RÉGIE DE L'ÉNERGIE

DEMANDE CONJOINTE RELATIVE À
LA FIXATION DE TAUX DE RENDEMENT
ET DE STRUCTURES DE CAPITAL

DOSSIER : R-4156-2021 PHASE 2

RÉGISSEURS : M. JOCELIN DUMAS, président
Me LISE DUQUETTE
Mme ESTHER FALARDEAU

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L'AN DEUX MILLE VINGT-DEUX (2022), ce quinzième (15e) jour du mois de juin :

PRÉLIMINAIRES

LA GREFFIÈRE :
Protocole d'ouverture. Audience du quinze (15) juin deux mille vingt-deux (2022) par visioconférence. Dossier R-4156-2021 Phase 2 : Demande conjointe relative à la fixation de taux de rendement et de structures de capital. Poursuite de l'audience.
LE PRÉSIDENT :
Bonjour à tous. Good morning mister Brown. Alors, nous sommes prêts, à moins qu'il y ait des questions préliminaires, on serait prêts à poursuivre l'interrogatoire avec maître David.
Me PATRICK OUELLET :
Oui. En fait si vous me permettez, Monsieur le Président. On a été informé hier qu'il y avait des difficultés au niveau de la traduction, parce que c'était peut-être pas assez fort le volume du témoignage du docteur Brown. Donc, on a changé le « set up ». Mais si c'est encore le cas, ce n'est pas impossible que j'intervienne pour lui dire de parler plus fort, parce qu'on nous a avisé de

difficultés hier.

LE PRÉSIDENT :

Très bien.

IN THE YEAR TWO THOUSAND TWENTY TWO, on this fifteenth (15th) day of June, PERSONALLY CAME AND APPEARED:

Dr. TOBY BROWN,

WHO, after having made a solemn affirmation, doth depose and saith as follows:

CROSS-EXAMINED BY Me ÉRIC McDEVITT DAVID :

Bonjour, Monsieur le Président; bonjour à la formation. Good morning, doctor Brown.

Q. **[1]** Before I continue with the questions I had prepared, I want to go back to one of the issues that we discussed yesterday, and in... Well, it's actually mentioned in your PowerPoint presentation, so perhaps if the clerk could put it on the screen. La présentation de Dr Brown, Madame la Greffière, la page 4. Merci.

Just a second. Okay. So, it's the last bullet that I just wanted to clarify. Because you say here that investors are not bearing stranding risk, and then you go on :

> Investors expect to earn the authorized return and to recover all prudently-invested capital.
> The regulatory compact implies that the regulatory framework will adapt if necessary.
> But uncertainty about how this will be achieved is a component of business risk.

So, if I'm not mistaken, yesterday in your testimony what you said in a nutshell was that risk... the risk is not that the Utilities would not recover the assets, but rather the risk lies in how the capital would be recovered. Did I understand correctly?

Me PATRICK OUELLET :

We can't hear you, Dr. Brown. Okay. I heard that yes was the answer. We'll try to fix the... the sound. Donc, il va changer d'appareil tout simplement, là, on va régler le problème.

R. How is this?

Me ÉRIC McDEVITT DAVID :

Much better.

R. Okay. Okay. I will try to speak more loudly.
Q. **[2]** Okay. So, I'll just repeat the question, so that the stenographer can note your answer. My question was -- and I want you to clarify if that's not the case -- I understood from your testimony yesterday that you said that the risk regarding capital recovery is not so much that the Utilities can't recover their assets, the risk is rather that in how they can... in how the capital can be recovered. Is that correct?
R. Yes.
Q. **[3]** Okay. And can you explain to us a bit more what you mean by that, what do you mean by « how the capital will be recovered »? Are you saying that you see evidence that the regulatory compact could change, that the way the three Utilities are regulated could change in the next few years?
R. I think at some point perhaps in my testimony or if not in the testimony and in IR response, I gave an example of smart meters. So, perhaps I can just talk briefly using that example.

So, various utilities in the recent past have decided that it would be beneficial to install smart meters, meters with more functionalities than the traditional meter. And often it happens that the process of installing those meters is more efficient if you install essentially all of them at the same time rather than waiting for the traditional meters to break down, sort of customer by customer. And therefore, if a utility proceeds to install the smart meters, it is likely that at least some of the traditional meters that are being replaced may not have been fully recovered, and therefore there would be outstanding, undepreciated amounts which ordinarily would be recovered over time. But because the meters are being removed from service, if nothing else happens, that recovery would stop. And so, a utility in that... in that circumstance would typically need to come before the regulator to seek permission to replace the meters and to transfer the undepreciated balance of the traditional meters into some kind of accounts where it would then be amortized over time, so the utility would be seeking to recover the outstanding amounts of the traditional meters, even though those meters are no longer in service. And so, that would be an example of where some kind of regulatory action is required in order that prudent investment, in this case traditional meters, can continue to be recovered.

And so, that's an example of the type of change that I'm talking about. It's not a change in the regulatory compact. The regulatory compact, well it all depends, everything we're talking about is that investors have a reasonable opportunity to earn the fair return on prudently-invested capital. It’s just that in order for... in order to maintain that reasonable opportunity, the framework... the regulator may need to take action of some kind and it’s that need to come before the regulator and to present a case and not necessarily knowing the outcome or what else might happen that is a source of uncertainty.

Q. **[4]** Okay. Well, in fact, this very issue has already been tackled by the Régie de l'énergie because the electricity distributor a few years ago, up four or five years ago, did a massive switch to smart meters, and all of this went before the Régie, all of this was authorized by the Régie, and I... to be honest, I hesitate to say this because I don't want to testify, but my understanding of that case is that all of the capital involved in this transition was recovered by Hydro-Québec. And so, the history of the regulation at the Régie de l'énergie doesn't really indicate that there would be any risk with respect to the gas utilities changing to smart meters.

In any event, even if there was, could you explain to us in more detail how exactly investors would be prejudiced?

R. Well, perhaps I can just step back again and...you know, if we think from the perspective of an investor in utilities, in utility assets, what is... what is that investor doing when it... when the investor makes... makes an investment? They are purchasing assets which in the case of the gas utilities are literally in the ground. Those assets have a very long economic life. And they have essentially no alternative use. If utilities assets are not being used to provide utility service, there is really nothing else you can do with them except, perhaps, sell them for scrap or something. The alternative use is minimal and so, really, that act of investing is in some sense quite risky because you're making a very long term commitment and you got no option after you've made your commitment to do anything else but sit there. And so, that, the starting point is, is really one of, of some exposure from the investor perspective. And that's why we have this operator... Utility regulation and, and rules about how Utilities regulation works and adherence to precedents and so on, to create the environment we have today in which Utilities investing is low risk. It’s low risk and therefore utilities can attract investment at relative low cost relative to other types of companies and other types of economic activity out in the market. That’s of course beneficial for customers and that’s why we should expect regulators to do what is necessary to maintain a low risk environment and by in large they do.

But nonetheless, from an investor perspective, as I think I may have said yesterday, given, given the choice between a utility that can sort of continue operating as normal not facing any new risks or any requirements to change its operations or his business plan, it’s that one choice. And the other choice is the utility that needs to do things differently in the future and come before the regulator and all sort of the things and so on. The second utility has more uncertainty than the first and therefore, have a margin or in... within a range such as the range that doctor Villadsen has from her sample. The second utility needs, needs to be higher in that range than the first.

Q. **[5]** Okay. I understand your answer on a theoretical level, but I submit you that the history of regulation before the Régie de l'Energie, doesn't support your concerns. And that there is no generalise concerns for the recovery of capital assets and there is no general concerns, if you look at the history of the regulation here, of stranded assets.

