EB-2016-0004

Ontario Energy Board

IN THE MATTER OF GENERIC PROCEEDING ON NATURAL GAS EXPANSION IN COMMUNITIES THAT ARE NOT SERVED

VULNERABLE ENERGY CONSUMERS COALITION
("VECC")
CROSS-EXAMINATION COMPENDIUM

PARKLAND FUELS

May 11, 2016

TAB 1

Federation of Rental-housing Providers of Ontario Interrogatory # 1

Please provide Parkland's expert views on the alternative approach outlined by Enbridge including, but not limited to:

a. The SES approach with extended term

b. The Community Expansion portfolio approach

Response to Federation of Rental-housing Providers of Ontario Interrogatory # 1

The Enbridge proposal, like the Union proposal, requires a cross-subsidy from Enbridge's existing ratepayers to those who may benefit from the community expansion program contemplated by Enbridge. As we outlined in our evidence, cross-subsidies from one ratepayer group to another are economically inefficient, and adversely impact both allocative efficiency and dynamic efficiency. Exceptions to a strict "no-cross-subsidy" rule might apply to projects where there is a clear "external" benefit to those providing the subsidy from the project (and where the magnitude of these benefits exceeds the subsidy amount). The identity of the beneficiaries and the nature of the benefit are also critical: if the external benefit is to Ontario society as opposed to just natural gas ratepayers, then all taxpayers rather than just ratepayers should provide the subsidy. The external benefit to society should also be specifically linked to natural gas and not to general economic development in rural areas – a goal that can be facilitated in a number of different ways. Cash transfers to communities that let them spend it according to their own best calculations of the social return on investment would be closer to the generally accepted economic principle that cash transfers are preferable to an "in-kind" provision of a good or service.

Even if subsidies specific to natural gas were to be given, then a lump-sum cash subsidy provided by taxpayers would be more efficient than a cross-subsidy from existing utility ratepayers that involves raising per-unit rates for these ratepayers. For example, if businesses in rural areas could not afford the switching costs associated with natural gas conversion, and such business adoption of natural gas was a critical spur for economic development, then a general economic development fund (supported by general taxation) could provide a cash amount that makes up for the difference between the construction costs and the businesses' maximum capacity to pay. In this light, the Province (which has jurisdiction over general tax) should consider revenue-raising mechanisms that minimize economic distortions—e.g., setting aside a proportion of auction or privatization proceeds to fund economic development or natural gas expansions, as these revenue-raising mechanisms do not carry the "excess burden" associated with taxation and subsidies that we discuss in our evidence.[10]

Enbridge's evidence does not address the question of who exactly benefits from natural gas expansions (taxpayers or just ratepayers). It also does not provide an account of whether the benefit derived is specific to natural gas expansion—i.e., whether it is more efficient to provide

[10] See Footnote 3 of our evidence for the definition of "excess burden" associated with a subsidy or a tax.

additional support for economic development or to specifically subsidize natural gas expansion. Thus it does not establish either a convincing case for a subsidy, and it particularly does not establish that the type of regulatory cross-subsidies that it proposes are warranted. We note that the Enbridge submission states that the net present value of Stage 1 and Stage 2 benefits is positive. That is, increased customer rates in Stage 1 are offset by the cost savings to customers in Stage 2. However, a more meaningful cost-benefit test would have measured the external benefits to those who provide the subsidy – if there are large cost savings from natural gas expansions that only accrue to customers in expansion areas, then the costs should be borne only by those customers. Second, if the cost savings to consumers in expansion areas are vastly greater than the additional costs associated with the expansions, then there should be no requirement for subsidies as distribution companies should be able to raise incremental revenues that exceed incremental costs. Although Enbridge claims (at ¶25) that all customers will benefit from the increased scale of operations, Enbridge's analysis shows that costs for existing customers will go up rather than down, which necessarily implies an inefficient cross-subsidy.[11]

With respect to Enbridge's proposal for a system expansion surcharge (SES) recovered from the beneficiaries of the expansion, this proposal respects the "cost causer pays" principle in that it requires high-cost customers in expansion communities to pay more. However, ideally one would gauge whether these high-cost customers are high-cost because both marginal and fixed costs of providing service are higher, or whether the high cost is due to high fixed costs, but the marginal (operating) costs of providing service are similar to those of existing distribution customers. In the latter situation, a higher flat monthly fee rather than a higher per-unit price would be a more economically efficient form of pricing. Enbridge's proposal to recover some costs from municipalities that benefit from incremental tax revenues is also consistent with the principle that the funding of the expansion should come from the communities in which the expansion happens. The practicality of this proposal is not something we are able to comment on.

