Régie de l'énergie

Gaz Métro – Request regarding the generic file on Gaz Métro's cost allocation and rate structure
R-3867-2013, Phase 3B

Brief by the Association des Consommateurs Industriels de Gaz (ACIG)

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BACKGROUND

In its decision D-2016-169, the Régie establishes the following subjects for Phase 3 of file no. R-3867-2013:

a- the method for determining the marginal costs for long-term service delivery;
b- the methodology for evaluating the profitability of network extension projects.

On September 1, 2017, the Régie ruled on Subject A of Phase 3 of the file in its decision D-2017-092.

In June 2017, Gaz Métro filed its last pieces of evidence regarding Subject B of the file. Among other things, it proposes a new methodology for evaluating the profitability of network extension projects.

ACIG hereby submits its comments on said methodology.

1. USING A PROFITABILITY INDEX

Gaz Métro has engaged the services of the firm Black & Veatch to review its methodology for analyzing the profitability of its projects, and it endorses all of the recommendations contained in the report issued by that firm.[1]

Gaz Métro is proposing to measure the profitability of network extension investment projects by using a profitability index (PI) which represents the ratio between the current value of cash flows from operations generated by the project and the current value of the initial investment. In reply to an inquiry from ACIG, Gaz Métro has provided the following equation that is used to calculate the profitability index that will be used to test the profitability of investment projects.[2]

[1] B277, page 3
[2] B280, page 3

The profitability index (PI) is calculated as follows for each project:

$$PI = \frac{\text{Current value of cash flows from operations (40 years)}}{\text{Current value of the initial investment}}$$

Where:

Current value of cash flows from operations = Current value of project revenues
- current value of operating costs
- current value of royalties to the Régie de l'énergie and to the Régie du bâtiment
- current value of public utility taxes
- current value of taxes

Current value of the initial investment = Current value of all the project costs, including
connection costs, mains costs, meter costs and fees to the Union des municipalités
+ current value of financial assistance (PRC and CASEP) granted to the client
- current value of customer contributions and external subsidies

According to the benchmark study presented by Gaz Métro, this methodology is used in Ontario and in British Columbia. In both provinces, the profitability index must be 0.8 or higher for individual projects, which corresponds to an internal rate of return (IRR) of approximately 3.70%. On the other hand, for the portfolio of projects, the index must reach a value of 1.1 or higher, which corresponds to an IRR of approximately 6.02%.[3]

For Gaz Métro, the profitability test was, until now, based on the internal rate of return (IRR) of the project, which must be equal to or greater than the prospective capital cost (PCC).

Note that although ACIG agrees with using a profitability test based on the internal rate of return (IRR) as is currently done, it is not opposed to switching to a method based on a profitability index.

The profitability index (PI) is conceptually not all that different from the approach based on the IRR: both methodologies consist in comparing the discounted revenues with the discounted costs of a given project.

For the PI, one uses the prospective capital cost and calculates the proportion of discounted net operating costs compared with the discounted costs of the initial investment.

[3] B-178, pages 12 and 13

For the IRR, one looks for a capital cost such that the discounted revenues are equal to the discounted costs (operations and investments).

For a prospective capital cost (PCC) of 5.28%, individual development projects with densification potential must achieve a minimum PI of 0.8 which corresponds to an IRR of 3.7%.[4] As far as the development plan is concerned, the PI must reach a minimum of 1.1, which corresponds to an IRR of 6.01%.[5]

As Gaz Métro points out: *Contrary to the MAT, the PI ensures long-term stability in the profitability assessment of Gaz Métro's projects, independently from the variation in prospective capital cost (PCC).*[6]

When using the minimum acceptable threshold (MAT), the minimum rate has to be adjusted with every change to the PCC, whereas for the PI, the minimum value of 0.8 does not change.

In ACIG's view, the profitability test based on a PI like that which is being proposed has the advantages of being very simple and transparent, and of being commonly used elsewhere in Canada. For these reasons, ACIG supports the initiative of applying it in place of the IRR methodology that has historically been used by Gaz Métro.

2. THE CONCEPT OF INCREMENTAL COSTS

2.1. DIRECT INCREMENTAL COSTS

Direct incremental costs are defined as follows:

> *"Black & Veatch recommend that Gaz Métro should include direct incremental costs when assessing the profitability of each individual project. Said costs must be allocated directly to each new customer, since they are incurred by Gaz Métro specifically to serve that customer (main, connection, meter, etc.) and must be considered in assessing profitability, project by project."*[7]

[4] B-277, page 14
[5] B-277, page 16
[6] B-277, page 14
[7] B-277, page 8

The approach that Gaz Métro is proposing is based on the concept of incremental costs associated with projects. If the costs incurred for an extension project are at least offset by the revenues generated by that same project, the existing customers are no worse off, that is, they do not suffer a rate increase due to that extension project from which they do not directly benefit.