But if you permit, I'd like to move away from theoretical discussions to more factual discussions because the Board has to make a decision based not just on theory. It has to make a decision based on facts. So, I understand from the Aviseo report, that Aviseo identified five business risks that are of particular relevance to the three Quebec Utilities, and I summarize them once again. First is Public and environmental policies. Second is Composition of a customer base. That's the residential industrial balance if you wish. The third is that the fact that energy context in Quebec is different because here electricity is cheaper. Business size, gas utilities here are relatively small comparative other North American gas utilities and business partnership. Now is it the case that these five risks identified by Aviseo, or at least most of them, have already existed for a long time in Quebec ? These are not new? Is that correct?

R. Hum. I haven't studied the history of the Quebec Utilities. I'm really making a point in time assessment and doing the best I can to compare the situation of the Quebec Utilities with the situation of doctor Villadsen's sample. So I can't really comment on the extent to which things... well I certainly can't comment in details on the extent which things have change over time.

Q. **[6]** So you can't really comment on the evolution of risk of the Quebec Utilities?

R. No.

Q. **[7]** O.K. Well, I'd like to, Madame la Greffière, if you could put an exhibit on the screen: B-0131. Oh sorry. So if you can turn to the bottom page of the second page, Madame la Greffière. And I don't know if it's possible to make it bigger or to remove the left hand margin. Est-ce que c'est possible d'enlever... oui exact. O.K. c'est correct comme ça. Peut-être le monter un peu. Parfait. So, this is a table that was prepared, I believe at the request of the Régie. And what it does is that it compares the allowed and the achieved rate of return for Énergir, Intragaz and Gazifère so. On the left hand you have Énergir, and you have on the extreme left the authorised rate year to year. So we see two thousand two (2002) was 9.89. And then the most recent rate, in twenty twenty-one (2021) 8.9. On the second column entitled « Taux » T-A-U-X that’s the achieved rates. So you see in two thousand two (2002) we had 10.67 and in two thousand twenty-one (2021) we are at 9.40.

So, Madame la Greffière, if you could move towards the right of that chart. The same exercise is done with Intragaz. Although we don’t seem to have the detail for the allowed rates year to year for Intragaz. I’m not quite sure why, but it doesn’t really matter. And if you go to the extreme right, you have Gazifère. And again you have a left hand column “allowed rate” and the right hand column is the “achieved rate”.

Now, when I look at these numbers, I note that Énergir and Gazifère have always been at or above the allowed rate of return. So, clearly, up till now, at least for the last twenty (20) years, the five business risks that have been identified by Aviseo, have not affected the three companies ability to earn a good return for their shareholders. Would you agree with me? Based on these facts.

R. Well, the numbers are the numbers. The achieved return is on average about the authorised return and in almost all of the years, I think that this also true. This is not the return that... well investors obviously care about the returns that they receive. And as I've said many times, fundamentally, the Utility has long-lived assets and so the investors won't have recover their investments until thirty (30) or forty (40) years. A history of... we have a history of twenty (20) years also, here. It's history. Investors need to look forward. And so what's, what's relevant for an investor contemplating making an investment now is being able to recover invested capital over the next thirty (30) or forty (40) years. And so, the investor needs to, needs to look to the future.

Q. **[8]** Okay. But when the Régie is setting a rate how far forward does the Régie need to look? Is it being called upon to look thirty (30) to forty (40) years ahead?

R. In assessing business risk, yes.

Q. **[9]** So it's not immediate risk that needs to be assessed in your view? Imminent risk?

R. What? Oh oh elements of business risk that's fundamentally it's a long-term assessment because the assets are long-lived.

Q. **[10]** Alright. Now when I look at these results what I surmise is that the rate of return seems to be impervious to all external elements. To all external variants. Even those of a global or historical scale because I see no impact on the rate of return related to the two thousand eight (2008) economic crisis. The global economic crisis.

I see no impact on the rate of return related to the application of the carbon tax on the gas utilities in Quebec since two thousand fifteen (2015). I see no impact on the rate of return related to the pandemic although maybe some... Maybe the two thousand twenty-one (2021) numbers don't include all of the impact of the pandemic. So far I see no impact.

I see no impact related to weather variations. In other words distinguishing very cold winters from very mild winters.

I submit to you that very few companies have this kind of stability in their rate of return. Would you agree?

R. If you mean companies in the economy generally then yes. If you mean utilities I would expect very many of them to show stable returns over time.
Q. **[11]** And doesn't this generally point to very low business risk?
R. Again relative to companies in the economy generally, yes. Utilities have low business risk but that's not really relevant to the present exercise because in order to meet fair return standard we have to compare. We have to set the... Régie has to set the authorized rate of return relative to returns investors can get from other investments of similar risk and so that means other investments of relatively low risk.
Q. **[12]** Okay. I'd like to now examine the issue of regulatory lag because you state that this is one of the components of business risk. You also state that the US sample, Dr. Villadsen US sample has a similar regulatory lag to Énergir and Gazifère. Is that correct?
R. Yes. Broadly speaking.
Q. **[13]** Okay. Well page 27, page 29, that's what you state. If a utility had no regulatory lag, none, how would their achieved rate of return compare with their allowed rate of return? Would they be

the same or very close?
R. Yes.
Q. **[14]** And would that relationship show a lot of variation from year to year?
R. I would expect with no regulatory lag, I would expect the achieved return to be close to the authorized return in each year.
Q. **[15]** Okay. And when developing your testimony did you review the returns earned by the US sample?
R. No.
Q. **[16]** And why didn't you study this? You stated in your report that volatility in returns and regulatory lag are closely related but you didn't look at this before concluding that the regulatory lag of the Quebec Utilities and the US sample are similar?
R. No. For a couple of reasons. Well one straight forward one is that I don't have the data on achieved returns for the US sample, but even if I did I'm not sure that that's the best way to assess regulatory lag on a forward looking basis because there could be other things showing up in historical achieved returns.
There could be things, factors influencing achieved returns in the past which are just not

relevant in the future. But in any event I don't have the numbers so that's not something I would I've been able to do.

What I did do is spend some effort in trying to understand what mechanisms are available to the sample utilities for rate making purposes and to understand on that basis to try and understand whether changes in costs or new costs that appear over time can those new costs be... Can they result in an adjustment to rates relatively quickly or not and that's what I mean by regulatory lag and so that's why I... And I think we've looked yesterday at a... I heard a summary of the mechanisms that are available and many of the sample companies do have mechanisms to adjust rates without a full-blown rate case; and on that basis I judge the regulatory lag to be relatively short as it is in Québec.

Q. **[17]** Okay. So you would agree that regulatory lag... There isn't much regulatory lag in Quebec.

R. That's my understanding.

Q. **[18]** Okay. On the issue of the share of gas being used in Quebec the fact that there's less residential heating in Quebec done through natural gas as opposed to electricity, on pages 23 to 26 of your report you compare the gas share of residential energy consumption Quebec with those of the US sample.

So my question is the share of residential energy use that comes from gas a component used in setting gas rates?

R. No.

Q. **[19]** And does the share of residential energy use feature in any formula for utility shareholder returns?

R. I'm not quite sure what you mean by formula for returns but I'm happy to...

Q. **[20]** Because if...

R. ... accept that regulators setting utility rates do not need to look at... Will not look at the share of natural gas in household energy consumption in any sort of formulaic way.

Q. **[21]** And isn't that also the case when a regulator is setting the return? The rate of return?

R. I would be surprised if any of the US regulators, you know, that I've been examining would be interested in the share of natural gas in the household energy mix.

