

**DEMANDE DE RENSEIGNEMENTS N° 1 DE L'AQCIE-CIFQ RELATIVE À LA DEMANDE  
D'ÉTABLISSEMENT D'UN MÉCANISME DE RÉGLEMENTATION INCITATIVE ASSURANT LA  
RÉALISATION DE GAINS D'EFFICIENCE PAR LE  
DISTRIBUTEUR D'ÉLECTRICITÉ ET LE TRANSPORTEUR D'ÉLECTRICITÉ**

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**1. Références :** D-2017-043 R-3897-2014

**Préambule :**

The Regie de l'Energie has ruled that the mechanism de reglementation incitative ("MRI") for HQD will feature a revenue cap index with general formula

$$Growth Revenue = Inflation - X + 0.75 \times growth Customers^{HQD} + Y + Z.$$

The initial X factor will be determined by judgement informed by a review of previous productivity studies.

**Demandes :**

- a) Does the selection of X factors based on judgment incentivize utility consultants to prepare studies with markedly negative productivity trends so that they can affect the average productivity trend from a sample of studies? If not, why not? If, alternatively, a commission announced that it would choose the trend from the study with the most reasonable methodology, would this likely produce different results in productivity studies that utilities commission? If not, why not?
- b) Does the Regie's decision to escalate HQD's revenue for customer growth in your view have implications for the appropriate output specifications to use in productivity studies which provide the basis for X? If not, why not?
- c) Should the exercise of judgement by the Regie include consideration of differences in the methodologies used by various studies?

**2. Références :** (i) Suivi de la décision D-2017-043 (ii)

(ii) Concentric Energy Advisors, Inc. *Incentive Ratemaking Report Prepared for Enbridge Gas Distribution*, 28 June 2013

**Préambule :**

Hydro-Quebec Distribution ("HQD") has retained Concentric Energy Advisors ("CEA") to prepare reports for the Regie on productivity trends of energy utilities.

**Demandes :**

- a) Please provide copies of (or links to) all of Concentric's previous reports and testimony on productivity trends of utilities. Has Concentric ever prepared a quantitative *power distribution* productivity study?
- b) Please provide CVs for all the personnel on Concentric's team who have advised HQD on productivity issues.

- c) Please confirm that in 2013, Concentric Senior Vice President James Coyne prepared research and Ontario testimony for Enbridge Gas Distribution on gas utility productivity trends.
- d) Please confirm that the scale index in Mr. Coyne's study was constructed from data on the number of customers served by the sampled utilities. Why were *customer* data used rather than data on gas *delivery volumes* or other usage variables?
- e) Please confirm that a *geometric decay* specification was used to calculate capital cost in Mr. Coyne's study. Why was this specification chosen rather than alternative approaches such as *one-hoss shay*?
- f) Please explain how the cost shares for labor and materials were calculated in the study. Why was this the right approach?

**3. Références :** (i) Rapport de Concentric

**Préambule:**

A CEA report attached to evidence HQD filed in July 2017 (the "Rapport de Concentric") in R-3897-2014 surveys productivity studies submitted in recent regulatory proceedings and decisions on X factors rendered by regulators in these proceedings.<sup>1</sup>

**Demandes :**

- a) Please identify the personnel who participated in this report and provide their resumes if not previously furnished.
- b) Please confirm that there have been some additional energy utility productivity studies filed in the past 5 years in North America. Please provide a list of the studies Concentric was aware of but did not file with the Regie. Why were each of these studies not included in the survey provided to the Regie?

**4. Références :** (i) Rapport de Concentric, p. 1  
(ii) Rapport de Concentric p. 9

**Préambule :**

CEA states on p. 1 in its report that

*Experts have estimated a wide range of X factors for electric and gas distributors in recent years. In this update to this research, that variability remains evident. We also observe that the trend in utility industry productivity is declining over time, as evidenced by trends in the most recent studies and resulting MRI plans.*

CEA's report HQD highlights a recent Alberta Utilities Commission ("AUC") proceeding to establish multiyear rate plans for provincial gas and electric power distributors. Productivity trends identified by utility consultants were markedly negative while that of the consumer witness ("PEG") was positive.

