

**THE ENERGY COSTS  
OF OPERATING  
ALBERTA'S PUBLIC AND SEPARATE  
SCHOOLS**

**1998/99 to 2002/03**

**A SUMMARY REPORT PREPARED  
FOR THE  
ALBERTA SCHOOL BOARDS ASSOCIATION  
MAY 2003**

## CONTENTS

	<b>Page</b>
EXECUTIVE SUMMARY.....	3
PURPOSE OF THIS STUDY.....	4
OVERVIEW OF SCHOOL FACILITY OPERATIONS AND MAINTENANCE COSTS.....	4
Funding for School Facility Operations and Maintenance.....	4
Operating Costs Have Exceeded Revenues.....	6
Cost Pressures Beyond School Boards' Control.....	6
NATURAL GAS COSTS.....	7
Rate Increases from 1998/99 to 2002/03.....	7
School Board Cost Increases.....	8
Funding Required for Natural Gas Increases.....	8
ELECTRIC POWER COSTS.....	9
Rate Increases from 1998/99 to 2002/03.....	10
School Board Cost Increases.....	11
Funding Required for Electric Power Increases.....	11

## **EXECUTIVE SUMMARY**

This study examined school board costs of operating and maintaining Alberta's public and separate school facilities with particular emphasis on energy costs.

The data for this study were obtained from Alberta Learning, Alberta Infrastructure, and Statistics Canada records; 2 Alberta School Board Association reports; and a survey of 6 school boards' natural gas, electric power, and total school facility operations and maintenance costs for 1998/99 to 2002/03.

### **School Facility Operations and Maintenance Costs**

In 1992/93, before the current funding framework, school boards committed \$295.5 million in school property taxes, government funding, and other revenues to the operations and maintenance of school facilities. Government funding for school facility operations and maintenance in 1995/96 decreased to \$251.8 million in constant (1992) dollars.

Since the current funding framework was introduced in 1995/96, school boards have consistently incurred deficits in their school facility operations and maintenance budgets – totaling \$137 million by 2000/01.

Between 1995/96 and 2003/04 government funding for school facility operations and maintenance increased at the rate of inflation, but since 1998/99 energy costs beyond the control of school boards have grown significantly more than the rate of inflation.

### **Natural Gas Costs**

In the 4 year period from 1998/99 to 2002/03 the cost of natural gas increased by an average 135 percent – while Alberta's inflation rate rose by 13.4 percent.

Six school boards spent an average 7.4 percent of their school facility operations and maintenance budget on natural gas in 1998/99, before rate increases, and an average 12.9 percent in 2002/03, after rate increases. Applying these percentages provincially, natural gas increases cost school boards an additional \$17.8 million in 2002/03.

### **Electric Power Costs**

After deregulation of Alberta's electric industry on January 1, 2001, electric power rates increased dramatically. The regulated rate option (RRO) price in 2003, although less than 2001, is much higher than what school boards paid for electric power in 1998/99.

Six school boards spent an average 11.8 percent of their school facility operations and maintenance budget on electric power in 1998/99, before deregulation, and an average 15.0 percent in 2002/03, after deregulation. Applying these percentages provincially, electric power increases cost school boards an additional \$10.4 million in 2002/03.

**In 2002/03 school boards will spend an additional \$28.2 million to operate school facilities because of energy cost increases for natural gas and electric power.**

## **PURPOSE OF THIS STUDY**

This study examined school board costs of operating and maintaining Alberta's public and separate school facilities with particular emphasis on energy costs.

