Gazifère Inc.
Demand Side Management

Evaluation of 2004 Programs
and
Proposed 2005 Programs

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FOREWORD

Gazifère is a small utility compared with its neighbouring utilities, Enbridge Gas Distribution (EGD) and Union Gas in Ontario, and Gaz Métro in Québec. Despite its small size, in 1999 it voluntarily decided to pursue a corporate initiative to promote energy efficiency for the benefit of its customers, and began offering a series of demand side management (DSM) programs in fiscal 2001.

In the following year, the Régie ruled (D-2002-283) that since the developmental phase of Gazifère's DSM programs was over, the programs could be approved for three years, in other words to the end of fiscal 2005. This approval did not eliminate the distributor's obligation to provide details for each program component with its rate application. If problems were to arise with respect to specific measures, the distributor would need to inform the Régie and justify any major changes to the Plan.

Despite the ruling that the developmental stage was over, Gazifère nonetheless has DSM programs that are internally categorized as established and non-established programs. Established programs are those which have been offered on an ongoing basis since 2001, and have had at least some participation each year. They are predominantly residential sector programs.

Non-established programs are those for which there were no participants nor savings yet at the start of fiscal 2004. These comprise four new programs added in 2003 in partnership with the Agence de l'efficacité énergétique (AEE), and three previously existing commercial sector programs.

Fiscal 2004 will be the first year in which some non-established programs can move into the established program category, due in large part to the diligence of Gazifère's marketing representative and commercial sector sales representative.

Unlike its sister utilities, Gazifère has no DSM department with human resources, so that any DSM successes are brought about by staff donating their time aside from their already full duties of running the utility itself. Gazifère has only one representative for residential gas sales, one for commercial, and one marketing representative covering all sectors. Gazifère does have one DSM equivalent staff, but it is a clerical function.

Of the 7 non-established programs, three are expected to have outstanding results by the end of the year that will meet 321% of the total m^3 savings target for non-established programs for 2004.

The established programs have not fared as well, and it is expected that they will meet 53% of the total m^3 savings target for established programs for 2004. This is due to low participation in the Residential Gas and Water Savings program.

Combining the results of the established and non-established programs, the overall total m^3 savings for the Company is expected to end the year at 181% of target, with only 58% of the program budget spent. Please refer to Figure 1 following this section.

In addition, as at the end of April (7 months into its fiscal year), Gazifère had spent only 27% of its fixed cost budget. Despite some additional fixed cost spending before year end (such as salaries, computer programming, etc.), it is likely that the fixed cost budget will also be under spent.

In 2005, Gazifère is not proposing to add any new programs, but does propose to make some changes to the implementation of the Residential Gas and Water Savings program, and the Residential Furnace program. Gazifère is, however, proposing to eliminate 2 programs for which there have consistently been no participation, and to concentrate its efforts toward bringing about the success of the remaining programs which already comprise Gazifère's DSM portfolio. These will be explained in detail in the following report.

Gazifère will also begin during 2005 to evaluate opportunities for new programs for 2006, at which time the Régie's three year blanket approval will come to an end.

Figure 1 - Gazifère DSM Program Savings, projected results to end of 2004

Measures	Target Partic. 2004	Proj. Partic. to 30/09/04	Target m³ Savings 2004	Proj. m³ Savings to 30/09/04	Target Water Savings 2003 (litres)	Proj. Water Savings to 30/09/04 (litres)	Target CO^2 Savings 2004 (kg)	Proj. CO^2 Savings to 30/09/04 (kg)	Budgeted Costs for Measures 2004	Proj. Costs for Measures to 30/09/04
Established Programs:										
Res WH Procurement	1900	1900	83,600	83,600	-	-	157,168	157,168	-	-
Res Gas & Wtr Savings:										
Showerheads	750	60	62,775	5,022	28,350,000	2,268,000	118,017	9,441	$13,060	$345
Faucet Aerators	1500	85	22,950	1,300	5,400,000	306,000	43,146	2,444	3,705	210
Pipe Wrap	1800	90	27,000	1,350	-	-	50,760	2,538	8,600	106
Tank Turn Down	1500	680	135,000	61,200	-	-	253,800	115,056	2,260	8
Res. Gas Furnace Pgm:										
HE Furnaces	60	75	28,518	35,648	-	-	53,614	67,018	6,000	7,500
Prog. Thermostats	60	75	10,413	13,017	-	-	19,576	24,472	3,846	5,557
Comm WH Procurement										
Residential Tanks	15	8	735	392	-	-	1,382	737	-	-
Commercial Tanks	40	16	28,000	11,200	-	-	52,640	21,056	-	-
Sub-total			398,991	212,729	33,750,000	2,574,000	750,103	399,930	$37,471	$13,726
% difference				53%		8%		53%		37%
Non-established Pgms:										
Multi-res Gas & Water Savings Program										
Showerheads	360	0	18,792	0	8,505,000	0	35,329	0	$1,900	0
Faucet Aerators	360	0	5,508	0	1,296,000	0	10,355	0	889	0
Comm HE Boiler Pgm	30	0	33,000	0	-	0	62,040	0	15,000	0
Comm Design Assist Pgm	2	4	n/a	275,918	-	0	n/a	519,726	7,000	$14,000
EE Municipal Bldgs	1	0	100,000	0	-	0	188,000	0	10,000	0
EE Institutional Bldgs	2	14	200,000	885,518	-	0	376,000	1,664,774	10,000	14,340
Novoclimat	3	0	2,916	0	-	0	5,482	0	4,500	0
Energuide for Houses	12	25	5,268	10,975	-	0	9,903	20,633	0	0
Sub-total			365,484	1,172,411	9,801,000	0	687,109	2,204,133	$49,289	$28,340
% difference				321%		0%		321%		57%
Market Research									$20,000	$20,000
Grand Total All Progms.			**764,475**	**1,385,140**	**43,551,000**	**2,574,000**	**1,437,212**	**2,604,063**	**$106,860**	**$62,066**
% difference				**181%**		**6%**		**181%**		**58%**

Note: appropriate free ridership rates have been applied to gas, water, and CO^2 savings, for both targeted and actual numbers

1.0 Overview of Established DSM Programs

1.1 Residential Water Heater Procurement Policy

For its residential water heater rental customers, Gazifère purchases water heater tanks with a minimum energy efficiency of 0.65 EF (energy factor), which is three percentage points higher than the government standard in the federal Energy Efficiency Act, adopted by Québec. This translates into savings of 44 m^3 per water heater.

The Residential Water Heater Procurement Policy is the continuation of a program that began in Gazifère's 2001 fiscal year. For its 2004 fiscal year, the target number of gas water heaters to be purchased for residential customers is 1,900 tanks.

It is estimated that this year's target of 1,900 tanks will be met by year end. The Residential Water Heater Procurement Policy will be continued in 2005, and the participation target of 1,900 tanks will remain the same.

2006 Looking Ahead

Gazifère will evaluate the potential for promoting tankless water heaters for 2006, likely for the new construction market segment. Preliminary information indicates the energy factor for this type of water heating is .82 EF, and the manufacturer claims savings of 30% over conventional water heating. These claims will have to be validated by Gazifère, as well as the cost and viability of offering this option to its customers.

1.2 Residential Gas and Water Savings Program

Program Description

The Residential Gas and Water Savings Program was first offered in 2001, and has been continued since then as an ongoing program. It is an energy efficiency program featuring low flow showerheads, faucet aerators, foam pipe insulation, and water heater tank temperature set back to 54°C (130°F) from 60°C (140°F).

These four measures have been offered free of charge to all existing and new residential customers, with the exception of new construction, which is to receive only the pipe insulation and tank turn down. It is assumed that all new homes already have low flow showerheads and aerators, based on the stock available in the marketplace.