It would be unfair for the existing customers to suffer a rate increase following the completion of an extension project from which they will not directly benefit. Thus, the costs allocated to the project as part of the profitability analysis must be at least equivalent to the incremental costs of the project, to avoid having the new customers be subsidized by the existing customers.

2.2. INDIRECT COSTS

Indirect costs include the indirect development costs and the incremental costs for distribution network reinforcement. Gaz Métro intends not to consider these costs to assess the PI of individual projects, but to consider them in the overall analysis of the development plan.

Gaz Métro defines "indirect development costs" as *costs that cannot be directly allocated to a new customer, but that are common to all new projects because they support connection activities for Gaz Métro's new customers.*

For Gaz Métro, indirect development costs are corporate overhead and contractors' overhead.[8]

Gaz Métro adds: *According to Black & Veatch, since these costs are relatively fixed for a certain range of projects authorized each year, are incurred on an annual basis, and do not vary directly according to the number of new customers or new projects, they must be considered when determining the overall profitability of the development plan.*[9]

Regarding investments in distribution network reinforcement, Gaz Métro mentions that they *make it possible to increase the capacity and the flexibility of the network. These investments should be borne by the customers who create the need. However, reinforcement may be required to serve new customers, potential future customers or existing customers who wish to add volume to their existing consumption. Black & Veatch*

[8] B-277, page 8
[9] IBID

recommend that reinforcement costs be taken into account in the overall profitability of the development plan.[10]

ACIG does not object to this approach, as it considers that the indirect costs would be incurred even without the execution of an individual project.

ACIG is of the opinion that the costs allocated to an individual project for the PI assessment must represent the incremental costs that are directly related to that project.

However, the indirect costs must be considered when assessing the overall profitability of the development plan.

3. ACCEPTANCE OF PROJECTS WITH A PI OF 0.8 OR MORE

Gaz Métro is proposing to undertake extension projects with a PI between 0.8 and 1, if the projects offer potential for densification suggesting that the PI will eventually reach the value of 1. Thus projects that are not yet profitable at the time they are carried out, but that are expected to become so, would be undertaken. Gaz Métro is also proposing to maintain an overall PI of 1.1 for its portfolio as a whole. Thus, overall, the revenues gained from extension projects will exceed the incremental costs of those projects and thus benefit existing customers.

Thus, for a PI of less than 1, profitability depends on the degree of densification that is expected.

Generally speaking, ACIG is of the opinion that network extension projects that are not net revenue generators should not be carried out because they are not profitable. Undertaking an investment that will bring in less revenue than the costs it generates puts existing customers in a situation of having to finance a portion of the costs of these projects and thus subsidize the new clientele at which the investment project is aimed. This cross-subsidization of new customers by existing customers is inequitable because the costs are transferred to customers who did not cause them and who will not benefit from the new infrastructures. These investments result in a disadvantage for existing customers.

[10] B-277, page 9

Thus, conceptually, projects that do not have a PI of 1 should not be carried out even if, overall, the portfolio has a PI greater than 1, i.e. 1.1.

However, the approach that Gaz Métro is proposing allows some flexibility in its application.

It should be noted that the values of 0.8 and 1.1 which Gaz Métro is proposing are the same as those used in Ontario and British Columbia.[11] It should be noted that, as indicated in the Black & Veatch report, *Fortis BC, Union Gas Limited and Enbridge Gas Distribution include potential customers in their profitability assessment of a project over a horizon of 5 or 10 years. Thus, potential revenues are considered to reach a PI of 0.8. Gaz Métro states that it is proposing a more conservative approach than that used by these three utilities, since it considers only the revenues from customers who have made a contractual commitment to reach the criterion of a PI of 0.8 in the New Method.*[12]

ACIG considers that the profitability index is a forward-looking tool that is based on several assumptions about anticipated revenues and all the incremental costs including future taxes, the anticipated return and all the planned capitalizable costs. This tool for predicting the profitability of projects certainly carries a margin of error.

Since the profitability of a project cannot be known exactly a priori, it is reasonable to allow projects with strong expectations of densification to proceed. However, this flexibility must be balanced by discipline in the quality and regularity of a posteriori follow-ups that should confirm whether the projects carried out have indeed been profitable and, overall, to customers' benefit.