Data for this study were obtained from:

- Alberta Learning's and Alberta Infrastructure's business plans for 2003 to 2006;
- Alberta Learning's provincial roll-up of school board's Audited Financial Statements for 1995/96 to 2000/01;
- Alberta Learning's annual reports for 1991/92 and 1992/93;
- Statistics Canada reports on Consumer Price Index from 1992 to 2003 (April);
- Alberta School Boards Association studies in November 2002 and May 2003 of school board operating revenues and expenses, 1995/96 to 2002/03; and the impact of Budget 200; and
- A survey in May 2003 of 6 school boards' natural gas, electric power, and total school operations and maintenance costs for 1998/99 to 2002/03

## **OVERVIEW OF SCHOOL FACILITY OPERATIONS AND MAINTENANCE COSTS**

### **Funding for School Facility Operations and Maintenance**

Funding for school facility operations and maintenance was cut significantly when the current funding framework was implemented in 1995/96. Whereas in 1992/93 school boards committed \$295.5 million of their school property taxes, government funding, and other revenue to operate and maintain school facilities; government reduced funding to \$264.4 million in 1995/96.

Government also froze funding rates at 1995/96 levels for 3 years – during a time when inflation grew by over 5 percent.

The first column in the table on the following page shows the actual funding government gave school boards to operate and maintain their school facilities from 1995/96 to 2001/02 and the funding government has projected for 2002/03 to 2005/06. In the 10 year period from 1995/96 to 2005/06 funding is projected to increase by \$67.1 million (25.3 percent) - from \$264.4 million to \$331.5 million.

**FUNDING FOR SCHOOL FACILITY OPERATIONS AND MAINTENANCE  
IN ACTUAL AND CONSTANT (1992) DOLLARS  
1992/93 TO 2005/06 (in millions of dollars)**

	Funding (Actual and Projected)	Consumer Price Index (CPI)	Funding (In constant 1992 dollars)
1992/93	\$295.5	100.0	\$295.5
1995/96	264.4	105.0	251.8
1996/97	265.5	107.3	247.4
1997/98	270.6	109.5	247.1
1998/99	276.2	110.7	249.5
1999/00	287.7	113.4	253.7
2000/01	312.5	117.4	266.2
2001/02	309.1	120.1	257.4
2002/03*	323.7	124.1	260.8
2003/04*	331.5	130.2	254.6
2004/05*	329.5	132.9**	247.9
2005/06*	\$331.5	135.6**	\$244.5

Notes:

\*Funding for 2002/03 to 2005/06 are government projections.

\*\*The CPI projected for 2004/05 and 2005/06 are based on an 11 year average of 2.7%.

Funding in the above table for 1992/93 to 2000/01 is for school years (September to August) and in 2001/02 to 2005/06 is for government fiscal years (April to March).

The third column in the above table shows funding for school facility operations and maintenance in constant (1992) dollars using Alberta's Consumer Price Index (second column) as a measure of inflation.

As evident in the table, funding for school boards to operate and maintain their schools in 2003/04 in constant (1992) dollars is estimated at \$254.6 million – roughly the same as the \$251.8 million in constant (1992) dollars they were granted in 1995/96. This comparison does not take into account any increase in school facility area or growth in student population over that time period.

Funding for school facility operations and maintenance since 1995/96 has kept pace with Alberta's rate of inflation, but this could change in 2004/05 and 2005/06. The above table shows that the "frozen" funding levels projected for 2004/05 and 2005/06 could reduce school board funding to below the rate of inflation.

Although funding since 1995/96 matched the rate of inflation, school boards continued to feel the 'pinch' of reduced funding in the current funding framework. The \$254.6 million in constant (1992) dollars they will receive for school facility operations and maintenance in 2003/04 is \$40.9 million less than the amount they committed to this program in 1992/93. This has resulted in deficit budgets.

## Operating Costs Have Exceeded Revenues

Since the current funding framework was introduced in 1995/96, the cost of operating and maintaining school facilities has consistently exceeded school board revenues. The table below shows that from 1995/96 to 2000/01 school facility operations and the maintenance deficits totaled \$137 million.