Q. **[22]** You would be surprised if they were interested? And would that be...

R. I would.
Q. **[23]** ... the case with Canadian regulators as well?
R. Well...
Q. **[24]** You could be surprised?
R. I guess right now with... We're talking about the business risk of the Quebec Utilities and I wouldn't... The reason that I have put some statistics about the share of natural gas in household energy use in my testimony it's because I think that it is a... It is one measure which illustrates the fact that natural gas in Quebec is in a different position than natural gas in other locations in North America and in my opinion that difference of situation is a relevant consideration for this analysis of business risk.
Q. **[25]** Does your testimony show a causal connection between this variable, in other words the share of residential heating done by gas, and the volatility in shareholder returns?
R. Those two things are not connected as far as I know.
Q. **[26]** They're not connected. Okay. And does your testimony show a causal connection between this variable and capital recovery risk?
R. I... in my opinion, capital recovery risk or

uncertainty in capital recovery is higher in Quebec than in other jurisdictions, and the reason or the reasons why it is higher include the availability of plentiful cheap clean electricity in Quebec or cheaper and cleaner than in other locations in North America. And so, there is... there is a connection.

Q. **[27]** Okay. I'd like to move on to another topic, the issue of potential public policies that would restrict new gas connections. Both you and Aviseo talked at length about potential policies that could restrict the use of gas in the future. A typical rate case uses a single test year when determining the revenue requirement, is that correct?

R. That's commonly done, yes.

Q. **[28]** Yes. And that revenue requirement is designed to allow the utility to recover its operating costs, its depreciation on previously invested capital and a return on that capital. Is that correct?

R. Yes, that's fair in the test year.

Q. **[29]** Does a typical revenue requirement include recovery of or return on capital not yet invested for customer growth after the test year?

R. I'm sorry. Could you repeat that question, please?
Q. **[30]** Does a typical revenue requirement include recovery of or return on capital not yet invested or customer growth after the test year?
R. No.
Q. **[31]** So, for a gas utility with frequent rate cases and with a low regulatory lag, policies that restrict new gas connections have no impact on year to year volatility in returns. Would you agree with that?
R. I... I would agree that these public policy initiatives that we're talking about do not have an impact on volatility of returns from one period to the next. Their impacts is on uncertainty of capital recovery over the long term.
Q. **[32]** Do such policies impede the ability of the utility to recover the capital used to serve its existing customers?
R. I'm not sure what you mean by "impede", but it creates uncertainty about being able to recover the capital invested to serve existing customers in the future.
Q. **[33]** In the future, but not in the yearly rate case?
R. Well, the existing assets have a life of thirty

(30) to forty (40) years, and... so, if you string together the thirty (30) or forty (40) years you'll eventually recover all of the capital, but in order to do that you'll be... investors will be confronting various kind of uncertainties and new initiatives and what have you, which... and that’s the uncertainty that I’m talking about.

Q. **[34]** But these are potential future uncertainties. These risks are not immediate. Are they?

R. Well, I don’t think there is any kind of answer to other then a future uncertainty. As I said...

Q. **[35]** Well, future is a big, future is a big word? Right? It can cover tomorrow and it can cover forty (40) years from now. I’m talking in the timeframe that a regulator uses, when it sets yearly rates, that’s the timeframe I’m talking about.

R. Most of the uncertainty is further in the future then the next rate case. But equally most of the capital recovery is not happening in this year, or next year or the year after. It’s happening further into the future. And therefore, when assessing business risks, the time horizon that needs to be employed is a long term one.

Q. **[36]** Alright. I’d like to move on to the issue of competition from electricity which is another of the business risks identified by Aviseo. Does your testimony include an evaluation of the natural gas rates charge by the US sample?

R. No.

Q. **[37]** And have you conducted any analysis of how the rates for electricity and gas compare in the jurisdiction covered by the US sample?

R. Heu.. I haven't lined them up side by side. What I have done is state that across the US a whole, electricity rates for households are between two times and five times higher than they are in Quebec. I'm not aware of any reason why natural gas rates would vary over that same range.

Q. **[38]** But you'll agree with me that in order to understand the impact of the relative rates of electricity and gas, and to see whether or not this constitutes a business risk, you need to compare apples with apples and therefore in the US you would have to compare the electricity and gas rates. If you making the analysis that in Quebec, there is a great disparity and you're saying in the US is a less disparity, how do know that to be the case? If you haven't look at the rate of gas?

R. Perhaps I can say that my analysis rest on the assumption that natural gas rates for households as between Quebec and the United States do not vary by as much as electricity rates do. And I think that's a reasonable assumption.

Q. **[39]** Is it possible that the US gas sample gas rates are lower than the rates charged by Énergir and Gazifère?

R. It's certainly possible. But I would be extremely surprised if the gas rates were half or one fifth of the rates charged by Gazifère and Énergir.

Q. **[40]** Okay. And when analysing the relative competitiveness of electricity and gas would it matter whether you were doing the calculations for a colder or a warmer location? In other words, locations that have different heating loads and different heating system performance.

R. If you... that may be a relevant consideration, yes. I suppose you may also need to understand about housing stock and insulation and some other things.

Q. **[41]** Right. But again, you have not presented any quantitative evidence about the competition risks of the Quebec Utilities relative to electricity?

R. No. Not more than what I've said, no.

Q. **[42]** Well, you did present some quantitative evidence in table 4. Page 23 of your report which

demonstrates that Énergir continues to see customers growth comparable to the US sample despite the so called competition coming from the lower Quebec electricity rates. Is that correct?
R. That is correct.
Q. **[43]** Have you presented any evidence of a different competition risk between the Quebec Utilities and the US sample other than simply asserting that the Quebec Utilities face a higher competition risk?
R. The evidence I've presented is that electricity is much cheaper in Quebec then it is in the US and is also greener.
Q. **[44]** Okay. But no... Alright. I won't belabour the point. So I'd like to get back to the issue of bi-energy and the reason why I'm coming back to this issue is because bi-energy is a game changer. Right? Protects Énergir from a lot if not most of the risk, maybe all of the risk associated with energy transition. It isolates it. It prevents it in falling into a death spiral.
So if Énergir or Gazifère were to sell fewer "terms" of gas on a steadily declining trajectory would that cause the Quebec Utilities' rates to rise?
R. I'm sorry. I'm really not familiar with the detail

of the bi-energy proposal. So I won't, if it's more than a proposal, I really don't know the details of what it involves or how many customers it covers. So...

Q. **[45]** My question was not related to bi-energy. It was a general question. I'm generally asking if a utility was to sell fewer "terms" of gas on a steadily declining trajectory in the jurisdiction would that cause the utilities' rates to rise?

R. Oh! I would expect so. Yes.

Q. **[46]** And if that utility were receiving payment from the electricity distributor to compensate it for continuing to serve load during winter peaks what would be the impact? Would that change your answer?

R. Well again I'm not quite sure. I think it would depend on what exactly the arrangement was.

Q. **[47]** So it would depend on the amount of compensation? Okay. How many customers or sales in your view, do you know, would Énergir or Gazifère have to lose before its rates would rise enough to materially change the competitive position of gas in relationship to electricity?

R. I don't know.

Q. **[48]** You don't have any sort of number in mind.

Neither customers nor sales?

R. None.

Q. **[49]** Did Aviseo calculate this?

R. Not to my knowledge.

Q. **[50]** Are you aware... Okay. So neither you nor Aviseo did any quantitative analysis of the impact of bi-energy?

R. I did not. I don't want to speak for Aviseo but I'm... Aviseo...

Q. **[51]** Well in your report... Your report is based on th Aviseo report. So I'm presuming you studied it at length?

R. Oh I'm having to say that their report does not contain any such analysis.

Q. **[52]** And do you think the Régie should know the answer to this question in order to properly assess the capital recovery risk of the Quebec Utilities which you say is a central element?