The Program has delivered the measures through Gazifère's external contractor during their service calls, and via the front counter at Gazifère's offices where customers are able to pick up the measures themselves. In addition, the tank turn down measure is completed by Gazifère's own in-house technicians for new construction when they conduct final inspections. During the tech's inspection, they have on occasion also installed pipe wrap if appropriate.

Wherever possible, old showerheads removed from customers' homes are reclaimed and returned to Gazifère. The advantages to this are threefold: To ensure environmental contaminants are properly disposed of (old showerheads may be chrome plated); to reduce the possibility of customers "un-installing" the energy efficiency measure at a later date; and to verify that the old showerhead removed was not already a low-flow model. Old showerheads reclaimed from the Program are sent to a local recycling company, so that the chrome can be disposed of as hazardous waste. In 2003, Gazifère evaluated more than 500 old showerheads, and none of them were a low flow model.

A detailed bilingual communication kit has been prepared, outlining installation guidelines for each of the four measures, along with the customer benefits of the Program.

Gas savings per participant are 93m³ for low-flow showerheads, 17m³ for faucet aerators, 15m³ for pipe insulation, and 90m³ for the water heater tank turn down measures.

2004 Results

Results for this Program are considerably down this year. In previous years, the measures were offered and installed by Gazifère's external contractor while on site to do furnace cleanings. It was negotiated with the contractor that furnace cleaning appointments were the best time to offer the measures, because of the type of tech sent for the call, and due to the availability of extra time on site during the cleaning process.

Furnace cleanings are conducted bi-annually for Gazifère's rental furnace customers. Since there is a finite number of these, the majority of customers visited this year by the contractor had already had the measures installed in previous years. In fact, the contractor has only been able to install showerheads for 10 participants, 4 pipe wraps and 4 tank turn downs.

The remainder of the 60-90 participants for measures (with the exception of tank turn down), have been participants picking up measures at the front counter, or Gazifère's own technician installations. Please refer to figure 1.

The only measure showing more robust results is the tank turn down measure, because Gazifère's technicians complete this during their final inspection for new customers.

There was already a slowing down of results last year, albeit not to this extent, and Gazifère was considering the possibility of hiring a new DSM dedicated technician to try to reach those customers who do not receive regular service calls. Gazifère prepared a job description for the purpose of hiring, but upon further exploration, it became apparent it may be difficult to recruit a specialized technician to do this type of work given the current shortage of certified technicians within the immediate region and outlying areas.

To overcome this situation, Gazifère negotiated with its external contractor for them to dedicate one DSM technician for 2004 to proactively reach those customers who do not receive regular service calls.

In 2004, Gazifère prepared a list of 14,000 potential customers to be approached for the Gas and Water Savings program, who have not previously participated. The contractor assigned a clerical staff person to phone and schedule appointments, upon which a technician would have been sent out to install the measures. The contractor reported back to Gazifère that it was not successful in setting up any volume of appointments as customers did not seem interested, and many expressed suspicion as to why anyone would give away something for free.

As a mitigation, a mail out to a sample of 100 potential customers was then issued, outlining the purpose of the energy efficiency program and its benefits to customers. As no customers responded by scheduling appointments, a follow-up telephone call was undertaken, to which no customers expressed interest.

It may be possible that this program has reached its saturation. Gaz Métro has expressed the belief that their showerhead program has reached saturation. However, by comparison, EGD claims that their similar "Taps" program, which has been offered for the last 6 years is nowhere near saturation, and their participation keeps increasing every year.

Gazifère is not yet planning to discontinue this Program. Instead, it will review the 14,000 customers which have now been identified, and will partition them into sectors. A trial will be conducted whereby one sector will be piloted for participation. A professional telemarketing firm will be used, and phone calls will be made to potential customers using a prepared script. Telemarketers will also be coached in the benefits of energy efficiency, and how to better respond to customer concerns.

2005 Projection

Until the trial pilot effort described above is completed, it is unclear at this time whether real additional potential exists for this Program. In light of no new results at this time, the Residential Gas and Water Savings program will continue in 2005 with participation targets that reflect front counter take up only, and the tank turn down measure predominantly conducted by Gazifère's own in-house technicians. A $1,000 communications budget will be kept to include promotion of this Program during venues such as home shows, or blanket advertising.

Figure 2 - Residential Gas and Water Savings Program – 2005 Participants and Costs

	MEASURES				
	Low Flow Showerheads	**Faucet Aerators**	**Foam Pipe Wrap**	**Tank Turn Down**	**Total**
Front Counter	60	85	85	60*	
In-house Technicians	0	0	5	620	
Total participants	**60**	**85**	**90**	**680**	
Equipment costs[1]	$317	$210	$90	n/a	$617
Communications					$1,000
Total costs					**$1,617**

* Based on results from 2001, 70% of front counter participants lowered their tank temperature, thus the counter tank turn down participants have been downsized by 30%.

[1] Based on participant costs of $5.28 for showerheads; $1.98 for kitchen aerator and $0.49 for bathroom aerator; and $1.00 for foam pipe wrap.

2006 Looking Ahead

The benefits of the measures offered in the Residential Gas and Water Savings program are significant in terms of the reduction of gas and water use and lowering of customer bills using simple measures. There may be alternate delivery options for these measures other than their installation via booked appointments or during service calls, which is the only option that has been explored to-date.

During extensive ongoing discussions with EGD regarding their "Taps" program, Gazifère became aware of another delivery vehicle offered by EGD as a pilot program, called the Living Wise Conservation Education Program, whereby an external company prepares educational kits containing the measures, and schools are utilized to deliver the program.

Students at elementary schools are given the kits to take home. They are asked to have their parents help complete a survey contained in the kit, which gives information on the home and its use, whether they did install the measures, and to return the old showerhead to school. Upon return of the old showerhead and completed survey, students receive prizes like cameras, or gift certificates. Teachers are prepared with information to explain the benefits of the measures, and often the kits are sent home during school environmental week where "re-use, reduce, and recycle" is promoted by school boards.

To-date, 7,500 students and teachers have participated in EGD's pilot offering. The external company which prepared the kit also conducts follow-up evaluation for the Program. It has lab tested 150 returned showerheads selected at random to evaluate flow rate. The average flow rate of the returned showerheads was 16.7 litres/minute.

By comparison, the showerhead that has been used by Gazifère up until now has a flow rate of 9.4 litres/minute. The showerhead used by EGD in its LivingWise kit is 7.6 litres/minute. EGD claims it has had no adverse customer response to the lower flow rate. Gazifère has obtained a sample of the lower flow rate showerhead from EGD, and is in the process of testing it for comfort level.

Gazifère has also become aware of an even lower flow rate showerhead being used in Los Angeles by California Light and Power, namely 5.6 litres/minute. They claim they have used the showerheads for sometime without customer complaint for comfort. Gazifère is in the process of acquiring samples of this showerhead as well, and will test it out during 2005 for its comfort level.

Based on further investigation and evaluation of viability in Gazifère's service territory, these may become program options for 2006.

1.3 Residential Gas Furnace Program

Program Description

The Residential Gas Furnace Program was originally designed to begin on January 1, 2001, but it was not until 2003 that it began to achieve some participation. It is an energy efficiency program featuring a high efficiency condensing gas furnace rated at a minimum of 90% AFUE, and a programmable thermostat.

The purchase of high efficiency gas furnaces are promoted to all existing residential gas customers who do not already have a high efficiency furnace, and to all new customers converting from other fuels. It has been assumed that new construction customers may already have a high efficiency furnace installed. In conjunction with a customer purchasing a high efficiency furnace, they receive a free programmable thermostat, with free installation.