### SCHOOL FACILITY OPERATIONS AND MAINTENANCE REVENUE AND EXPENSES (in millions of dollars)

	Government Funding	Other Revenue	Total Revenue	Expenses	Deficit
1995/96	264.4	14.5	278.9	296.4	\$ -17.5
1996/97	265.5	14.4	279.9	296.6	-16.7
1997/98	270.6	11.1	281.7	297.7	-16.0
1998/99	276.2	12.5	288.7	322.6	-33.9
1999/00	287.7	13.0	300.7	319.4	-18.7
2000/01	312.5	15.8	328.3	362.5	-34.2
TOTAL DEFICIT					\$ -137.0

An ASBA survey conducted in November 2002 found that in 2001/02, 20 school boards out of 31 reported deficits in school facility operations and maintenance. In the same survey 13 school boards out of 24 forecasted deficits in their 2002/03 budgets.

## Cost Pressures Beyond School Boards' Control

In recent years, school board costs for operating and maintaining school facilities have increased beyond Alberta's rate of inflation. Sharp rises in natural gas rates since 1998/99 and electric power rates since 2000/01, beyond the control of school boards, have further strained operations and maintenance budgets.

School boards have used one or more of the following measures to cope with extraordinary increases in energy costs:

- incurred deficits
- reduced caretaking and building maintenance services
- restricted after school and evening use of schools
- reduced or eliminated grounds maintenance
- transferred funds from other programs.

Funding school facility operations and maintenance at the rate of inflation has not been sufficient to address school boards' burgeoning energy costs for natural gas and electric power.

## NATURAL GAS COSTS

Natural gas is supplied to most school jurisdictions by 3 corporations: ATCO Gas North in northern and central Alberta; ATCO Gas South in southern Alberta; and AltaGas Utilities in various locations throughout the province. The Alberta Energy and Utilities Board (EUB) regulates the natural gas rates levied by these corporations.

The natural gas rates for school boards supplied by municipalities, such as the City of Medicine Hat, are set by each municipality rather than the EUB.

### Rate Increases from 1998/99 to 2002/03

The cost of natural gas increased significantly after 1998/99. The utility companies passed costs on to their consumers as the price of natural gas rose and fell depending on market conditions.

The table below shows that from 1999/00 to 2002/03 the Gas Cost Recovery Rate (GCRR) charged by utility companies to pay their suppliers increased within a range of 124.3 to 146.3 percent – averaging about 135 percent. A school board that paid \$1.0 million for natural gas in 1998/99 paid on average \$2.35 million for the same quantity of natural gas after the rate increases.

### AVERAGE NATURAL GAS RATES (in dollars/gigajoule) and NATURAL GAS RATE INCREASES (in percent) from 1998/99 to 2002/03

School Year	ATCO GAS NORTH		ATCO GAS SOUTH		ALTAGAS	
	Gas Rate	Increase Over 1998/99	Gas Rate	Increase Over 1998/99	Gas Rate	Increase Over 1998/99
1998/99	2.091	-	2.212	-	2.449	-
1999/00	3.223	54.1%	3.842	73.7%	3.952	61.4%
2000/01	6.654	218.2%	7.822	253.6%	7.613	210.9%
2001/02	3.551	69.8%	3.581	61.9%	3.965	61.9%
2002/03	6.268	200.0%	6.549	196.1%	6.441	163.0%
Average (1999-2003)	4.924	135.5%	5.449	146.3%	5.493	124.3%

The average gas rate increase for the 3 companies is 135%.

The above table also shows that natural gas prices varied from one school year to the next. A school board served by ATCO Gas North, for example, paid 69.8 percent more for natural gas in 2001/02 than 1998/99. One year later in 2002/03, the same school board paid 200 percent more than 1998/99 for the same quantity of natural gas.

The foregoing table does not include the EUB approved fixed charge or delivery (variable) charge for natural gas as neither have change appreciably since 1998/99.

### School Board Cost Increases

Six school boards provided their school facility natural gas costs and total school facility operations and maintenance costs for the 1998/99 and 2002/03 (est.) school years. These school systems are referred to as A to F in the table below.