In summary, we would be skeptical of any proposal that relaxes the current OEB test and advocates the need for subsidies to fund gas expansions. As we have outlined in our evidence, economic principles do not justify specific subsidies to fund the expansion of natural gas systems. If benefits of doing so accrue to Ontario-at-large, then the expansions should be taxpayer-financed and not ratepayer-financed. Regardless of its specifics, Enbridge's proposal assumes that natural gas expansions should be subsidized by existing ratepayers. We disagree with this premise of Enbridge's proposal, and consider this proposal substantively similar (for our purposes) to that advanced by Union.[12] Further, and unaddressed by Enbridge or Union, the displacement of existing fuel sources is another cost to society that should be considered when contemplating natural gas subsidies.

---

[11] In terms of the analysis laid out in Section 5 of our evidence, existing system ratepayers, by definition, are paying the stand-alone cost of the existing system. Raising their rates above this stand-alone cost, even in the presence of alleged scale and scope economies, involves raising the price for these ratepayers above the stand-alone cost of the existing system—which means that there is necessarily a cross-subsidy involved.

[12] It is not completely clear to us from Enbridge's submission whether Enbridge proposes that the rate increase to existing ratepayers be effected through a per-unit increase or a flat-fee increase.

Federation of Rental-housing Providers of Ontario Interrogatory # 2

Preamble: On page 12, EPCOR outlines its proposition for an Expansion Reserve and on page 13 defends the existence and value of cross-subsidizations.

Please provide Parkland's expert views on the Expansion Reserve concept and the EPCOR defense of such an approach.

Response to Federation of Rental-housing Providers of Ontario Interrogatory # 2

(Please also refer to our response to Board Staff-3). EPCOR's evidence suggests that the benefits of natural gas accrue throughout the Province.[13] Assuming that such Province-wide benefits exist, funding subsidies by taxing all taxpayers would be a more equitable and efficient arrangement than imposing the burden of the subsidy only on the (narrower) group of existing ratepayers. Broadly speaking, EPCOR's evidence (similar to that of Enbridge and Union) suffers from its failure to identify who benefits from natural gas expansions, whether payers and beneficiaries are well aligned, whether the benefits are such that they warrant subsidies specific to natural gas, and whether the magnitude of these benefits exceeds the subsidy amount. Although EPCOR's expert argues that a "volumetric levy" has appeal because it ensures that all customers, regardless of location, have the same subsidy requirement per-unit of gas, standard economic theory of taxation suggests that a subsidy that distorts the marginal price of a good will invariably have an "excess burden" associated with it. As we have outlined in our evidence and other responses, the contemplated method is not the least distortionary method of providing the subsidy.
It may be that there is always some degree of cross-subsidy inherent within existing natural gas systems, as EPCOR's expert notes when discussing cost allocations and that past customers have been cross-subsidized. We recognized this type of "equity" argument in Footnote 26 of our evidence. During the past several decades the natural gas distribution network in Ontario has been significantly expanded. However, our understanding is that universal gas service has never been a policy goal, and over these past several decades the communities in which expansions are now being contemplated have remained unserved by natural gas. During that time, alternative fuel sources have served these areas, and suppliers of these alternative fuels have made substantial investments in their own distribution capabilities. These policy and commercial realities appear to reveal the uneconomic nature of providing natural gas service to the communities in which