Gazifère pays $100 by cheque directly to customers who purchase a high efficiency furnace, upon proof of purchase. In conjunction with the $100 rebate, a free programmable thermostat is offered with free installation (valued at $75). Gazifère has also been offering customers a financing option whereby customers purchasing a high efficiency furnace can take 24 months to pay, interest free. Gas savings are 679m³ for high efficiency furnaces, and 195m³ for programmable thermostats.

2004 Results

Target participation for 2004 is 60 participants. It is estimated that participation will exceed the target with a total of 75 participants by year end. Please refer to figure 1. Over the last two years, the Program has been gaining momentum due to advertising efforts, and reimbursement of customers directly.

One of Gazifère's retail partners who does the majority (over 80%) of the business within the Outaouais, claims he sells approximately 30 furnaces per month (all efficiencies), so his high efficiency portion incented by Gazifère amounts to about 18% of his total sales. To try to increase market share for high efficiency furnaces overall, Gazifère has entered into discussions with Natural Resources Canada (NRCan) to seek financial contribution from them to help promote high efficiency furnace sales.

In April of 2004, NRCan officially launched its Energy Star program for Canada which promotes energy efficient products. Included in the product offerings are furnaces, programmable thermostats, windows, etc.

Gazifère has asked NRCan to match Gazifère's customer contribution of $100 for every high efficiency furnace sold with programmable thermostat, if Gazifère agrees to promote Energy Star in its advertising. NRCan had formed a similar partnership with BC Gas last year. The Program criteria used by Gazifère already meets Energy Star requirements.

NRCan has verbally responded positively, and has asked Gazifère to prepare a formal proposal outlining the request, including the expected outcome of the increased incentive.

2005 Projection

If successful in obtaining additional funding from NRCan, Gazifère's goal is to increase market share of high efficiency furnace sales with programmable thermostats to approximately 30% of total market potential in 2005, namely 120 participants.

In 2004, Gazifère completed an internal review of purchasing and installation policies used by the retail partner for Gazifère's furnace rental and new construction customers, to evaluate whether potential exists for further increasing the overall number of high efficiency furnaces and programmable thermostats within its service territory.

The investigation provided some interesting results:

Programmable Thermostats

It became known that with every new installation of a furnace for Gazifère's rental program, the retail partner has been installing standard thermostats, even in conjunction with high efficiency furnaces. This is because a standard thermostat costs only $10, while a programmable one costs considerably more.

What this means is that the solid majority, if not virtually all of Gazifère's approximately 8,000 furnace rental customers, have standard thermostats. Gazifère is proposing to convert a majority of its furnace rental customers to programmable thermostats, unless specifically refused by the customer.

Initial negotiation with Honeywell has reduced the cost of the programmable thermostat currently used by Gazifère for its furnace purchase customers from $44.10 down to $40.78 based on volume. Gazifère has budgeted an additional $34.20 for installation, which represents sufficient time to install and educate the customer on the operation and benefits of a programmable thermostat.

Participation for 2005 is set at 2,500. The current rental customers should therefore be converted by the end of 2007.

The furnace installers have also been installing standard thermostats in all new construction. Gazifère's new construction high efficiency furnace rental customers are expected to increase by 700 customers in 2005, and they will also now receive programmable thermostats instead of standards ones. A cost difference of $30.78 between a standard and programmable thermostat ($40.78 - $10,00 = $30.78), will be a DSM cost..

High Efficiency Furnaces

Results from the review also brought to light that the furnace installer automatically installs a new mid-efficiency furnace during rental furnace exchanges, if the old furnace being replaced is mid-efficiency. The customer has not been given the option of upgrading to a high efficiency furnace.

Since 1998 to-date, Gazifère has replaced 112 standard or mid-efficiency furnaces with new mid-efficiency furnaces for its furnace rental customers. During this time period, an additional 7 customers insisted on receiving a high efficiency furnace, so in these 7 cases, they went from a mid-efficiency to a high efficiency.

For 2005, Gazifère is proposing to begin offering its furnace rental customers the choice of upgrading to a high efficiency furnace during rental furnace exchanges. It is targeting a participation of 12 customers, with a free ridership of 6%, determined by the numbers outlined above of customers who had voluntarily requested a high efficiency furnace in the past.

Also during its review, Gazifère discovered that new mid-efficiency furnaces were still being installed for some new construction customers. It had always been assumed that for new construction, high efficiency furnaces were automatically installed.

Since 1998 to-date, Gazifère has installed about 100 new mid-efficiency furnaces per year for new construction rental customers. This equates to 15% of all new furnaces installed per year. Gazifère is projecting 700 new construction high efficiency furnace rental customers in 2005, 15% of which could have opted for mid-efficiency based on natural market trends. Gazifère is proposing to account for these furnaces applying a free ridership of 85%.

Proposed Savings

Despite the proposed expansion of the existing Residential Gas Furnace program with an increase in costs, it is still a very economical program based on a cost of $0.31 per cubic metre saved. Please refer to the participant and cost projections in figure 3 below.

Figure 3 - Residential Gas Furnace Program – 2005 Participants and Cost

Measure	# of Part.	Free Rider	Gas Saved m^3/part	Gas Saved m^3/year	Equip Cost	Install Cost	Total Cost
High Eff Furnaces:							
cust own new purchase	120	30%	679	57,036			$12,000[1]
exist. rental exchanges	12	6%	679	7,659			0
new rentals	700	85%	679	71,295			0
Prog. Thermostats:							
cust own new purchase	120	11%	195	20,826	$4,894	$4,104	$8,998[2]
exist. rental exchanges	2500	0%	195	487,500	101,950	85,500	187,450[3]
new rentals	700	0%	195	136,500	21,546		21,546□
Pgm communications							10,000
				780,816			$239,994
Cost/m^3 saved							$0.31

[1] Based on a rebate pf $100 for the high efficiency furnace incentive.

[2] Based on a cost of $40.78 for the PT, and $34.20 for the installation.

[3] Based on a cost of $40.78 for the PT, and $34.20 for the installation.

□ Based on a cost of $30.78 for the PT

1.4 Commercial Water Heater Procurement Policy

The Commercial Water Heater Procurement Policy has been an ongoing Program since 2001. It includes both commercial and residential sized tanks, as some of Gazifère's commercial clients use a residential tank in a commercial application, while others use the larger commercial sized tanks.

The residential tanks that are purchased are a minimum of 0.65 EF, three percentage points higher than the federal government standard, and the larger commercial tanks are ones that comply with ASHRAE 90.1B.

The number of residential tanks purchased for commercial application has a target of 15 tanks for 2004, and commercial sized tanks have a target of 40. Both sizes of tank are expected to fall short of their targets by year end, at 8 residential tanks and 16 commercial tanks in total. Please refer to figure 1.

The number of tanks purchased for commercial rental customers has slowly been declining over the last two years, due in part to a policy adopted by Gazifère for its residential water heater tanks. In the past, insufficient hot water calls or leaking tanks would be replaced by a new water heater. Gazifère now completes a diagnostic first, and then replaces the tank only if necessary.

Manually reviewing the actual paperwork for commercial water heater rental customers has also revealed that more customers have decided to purchase their water heater outright, rather than to rent from Gazifère.

As such, the target for 2005 will be reduced to 10 residential sized tanks, with a saving of 49m³/tank, and 20 commercial sized tanks with a saving of 700m³/tank.

1.5 AEE-ACEF Low Income Housing Program

Gazifere will maintain its collaboration with l'Association coopérative d'économie familiale – Outaouais (ACEF – Outaouais) for fiscal 2005, for the low income housing program.

The program consists of visiting low income families in the region. During these visits, a team of two persons, one advisor and one installer, provide advice, install several measures, and perform some work aimed at increasing the energy efficiency of the dwelling.

Results will be included once they are received from l'ACEF.