R. I think the Régie needs to undertake an assessment of business risk in this proceeding. Absolutely. And this... That assessment requires judgments because there's a lot of uncertainty.

Q. **[53]** And that assessment would include an assessment of capital recovery risk of the Quebec Utilities?

R. Yes.
Q. **[54]** Do you agree as a whole that the bi-energy program today, you know to the limits of your knowledge of that program, I think we touched on yesterday, reduces the risk related to the energy transition for the Quebec Utilities?
R. Well, "reduce" is a relative term, "reduce" relative to what?
Q. **[55]** Well, to what exist before the bi-energy program.
R. I would say yes.
Q. **[56]** Thank you.
Me ÉRIC McDEVITT DAVID :
Monsieur le président, il me reste un seul sujet, j'aurai fini dans cinq, dix minutes.
LE PRÉSIDENT :
Parfait, allez-y.
Me ÉRIC McDEVITT DAVID :
D'accord.
Q. **[57]** So, there's a last topic I want to look at with you, Mister... Dr. Brown, the issue of renewable natural gas and hydrogen. You state that the policies in Quebec regarding renewable natural gas and hydrogen are likely to make gas more expansive. It's on page 18 of your report. Is it

possible for a gas utility to reach net zero emissions without selling non-fossil... non-fossil gas?

R. I would think that would be very difficult.

Q. **[58]** As you know, Quebec has set a goal of net zero emissions by twenty fifty (2050), are you aware of that?

R. Not specifically, but I'm... it sounds entirely possible.

Q. **[59]** Would you agree with me that developing renewable natural gas and hydrogen is essential to the survival of the gas utilities beyond twenty fifty (2050)?

R. That seems reasonable to say that, yes.

Q. **[60]** So then, how would you see the policies regarding renewable natural gas and hydrogen as a source of risk? Isn't it rather a source of company survival?

R. Well, those two things may go together. It may be that the future of the Quebec Utilities is riskier than the past.

Q. **[61]** But you'll agree with me that the development of renewable natural gas and hydrogen goes to the very survival of these companies, would you not?

R. Yes.

Q. **[62]** Okay. I have no further questions.

Me ÉRIC McDEVITT DAVID :

Merci, Monsieur le Président, j'ai terminé. Donc, ça a été beaucoup plus rapide que je croyais.

LE PRÉSIDENT :

Merci, Maître David. Est-ce qu'il y a des questions de la part d'un ou l'autre des intervenants?

Me STEVE CADRIN :

Steve Cadrin pour AHQ-ARQ. Simplement pour vous mentionner, Monsieur le Président, que nous n'aurons pas de questions. Je vois que ma consoeur s'est connectée en même temps que moi, je ne voulais pas vous laisser dans le silence si longtemps.

LE PRÉSIDENT :

Très bien, merci.

Me PAULE HAMELIN :

J'aurai quelques questions.

LE PRÉSIDENT :

Alors, vous pouvez y aller.

CROSS-EXAMINED BY Me PAULE HAMELIN :

Q. **[63]** So, hello Mr Brown. My name is Paule Hamelin and I represent IGUA in this case.

R. Good morning.

Q. **[64]** Good morning. Yesterday, at the start of your presentation, you explained your interpretation of what is business risk. In my notes, if I'm correct, you indicated that the business risk is the risk of investing in that utility, you referred to investor risks. Correct?

R. M'hm, yes.

Q. **[65]** Would you agree with me that business risk also relates to operations and business environment of a company?

R. Yes.

Q. **[66]** In fact, it is what you are indicating in your report, exactly those words :

> Business risk relates to the operations and business environment of a company.

That was touched upon by my confrère, maître David. In your report, you consider the competition of gas towards electricity and you'd just indicated that there were no further evidence that you have provided except what we have seen in the report. And based on your answer, I just want to confirm that you have not done a specific analysis to determine over time, let's say from twenty twenty (2020) to twenty fifty (2050), for all types of customers of the utilities, either residential, commercial, institutional, industrial, what is Énergir's competitiveness over electricity? Your analysis was essentially electricity is cheaper in Quebec, right?

R. That is why it seems to me that the situation of the Quebec Utilities is different than the situation of the US utilities in Dr. Villadsen's sample.

Q. **[67]** But you have not conducted a specific analysis to determine over time the Énergir's competitiveness over electricity, correct?

R. Well, the relevant question is the position of the Quebec Utilities relative to the position of the US utilities, and for the reasons I've given, the Quebec Utilities are not in the same position as the US utilities.

Q. **[68]** I understand what you're... you have done and what you consider to be relevant. My question is quite simple, I'm not asking what you indicate in your report, I'm asking if you have done an independent analysis of Énergir's competitiveness over electricity for all the types of customers from twenty twenty (2020) to twenty fifty (2050)?

R. The analysis I've done is described in my report, if I can put it that way.

Q. **[69]** Are you aware that Énergir has done this type of analysis recently as part of its -- and I'll refer to it in French. Deuxième rapport... the second report on résilience. Is it... I don't know how to... maybe... I don't have the WebSwitcher and or if the utility can help us if there is a name for this report in English? Or perhaps, we can at least...

R. It's the same, but I'm not familiar with that report.

Q. **[70]** Okay.

Me PATRICK OUELLET :

If you want... if you want the English term, we can put it to you if you give me one second?

R. Okay.

Me PATRICK OUELLET :

We were told that Dr. Hopkins says put the English version of the Climate Resilience.

Me PAULE HAMELIN :

Ah, yes, that's true, I forgot about that. Yes.

Me PATRICK OUELLET :

Okay.

Me PAULE HAMELIN :

Maybe we can probably show, and I don't have the Exhibit of Dr. Hopkins, because I have the reference for the report in French. Can you give me just a few minutes so we can find it?

Me PATRICK OUELLET :

We'll do the same and help you find it at the same time.

Me PAULE HAMELIN :

Okay. Sorry, I just realized that he has filed the first report and not the second report. So, I would suggest then to...

Madame la greffière, can you please put on the screen, it's Exhibit C-ACIG-0072, at page 33.

Q. **[71]** So, Mr Brown, is it something that you have considered for either your report or your preparation to testify today?

R. I don't believe I've seen this report before yesterday. I think I saw it on the screen briefly yesterday.

Q. **[72]** Okay. And did you have the time to analyse it or review it?

R. Oh, no, I only saw it when it was... I think somebody was asking a different witness questions about it.

Q. **[73]** Okay. Would you agree with me that this comparison twenty twenty (2020), twenty fifty (2050) for all Énergir's customers is a relevant and useful information to assess demand or competition risk?

R. Well, I'm sorry, I really can't tell anything, the writing on the screen is too small for me to read.

Q. **[74]** Okay. We can probably enlarge.

Me PATRICK OUELLET :

Maybe if we can take just a few minutes to let Dr. Brown read this page of the report? I believe he can read French, so...

Me PAULE HAMELIN :

Okay. Perfect.

Me PATRICK OUELLET :

We're going to give him a little bit more time because it's in French, but I think that would be the appropriate thing to do at this point.

Me PAULE HAMELIN :

Perfect.

R. Also, I'm going to turn my camera off because I need to get very close to the screen.

Me PATRICK OUELLET :

I believe we found the English version, so I will try to give that English version to the witness as well, so that he can read appropriately.

Me PAULE HAMELIN :

Can I suggest that the English version further to

Dr. Brown's testimony could be filed? If you prefer that I file it as a C-ACIG exhibit I will do so, but I would appreciate receiving a copy. I don't know if we have to take a formal undertaking?