#### THE COST OF NATURAL GAS AS A PERCENTAGE OF TOTAL SCHOOL FACILITY OPERATIONS AND MAINTENANCE COSTS IN 1998/99 AND 2002/03 (est.)

School System	1998/99			2002/03		
	Natural Gas	Total O & M	%	Natural Gas	Total O & M	%
A	\$ 284,084	\$ 3,882,745	7.3%	625,000	\$ 4,451,500	13.8%
B	235,391	3,294,737	7.1	370,718	3,915,320	9.5
C	4,166,930	52,679,104	7.9	7,922,042	61,252,606	12.9
D	226,763	3,312,839	8.1	502,587	3,221,938	15.6
E	331,460	3,964,529	8.4	605,760	4,674,858	13.0
F	\$ 182,098	\$ 3,182,628	5.7%	422,921	\$ 3,436,948	12.3%
Average			7.4%			12.9%

School boards in this table spent an average 7.4 percent of their school facility operations and maintenance budgets on natural gas in 1998/99 – prior to significant rate increases. The same school boards estimate that an average 12.9 percent of their school facility operations and maintenance budgets will be committed to natural gas costs in 2002/03.

### Funding Required for Natural Gas Cost Increases

School facility operations and maintenance funding used for natural gas costs increased by an average 5.5 percent from 1998/99 to 2002/03. This growth represents the additional costs that boards incurred because of extraordinary rate increases in the price of natural gas.

The calculation on the following page shows that in 2002/03 school boards could spend \$41.8 million on natural gas costs. This is \$17.8 million more than the \$24.0 million they would have spent had natural gas prices increased by only the rate of inflation.

## CALCULATION

Government funding for school facility operations and maintenance in 2002/03.....	\$323.7 million
Percentage of operations and maintenance funding used for natural gas in 2002/03.....	12.9 %
Operations and maintenance funding used for natural gas in 2002/03 (\$323.7 million x .127).....	\$ 41.8 million

### LESS

Operations and maintenance funding that would have been used for natural gas in 2002/03 had rates increased at the rate of inflation (\$323.7 million x .074).....	<u>24.0 million</u>
--	---------------------

### EQUALS

School boards' funding shortfall.....	\$ 17.8 million
---------------------------------------	-----------------

**Natural gas rate increases cost school boards an additional \$17.8 million in 2002/03**

## ELECTRIC POWER COSTS

Before deregulation of Alberta's electric industry on January 1 2001, all power rates were regulated by Alberta's Energy and Utility Board (EUB) or set by municipalities such as the City of Edmonton.

In 1998/99, electric utilities such as Alberta Power in northern and central Alberta and TransAlta Utilities in southern Alberta had assigned service areas and typically provided generation, transmission, distribution, and sale of electricity to school boards.

Aside from a sharp increase in electric power rates, because of higher generation costs in 2000, electrical energy remained an affordable and predictable component of school boards' operations and maintenance budgets.

With restructuring of the electric industry after January 1 2001, the price of generation was no longer regulated. Electric power was now traded freely through an exchange operated by the Independent Power Pool of Alberta. The EUB continued to regulate electric power transmission and distribution rates for investor-owned utilities.

With deregulation, school boards were given the option of signing contracts of varying duration with electricity providers such as EPCOR, ENMAX, or ATCO Electric; or choosing the regulated rate option (RRO) where the price was set by the EUB. Most school boards signed long term agreements to 'lock-in' electric power at fixed rates.

### **Rate Increases from 1998/99 to 2002/03**

In 1998/99, school boards paid set rates for the cost and distribution of electric power. As shown in the table below there was reasonable consistency between the rates Alberta Power and TransAlta Utilities charged school boards for the first 200 kilowatt hours (kwh), the number of kilowatt hours over 200, and the fixed charge based on demand.