2.0 Overview of Non-Established DSM Programs

2.1 Federal Energy Star Program

As previously mentioned in section 1.3 Residential Gas Furnace Program, NRCan officially launched its Energy Star energy efficiency program in April, 2004, modeled after the Energy Star energy efficiency product endorsement and labeling program in the United States.

In its plans for 2004, Gazifère had indicated it would explore potential to maximize its DSM marketing to piggyback on any marketing/promotional efforts of NRCan, and vice versa. Gazifère has met with NRCan, and has discussed partnership efforts with regard to Gazifère's high efficiency furnace and programmable thermostat program. Please refer to section 1.3 for more detail.

Gazifère will continue to maintain its relationship with NRCan, and will look at the potential to partner with NRCan on other products or programs that may be upcoming for the 2005 and 2006 fiscal years.

2.2 AEE Novoclimat

Program Description

AEE's Novoclimat is a residential new construction program based on the 1997 *Model National Energy Code for Houses* (MNECH). It allows homebuyers to purchase a more comfortable house with improved indoor air quality and energy efficiency.

The AEE estimates that a Novoclimat house consumes approximately 25% less energy than a house built to Law #9, the current regulation, for an incremental construction cost for gas-heated homes in the Outaouais region of about 2.7%.

The program is based on :

- training and accreditation of home builders ;
- an inspection performed by an independent specialist ; and
- a certification of the energy performance and the compliance to the technical requirements.

An additional advantage to homeowners is that the *Caisses Populaires Desjardins* provides a preferred mortgage rate for buyers of Novoclimat houses.

In June of 2003, Gazifère met with senior staff from the AEE to form a partnership for the promotion of AEE's programs in the Outaouais region, Novoclimat being one of the programs. The AEE advised Gazifère that all major builders within the region are accredited to build Novoclimat houses, yet the uptake has been non-existent. There had only been one demonstration house built a few years ago.

2004 Results & 2005 Projections

In 2003, Gazifère explored the potential to work with one new home builder on a pilot project basis, to partially offset the incremental construction cost paid by the homeowner, if the builder agreed to offer Novoclimat as one of the options from the builder's pick list of available upgrades. The builder was also required to display promotional material prepared by Gazifère, in the model homes.

Gazifère was planning to offer homebuyers an incentive of $1,500 via the builder, to help lower the incremental construction cost for a gas heated Novoclimat house. The target participation for 2003 was estimated to be 5 houses and the energy savings per house was estimated at 972m³ (based on an average base load of 3,886m³ and a 25% reduction in energy use).

Gazifère surveyed the marketplace within its service territory, and determined that although 14 builders were accredited Novoclimat builders, only one builder was active in promoting Novoclimat, namely Judand Ltée in the Pontiac region. However, the Pontiac region does not have gas service, so it was not feasible to conduct a pilot project there.

In view of the Régie's directive in its D-2002-283 ruling that it would like to ensure that the $1,500 contribution actually served to reduce the purchase price to the consumer, in place of a pilot project, Gazifère decided to widely market the Novoclimat program directly to homebuyers. Gazifère placed advertising in newspapers and bill inserts informing the public of the benefits of a Novoclimat house, and that if they purchased a Novoclimat house, Gazifère would reimburse them $1,500 to offset a potentially higher capital cost (upon receipt of a copy of the Novoclimat certification).

In 2003, Gazifère received several telephone calls from interested potential homebuyers, but did not pay out any incentives as it did not receive any certifications. Gazifère decided to continue to promote the Program in 2004 with a "wait and see" attitude to see whether any of the public who phoned would follow through with requesting a Novoclimat house from their builder.

Participation targets were lowered from 5 homes in 2003 to 3 homes in 2004, but there has still been no customer uptake for Novoclimat houses despite Gazifère's advertising efforts. It is for this reason that Gazifère is proposing to discontinue this program for 2005.

2.3 AEE Service d'inspection énergétique résidentielle (EnerGuide for Houses)

Program Description

The *Service d'inspection énergétique résidentielle* of the AEE is a residential home energy audit program based on NRCan's *EnerGuide for Houses* program. It offers a whole house audit including a blower door test to single family dwellings, and provides a computer simulation of the home's energy performance using HOT 2000 software developed by NRCan. A complete report detailing recommended energy upgrade measures and equivalent energy savings is provided to the homeowner.

If the homeowner implements at least one of the recommended measures, a second audit is conducted to validate the energy savings. The cost of the Program per house is about $300, of which NRCan (via the AEE) pays half, and the homeowner is required to pay $149.95.

Gazifère offered to help subsidize the customer's cost for the audit, but the AEE declined, explaining that once they pull out of market, they wish the Program to self-sustain itself. In its place, Gazifère then offered to help raise the profile of this Program by actively promoting it to its clientele via bill inserts, its quarterly *Infogaz* newsletter, Gazifère's web site, and articles and advertisements in newspapers.

Gaz Métro has also been promoting the AEE's program within their service territory, and in their 2002-2003 rate case, calculated average energy savings per house to be 11.3% based on an average residential load of 3764m³.

Gazifère's average base load of 3886m³ compares favourably with Gaz Métro's average load. Applying an 11.3% energy saving to Gazifère's average load would equal 439m³ saved per home.

For 2003, Gazifère set an ambitious target of 30 participants for gas heated homes. The target was established a bit in the dark, as the AEE did not set annual targets based on fuel source, and thus there was no historical data upon which to reference a reflective number of gas participants. Knowing only that the AEE's total target for all fuel sources in the Outaouais was roughly 45 homes in 2003, Gazifère hoped to boost that number by influencing an increased participation from gas customers in response to Gazifère's advertising.

The Régie subsequently ruled that Gazifère could only take credit for Energuides completed for gas heated homes only after the total target of 45 homes had been met (of which some gas heated homes would already comprise the 45). In addition, the Régie directed Gazifère to submit a detailed account of the number of inspections carried out by the AEE and, if possible, of the action taken by customers and the associated savings.

Because of the ambiguity of targets by fuel source, for 2004 the Régie authorized Gazifère to claim its m³ savings as those homes that exceed the proportionate amount of increase in participation compared with the natural market trends shown by other fuels.

2004 Results

For 2004, Gazifère set a target of 12 homes for Energuide participation. To determine how many homes it could actually take credit for, Gazifère contacted NRCan directly and was able to acquire NRCan's raw data of individual records for each home that has undergone an Energuide evaluation.

Extracting data corresponding to Gazifère's 2004 fiscal year (October 1, 2003 – April 30, 2004 to-date), participation in Energuide by fuel source is outlined below:

Figure 4 – EnerGuide Participation for 2004

Fuel Source	Total # of Energuides all of Québec	# of Energuides in Outaouais	% Outaouais vs. Québec
Electricity	1179	36	3.0%
Natural Gas	404	37	9.2%
Oil	618	33	5.3%

Without any promotion in the Outaouais, electricity and oil fuel sources have achieved 3% and 5.3% of the Québec total respectively. The median participation between these fuel sources is therefore 4%.

Natural gas heated homes is almost double or triple the results of the other fuels, arguably due to promotion by Gazifère. Without market intervention, Gazifère's results should be in the 4% range, which would equal 16 homes out of 404. However, Gazifère has achieved 37 homes, a difference of 21 homes when compared with the other fuel source proportionate amounts.

Gazifère is proposing to account for these 21 homes, and believes it can achieve a total of 25 homes proportionately higher than the other fuel sources, by the end of its fiscal year.

2005 Projection

Since 1998 to the end of April, 2004 only about 4,500 Energuides have been completed in all of Québec in total, all fuel sources. This can be compared with 25,000 in Ontario, 23,000 in BC, and roughly 10,000 in each of Alberta and Saskatchewan, as well as in other provinces.