Me PATRICK OUELLET :

Okay. I'll just... I'll just discuss with my client, so give me a few seconds.

Donc, Maître Hamelin, maître Cloutier va vous envoyer immédiatement la version anglaise du rapport par courriel, et comme ça vous pourrez le produire, là, dans vos pièces si vous le désirez.

Me PAULE HAMELIN :

Parfait. Je vous remercie beaucoup.

Me PATRICK OUELLET :

En même temps, on va l'envoyer au Dr Brown.

Maître Hamelin, est-ce que vous avez bien reçu le courriel de maître Cloutier?

Me PAULE HAMELIN :

Oui, merci.

Me PATRICK OUELLET :

Parfait. Donc, le témoin prend connaissance de la version anglaise, on va vous faire signe quand ce sera... quand il sera prêt.

Me PAULE HAMELIN :

Parfait. Je m'excuse auprès de la formation pour...

pour le délai.

LE PRÉSIDENT :

On pourrait peut-être prendre la pause tout de suite, ça laissera le temps au témoin de prendre connaissance du document, puis...

Me PATRICK OUELLET :

Parfait.

LE PRÉSIDENT :

O.K. Alors, on se revoit à dix heures quinze (10 h 15).

SUSPENSION DE L'AUDIENCE

____

REPRISE DE L'AUDIENCE

LE PRÉSIDENT :

Rebonjour, alors nous sommes prêt à poursuivre. Maître Hamelin on vous a vue pendant une seconde et vous êtes disparue.

Me PAULE HAMELIN :

Me voici. Mais je ne vois pas, peut-être parce que c'est... ah O.K.

Me PATRICK OUELLET :

En fait c'est moi... moi je ne vous vois pas Maître Hamelin. Je vous vois comme en pastille.

Me PAULE HAMELIN :

Pourtant ma caméra est ouverte. Est-ce que vous me voyez?

Me PATRICK OUELLET :

Non. Mais peut-être. Normalement nous, moi ce que je fais c'est que je déconnecte et je reconnecte et ça règle normalement le problème.

Me PAULE HAMELIN :

Bon, alors. Je vous reviens. Est-ce qu'on me voit maintenant?

LE PRÉSIDENT :

Très bien.

Me PAULE HAMELIN :

Q. **[75]** So, Mister Brown, during the pause I understand that you had the opportunity of looking at the, the information that we provided to you with respect to the Plan de résilience or Resilience Report which is essentially a chart pertaining to the competitive position for the period twenty twenty to twenty fifty (2020 to 2050) that was prepared by Énergir. My understanding is that prior to the recess you didn't have the chance to look at this document. Now that you have had the opportunity of looking at it, would you agree with me that this is useful and relevant information to assess demand or competition risk for Énergir?

R. Hum. Well, not really. Because it, this is a relative assessment that we are undertaking. And so we need to understand risk of Énergir relative to something else, a benchmark. And this report is just about Énergir.

Q. **[76]** O.K. but. Am I correct... because we can go back to the description of your mandate, but I think that, based on... and we can go back to your report, but my understanding is that your mandate is assessing business risk and in particular compare it to other comparable utilities. Is that correct?

R. Yes.

Q. **[77]** So, to compare, you have to priorly assess the business risk of the various utilities. Correct?

R. Yes.

Q. **[78]** So I then, restate my question. Would you believe, to determine business risk for Énergir, that this information on competitive position between electricity and natural gas is a relevant information to assess business risk of Énergir?

R. It’s, it’s relevant, but it doesn’t tell us anything about the position of Énergir relative to the sample. And...

Q. **[79]** And that would be the second step of your analysis, correct?

R. Yes. And that’s why I looked at the, the cost and emissions associated with electricity in other jurisdictions, in other parts North America. And if one were to prepare a chart like this for gas utilities anywhere else in North America, it would like very different. The... the dotted line would be between a halfway down hence much further down the columns. And so, this chart shows, in my understanding that, for Énergir’s customers, in terms of the fuel bill, gas is somewhat cheaper or about the same as electricity. If you were to do the same analysis for other utilities, you would see that gas is far cheaper than electricity because electricity is much much more expensive.

Q. **[80]** But, just at the basis, because if we go back to your analogy with cards, you indicated yesterday that it’s like having a set of, of cards. You need to look what is in your hand, and then compare it. But at the beginning, you need to know what’s in your hand. Right? So my... the comment I’m making is that this is a relevant information to assess Énergir’s only business risk. Correct?

R. Yes. The position of gas relative to electricity in the competition between the two, yes, absolutely, that’s relevant.

Q. **[81]** I would like now to turn to your report, page 22. And it's on the same topic and it's to follow some of the questions of maître David. Question 34 we see, at the question:

> Does the natural gas distributed by Énergir compete with electricity?

The answer given... sorry. Sorry, 22 of the document, but I was referring to the question 34 so that... to be clear. Sorry.

R. Yes, that's fine.

Q. **[82]** O.K. Perfect. So the answer was:

> Yes. Particularly in households, electricity is a viable alternative to natural gas for customers in Énergir's service territory.

And then, you continue with table 4 which is at page 23, relating to Residential Customers Annual Growth Rate. My question to you is... Am I to understand that this comparison with growth rate has been done with respect to residential customers only?

R. That's correct.

Q. **[83]** And you had not done any analysis with respect to the same, the same type of analysis with respect to the other segments of Énergir's clients, for instance institutional, commercial, industrial, correct?

R. That's correct.

Q. **[84]** I would like now to turn to the question of the other sample. And I want to also make a follow-up, some follow-up questions on the, on this aspect. And let's start with your footnote in your report, footnote 3 of your report, at page 2. So you indicate that:

> I have not compared the Utilities to the other samples described by Dr. Villadsen because the gas LDC sample is the closest in terms of business operations.

I insist on business operations for the purpose of my questions.

> While the Canadian sample contains some gas distribution utilities, it is also rather heterogeneous (See the work papers to BV-6).

If we look at the US sample, is it fair to say that some of the utilities are not pure play Distribution companies as well?

R. I'm not sure about that. I think they are... the sample as a whole list is pretty clean. It's my understanding.

Q. **[85]** O.K. Let's take the list of the utilities found in doctor Villadsen's report. This one it's at page 59 of her report. So I'll let you the opportunity of reviewing them and then, again, my first question is: Can you identify or, is it possible that some of those companies would not be one hundred percent (100 %) pure play distribution?

R. Sorry, I'm just finding the right page.

Q. **[86]** Fifty-nine (59) of doctor Villadsen's report.

LE STÉNOGRAPHE :

Est-ce que vous avez la cote Régie, s'il vous plaît?

Me PAULE HAMELIN :

La cote Régie, c'est... alors j'ai juste la cote Énergir : EGI-1.

LE STÉNOGRAPHE :

O.K.

Me PAULE HAMELIN :

Est-ce que quelqu'un peut me donner la cote?

LE PRÉSIDENT :

B-0015.

Me PAULE HAMELIN :

Merci. Oui. J'aurais dû m'en souvenir.

LE STÉNOGRAPHE :

Merci.

Me PAULE HAMELIN :

Merci.

Q. **[87]** So Dr. Brown have you... Are you one hundred percent (100%) sure that all of those companies are all pure play distribution companies?

R. If the question is: do any of the sample companies have some operations that are not natural gas distribution then I'm sure that some of them do.

However the large majority of the activities of the natural gas distribution sample is natural gas distribution and I think doctor Villadsen's has explained that in her report.

Q. **[88]** Let me suggest, and maybe you can take an undertaking, but I'll give you some information and you'll tell me if it's to your knowledge and if not then you can probably verify.