#### **ELECTRIC POWER RATES CHARGED BY ALBERTA'S TWO MAJOR POWER CORPORATIONS IN 1998/99**

Rates	Alberta Power	TransAlta Utilities
First 200 kwh	\$.0753/kwh	\$.0936/kwh
After 200 kwh	\$.0338/kwh	\$.032/kwh
Fixed Charge (based on demand)	\$ 4.05/kwh	\$ 4.90/kwh

Note: The fixed charge is determined by the maximum power consumed in a given time period, as measured by a demand meter. School boards had some control over demand by sequencing their draw of power from the system.

School board costs for electric power before deregulation were reasonably stable and predictable.

After deregulation, electric power rates increased considerably. Consumers without contracts saw their regulated rate option (RRO) energy charges increase to \$.11 per kilowatt hour – the highest rate permitted by government. A group of 43 school boards gained some protection by signing a 5 year agreement with ENMAX at a fixed rate of \$.0843 per kilowatt hour. A system of government rebates in 2001 eased the 'sting' of electric power cost increases for school boards and other consumers

The RRO energy charges approved by the EUB decreased in 2002. Rates varied from \$.0646 per kilowatt hour in January to \$.0681 per kilowatt hour in December for customers outside of Edmonton served by EPCOR.

The RRO rate for EPCOR's commercial customers in 2003 changed to \$.06125 per kilowatt hour in the first quarter and to \$.06295 per kilowatt hour in the second quarter. School boards with contracts continued to pay the energy rates specified in their agreements.

Under deregulation, school boards were also billed for the delivery of electric power and an administration fee. EPCOR customers without contracts were charged an additional EUB approved rate rider fee to make up for EPCOR's revenue shortfall in 2001.

### School Board Cost Increases

Six school boards reported their school facility electric power costs and total school facility operations and maintenance costs for the 1998/99 and 2002/03 (est.) school years. These school systems are referred to as A to F in the table below.

#### THE COST OF ELECTRIC POWER AS A PERCENTAGE OF TOTAL SCHOOL FACILITY OPERATIONS AND MAINTENANCE COSTS IN 1998/99 AND 2002/03 (est.)

School System	1998/99			2002/03		
	Electric Power	Total O & M	%	Electric Power	Total O & M	%
A	\$ 456,908	\$ 3,882,745	11.8%	675,000	\$ 4,541,500	14.9%
B	437,407	3,294,737	13.3	591,877	3,915,320	15.1
C	6,113,458	52,679,104	11.6	8,382,607	61,252,606	13.7
D	432,946	3,312,839	13.0	471,574	3,221,938	14.6
E	481,366	3,964,529	12.1	734,362	4,674,858	15.7
F	\$ 291,176	\$ 3,182,628	9.1%	541,674	\$ 3,436,948	15.8%
Average			11.8%			15.0%

School boards in the above table spent an average 11.8 percent of their school facility operations and maintenance budgets on electric power in 1998/99 – prior to deregulation and rate increases. In 2002/03, the same school boards estimate that an average 15.0 percent of their operations and maintenance budgets will be committed to electric power costs.

### Funding Required for Electric Power Cost Increases

School facility operations and maintenance funding used for electric power costs increased an average 3.2 percent from 1998/99 to 2002/03. This increase represents the additional costs that boards incurred because of sizable rate increases in the price of electric power.

The calculation on the following page shows that in 2002/03 school boards could spend about \$48.6 million on electric power costs. This is \$10.4 million more than the \$38.2 million they would have spent had electric power prices increased by only the rate of inflation.

**CALCULATION:**

Government funding for school facility operations and maintenance in 2002/03.....	\$323.7 million
Percentage of operations and maintenance funding used for electric power in 2002/03.....	15.0%
Operations and maintenance funding used for electric power in 2002/03 (\$323.7 million x .150).....	\$48.6 million

**LESS**

Operations and maintenance funding that would have been used for electric power in 2002/03 had rates increased at the rate of inflation (\$323.7 million x .118)....	\$38.2 million
--	----------------

**EQUALS**

School board's funding shortfall.....	\$10.4 million
---------------------------------------	----------------

**Electric power rate increases cost school boards an additional \$10.4 million in 2002/03.**