were not enough of an issue to cause a major concern within the County of Yellowhead in 2000. The real problems became evident with the preparation of the 2001 budget, and the bills that appeared at the end of 2000 and the beginning of 2001.

Natural gas bills for the fourteen facilities within the County totaled \$4,620 for January 2000. A year later, in January 2001, the total was \$10,200, an increase of 120%. However, with the rebate programme of \$6 a GJ, based on a January 2001 consumption of 1400 GJ, the actual cost will be \$1800. So, while the boards likely had difficulty in raising the money before the rebate programme became fully effective, in the final analysis costs were less than half of what they were in January 2000. The rebate programme had a dramatic effect. The worry is what will happen in the future, with the uncertainty of rebates and prices in the future.

On the assumption that rebates cannot be relied upon in the long run, the main impact of increased costs has been felt by user fees. The amount of the user fee increases has varied from one board to another. Minor operational changes, such as turning down heat in some buildings, have also been instituted. There is the fear and recognition that one way of handling the financial concern could be to take money from programming into operations. However, reducing the numbers of programmes and increasing user fees will together have the impact of decreasing the numbers of people using the facilities.

The rebates over the past few months have been appreciated. However, there is concern with what will happen after the end of April 2001 regarding gas and at the end of 2001 regarding electricity.

Town of Jasper

The Town of Jasper has an Activity Centre (arena, curling rink, racquet and squash courts, hall, daycare, lounge, nursery school, meetings rooms, etc) and a swimming pool that are owned and operated by the Jasper Improvement District.

The price of natural gas during the year 2000 ranged from \$2.37 to \$5.77 a Gigajoule, with the highest figures occurring in the last months of the year. As the year 2001 began, the figure was \$8.77. The total amount spent on natural gas for the facilities noted above was over \$107,000 for 2000. Without rebates, the 2001 figure would have been just about exactly double that: \$214,000. Assuming the rebate programme until the end of April, no financial assistance after that, and a constant price of \$8.77 for the rest of the year, the costs will still be about \$165,000 for 2001 - an increase of more than 50% over 2000.

Given the likelihood of price increases, the Improvement District had budgeted for an overall budget surplus of \$80,000 in 2000 in order to provide a cushion. The increases that occurred resulted in wiping out that planned surplus. In order to acquire that surplus, and to account for the rising costs of various supplies and materials associated with the running of the community recreation facilities, user fees have risen about 4% over each of the last four years.

Town of Vermillion

With a population of 4350, Vermillion's community facilities are: two arenas, a curling rink, a cultural centre, and a swimming pool. The first three are owned and financed by the Town. However, the curling rink is leased to the curling club by the Town. The Town charges the club for 100% of the operating costs of the facility and it is up to the club to recover those costs in any way it can. The pool is owned and operated by Lakeland College. The Town's contribution to the running of the pool is that it equally shares the annual deficit with the College.

In 1998, Vermillion was paying \$2.40 per gigajoule for gas (this is a weighted average which reflects the fact that more energy is used in the winter months). The figure in 1999 was \$2.35 and in 2000 it was \$3.60. When the 2001 budget was initially prepared - in the summer and fall of 2000 - a figure of \$4.00 per gigajoule was used. At that rate, energy costs of running the Town's key community recreation facilities (two arenas and curling rink) were estimated to be \$32,000 for 2001. With the gas rebates for the first four months of 2001 and then assuming the present \$8.77 for the rest of the year, the figure is now estimated to be \$40,000 for this year. If the current rate continues for all of 2002 and if there are no rebates, the annual figure for 2002 will be \$66,000 for natural gas. This is more than doubled the figure for 2000 which was \$29,000.

Electricity figure for the three facilities were \$59,000 in 1999 and \$61,000 in 2000. The estimate for 2001 is \$70,000, with the inclusion of the 3.6 cent per kWh rebate. Since Vermillion is part of the AUMA aggregate agreement, it knows its rates for 2002 to 2005 inclusive. Without rebates, those annual costs will be \$97,000.