If we take for instance just Chesapeake Utilities would you agree with me that only thirty percent (30%) of the assets... Sorry. Just a second. I think it's fifty-one percent (51%).

Well do you... Was your... Is it to your knowledge that Chesapeake Utilities have a percentage of its assets that is not regulated distribution business?

R. Well we look at the table on the page you pointed me to. So this is page... Well it's figure 20 of Dr. Villadsen's testimony. Chesapeake Utilities is listed as... There's a... The code in column 2 is "R" and that means I think it's eighty percent (80%). More... Eighty percent (80%) or more of the assets are regulated.

Q. **[89]** But do you know the percentage with respect to distribution?

R. In my understanding Chesapeake Utilities has both a natural gas distribution utility, or possibly more than one, and electricity distribution.

In my experience the business risk of electricity distribution and natural gas distribution is very similar. And more precisely the business risk of electricity and natural gas distribution is much more similar than would be the case between for example natural gas distribution and natural gas pipelines or even more so oil pipelines.

Q. **[90]** Just to go back to the beginning of your answer when you say that when you're looking at Chesapeake Utilities you see "R" and "Regulated" am I to understand that you took the information from

Dr. Villadsen and well, have you done your own independent analysis with respect to each of these utilities or you take them as granted or without doing additional verification on each of them?

R. This is Dr. Villadsen's sample. Dr. Villadsen selected the sample. As part of my work I reviewed the business risks of the utilities in the sample. And one of the sources of information on which I relied is the annual reports filed by each of the nine sample companies.

I reviewed those reports, because those reports contain an identification of significant business risks as identified by the management of those companies and so I have reviewed those reports and therefore I am at least somewhat familiar with the operations of those companies as described in their annual reports.

Q. **[91]** Okay. So with respect to Chesapeake Utilities you indicated that they may have natural gas and electricity, but my question would you know the correct percentage of the distribution portion of the company?

R. If your question is natural gas distribution vs. electricity distribution off the top of my head I certainly don't. I would expect to find that information in the annual report.

Q. **[92]** Okay. So as an undertaking I will ask you to provide the information as to the percentage of gas distribution business in the... for this utility. Is it clear my... Dr. Brown my question? My undertaking for you?

E-3 EGI : Percentage of the gas distribution business in Chesapeake Utilities (Demandé par ACIG)

R. The percentage of what?

Q. **[93]** Of the gas distribution business in Chesapeake Utilities?

R. I suppose that there's a number of different metrics that one could use to assess the relative contribution of one business to the company as a whole. I'm sure I can find at least one relevant metric.

Q. **[94]** Thank you. Monsieur le sténographe est-ce que je dois répéter l'engagement ou ça vous va?

LE STÉNOGRAPHE :

Non. Ça va bien.

Me PAULE HAMELIN :

Q. **[95]** D'accord.

LE PRÉSIDENT :

Ce sera l'engagement numéro 3.

Me PAULE HAMELIN :

Q. **[96]** What about New Jersey Resources. Are they one hundred percent (100%) distribution?

R. No... As you can see in the table this one is mostly regulated which means more than fifty percent (50%) but less than eighty percent (80%), I think.

Q. **[97]** And I was going to say for me two thirds (2/3) of its assets are in distribution and the reminder in other activities. Would that be a fair description of this utility?

R. That would be consistent with Figure 20 of Dr. Villadsen's testimony.

Q. **[98]** Okay. What about Southwest Gas? Is it to your knowledge that half of this utility revenues come from other operations than distribution? Other types of operations?

R. Well again looking at Figure 20 Southwest Gas is listed as being more than eighty percent (80%) regulated. So in my understanding Southwest Gas is entirely or almost entirely a natural gas distribution business.

Q. **[99]** Do you know if some of the utilities are also pipelines transmission utilities?

R. Some of the utilities in the gas distribution sample?

Q. **[100]** Yes. Would that be possible?

R. Not to any significant extent would be my understanding.

Q. **[101]** But that would be possible?

R. They may have some assets in those activities, but not to any great extent would be my understanding.

Q. **[102]** Okay. And just to go back to the answer that you gave previously with respect to gas versus electricity in terms of business risk. Am I to understand that your position is that with respect to business risk, in this case electricity, an electricity utility, would be a comparable distributor to assess business risk?

R. First, just to be precise, I'm talking about the activity of distributing electricity relative to distributing natural gas. Well, in this case, we need a benchmark and... so to the extent... I wouldn't start by looking at electricity distribution utilities as a benchmark for natural gas distribution, I would start by looking at natural gas distribution.

But in doing that, if it happens that

some... a sample company has oil pipelines as well as natural gas distribution, that would be concerning, because oil pipelines and natural gas distribution do not have the same business risk or not even similar. If it happens that a natural gas distribution utility is in the same corporate group as an electricity distribution utility, I would be much less concerned because the business risks of those two activities are similar.

Q. **[103]** I will now turn to the Canadian sample, it's at page 53 of Dr. Villadsen's testimony. I understand from your testimony yesterday that you indicated that TC Energy was very different because it was essentially pipelines. Did I understood you correctly?

R. Yes. I haven't study TC Energy in any great detail, but I'm not aware of any natural gas distribution business in that company.

Q. **[104]** Okay. Would you agree with me that Enbridge is an oil transmission company?

R. Enbridge does have significant oil liquid pipelines operations, that's my understanding.

Q. **[105]** And therefore, in terms of business risk assessment, it would be very difficult to compare?

R. It would not be my first choice benchmark, no, if I had something... something else available that was a better benchmark.

Q. **[106]** Okay. Turning to Algonquin Power, do you agree with me that it's a power generator utility, occasional gas?

R. To be perfectly honest, I know nothing about Algonquin Power, but I see its name, so I assume that it has something to do with electricity generation.

Q. **[107]** But I'm... am I correct to do, in understanding that in order for you to determine that the US sample should be use instead of the Canadian sample of Dr. Villadsen that you should have had the opportunity of reviewing each of the utilities to make this decision, this judgement, between the two set of samples, correct?

R. Yes. And I think if I go back to the footnote in my testimony that you began this line of questioning with. I explained that the Canadian sample is rather heterogeneous and then I cited evidence of which I’m relying to that statement.

Q. **[108]** O.K. But if I understand from your earlier testimony, you have not necessarily verified yourself for instance, Algonquin Power.

R. I’m sorry if I spoke too quickly. I don’t remember what the business activities of Algonquin Power are. But I looked at them for the purposes of making the statement in footnote 3. So if you take me to the source material cited in footnote 3, I would expect to find the business activities of the Canadian sample layed out.

Q. **[109]** But did you, have you done an independent analysis of the business risk other than doctor Villadsen's report? Well not, sorry. An independent analysis of the correct samples to be, that would be relevant to make a business risk assessment or you simply used doctor Villadsen's report?

R. I did not independently calculates the... or research which, which sectors the companies in doctor Villadsen's Canadian sample are active in. I looked at the information about that contained in the work papers to doctor Villadsen's testimony. And relying on that information, I made the statement in footnote 3.

Q. **[110]** O.K. So, my understanding is that you took, you looked and read what doctor Villadsen has written, and you have decided to rely on that to determine that the US sample was more appropriate. Would that be a good summary of the methodology?

R. Doctor Villadsen's testimony contains facts about which sectors each of the samples is active in and in what proportion. Based on those facts, I state that the natural gas distribution sample is a better benchmark than the Canadian utility sample, the present purposes.

Q. **[111]** So I understand from that, that you have not conducted an independent analysis to determine samples. You relied on doctor Villadsen's factual information in her report, correct?