As Québec has the second largest population in Canada, the number of Energuides are proportionately very low compared with the rest of Canada. In addition, of the initial "A" audits completed, only 92 out of the 4,500 (2%) have gone on to complete the subsequent "B" audit which is the verification of savings. This does not necessarily mean that homeowners did not undertake upgrades of their homes, just that there is no way to verify the savings if they did.

To try to increase participation in Québec, NRCan decided to end its exclusive arrangement with the AEE, and has just recently allowed additional delivery agents to operate in Québec. These are Amerispec, and Building Insight. NRCan is also currently in the process of evaluating

proposals from prospective delivery agents in response to an RFP, and hopes to increase its coverage in Québec even further.

In addition to expanding its coverage of delivery agents, NRCan is planning to increase its budget for subsidizing delivery agents by earmarking $3.3 million dollars in total between this summer up to March 31, 2007, just for the province of Québec. As of the start of Gazifère's fiscal year, NRCan has also been providing a grant to homeowners who undertake energy efficiency upgrades under the Energuide program who have improved their home's efficiency.

Gazifère is planning to work more closely with NRCan in its Energuide efforts, and will expand its relationship with the AEE to other delivery agents operating in the Outaouais. In light of NRCan's increased effort for Québec, Gazifère is proposing to try to increase the number of "B" audits completed by homeowners, which is the only way to verify actual savings.

Gazifère is proposing to offer customers who complete a "B" audit a $50 rebate, which is the approximate cost of the B audit. Upon completion of the audit, the customer will be required to provide Gazifère a copy of their summary report, or their label, showing their home's reduction in energy use. Gazifère will work with delivery agents to have them inform customers while they are on site that this rebate is available to them.

With the more concentrated efforts planned, Gazifère is setting a target of 75 completed B audits (participating homes) for Energuide in 2005. Gazifère is proposing a method other than that used in 2004 to calculate savings attributable to Energuides for 2005. As only 2% of customers have voluntarily completed a B audit in Québec since 1998, Gazifère is proposing to calculate its savings using a 2% free ridership.

By operating the program in this manner, Gazifère will be able to guarantee that energy has been saved, and will have access to NRCan's actual amount of energy saved per house. Results from this program could then be used to adjust average savings per house for the following year.

2006 Looking Ahead

Gazifère is aware that a company headquartered in BC is hoping to establish itself in Québec in 2005. During 2004, it is already in the process of expanding into Alberta and Ontario.

The company, named Homeworks, is an energy renovation company. It promotes and provides energy efficiency upgrades to homeowners, mainly those who have had Energuides done, to implement recommended upgrades. Homeworks maintains a network of qualified contractors, and also provides unsecured loans to homeowners who wish to upgrade their homes.

Gazifère will continue to monitor Homeworks' progress and possible entry into Québec. If such occurs, Gazifère will look to partner with them to assist in the delivery of the Energuide program and possibly others.

2.4 Multi-Residential Gas and Water Savings Program

Program Description

Based on the success of the Residential Gas and Water Savings Program in 2001, Gazifère planned to expand the Program in 2002 to encompass the commercial multi-residential market as defined by the building code. The multi-residential Program was to be made available to all existing multi-residential customers. It was assumed that any new multi-residential construction would already have low flow showerheads and faucet aerators installed, based on the available supply of product within the marketplace.

The concept for multi-residential differed somewhat from the residential Program, in that only low flow showerheads, and kitchen and bathroom aerators were to be offered free of charge for every unit in a building that utilizes gas water heating (foam pipe wrap and tank turn down were not considered appropriate measures for multi-residential units as water heating is often centralized).

To address the Régie's request the year before that customers contribute to DSM program costs where possible, Gazifère had planned to negotiate with building owners that they absorb the cost of installing the measures while Gazifère would provide the equipment free of charge. Low flow showerheads and faucet aerators could be systematically installed by the property managers on site or building maintenance staff, or possibly during regular maintenance of their buildings' units.

Based on a manual review of data, it was estimated there were 88 multi-residential buildings representing approximately 5,000 units in Gazifère's service territory. Gazifère subsequently targeted 1,000 units of the potential 5,000 as the number of participants for 2003. It was estimated that the 1,000 units represented approximately 15 buildings.

The Multi-residential Gas and Water Savings Program estimated gas savings of 58 m^3 per participant for each low flow showerhead, and 17 m^3 for faucet aerators, one for the kitchen and one for the bathroom. A free ridership of 10% was applied to the participation rates, which was the percentage used by EGD for their multi-residential customer initiatives. Cost of the equipment was to be $3.30 per showerhead, $1.98 per kitchen faucet aerator, and $0.49 per bathroom faucet aerator.

The Program was intended to be target marketed directly to the 88 building owners via an introductory letter, followed by a telephone call and/or on-site visit to those owners expressing interest in the Program. The purpose of target marketing was twofold—to solicit personal buy-in to the Program, and to also begin gathering demand side market information.

In 2003, Gazifère conducted a quick telephone survey of its five largest multi-residential building owners, who informed Gazifère they had already retrofitted units with low flow showerheads and faucet aerators in recent years to lower their energy costs. It was thought that despite this, there may still be smaller buildings which may wish to take advantage of this Program.

2004 Results & 2005 Projection

No additional interest has been expressed by multi-residential building owners. Due to lack of participation, Gazifère is proposing to discontinue the Program at this time.

2.5 Commercial HE Boiler Program

Program Description

The Commercial High Efficiency Boiler Program is an energy efficiency program targeting boilers that produce heated water for space heating through combustion, which have an input less than 300,000 Btu/h (88kW), and which are shipped complete with burner, mechanical draft equipment, automatic controls, and accessories.

Using atmospheric boilers as the base case, which operate at less than 84% combustion efficiency, the Program promotes high efficiency condensing boilers with combustion efficiency levels equal to or greater than 90%.

Commercial, multi-residential, and industrial buildings are eligible to participate, with the energy upgrade decision made at the time of equipment replacement (existing market), or initial installation (new customer market).

The Program restricts participation to smaller boiler sizes for two key reasons. Gazifère's in-house technicians indicated they had seen a trend over recent years toward the installation of several smaller boilers in place of one large boiler of the equivalent total capacity.

Also, research commissioned by Union Gas and EGD in 2000 identified that paybacks for boilers with inputs greater than 300,000 Btu/hr, when comparing atmospheric with condensing boilers, ranged from 9 to 16 years. It was not considered cost effective for Gazifère to buy down these payback periods, or to offset their associated incremental costs (e.g. for boilers greater than 2 MM btu/hr, incremental cost for high efficiency averaged $38,000).

Condensing boilers with inputs less than 300,000 Btu/hr were found to have a simple payback of 5 years. This was based on an incremental cost of $1,300 for the condensing boiler over the cost of an atmospheric boiler of the same size. Gas consumption for an atmospheric boiler in this size range was around 5,600 m^3 annually, compared to 4,500 m^3 annually for a condensing boiler, thus providing annual gas savings of 1,100 m^3. Based on a gas price of $0.22/$m^3$, annual dollar savings were calculated to be $242—hence the 5 year payback. Estimated equipment life was 25 years.

For its Commercial HE Boiler program, Gazifère planned to offer an incentive of $500 per boiler to customers who installed a high efficiency condensing boiler in place of an **atmospheric** boiler (not to replace a mid-efficiency power combustion boiler) to bring the payback period to 3 years.

Free ridership was to be 0% for this Program, based on market information provided from boiler manufacturers to EGD and Union Gas, indicating that atmospheric boilers currently comprise approximately 60% of the market based on sales, compared to less than 5% for high efficiency condensing boilers.