The summary of figures is as follows:

	1999	2000	2001 (budget estimates, assuming rebates)
Electricity	\$59,000	\$61,000	\$70,000

Natural Gas \$ \$29,000 \$40,000

It is noteworthy that electricity costs are higher than natural gas for this municipality - e.g., predicted to be \$70,000 and \$40,000 respectively. This is because of the types of facilities involved. Making and keeping ice and lighting the arenas and curling rink are huge electricity users. Very little of the buildings need to be heated - e.g., dressing rooms and some heating in the stands. Indeed, if the buildings are heated too much, of course, electricity costs go up to keep the ice!

In total the energy and electricity rates for 2000 were \$90,000. With current rebates, the total for 2001 is \$110,000. If there are no rebates in 2002, total costs will be \$163,000 (assuming \$8.77 per GJ for gas and the AUMA rate for electricity). Thus, the increase from 2000 to 2002 for these utilities could be over 80%.

Because of the AUMA aggregate agreement, Vermillion can predict its maximum electricity costs until the end of 2005 (i.e., excluding any further rebates). Gas costs are far more unpredictable at this time and therefore present the greater budgeting question.

Vermillion's rule of thumb is to recover 50% of its costs from user fees. Recently, user fee increases have been minimal. Next year, they may have to increase 15 to 20%. Even at that, with utility costs increasing 80% over the last two years, this will do little to compensate.

The Town is fortunate in that their facilities are in good condition. No major renovations, additions, or new facilities are anticipated in the near future.

The Town is presently waiting for bills to come in to determine what, if any, operational measures can be applied to help reduce costs. They will discuss issues with user groups to then determine how to deal with increased costs. Options may include energy audits, user fee increases, and efficiency measures - e.g., making changes to roofs to reduce melting on the ice surfaces.

City of Airdrie

Most of the community recreation facilities in Airdrie are operated by clubs or groups. These include three sheets of indoor ice, owned by the City and leased to the Agriculture Society; the Town and Country Centre which has eight sheets of ice for curling and two halls, owned by the City, but leased to several groups for operation; and a swimming pool and fitness centre owned and operated by the City.

The electricity costs for all of these facilities are included in the AUMA aggregate agreement, in which Airdrie decided to participate. Even at that, electricity costs are becoming an issue. The City would like to assume that the ice sheets are being operated by the Agriculture Society without any implications on the municipal budget. However, the City is presently in negotiations with the Society about the future finances of these facilities. At this point, the Society is talking about a possible increase in user fees. Tentatively, they have indicated to their user groups that fees will rise from \$89.50 an hour to \$94.50 an hour, effective September 1, 2001. The Society is also in the midst of tendering for an audit process that

will help them determine how to be more efficient with their use of electricity and natural gas.

In the fall of 2000, the City went to the Regional Recreation Board, asking for increases in user fees. The Board did not agree, suggesting that an overall tax spread should not be ruled out. They generally felt that it was too soon to be recommending changes, that some history and better understanding of the financial situation were needed before changes were recommended.

Rebates are clearly making a difference. For example, natural gas costs in January 2001 were actually less than January 2000. As long as real market rates do not have to be paid, the situation is not difficult. At present, the City feels that it is in a waiting period to determine longer run implications.

City of Red Deer

The City of Red Deer owns and operates five arenas, two pools, a campground and an outdoor athletic park. The new Collicutt Centre - over 20,000 square meters consisting of a wave pool, other water activities, a field house, two indoor soccer pitches, an indoor arena, gymnastics centre, an indoor walking/jogging track, and various meeting rooms - will not be considered here because much of the facility is not yet opened. In addition, there are a number of community shelters operated by community associations.

The operating figures for the Red Deer Arena, the biggest ice surface operated by the City, are as follows:

	1998	1999	2000	2001(budget)
Electricity	\$52,000	\$59,000	\$65,500	\$60,000
Natural Gas	\$14,000	\$11,000	\$24,000	\$18,000

The figures for the Kinex Arena, a smaller rink in a building with a few meetings rooms are as follows:

	1998	1999	2000	2001(budget)
Electricity	\$23,000	\$28,000	\$22,500	\$28,000
Natural Gas	\$9,000	\$8,000	\$15,000	\$12,000

The City of Red Deer is dealing with the increased electricity and energy costs in a unique way. Over the years, Red Deer has acquired a significant cash reserve - the result of sound fiscal management and "planning for a rainy day". For the year 2001, a portion of this is being set aside for the particular purpose of paying for the increase in electricity and gas prices. No matter what the extra costs are above and beyond the budgeted figures, the extra money will be coming from this account. The true budget figures for 2001 will then be used as a benchmark for future budgets. Given the volatility of these costs, exactly how these benchmark figures will remain a matter for discussion later this year, during budget preparation. At that time, for example, the 2000 rebates will be taken into consideration and a decision made regarding the likelihood of their being continued in the future.