R. Yes.

Q. **[112]** Would you agree with me that there was nothing preventing you to determine your own sample?

R. Well. We have, we had a division of responsibility. Doctor Villadsen, as I'm sure she will explain, is responsible for estimating the cost of capital using a number of different samples. Most of the, most of the utilities... if it was simply a matter of selecting a utility that's a reasonable benchmark in terms of business risk for the Quebec Utilities, there are very many utilities one might chose from. However, almost all of those utilities would not be suitable for estimating the cost of capital. For reason that I'm sure doctor Villadsen can explain.

Q. **[113]** Let's stick for now to your mandate and your role, which is assessing business risk. So my question to you: In assessing business risk, and in order to then compare it to a comparable distributor there was nothing preventing you to determine your own sample. Correct?
R. Dr. Villadsen estimated the cost of capital for a number of different samples, I was in a position therefore to choose amongst the samples for which she has cost of capital estimates.
Q. **[114]** I'm not sure I understand your answer. Let me rephrase it. You could have decided to retain other Canadian gas distribution companies as comparables? Correct? Other than what Dr. Villadsen has put in her report?
R. I don't think so. I don't believe that there are any other Canadian distribution utilities for which cost of capital estimate can be made.
Q. **[115]** I'm not talking about capital market for now, I'm talking about comparable distributors to assess business risk. So have you done this independent analysis?
R. I don't want to be at cross purposes here. The present exercise is to determine the authorized rate of return for the Québec Utilities using as a

benchmark the estimated cost of capital for some other utilities for which an estimate can be made and relating the one to the others is the business risk analysis that I have done. There would be no point in analyzing the business risk of a comparison utility for which the cost of capital cannot be estimated. Because then, where does that analysis go? Tt's nowhere to go.

Q. **[116]** So in your view there is no point in trying to determine the business risk for utilities such as Enbridge Gas, Fortis BC, ATCO Gas, is that what I'm hearing?

R. Well, those utilities I believe are in Dr. Villadsen Canadian sample, aren't they?

Q. **[117]** No, they aren't.

Me PATRICK OUELLET :

May I...

Me PAULE HAMELIN :

Q. **[118]** Dr. Villadsen have Fortis inc., have Enbridge inc., does not have Enbridge Gas, Fortis BC nor ATCO Gas. So what I'm asking you is for those... First of all do you know those gas companies?

R. Some better than others, but I know what they are, yes.

Q. **[119]** My understanding is that you haven't verified if, for instance, those utilities would be, could be consider as a comparable distributor in determining business risk, because again business risk as determine in your report at the beginning related to operations and business environment of a company.

R. Well, actually I did consider those utilities because they are in Dr. Villadsen Canadian sample and I have said that that sample is not a useful benchmark because it is too heterogeneous.

Q. **[120]** Okay. Can you show me where Enbridge Gas is in Dr. Villadsen sample?

R. Is not Enbridge Gas a subsidiary of Enbridge?

Q. **[121]** Yes, but now you are considering, is it a fair assessment than Enbridge inc is the holding company and now we are comparing the holding company with Énergir s.e.c. is that what you're suggesting?

R. Perhaps, if I may, let me set back and describe my understanding of how the business risk and the cost of capital analysis relate to one another. The cost of capital analysis is... takes his inputs, financial information, about publically traded companies, that is to say holding companies. Those holding companies own a number, one or more, operating subsidiaries. In the case of the natural gas distribution sample, there are nine holding companies which I think between them own twenty-four (24) or more natural gas utilities, which I have analyzed in my report.

The Canadian sample, I forget how many holding companies it has in it, but each of those holding companies owns one or more operating companies, some of them are natural gas distribution utilities, others are oil pipelines or power generators or other things.

So, when the cost of capital... cost of capital estimates... estimates relating to the sample, the sample of holding companies, the business risk analysis therefore has to compare the business risk of the Quebec Utilities with the business risk of the samples as a whole.

In the case of the natural gas sample, the natural gas distribution sample, that's a reasonable thing to do because the natural gas distribution sample is... is reasonably pure play for almost all of its assess are regulated utilities and the large majority are natural gas distribution, and they aren’t entirely oil pipelines or other things in there.

The Canadian utilities, the Canadian holding companies, are less useful as a benchmark because although they contain natural gas distribution utilities, they also contain many other things which are not good benchmarks for the Quebec Utilities. And therefore, I determined that it is better to use the natural gas distribution sample as a benchmark and I did not undertake any further analysis of the Canadian sample.

Q. **[122]** Give me just a second. Thank you, Mr. Brown, I have no further questions.

R. Thank you.

LE PRÉSIDENT :

Merci, Maître Hamelin. Est-ce qu'il y aurait une question de la part de maître Cadrin de la AHQ-ARQ? Ah, excusez, non, il reste... c'est plutôt maître Turmel de la FCEI.

CROSS-EXAMINED BY Me ANDRÉ TURMEL:

Oui. Bonjour, Monsieur le président. André Turmel pour la FCEI. Oui, nous avons quelques questions. Alors, je demanderais à madame la greffière de mettre à l'écran la pièce B-0204.

Q. **[123]** We will work, Dr. Brown, with evidence B-0204. It is answer to the Canadian Federation of Independent Businesses, à la question-réponse 2.9.

Si on veut le mettre à l'écran. 2.9. O.K. Nous y sommes.

So, good morning Dr. Brown. Do you see the question-answer on the... on the...

R. I have it, yes.

Q. **[124]** Okay. Perfect. So, on question 2.9, the question is in French, I'm just going to restate it in English, so you were ask : can you confirm that if a potential client finally choose not to connect itself to natural gas, he does not add any risk with respect to capital recovery. And, so you answer the following, you said:

> Not confirm. Doctor Brown consider that if one of utilities were to stop growing entirely, that this could be a signal for an increase business risk. Particularly if, at the same time, some existing customers are leaving the system. Doctor Brown understands that it is not the case for the utilities currently.

So, my first couple of questions on that, Sir, is, am I right to say that you answer take as an assumption that the stop of growth is the result of market strength? As a general comment.

R. I don’t think, I don’t think it matters why a utility stop growing. If it stops growing, I would think that could be concerning for the utility and its investors.

Q. **[125]** In fact, that if growth stops and that client would leave this would signal a decrease in the interest for natural gas? Can we say that?

R. Yes. That would be consistent.

Q. **[126]** Okay. But, I think, if... maybe, maybe the question, the way it was asked, I think, what we want to... or should have read otherwise so... the question is: if the slowdown of growth is the result of choice made by, let say, the utility or the regulator itself, does that impact the risk of capital recovery, in itself?

R. Well. A utility, a utility assets, as we talked about are long-lived. And so, the investments that are being made now in the utility system are going to be recovered from existing customers and from, each of the customers. The more new additional customers there are in the future then, the more positive environment and the easier it will be to recover the cost of those assets which are shared, I mean the use of the assets is shared with all the customers, that would be easier in the future than

if the number of customers is going down.
Q. **[127]** Okay. And all the risk of capital recovery in itself, am I right to say that this risk is directly linked to the fact that there is a, there is capital to recover?
R. Yes. If there was no capital to recover then, yes, then that would be no risk.
Q. **[128]** Yes. That was my following question, and you exactly fit in. Thank you very much. And as a consequence, all things being equal, how less capital invested to connect clients could add more risk?
R. I'm sorry. Could you repeat that question, please.
Q. **[129]** Yes. Yes. So, as a consequence of this, the discussion we are having, all things being equal, this is the usual sentence that has to said, how less capital invested or investment to connect clients could add more risk?
R. Well. Because, because the total capital invested in the utility consists of a, you know, it's a portfolio or... the utility has many assets, some that were recently constructed and some that were constructed longer ago. But the, the recovery of the rate base as a whole, that has to come from, as I said, existing customers and new customers in the

future over time so, if, if a utility stops growing, yes that means no more connection assets are being added to the rate base so therefore no more connection assets need to be recovered in future.