In its ruling for 2003 DSM programs, the Régie directed Gazifère to reduce the target of 100 boilers down to 50 boilers. This was done, but regardless of the target, there were no participants for this Program. For 2004, Gazifère further reduced its target down to 30 participants.

2004 Results & 2005 Projection

There has been no participation for high efficiency boilers in 2004. However, a builder of new home subdivisions has indicated he will be building 3 low-rise condominium buildings in the Aylmer district of the Outaouais in 2005, and may be interested in installing two high efficiency boilers per building.

Participation for this Program has not been budgeted for 2005, since at this point it is not certain whether the builder will follow through on his expression of interest. If in fact high efficiency boilers are installed in 2005, their accompanying cubic metre savings will be added to the year's DSM results, along with the minimal impact the incentive would have on the overall budget.

2.6 Commercial Design Assistance Program

Program Description

Gazifère offers its clients a Commercial Design Assistance Program similar to the ones offered by EGD and Union Gas in Ontario, in tandem with NRCan's Commercial Building Incentive Program (CBIP). The Program promotes energy efficiency at the design stage of new commercial buildings.

Building design decisions are typically made at the project outset, and can have a significant impact on the building's energy needs for heating, cooling, ventilation, and lighting. In order to determine which energy efficient options may be applicable to any one building, computer modeling that simulates energy use needs to be conducted.

Modeling is done by an engineering firm, and usually takes about 3-4 weeks, at a cost of between $4,000 to $7,000 depending on the complexity of the building design. Gazifère is offering an incentive of $3,500 as a contribution toward the cost of the modeling. NRCan has additional incentives to promote the energy efficient design of new commercial buildings via their CBIP program, that are also available to Gazifère's clients.

NRCan's technology division, CANMET, provides free design advice to the engineering firms or the client, to suggest design features and equipment that would make a more energy efficient building while still meeting the desired cost/benefit ratio.

If the building is designed to be at least 25% more energy efficient than the requirements of the 1997 Model National Energy Code for Buildings, NRCan will provide an incentive of up to $60,000 based on the estimated energy use of the building. The CBIP incentive was originally up to $80,000, but was downsized in 2002 to $60k.

The customer must file an Expression of Interest with NRCan to apply for CBIP. The building's computer simulation must be provided to NRCan, and CANMET verifies that the application is valid and the design meets the CBIP criteria, in order for an incentive to be paid.

For the purpose of Gazifère's Program, the customer is to provide a commitment that they have applied for CBIP. The building does not necessarily have to qualify to meet CBIP levels, but an indication that the building has applied for CBIP means that computer modeling has been done and that energy efficiency has been considered. The engineering firm or the client is required to send a copy of the modeling and building results to Gazifère before the incentive of $3,500 for the simulation is paid.

2004 Results

This is the first year that Gazifère is able to post results for this program. Four buildings will be eligible participants by year end. They are:

- Alexis Nihon, Gatineau – 128,715 m^3 saved vs the proposed building
- The Nephrology Centre, Hull sector – 76,014 m^3 saved vs the proposed building
- Sobey's IGA, Gatineau – 70,133 m^3 saved vs the proposed building
- Maxi, Buckingham sector – 31,714 m^3 saved vs the proposed building

Total cubic metres saved for all 4 buildings combined is 306,576 m^3. Applying a free ridership of 10%, which is the figure used by EGD and Union, provides a Program saving of 275,918 m^3.

2005 Projection

This Program will be continued in 2005. Gazifère is anticipating meeting its target of two participants for 2005. Appropriate m^3 savings will be factored into the DSM results once they are known.

2.7 AEE Programme d'intervention en efficacité énergétique – Volet bâtiments municipaux

Program Description

The *Programme d'intervention en efficacité énergétique – Volet bâtiments municipaux* of the AEE aims at reducing energy consumption in municipal buildings and facilities. All facilities are eligible with the exception of arenas, swimming pools, ice rinks, external lighting systems, and street lighting. In 2003, pumping stations and water filtration plants were added to the list of eligible facilities.

The program offers financial assistance for walk-through audits and feasibility studies which are considered to be a prerequisite to implementation of recommended energy saving measures. Phase 1 of the Program is a characterization study, where all municipal building stock is inventoried. The AEE has hired students to inventory buildings in any/every municipality in Québec that wishes to participate in the Program. The AEE pays all costs associated with establishing the inventory.

In Phase 2, the municipality commits to conducting feasibility studies for energy savings in at least 25% of all buildings that were inventoried. The AEE helps the municipality prioritize buildings in order of potential, by analyzing the inventoried results and helping them complete the feasibility studies, and further provides technical and financial support. The AEE pays 75% of the cost of the first feasibility study up to a maximum of $15,000. For the second study, the AEE pays 50% of the cost. For each subsequent study after that, the AEE may decide to contribute less or nothing at all.

Based on the results of the feasibility studies, municipalities are required to engage in the process of implementing every recommended energy saving measure with a payback of between 1-5 years. All measures with a payback of less than 1 year are required to be implemented immediately. In the case where a municipality does not implement the measures, they must repay the AEE for the financial contribution they received.

If a municipality has already had feasibility studies conducted for their own purposes, the municipality is eligible to instead receive the AEE's contribution of $15,000 to be applied toward the cost of implementing measures. However, the studies must conform to AEE standards, must be less than 3 years old, and must not have previously been subsidized by the AEE.

Based on the results from feasibility studies conducted for all of Québec combined, the AEE considers that on average, buildings reduce their energy use by approximately 10%. However, the AEE considers the 10% to be conservative, since the buildings are not audited after the measures are implemented.

2004 Results

In 2003, Gazifère conducted an evaluation of the energy reduction potential for Gatineau, the amalgamated entity. Results revealed that Gatineau's total consumption is about 6,000,000 m³ per year, and that 2,400,000 m³ of this was attributed to its water treatment plant which was only to become eligible under AEE's rules sometime toward the end of 2003, or in other words the beginning of Gazifère's fiscal 2004 year.

Gazifère approached the City in 2003 and again in 2004 to determine any interest in this Program. Although Gatineau believed that 80% of its buildings had already been inventoried prior to amalgamation, to bring the remaining 20% on board and to then commit to the AEE's upgrade requirements (otherwise incentive monies would be lost), was deemed too stringent in face of the City's $16 million deficit.

Also, the fate of City seemed uncertain at the time. Within Gazifère's service territory, the amalgamation of 5 cities in the Outaouais region in 2002 created one large city of Gatineau. Since the amalgamation, 4 of the 5 previously autonomous cities continually expressed their desire to de-fuse, and the issue went to a referendum on June 20, 2004. The outcome of the referendum resulted in Gatineau remaining as a fused entity.

2005 Projection

With the resolution of Gatineau remaining fused as one city, it may be feasible to now open the door to consideration of energy efficiency. If the City is willing to work toward reducing its energy consumption in some format, Gazifère will keep the door open to opportunities. However, this Program has not been budgeted for 2005 due to uncertainty. If any results are achieved in 2005, their corresponding cubic metre savings will be accounted for in the DSM results, and the DSM budget will be adjusted to reflect any budgetary impact.

2.8 AEE Programme d'interventions dans le secteur institutionnel

Program Description

The *Programme d'interventions dans le secteur institutionnel* of the AEE aims at reducing energy consumption in buildings and facilities in the health and education sectors. It is very similar to the AEE's program for Municipal buildings outlined in Section 2.7 above, in that it also offers financial assistance for walk-through audits and feasibility studies which are considered to be a prerequisite to implementing recommended energy saving measures.

Where this Program differs from the one for Municipal buildings is that the AEE pays for 50% of the audit/study regardless of its cost. On average, the cost of audits/studies for this sector range between $5k to $10k. Also, where it differs is that the school or health care facility is not required to implement any of the recommended measures, nor is it required to reimburse the AEE's contribution if no measures are implemented. However, Program evaluation by the AEE shows that approximately 75% of the participants do go on to implement at least one of the recommended measures.