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<sup>1</sup> *PERFORMANCE BASED REGULATION: PRODUCTIVITY FACTOR FOR HQD*, Concentric Energy Advisors, JUNE 30, 2017

CEA states on p. 9 of its report that

Christensen presented results showing a negative trend in TFP growth that has continued and has accelerated. They reason that “[t]he decline in TFP growth has been largely driven by a decline in output growth and that trend has continued, and has even accelerated, into the 2009- 2014 period as output growth substantially diminished from its 0.69 percent annual average over the 1999-2009 period to an annual average growth of 0.16 percent over the 2009-2014 period. In contrast, input growth has remained relatively constant and actually increased somewhat in the 2009-2014 period.

Christensen went on to note independent research that finds that a reduction in output growth is the result of a change in the relationship between economic activity and electricity use.

**Demandes :**

- a) Please confirm that the two utility productivity witnesses in the proceeding used a *one hoss shay* capital cost specification and *volumetric* scale indexes. Pacific Economics Group Research LLC (“PEG”) employed a *geometric decay* specification and the *number of customers* was the scale index. Which methodology was more similar to that which Mr. Coyne used in his study for Enbridge?
- b) How might a productivity witness in an MRI proceeding “cherry pick” productivity results that benefits his/her client(s)?
- c) Please confirm that both utility witnesses in this proceeding used a productivity methodology developed by National Economic Research Associates (“NERA”) in a prior Alberta proceeding. Both companies used a *recent* sample period when productivity growth was negative even though NERA advocated use of a *longer* sample period during which measured productivity growth was positive. Is this an example of cherry picking?
- d) Is the recent decline in measured productivity using NERA’s method during the full sample period sensitive to its use of a volumetric scale index rather than the number of customers? If so, why is the purported decline relevant to the design of a revenue cap index for HQD which has an Inflation – X plus 0.75 x growth Customers formula?

**5. Références :** (i) Rapport de Concentric

**Préambule :**

The CEA report also highlights recent research and testimony by Power Systems Engineering on the productivity trends of Hydro One Networks (“HON”) and other Ontario power distributors.

**Demandes :**

- a) Please confirm that the base productivity trend approved by the Ontario Energy Board for use in power distributor MRIs is currently 0.0%.
- b) Please confirm that no counter-study has yet been filed in this HON proceeding and no decision has been made by the Board to revise the base productivity trend. Thus, the PSE study has not been challenged by Staff or other parties.

- c) What output specification was used in the PSE study? What weight was placed on usage variables rather than the number of customers served? Are the productivity results sensitive to slow growth in system use per customer? Does this limit their relevance for HQD?

**6. Références :** (i) Rapport de Concentric, p. 5

**Demandes :**

- a) CEA comments on p. 5 that

*the AUC acknowledged that with the prevalence of both fixed and variable revenue components for distribution utilities, the number of customers (the output measure used by PEG) is a relevant output measure along with volume (the output measure used by Brattle and Christensen), where the relative weights assigned to these two output measures would ideally reflect the proportion of revenues generated through fixed versus variable (volumetric) charges.<sup>11</sup>*

Does this approach make sense for a revenue cap index with a customer growth escalator such as the Regie has chosen for HQD?

- b) The AUC is quoted on p. 5 as stating

The Commission is, therefore, unwilling to specify a preference for the set of assumptions used by any particular one of the three TFP growth studies.

Please detail any instances you have discovered where commissions DID make decisions about productivity research methods.

**7. Références :**

Rapport de Concentric pp. 11-12

**Préambule :**

PSE is quoted on pp. 11-12 of its recent report for HON as stating that

*A common external circumstance that is changing across the electric industry, but is problematic to quantify, is the aging of capital infrastructure. Due to the post World War II population boom and increasing use per customer during that time, utilities needed to heavily invest in capital infrastructure to meet the higher number of customers and peak demands (unlike today they were able to fund much of this investment through increasing billing determinants rather than higher prices). At a number of utilities throughout North America a high proportion of capital infrastructure is now past its useful life and is in need of replacement. However, capital expenditures may need to increase to replace this capital.*

**Demandes :**

- a) What evidence have you gathered that the purported decline in the productivity of North American power distributors is due to high replacement capex?

**8. Références :**

ÉTUDES, ANALYSES ET RAPPORTS POUR LA DÉTERMINATION DU  
FACTEUR X  
DÉPOSÉS DANS LE CADRE DE L'ÉTABLISSEMENT DU MÉCANISME DE  
RÉGLEMENTATION INCITATIVE DU DISTRIBUTEUR

**Préambule :**

Results of a benchmarking study by First Quartile are discussed.

**Demandes :**

- a) Please provide full details of the First Quartile study.