To illustrate this point, ACIG presents the following table showing the percentage of additional annual cash flows from operations resulting from densification starting from the sixth year, which would provide a PI of 1.0 for projects with an initial PI varying from 0.8 to 1.0.

Additional annual cash flows from operations required to obtain a PI = 1.0

[11] B-178, page 12
[12] B-277, page 15

Initial PI	% of additional revenues
0.80	29.8%
0.85	21.0%
0.90	13.3%
0.95	6.3%
1.00	0.0%

Thus, for Gaz Métro, a project whose PI is 0.8 should show a densification outlook that would increase annual cash flows from operations by around 30% from the sixth year onwards, in order for it to be given the green light. These values have been obtained by keeping the initial investments constant.

Assuming that the new customer connections resulting from densification increased the initial investments by 10%, the additional annual cash flows required from the sixth year onwards would be as shown in the following table:

Additional annual cash flows from operations required to obtain a PI = 1.0 with a 10% increase in initial investments

Initial PI	% of additional revenues
0.80	44.7%
0.85	35.1%
0.90	26.5%
0.95	18.8%
1.00	0.0%

This type of information should show up in the sensitivity analysis that Gaz Métro carries out in step 2 of the *Internal Governance Process* which is defined as follows:

The second step in the process consists in performing sensitivity analyses to estimate how many customers in addition to those identified a priori will be needed to achieve a profitability equivalent to the prospective capital cost. More specifically, based on the future densification potential, Gaz Métro simulates a projection of customers, volumes, revenues and associated costs to reach the PCC as a minimum.13

Given the margin of error that is inherent in any profitability index of a network extension project, and given that Gaz Métro takes only signed contracts into account and does not include a customer growth factor when calculating the PI, ACIG feels that it is reasonable for projects presenting a strong expectation of densification and a PI of 0.8 or more to be carried out without requiring any contribution from the target customers. However, this flexible approach to the application of the profitability test must include a posteriori follow-ups that would confirm the profitability of projects and their favourable rate impact.

However, ACIG suggests that it would be appropriate for Gaz Métro to also provide information about the degree of densification that is required to arrive at a PI of 1.0, and the probability that it will materialize.

In addition, ACIG considers that it must be possible to make adjustments quickly if it can be demonstrated that the target PI of 0.8 is not appropriate.

ACIG also supports the intention that Gaz Métro has expressed to improve its a posteriori profitability analysis which is filed in its annual report.

"Gaz Métro will improve the a posteriori profitability analysis that is filed in its annual report. More specifically, Gaz Métro will add the a posteriori profitability analysis six years later for development projects whose PI is between 0.8 and 1, as well as for industrial park and road repaving projects. In this way, Gaz Métro will be able to measure the densification of all these projects and make adjustments as needed."[14]

[13] B-220, page 10
[14] B-277, page 17

4. EXCEPTION TO THE APPLICATION OF A MINIMUM PROFITABILITY THRESHOLD OR PI TEST

Gaz Métro has identified two exceptional cases in which a profitability index below the minimum threshold of 0.8 would be accepted for extension projects. These exceptional cases are:

1- Development of an industrial park
2- Road repaving activities.[15]

It mentions that *the MAT methodology and the exceptions thereto, i.e. industrial park developments and road repaving activities with prospects of densification, have been in effect internally since the fall of 2015.*[16]

To justify these exceptions, Gaz Métro states: *In cases of industrial park development projects, Gaz Métro may arrive at a profitability index below the MAT* (or a PI below 0.8) *because the majority of the lots are vacant and there is no known customer prepared to make a commitment at the time when Gaz Métro makes the decision. However, the competitive situation and the attributes of natural gas in processes are sought after by industries and will thus make it possible to achieve the PCC in the long run.*

As for road repaving projects, the only case that is acceptable with profitability below the MAT (or a PI below 0.8) *is one that aims to bring the network closer to a potential project beyond the repaving works planned by the city. The road repaving costs will be included in the potential project that is identified and will need to demonstrate, in the long term, profitability equal to or greater than the PCC.*[17]

Gaz Métro also states that when making the decision to proceed with network extension projects associated with industrial parks and repaving work, it relies on the internal governance process.[18]

Gaz Métro also mentions that it will *set up a budget of approximately $1.5 million that would be available in order to reach a PI of 0.8 for industrial park and road repaving*

[15] B-178, page 8
[16] B-298, page 42
[17] B-298, page 43
[18] B-298, page 44

projects where future densification is expected. Said budget will be drawn from the overall profitability of the development plan.[19]

In reply to an inquiry from the Régie, requesting explanations to clarify how the amount for industrial park and road repaving projects was arrived at, Gaz Métro mentions:

> *In 2016, the average amount of investment that was required for industrial park and road repaving projects was approximately $150,000. When considering ten projects or so, an envelope of $1.5 million could be sufficient to allow the execution of this type of project in a given year.*[20]

ACIG supports Gaz Métro's approach of taking advantage of development opportunities when municipalities approach it with an invitation to bury its mains when new roads are being paved for future residential or industrial neighbourhoods or when existing roads are being repaved. At this initial stage of such projects, insufficient numbers of customers have signed a contract with Gaz Métro to achieve a PI of 0.8. However, ACIG notes that the paving and industrial park projects that will be undertaken are those that are deemed to have the potential for reaching that profitability threshold as part of the internal governance process.

ACIG also reiterates its position that a flexible approach to applying the profitability test is desirable, provided that a posteriori follow-ups are carried out to confirm the profitability of projects and their favourable rate impact. Seizing the opportunity to carry out certain extension projects that do not reach a PI of 0.8 when municipalities are repaving roads or developing an industrial park is reasonable and desirable, provided that profitability is achieved in the long term.

5. MAINTAINING A PI OF 1.1 FOR THE PORTFOLIO

According to Gaz Métro's proposal*, the development plan must achieve, at the minimum, a profitability index of 1.1 or more, which would correspond to an IRR of approximately 6.01%* for a PCC of 5.28%. *The total of investments in development projects, corporate*

[19] B-277, page 10
[20] B-281, page 9

overhead, contractors' overhead, network reinforcement costs and investment in exceptional cases should reach a minimum PI of 1.1.

However, Gaz Métro *plans to continue setting annual profitability targets above that minimum threshold, in order to accentuate the downwards pressure on distribution rates, for the benefit of its customers.*[21]

Indeed, *since Gaz Métro carries out investments that do not generate revenues* (such as asset maintenance investments), *the investments that do generate revenues must ensure profitability that exceeds the weighted average prospective capital cost. Thus the target profitability of a development plan is an increase in the average capital cost based on the historical proportion of revenue-generating investments.*[22]

This approach ensures the overall profitability of extension projects and offsets the stranded costs of individual projects whose anticipated profitability fails to materialize.

ACIG is of the opinion that the undertaking of extension projects should be based on their anticipated profitability, and that a portfolio approach should not be adopted to justify the execution of unprofitable projects. The proposed "*portfolio"* approach could be perceived as permission to allow unprofitable projects to be funded by profitable projects, which is economically inefficient and inequitable from ACIG's point of view.

Accordingly, ACIG believes it is appropriate to prevent the possibility of cross-subsidization between the various clienteles. ACIG submits that a profitability threshold should be set on a per-market basis, i.e. that a minimum target PI of 1.1 should be reached for each of the three major market segments, i.e. residential, commercial and industrial.

In reply to an inquiry from the Régie, Gaz Métro states that for the fiscal year 2016-2017, profitability thresholds have been set for each of the various markets, i.e. 6.28% for the Residential and Major Industry markets and 14.13% for the Business market.[23] It adds that it maintains different targets for each market.[24]

[21] B-277, page 16
[22] B-298, page 6
[23] B-298, page 3
[24] B-281, page 1

ACIG submits that a minimum profitability threshold of 1.1 applied to each of Gaz Métro's major markets, i.e. residential, commercial and industrial, would avoid situations of cross-subsidization between the major categories of customers.

Also, in terms of an overall approach, ACIG considers that all extension and reinforcement projects should be included in the portfolio, including those that are undertaken for network security or reinforcement reasons.

ACIG believes it would be appropriate to specify exactly which extension projects will be included in the portfolio to which the PI of 1.1 will be applied. In particular, it should be specified whether that portfolio will also include projects that are undertaken for network security and reinforcement reasons.

6. METHODOLOGY FOR PROJECTS OF $1.5 M OR MORE

In reply to ACIG, Gaz Métro states that the new methodology based on a profitability index applies to projects of less than $1.5 million. However, the distributor specifies that the proposed methodology could also be applied to projects where the investment is more than $1.5 million.

Since projects costing over $1.5 million are approved individually by the Régie, Gaz Métro feels that it would be up to the Régie to determine what approach is appropriate for large-scale projects.[25]

In ACIG's opinion, whatever approach is adopted for assessing the profitability of projects and whatever profitability criteria are targeted, these must apply across the board to all projects, i.e. both to those costing $1.5 million or more and to those costing less than $1.5 million. This is a matter of consistency and of equity towards the various classes of customers.

[25] B-282, page 1