Primary and Secondary schools have been more active than other eligible facilities in participating in this Program, and on average, schools have realized energy savings of about 10%. Hospitals and other health institutions that have participated have realized energy savings of around 14%. Again, the AEE considers these to be conservative, as no follow-up audits are conducted once the measures are implemented.

Gazifère worked with the AEE in 2003 to identify facilities which had already participated in the AEE program by having completed feasibility studies, but had not yet implemented any or only some of the recommended measures. The Commission scolaire des Draveurs (CSD) was one school board which had completed feasibility studies, and was prepared to commit to undertaking recommended measures.

The CSD formed a working committee of which Gazifère was a member, to put out a tender to firms which may be interested in bidding on the work. Based on the working committee's recommendation, a contract was issued by the CSD on July 7, 2003.

2004 Results

In Gazifère's 2004 fiscal year, the firm selected by the CSD undertook a detailed analysis of potential savings for each of the schools. The CSD is comprised of 18 schools, 4 of which do not use any natural gas. Of the 14 remaining, 3 are secondary schools or polyvalente, 1 is the school board office, and 10 are primary or elementary schools. In total, the 14 natural gas buildings consumed 1,633,030 m^3 of gas in 2003.

The CSD has committed to implementing all the recommendations of the detailed analysis of its audit, during the summer of 2004. All measures ranging from changing entire heating systems to centralized controls will be completed by the start of the next school year in September. Total savings for all 14 buildings is 885,518 m^3, representing a 54% reduction from previous gas use.

2005 Projection

This Program will be continued in 2005. Gazifère has also been discussing with the Fonds en efficacité énergétique, the potential to use heat reflective panels already used in the Fond's programs. The building manager of one of the schools in the CSD has already installed the panels on a trial basis, and has expressed his satisfaction with them.

Gazifère will monitor the results from this school, and the panels may become a viable measure transferable to other schools as well. These may produce cubic metre savings additional to those calculated by the CSD's consulting firm.

2006 Looking Ahead

This Program is viable for schools and health institutions. Gazifère will consider expanding participation to the health sector, and other schools, in partnership with the AEE.

More specifically, if the heat reflective panels are adopted and well received in trial with the CSD their success can be adapted to other market segments such as churches. This could be a

potential undertaking for 2006. Another possibility may be to offer heat reflective panels as a stand alone program.

2.9 Commercial Market Research

Program Description

All client information at Gazifère has been based on supply side requirements. For example, when a new building comes on line as a new gas customer, Gazifère's sales representative determines the amount of gas supply required based on the building size.

While some consideration may have been given to the building function if it may have an impact on the amount of estimated gas supply (e.g. hotel), little information has been permanently recorded to provide market research or historical data.

To some degree, while Gazifère's clients have been classified in broad revenue classes indicating consumption of a certain amount of gas so they can be assigned an appropriate rate category, it has been considered irrelevant as to the market segment the client represents (e.g. office buildings, restaurants, etc.) and a large number of clients have merely been coded as "commercial".

There has also been no information systematically gathered regarding what technology is being used to supply heating, cooling, or hot water—for example, whether rooftop units, or boilers and what types of boilers or how many, what types of furnaces, what efficiencies of equipment, the age of equipment, etc.

The lack of available market research has posed a significant barrier to designing DSM programs. Particularly in commercial applications, where energy efficiency is predominantly achieved by replacing a conventional technology with a more innovative one, not knowing what technologies are currently being used inhibits the design of programs promoting energy efficient technologies suitable for its clients' applications. Nor is it clear how many customers may be eligible for a particular program in order to set participation rates with a corresponding DSM budget.

2004 Results

Representatives of Gazifère met with EGD in Toronto to review how EGD conducts its market research. EGD conducts several customer surveys, one on a regular basis and others as the need dictates, for all its market sectors.

<u>Residential Surveys</u>

EGD conducts a bi-annual (every 2 years) Residential Market Survey which provides them with profiles on housing characteristics (vintage, size, # of rooms, demographics, conservation habits), appliances and equipment (for market share), purchase preferences, etc. Questions specific to EGD's energy efficiency programs are inserted as required in any given year.

This has provided EGD with historical data going back to 1996. Information is used for end-use forecasting, to provide direction for customer and marketing communication, to plan programs, etc. EGD has achieved a high response rate, and follow up surveying has determined that results are accurate within a margin of error of 1.8 percentage points, at a 95% confidence level.

The Residential Market Survey costs EGD approximately $50,000 to run.

Commercial & Industrial Surveys

On the commercial side, EGD found that their recorded customer revenue classes were also in need of cleaning up similar to Gazifère. They purchased industry lists at a cost of $500,000, and began to computer match classifications with their customer accounts. For example, Air Canada was recorded as transportation in EGD's revenue classes, whereas the actual address location was an office building which should have been classified as such. On top of the $500k spent and after computer screening the most obvious errors, EGD assigned 2 staff to work full time over 3+ months to manually clean up the remainder of the errors.

Unlike for its residential sector, EGD does not conduct commercial nor industrial surveys with set schedules nor content. This is because their energy efficiency programs are custom tailored, and so they prepare surveys as needed for specific applications.

Budget for commercial/industrial surveying for 2004 is another $500,000. The surveys EGD is planning to conduct are:

- Mini-commercial survey to determine whether the incentive offered for the Design Assistance Program is still relevant at its current level (EGD has had several years offering this program, and is considering whether changes need to be made);
- Review of greenhouses and the saturation of technologies used for greenhouses;
- What technological opportunities exist for the Food and Beverage industry, Chemical industry, and Transportation sector;
- Commercial Technology Scan to determine what technologies are being used in commercial buildings, window requirements, heat recovery requirements, etc.;
- Second Generation DSM- what products are approaching commercialization in 2006 to 2010, what new technologies applicable to the commercial sector are in their test stages and what may become market ready for the next round of DSM
- Survey of R & D labs and what they're working on, and what studies exist to back up technologies.

As can be seen from the above, EGD market research is over and above the capabilities of Gazifère, both in terms of available dollars and available staff. However, Gazifère may be able to benefit from some of EGD's results in planning for the use of future technologies.

Before the end of 2004, Gazifère will be conducting a manual review of all in-house paper records available for its commercial clients. Various data may have been collected at the time the customer came on board, or during inspection or follow up service calls. A coordinated effort will be made to meld information from technicians, accounting, inspection, and customer service departments.

Once Gazifère has identified what information may already exist, it will then formulate a commercial customer survey patterned after the methodologies used by EGD. Gazifère is already in the process of reviewing EGD's past surveys for style and content. Gazifère's commercial customer survey is planned to be mailed out in September.

2005 Projection

Commercial survey responses will be reviewed, and together with any data already available in-house, a computerized market research database will be designed along with a methodology to maintain information gathering and input on a regular basis.

Gazifère would also like to look at the feasibility of surveying its residential customers and maintaining a computer database on appropriate market characteristics.

3.0 Ancillary Support for DSM Programs

3.1 Web Site

Gazifère maintains a web site providing information on Gazifère's DSM programs and customer benefits associated with each. As an additional customer service measure, Gazifère's web site provides links to the web sites of NRCan and the AEE, to direct customers to additional information on energy efficiency, and energy efficiency programs (some with incentives) for which they may be eligible.

This was undertaken in response to the Régie's directive that Gazifère should provide customers with information on energy efficiency and other stakeholder programs from which customers could benefit.

To draw customers to its web site, Gazifère included in its DSM program advertising for 2004, the opportunity for customers to win a free gas barbeque if they could find "Roger" on its web site. "Roger" was always located somewhere within Gazifère's DSM program information.