Red Deer has also been very adept at using special funds and grants to retrofit and renovate its community facilities buildings. These sources are generally the Federal and Provincial governments.

Back in the 80's, under the Provincial Energy Management Programme, renovations were being done. Most recently, under the Centennial Programme (a combination of Federal and Provincial money), the central recreation administration building is being renovated. Hence, knowing where the grants are, how to access them, applying for them, and receiving the funding has been another sound management principle employed by the City.

The community associations who are responsible for running community shelters (often small buildings used as “changing rooms” for adjacent ice surfaces) are having problems. A recent meeting between City of Red Deer administrators and representatives from these community associations revealed that these groups are facing a combination of problems. One is the operating costs of their buildings. The City has been giving each association an annual operating grant of \$3250. In the past, this used to cover operating costs; it no longer does. There is nothing left to be used for maintenance funding or to pay for vandalism.

In addition, community associations are finding it increasingly difficult to find the manpower needed to man the facilities. Some volunteers are using their talents with special events that have a clear beginning and end. Finding volunteers who are interested in working at the community level on a continuing basis is becoming increasingly difficult. Having to face the challenge of dealing with rising operating costs just adds to the volunteer burden.

City of Edmonton

The City of Edmonton was included in this study for the purposes of examining only those recreation facilities that are owned and operated by the City. In particular, the ice facilities under consideration involve four twin arenas, ten stand alone arenas, and five “shells” - shelters that have been built over ice surfaces, involving minimal enclosed facilities (e.g., dressing rooms, washrooms, and minimal ad hoc seating capacity). Pools include two aquatic and recreation centres and nine leisure centres; two senior complexes and a city arts centre are also included in this “pool” category in the City’s budgeting process. Within each of these two groupings (i.e., pools and arenas), there is an understanding that it is as a group, rather than for each individual facility, that the budget has to be balanced.

The City also has a number of “enterprise portfolios” which are revenue generators and are expected to operate at some profit. These categories include: attractions (e.g., Fort Edmonton and the Valley Zoo); sport and fitness (e.g., Kinsmen Centre); the Muttart Conservatory and Municipal Golf Courses; the City Archives, and several cemeteries. Each of these are subsidized to a certain point through tax levels. The remainder of their budgets are expected to come from revenues. However, to allow better comparisons with other, smaller communities, the main discussion here will focus on arenas and pools.

Regarding the arenas indicated above, the actual budgets (rounded figures) for 1998, 1999, and 2000, as well as the predicted budget for 2001 are:

	1998	1999	2000	2001
Power*	\$1,188,000	\$1,073,000	\$1,063,000	\$1,210,000
Gas	\$262,000	\$285,000	\$454,500	\$398,000

*Power includes water, sewer, and electricity

Given other data in this report, it may seem odd to see figures falling when significant increases could have been expected. The power figure falling between 1999 and 2000 is one such anomaly. The primary reason for this fall resulted from initiating the principle of “power shedding”, a policy implemented in conjunction with the City’s power provider, EPCOR. In applying this principle to arenas, this essentially means that the City intentionally sheds its peak power loads at arenas by shutting the plants down for a maximum of two hours during peak times. It has been determined that the ice will not start to melt during this amount of time.

Another figure which may seem odd is the drop in gas prices from 2000 to 2001. This is explained as follows: In budgeting for gas from 2000 to 2001, the City chose to use the 2000 *anticipated budget* figure, rather than the actual budget figure, as a base. Using that 2000 budget figure, an increase of 28% was used to calculate the 2001 figure. While the actual gas used in 2000 was as stated above (over \$450,000), the budgeted figure was only about 2/3 of that: \$310,000). So the City got its 2001 by increasing that anticipated figure by 28%, arriving at \$397,000. Somehow, the extra costs will be absorbed somewhere else in the budget. The City has determined that this is the way it wishes to deal with the volatility of the situation for the time-being. One of the issues that senior managers at the City are presently dealing with is how to handle and distribute the gas rebates among City departments.