[13] EPCO's expert suggests some possible economic benefits, although without providing much supporting detail. EPCOR's expert compares natural gas expansion to road construction, for example, but natural gas expansions do not increase economic interconnectedness between regions in the way that transportation links conceivably can. EPCOR's expert also notes benefits in the form of potentially increased sharing of costs—but if expansions have the net effect of raising existing ratepayers' rates, then these cost economies are irrelevant as they are exceeded by the amount of subsidy that flows from existing ratepayers to the expansion customers. In any case, if EPCOR constructs natural gas expansions in Ontario communities, there may be no cost sharing benefits for Enbridge or Union ratepayers (from whom subsidies will be raised), and any system reliability or performance benefits would depend on a substantial degree of integration between the EPCOR-built expansions and the existing Enbridge and Union systems.

expansions are now being contemplated. If the degree of cross-subsidization in the past and present were used as a justification for more comprehensive cross-subsidization in the future, then this effectively amounts to an implicit adoption of universal natural gas service regardless of the cost to other ratepayers and regardless of the loss in value by alternate fuel source providers. In such an environment, standard principles of utility regulation would seem to no longer apply and the OEB would assume what is essentially an economic development role. Our concerns in this regard were echoed by the Board Staff in 1996, "Economic development and the enforcement of social policy objectives is not the purpose of utility regulation." (Interim Board Report, August 15th 1996, EBO-188, at 3.4.1)."

With regard to EPCOR's comments on franchise bidding and competition, "competition for the market" (as discussed by EPCOR's expert) could be achieved through a "reverse auction" system which grants franchises to bidders with the lowest subsidy requirements. Indeed, keen competition to win franchises may induce bidders to invest in promotional and awareness-raising activities, as well as to be more aggressive in soliciting contributions to construction from customers with a high willingness to pay. If the cost savings to customers in rural areas were as large as suggested by some evidence submitted to the Board (e.g., by Enbridge and Union Gas), then it ought to be possible to educate consumers or help them overcome other barriers to switching such that no subsidy to switch is required. For example, reverse auctions for universal telecommunications service in India have sometimes led to firms paying for the right to serve a franchise area.[14] As we have outlined in our evidence, instead of funding the subsidy by distorting rates throughout the Province, the required subsidy could be funded (in lump-sum fashion) by taxpayers, possibly even through earmarked funds that are raised through non-distortionary mechanisms. However, there would be no economic merit in having Union or Enbridge ratepayers subsidize expansions by other utilities from which they could receive no conceivable benefit in the form of improved system performance or enhanced scale and scope economies.

In summary, we fundamentally disagree with the principle of subsidizing natural gas expansions in areas where alternative fuel providers already have an extensive presence. We also disagree with the volumetric levy that EPCOR proposes. We agree with the principle of encouraging franchise bidding. However, this does not justify the "expansion reserve" that EPCOR proposes, and we think any subsidy should be provided by the broadest group of beneficiaries – taxpayers than ratepayers – if the benefits of natural gas expansion are indeed Province-wide.

---

[14] Scott Wallsten, "Reverse Auctions and Universal Telecommunications Service: Lessons from Global Experience", *Federal Communications Law Journal*, Volume 61, Issue 2, at pp.375-76.

TAB 2

Comments on Economic Issues Raised in EB-2016-0004
Kalyan Dasgupta and James F. Nieberding, Ph.D.

1. Introduction

1.1 Counsel for Parkland Fuel Corporation ("Parkland") has asked us to provide an independent economic evaluation of certain issues raised by the Ontario Energy Board ("OEB" or "Board") in EB-2016-0004. This proceeding relates to the OEB's own motion to consider alternative cost recovery mechanisms to fund the expansion of natural gas into unserved areas of Ontario.

1.2 The OEB raises a number of issues in its "Issues List" attached as Schedule B to its Procedural Order No.2 ("PO2") dated March 9, 2016. We restrict our attention to certain economic issues raised by the OEB in Issues 2 and 3.[1] Specifically, we evaluate two distinct but inter-related issues:

- Whether, as a matter of economics, existing customers of gas distribution utilities (or "LDCs") in Ontario should fund—via surcharges, for example—the expansion of another gas distribution utility's systems into unserved areas of Ontario, chiefly rural Ontario. We label this "Issue 2."
- Whether, as a matter of economics, existing customers of a given utility should fund via the ratemaking mechanism—through rolled-in pricing, for example—the expansion of that utility's system into unserved areas. Specifically, this issue is examined in light of the OEB's current financial viability tests that are used to guide whether projects are economic, and which place some bounds on cross-subsidization of new customers by existing customers. We label this "Issue 3."[2]