3.2 Fixed Costs

Gazifère is a small gas utility compared with EGD or Gaz Métro, and is much more limited in the total amount of DSM budget that can be set aside to promote energy efficiency. Gazifère's total annual DSM budget is in fact less than EGD's annual market research budget.

Being a small utility, Gazifère does not have the human resources nor the financial means to establish a DSM department dedicated to designing, implementing, and maintaining energy efficiency programs. Nor does it have a market research department, nor a computer programming department. In its place, Gazifère has relied on external agencies to help run its

DSM initiative, such as telemarketing firms, consulting firms, computer programmers, communication agencies, etc.

In its ruling (D-2002-283) for 2003, the Régie stated that given it was no longer asking Gazifère to actively develop new programs, it expected a reduction in costs with respect to consulting requirements. Balancing this directive with the extremely limited human resources available in-house, considerable effort was made to reduce the 2004 DSM budget for fixed costs.

A reduction of 36% of fixed costs from 2003 levels was budgeted for 2004. As at the end of April, 2004, only 27% of the fixed cost budget has been spent. Additional monies will be spent before year end for items such as salaries, computer programming, etc., but it is unlikely that the fixed cost budget will be fully spent in 2004.

4.0 Summary of 2005 DSM Programs Estimated Impact & Budget

For 2005, Gazifère is proposing to discontinue 2 programs that have not had any participation since 2002. They are Novoclimat for the residential sector; and the Multi-residential Gas & Water Saving program for the commercial sector.

For various reasons outlined in detail in the program descriptions, ranging from having already undertaken measures to not being the right time to consider measures, the 2 programs have not received any participants to-date, and so Gazifère believes it is not appropriate to continue them at this time.

Conversely, Gazifère is proposing to expand the scope of 3 of its existing programs. They are the Residential Gas Furnace program, to correct internal rental customer policies leading to increased opportunity to extend the reach of energy efficiency, the Energuide for Houses program in partnership with NRCan and new delivery agents operating in Québec, and the EE Institutional program to consider the introduction of heat reflective panels as a possible measure for schools in Québec.

Fixed costs budgeted for 2005 have been slightly increased due to the introduction of a budget amount for load impacts. Gazifère plans to review actual energy reductions attributable to Energuide for Houses, and for specific measures undertaken by schools for the Institutional programs. Another item that has been increased is future DSM program planning, as 2005 is the final year for which the Régie's blanket approval applies, and Gazifère will need to plan any new program offerings for 2006.

Broad scale communications has been moved from the fixed cost ledger to the program cost ledger. This is because the advertising and marketing that falls into this category is not a real fixed cost, but rather a true cost in connection with the energy efficiency programs themselves.

The budget for broad scale communications has been increased from $10k in 2004 to $30k for 2005. While this may seem contradictory in light of Gazifère proposing to discontinue some programs, it is intended not to lose any momentum that has been gained over the last years in changing public awareness of energy efficiency via print advertising, home shows, etc. Since

2006 may require new energy efficiency programs, it is felt that readying the marketplace during 2005 is therefore vitally important.

In terms of the 2005 DSM plan as a whole, Gazifère estimates total annual gas savings of 980,045 m³ at a program operating cost of $317,361 or $0.32 per m³ saved. Please refer to figure 5. The cost per cubic metre saved is overstated, as no volumes have been included for the Commercial Design Assistance, Institutional, Municipal, and High Efficiency Boiler programs.

Other utilities such as EGD and Union Gas do not factor fixed costs into their reported cost of offering DSM, but rather, consider fixed costs the cost of doing business. However, since Gazifère's total budget is relatively small compared with EGD's and Union's, it has included fixed costs with its program operating costs in calculations for the past three years.

For 2005, if fixed costs are also factored into the evaluation, then total annual gas savings are estimated to be 980,045 m³ at a cost of $460,561 or $0.47 per m³ saved. Please refer to figure 5. Again, cost per cubic metre saved is overstated, as no volumes have been included for the Commercial Design Assistance, Institutional, Municipal, and High Efficiency Boiler programs.

Figure 5 – Summary of Proposed 2005 DSM Programs Estimated Impact & Budget

Measures	# of Partic.	Free Rider	Saving /Partic. (m^3)	Total Annual Gas Savings (m^3)	Total Annual CO_2 Savings (kg)	Total Annual Water Savings (litres)	Equip Life (Yrs)	Total Cost All Partic.
Res Gas &Wtr Savings Pgm								
Low-flow Showerheads	60	10%	93	5,022	9,441	2,268,000	08	$317
Faucet Aerators	85	10%	17	1,300	2,444	306,000	08	210
Pipe Wrap	90	0%	15	1,350	2,538	-	20	90
Tank Turn Down	680	0%	90	61,200	115,056	-	08	0
Pgm Communications								1,000
Sub-total				**68,872**	**129,479**	**2,574,000**	**-**	**$1,617**
Res Water Htr Procurement	1900	0%	44	**83,600**	**157,168**	-	-	n/a
Residential Gas Furnace Pgm								
High Efficiency Furnaces:								
Customer own New Purchases	120	30%	679	57,036	107,228	-	20	$12,000
Existing Rental Exchanges	12	6%	679	7,659	14,399	-	20	0
New Rentals	700	85%	679	71,295	134,035	-	20	0
Programmable Thermostats:								
New own Furnace Purchases	120	11%	195	20,826	39,152	-	20	$8,998
Existing Rental Exchanges	2500	0%	195	487,500	916,500	-	20	187,450
New Rentals	700	0%	195	136,500	256,620	-	20	21,546
Pgm Communications								10,000
Sub-total				**780,816**	**1,467,934**	-	-	**$239,994**
EnerGuide for Houses	75	2%	439	32,267	60,662	-	-	$3,750
Pgm. Communications								$10,000
Sub-total				**32,267**	**60,662**	-	-	**$13,750**
Comm Wtr Htr Procurement								
Residential Tanks	10	0%	49	490	921	-	08	n/a
Commercial Tanks	20	0%	700	14,000	26,320	-	12	n/a
Sub-total				**14,490**	**27,241**	-	-	n/a
Comm Design Assistance Pgm	2	10%	n/a	n/a	n/a	-	-	$7,000
Pgm Communications								3,000
Sub-total				**n/a**	**n/a**	-	-	**$10,000**
EE Institutional	n/a	0%	n/a	n/a	n/a	-	-	n/a
Pgm. Communications								$2,000
Sub-total				**n/a**	**n/a**	**-**	**-**	**$2,000**
EE Municipal	n/a		n/a	n/a	n/a			n/a
High Efficiency Boilers	n/a		n/a	n/a	n/a			n/a
Comm Market Research								**$20,000**
Broad scale Communications								**$30,000**
Total Programs All Measures				**980,045**	**1,842,484**	**2,574,000**	**-**	**$317,361**
Cost/m^3 saved (based on program costs)								**$0.32**

Measures	# of Partic.	Free Rider	Saving /Partic. (m^3)	Total Annual Gas Savings (m^3)	Total Annual CO_2 Savings (kg)	Total Annual Water Savings (litres)	Equip Life (Yrs)	Total Cost All Partic.
Fixed Costs:								
Market Impacts								$10,000
Load Impacts								5,000
Web-site Update								$4,000
Computer Programming								$10,000
DSM Program Implementation								$25,000
Contingency								$10,000
Overheads								$10,000
Future DSM Pgm Planning								$25,000
Total Fixed Costs								**$99,000**
Salaries:								
DSM Admin. Staff – FTE								**$44,200**
GRAND TOTAL				**980,045**	**1,842,484**	**2,574,000**	**-**	**$460,561**
Cost/m^3 saved (based on pgm + fixed costs)								**$0.47**