Essentially, like Red Deer, the City of Edmonton has chosen a unique way to deal with the volatility of the situation, using a method to take money from other sources in the short term. Once the situation settles down and becomes more predictable, a longer term approach to budgeting will be devised.

Also, like Red Deer, the City of Edmonton has been trying to cut electricity and natural gas costs for a number of years. Efficiencies have been targeted at both operation and construction.

Regarding operations, audits are continually being done to discover more efficient ways to run facilities. New technologies are being used, such as roofs on arenas that help prevent the ice from melting. Staffs are being trained to be energy conscious. The City has created an Energy Management Committee which has energy projects throughout the City. And, when constructing new facilities, the most energy efficient products are used.

City of Calgary

In order to examine some different situations from the City of Edmonton, the City of Calgary was included in this study in order to acknowledge those recreation facilities which are operated by partnerships between the City and other bodies. These partnerships generally arise when the City owns land, but the facility is operated by another entity, sometimes with funding assistance from the City.

The majority of these facilities receives the Regulated Rate Option for electricity, as previously outlined, as well as the electricity rebate. Because they generally consume less than 5000 GJ of natural gas per month, they also receive the gas rebate as previously outlined.

Nonetheless, these facilities are noting the following problems:

- uncertainty related to the nature of the rebate programmes;
- consequent inabilities to do reliable budgeting for the future;
- resulting strain on volunteers and staff, as the environment gets less predictable and more stressful;
- consideration being given to reducing hours of operation and/or increasing fees;
- cash flow problems;
- depletion of reserves in order to combat cash flow problems;
- concerns with the long-term viability of some community associations.

The City of Calgary has adopted a strategy for working with communities in attempting to solve these problems, as follows:

- establishment of an emergency fund of a maximum of \$3 million to finance an energy assistance programme aimed at the targeted organizations;
- secondment of temporary staff resources, using the above funds, to facilitate and coordinate measures aimed at alleviating the situation;
- establishment of a working committee, comprised of community members, City staff, and Enmax to draw up an energy contract for the targeted organizations;
- advocacy and lobbying measures largely directed at the Provincial Government;
- creation of a community education programme to assist not-for-profit groups in dealing with energy pricing and its implications;
- administrative leadership and support for community groups to promote and investigate the advantages of aggregation as well as a level playing field for all groups, regardless of past credit history.

Given these case studies, some general conclusions and recommendations can be made and these follow.

FINDINGS

Prices

1. Both electricity and natural gas prices, now that they are deregulated, are influenced by a wide variety of market factors, and are therefore very difficult to predict for the future.
2. This cursory analysis would optimistically indicate that prices for both natural gas and electricity may have peaked for the foreseeable future and are on a downward slope. However, the extreme volatility of both markets makes predictions very unreliable.
3. All community recreation sites who use less than 250,000 kWh of power annually are eligible for the Regulated Rate Option until the end of 2003. For 2001, that rate is 11.0 cents per kWh. However, that figure can be changed at the discretion of the Provincial Government.
4. The Regulated Rate Option for 2002 and 2003 has not yet been determined. The rate is set by the Provincial Government, in response to a variety of market factors. While the electricity auction figures for those years show a significant drop and a reduced Regulated Rate is hopeful, that will not necessarily be the case.
5. Natural gas prices are likely to remain high for 2001 and into 2002.
6. Roughly, longer term gas prices can be anticipated in the \$3 to \$5 per GJ rate, in the same range as rates in the year 2000.
7. Electricity rebates will be available until the end of 2001, at a rate of 3.6 cents per kWh.
8. Natural gas rebates, at \$6.00 per Gigajoule, are only guaranteed until the end of April 2001.
9. Further rebates - and any changes to existing rates - for both natural gas and electricity are at the discretion of the Provincial Government.
10. Rebates for electricity are separate from the Regulated Rate Option or the AUMA aggregate agreement. Any entity receiving either can further deduct any pertinent rebate.
11. Municipalities can generally benefit from becoming a part of aggregate agreements for electricity. Price stability is the key attraction.
12. Natural gas prices are likely to be more of an issue than electricity. Prices are rising faster, the current rebate programme will end soon, market prices are liable to remain high for some time, and there is nothing similar to the Regulated Rate Option and long term retail agreements which are benefitting electricity prices.