Principal Conclusions

1.3 As explained in greater detail in this paper, we have reached the following principal conclusions related to Issue 2 and Issue 3 pertaining to the economic aspects of expanding natural gas service into unserved areas:

I. Existing ratepayers should not be required to subsidize expansions of the natural gas system into unserved areas unless (at a minimum) there are off-setting benefits that accrue specifically to these ratepayers. The magnitude of these benefits must also exceed the amount of subsidy provided. Examples of such benefits are improved system reliability or improved system performance which should, in theory, increase existing ratepayers' willingness-to-pay for their current service.

II. Natural gas expansions that are justified based on broader environmental benefits or on economic development grounds should only be subsidized if (i) they produce benefits for Ontario at large and not just the areas in which the expansions occur, and (ii) those benefits are specifically linked to natural gas expansion.

III. Both regulatory economics and the economics of taxation unequivocally warn against cross-subsidizing natural gas expansions by distorting (upwards) natural gas prices everywhere in

[1] These Issues are listed in Schedule B of PO2. We note that our discussion of the economic aspects of Issues 2 and 3 also addresses Issue 4(f) which invites comments pertaining to the economic aspects of expanding (or not expanding) natural gas service, as well as the environmental and public interest components.

[2] We note that there are several more detailed sub-issues associated with Issue 2 and Issue 3 which we do not directly address. Our focus is on key economic principles. Our phrasing of Issue 2 and Issue 3 does not exactly match the OEB's phrasing, but instead reflects the economic component of the issues posed by the OEB that we set out to address.

the Province. Moreover, from the regulatory economics standpoint, allowing incumbent gas utilities to effectively "roll-in" capital associated with uneconomic expansions into their regulated rate-base amounts to an inefficient cross-subsidy from existing to new ratepayers. Permitting roll-in artificially lowers the costs to incumbent distribution utilities of new capital projects. By doing so, it distorts competition between these incumbents on the one hand, and alternative fuel suppliers and new entrants on the other hand (since these competitors must pay market-based prices for capital expansions).

IV. We explain the economics of cross-subsidies and the distortion to competition at greater length in this paper. In summary, however, requiring new investments to pass a "market test"—incremental benefits exceed incremental costs—is consistent with modern economic regulation and its focus on proving market-like incentives in order to maximize economic efficiency.

V. Evidence from other Canadian jurisdictions suggests that natural gas expansions may not be economically successful (especially if current relative prices of propane and natural gas remain in place). If so, there is a great likelihood that any cross-subsidy by ratepayers will need to be increased, or that utility shareholders will have to bear large losses. Both of these circumstances will tend to undermine the existing energy regulatory framework in Ontario.

VI. Any success of subsidized natural gas expansions will occur at the expense of other investments—by alternative fuel suppliers—that were made under the existing "rules of the game" (which attempt to limit cross-subsidies and promote market-like incentives for efficient investment decisions). An unexpected change in the "rules of the game" that reduces the value of these investments might be seen as a "regulatory taking", and will undermine incentives to invest by anyone other than existing natural gas utilities that benefit from cross-subsidies.

VII. Further, since natural gas systems in currently unserved areas will face competition from existing fuel suppliers (who are numerous), the OEB should consider whether competition is sufficient to protect the public interest in these areas. If it is, then allowing cross-subsidized expansion of natural gas systems amounts to a cross-subsidy provided by existing system customers not just to new system customers but also to utility shareholders. A policy that subsidizes otherwise uneconomic natural gas expansions also jeopardizes market-based investments made by existing fuel suppliers.

VIII. The OEB should critically evaluate "public benefit" or "externality" based arguments for subsidized natural gas expansions. If such Province-wide benefits exist from natural gas expansions into unserved areas, then this suggests that subsidies should be borne by taxpayers. Ontarians may have an interest in the economic development of rural areas (where natural gas systems have lower penetration rates) or in environmentally friendly public policies. However, there is no economic reason to choose natural gas expansions as the means to affect such policies as opposed to, say, cash grants to local communities for such purposes.

IX. By way of example, the economics literature finds that the use of regulatory cross-subsidies to achieve plausible-sounding public policy goals such as "universal telephone service" was unwarranted and created significant economic distortions. With natural gas expansions, no "universal" service rationale exists and all benefits are strictly *incremental benefits* related to any environmental and economic advantages of natural gas *relative to other fuel sources*. These benefits may be highly localized and small relative to costs, as the benefit per dollar of investment from reduced CO2 emissions achieved by converting to cleaner fuels in a dense urban area is likely much greater than that achieved in rural areas. Moreover, there may be minimal (if any) environmental benefit of replacing some alternative fuels (e.g.,

propane) with natural gas. Given that subsidized natural gas expansions run the risk of displacing existing market-based investments in alternative fuel sources, the evidentiary burden required for establishing the "benefits" of doing so must be rigorous.

X. Even if a subsidy were to be given, the manner in which that subsidy is implemented merits attention. The costs of a subsidy based on broader societal benefits—rather than "private" benefits to existing ratepayers—should ideally be borne by all taxpayers rather than just utility ratepayers. Further, taxes and subsidies that directly affect the price of a good create an "excess burden" in that the economic costs associated with providing them exceeds the revenues raised.[3] Non-distortionary revenue-raising mechanisms such as using proceeds from privatization of public assets or public auctions, combined with lump-sum transfers (such as refunds or credits) to help consumers with the cost of switching to natural gas, do not contain such excess burdens and should be given priority to cross-subsidization by existing utility ratepayers.

XI. Any proposed subsidy mechanism should pass the test of being the least distortionary policy instrument possible. From an economic perspective, cross-subsidies that distort the price of natural gas throughout the province are more distortionary relative to alternate policies, and fare poorly in terms of providing the right economic incentives for efficient investment by incumbent utilities and alternate fuel source providers.

Structure of Report

1.4 We begin our economic evaluation by discussing the nature and purpose of economic regulation. Economic regulation is a form of intervention most often used in "natural monopoly" industries. Modern regulatory economics and regulatory practice substantially focuses on preserving or maximizing economic efficiency in circumstances where competition, the mechanism that usually maximizes economic efficiency, is not feasible or desirable. We discuss the types of economic efficiency—allocative, cost and dynamic efficiency— whose achievement is of concern to regulators.

1.5 Economic regulation has also been used to address "externalities." The most relevant type of externality for present evaluative purposes is one in which the market or market-like mechanisms will not provide enough of some good that society views as desirable. We briefly discuss the typical externality rationales that sometimes have been used to justify regulatory intervention. The most striking historic examples of an externality argument involve "universal" telecommunications service. Even though externality arguments in telephony have some intuitive appeal, economic literature finds that such externalities did not justify cross-subsidies and there were substantial losses to society from such cross-subsidization. We evaluate, at a high level, whether externality arguments have merit in the context of natural gas expansions, and if they justify departures from regulatory standards whose goal is to preserve economic efficiency calculated on the basis of conventionally considered costs and benefits.

1.6 We then turn to the economic efficiency rationales that underpin the financial viability test laid out in EBO-188. This test puts bounds on the degree to which existing ratepayers might fund system expansions that fail a market-based test. The purpose behind this test is to ensure both

[3] The explicit cost of any subsidy is the per-unit subsidy multiplied by the number of units provided at the subsidized price. Economic principles illustrate that this cost will exceed the increase in welfare (as measured by consumer surplus) experienced by the subsidized consumers. Moreover, the "excess burden" of the subsidy represents a "deadweight loss" in that it is lost welfare not redistributed to some agent in the economy. It arises because the subsidized price causes some buyers to switch to the now relatively less expensive item which presumably was less desirable or uneconomic at the pre-subsidized price. Also, if production of the subsidized good increases, or production for those products that are substitutes to it decreases, such production changes would not have been profit maximizing or efficient absent the subsidy. (See, e.g., Harvey S. Rosen (1995), Public Finance, 4th edition. p. 316)