Impacts of Prices on Community Recreation Facilities

1. Community facilities run by medium to large municipalities may, in the short term, not be as significantly affected as those in small communities. This is because the larger municipalities are capable of “spreading out” the problem over a larger budget.
2. Conversely, if prices continue to be high for long periods of time and if the rebate programmes are halted, these larger municipalities will be at a dramatic disadvantage because of the large dollars involved. Finding hundreds of thousands of dollars over a year or two may be accommodated in the short term through setting up special accounts, drawing from reserves, or spreading out the problem but, if the problem remains, huge amounts of “new money” will have to be found.
3. Facilities run by community groups - whether in rural or urban settings - are particularly vulnerable to fluctuations because they are independent and not part of a larger budget. In addition, they are often run by volunteer groups who have limited means for raising money and do not have the time to become involved in the details of deregulation, pricing trends, and rebate offers.
4. Municipalities who have retrofitted their community facilities or built within energy conserving guidelines are presently reaping the rewards.
5. Community facilities can benefit from operational efficiencies associated with the use of electricity and natural gas.
6. The impact of prices increases has not been as dramatic as was feared. This has primarily been because of the Provincial rebate programmes.
7. Sudden halting of the rebate programmes will have serious consequences to community recreation facilities.
8. Municipalities are generally reacting to the price increases by a combination of user fee increases and investigating operational efficiencies.

Recommendations

1. Municipalities should investigate the benefits of aggregating their electricity loads with other municipalities and finding a retailer for the group, rather than individually. The exception to this would be small municipalities who do not have their own recreation facilities, streetlights, and/or municipal buildings. Interested municipalities may still be able to join existing aggregate arrangements.
2. Municipalities should attempt to have community recreation facilities run by non-profit groups listed as part of their aggregate agreements in order to provide them with assistance regarding electricity costs.
3. Municipalities should work with their electricity retailers in order to determine how to best use electricity at both peak and non-peak periods.
4. The Alberta Recreation and Parks Association needs to recognize the increasing burden felt by volunteer clubs, boards, and groups running community recreation facilities and determine if there are ways of supporting or assisting them.
5. The Alberta Recreation and Parks Association should recognize the importance of energy audits to promote the efficient operation of community recreation facilities. There may be a way that the Association can spearhead or promote efforts amongst its members in this regard.
6. The Alberta Recreation and Parks Association should similarly recognize and promote the building and retrofitting of energy efficient community recreation facilities.
7. The Alberta Recreation and Parks Association may wish to consider approaching the Provincial Government about setting up a fund explicitly for the financing of operations of community facilities, or, alternatively, a fund which gives municipalities the option of using the fund for operational or capital expenditures.
8. The Alberta Recreation and Parks Association should impress upon its members the importance of knowing about all possible grants from Provincial and Federal Governments, as well as from private trusts and endowments, for the purposes of building and operating community recreation facilities. These sources of funding should be pursued to the maximum. There may be a role for the Association to play in terms of gathering and communicating this information and even in assisting in the submission of applications.
9. The Alberta Recreation and Parks Association should consider how it wishes to express its interest in the newly announced Advisory Committee on Electricity - likely on its own or through the Alberta Urban Municipalities Association and/or the Alberta Association of Municipal Districts and Counties.
10. The Alberta Recreation and Parks Association should lobby for the continuation of rebates for community recreation facilities.
11. The Alberta Recreation and Parks Association should lobby the Provincial Government regarding

the “stacking” effect of compound events on community recreation facilities. These include:

- increased downloading of responsibilities on municipalities over the last number of years;
- consequent municipal budget constraints;
- the importance of a healthy lifestyle, the role of community recreation facilities in promoting that, and the positive impacts of that on the costs of health provision in the Province;
- the importance of keeping user fees at a minimum and the impacts of increases;
- the increase in energy costs and the dramatic and negative impact those increases would have without rebates.

12. The Alberta Recreation and Parks Association should determine a means of keeping their members informed of energy price and rebate changes on an ongoing basis in order to ensure that information being transmitted is accurate, timely, and useful.