But the existing rate base is what investors are worrying about, but if there's no investment there's no additional investors but the existing rate base still needs to be recovered and that existing rate base, as I said, has to be recovered from current and future customers and that's more difficult if there are fewer customers.

Q. **[130]** Thank you. Madame la Greffière, si on veut aller à la question-réponse 1.5. We will go to the question-answer 1.5 of the same document.

So on question and answer 1.5 we see a question in French. I'm just gonna restate it in English.

So all the profitability criteria you were asked if a more demanding profitability criteria, meaning requesting more profitability to get another rise investment can reduce the risk of capital recovery and then you offer the following answer mentioning that you were not aware of any circumstances in which profitability criteria would be relevant for capital recovery risk.

> Dr. Brown understanding is that standard for whether investment in assets used to provide utility service can be recovered in rates is prudence which has nothing to do with profitability criteria.

So end of answer.

So let’s use an example maybe to help us to understand. For instance if the Régie de l’énergie, the Regulator you’re facing today, would decide to add a more let’s say restrictive policy on new clients.

Let’s say that they would ask that all new clients would have to pay for the totality of connecting costs. Would that reduce the risk of capital recovery?

R. Just to make sure I’m understanding the question. When a customer connects to the system they... After connecting they will pay rates the same as any other customer, I suppose. So your question is when they connect if instead of the connection assets being added to rate base the connection assets are completely paid for by the customer. Is that your question?

Q. **[131]** Well no. I think... I'm gonna restate my question maybe to be sure we are on the same page. So let's say that it's an example, I just want to understand. If the Regulator, this Regulator would decide to add... decide and add a new, a more restrictive policy than today for new clients. Let's say that they would decide to say all new clients would have to pay for the totality of connecting costs. So we're looking forward. Would that reduce the risk of capital recovery in that action?

R. Well I'm a bit worried that I had the same hypothetical in mind as perhaps you do. So let's say the status quo is the custom's connect, the connection assets go into rate base and the customers pay rates the same. The new customers pay rates the same as the old customers, That's the status quo and then the hypothetical is that the new customers in addition to paying rates also pay for their connection assets so that no connection assets go into rate base then there is less capital to be recovered in the future I suppose and in that sense...

Q. **[132]** Less risk.

R. There is less risk, I suppose. Okay.

Q. **[133]** And that fits with my last question on that. So I don’t know if you were there yesterday. One of Énergir’s testimony yesterday was given by Mr. Tremblay and he was following on Mr.... on Énergir’s CEO, Mr. Lachance on Monday, when they testified, but it was more detailed yesterday, that Énergir was thinking about, for some clients, to reduce from forty (40) years to twenty (20) years the duration of profitability analysis meaning the period over which the profitability is assessed. Have you heard about that or... It was said yesterday.

R. Not before yesterday and I will confess that I could not follow that discussion, I'm sorry to say that. This topic of profitability index is not something I'm familiar with and I don't really understand what that calculation is, how it's done or what it's for, I'm afraid.

Q. **[134]** No offense, but it was said nevertheless in the testimony yesterday. So, my question that refers to that, that's a fact that we learned yesterday that could be file at the Board later on this year or next year, we'll see, it's not clear yet. But do you agree that if we ask to a client to be more profitable on a twenty (20) years period rather than forty (40) years, that the utility will connect less clients and there will be less investment?

R. Well, again, I am worried that I don't understand and therefore what I think this means is not what it actually means, so let me state what I think it means. I think this means that... well, the context, I think, is that when a customer asks to connect that requires some investment by Énergir in connection, in assets... connection assets, which will go into the rate base. And there is some threshold amounts on a per customer basis and if it's more expensive than the threshold hold, than either the customer is not allowed to connect or the customer has to pay for some of the assets itself upfront. So, that after that payment the net amount is below the threshold. Is that... is that correct?

Q. **[135]** I think it is correct, but some other people in my team may correct me, but the fact is the, let's say that, and I think from yesterday testimony and maybe they'll correct that later on if they want, but they could decide for, let's say, the client that want to remain using natural gas, fossil natural gas will connect with... the profitability criteria will be, I hope I'm right here, will be on a shorter period of twenty (20) years, when a client that would elect or decide to use natural, renewable natural gas, the asset will be recover over forty (40) years, and that's a real possibility, I think, that may happen. So, in that example or the fact that we connect, that Énergir will connect probably less clients, that means that there probably will be less investment. So, we think... well, I think so, I want to confirm with you if my assumption is okay or not, and if you can answer that's fine, if not it's okay also, but I'll...

R. Let me answer it in a way that I think is correct. So, I think this proposal means -- so, the effect of this proposal is that some customers can't connect unless they choose renewable natural gas, and I think the effect of that is to reduce growth relative to -- well, I don't even want to say that actually. Now, I think I need to step... go a step further back.

This change, it seems to me, is part of Énergir's response to the environment in which it is operating. There are number of challenges to do with -- you can call it the energy transition -- we talked about competition between electricity and gas, we talked about public policy initiatives to reduce emissions from the natural gas sector. It seems to me, even though I don’t understand really exactly what this proposal is, that it is part of Énergir’s response to the environment in which it is operating.

And, so, in the context of the work I have done in the business risk analysis, the fact that Énergir is responding in this way, is a symptom of the fact that the business risk environment of Énergir is not the same as the business risk environment of other natural gas distribution utilities.

Q. **[136]** Okay. So, so, maybe a last line of questions, Madame la Greffière si vous voulez aller dans la présentation de docteur Brown, we would go back now using your presentation, Sir. On the page 4. Et ça sera ma dernière question, Monsieur le Président, ou mes dernières questions sur ce point.

Me LISE DUQUETTE :

Maître Turmel, c’est la pièce B-0027 à la page 4 du PDF?

Me ANDRÉ TURMEL :

Oui. C’est ça vous avez... merci madame, Maître

Duquette.

Me LISE DUQUETTE :

Maître Turmel, est-ce que c'est...

Me ANDRÉ TURMEL :

Non, c'est la, c'est la présentation Powerpoint, pardon. Excusez-moi.

Me LISE DUQUETTE :

Donc la pièce 0344?

Me ANDRÉ TURMEL :

Q. **[137]** It's your Powerpoint presentation from yesterday.

R. Hum hum.

Q. **[138]** Will just wait for the... yes, O.K., it's coming. O.K. Page 4. Last item. And that also refers to one of my colleague, maître David, question to you where you said, so in reference to page 4 last bullet, where you said to maître David, that: the perception of risk by investors was not that capital will not be recovered but how it would be recovered. And you also said that investors would perceive less risk in utilities that do not face that prospect or modification in how the capital would be recovered. Is this correct that, that... did we capture the... your statement right, Doctor?

R. Yes, I think so.

Q. **[139]** O.K. Perfect. My sole question on that is, do you have any evidence that support that? That statement. I understand it’s an opinion, but is that... can you direct us to a, to a... some piece of evidence that support that assertion? Or it’s only an, or it’s an opinion from, from your own experience? I just want to understand where it comes from.

R. Hum. It’s an opinion about how to apply the fair return standard in the context of comparing one utility with another. Of course, yes... also... it’s an opinion.

Q. **[140]** O.K. Thank you. Ça termine mes questions Monsieur le Président. Je vous remercie.

EXAMINED BY THE FORMATION

LE PRÉSIDENT :

Merci. Alors questions de la Régie, pas de questions de la Régie? Madame Falardeau? Maître Duquette? So, I just have a few short questions to Dr. Brown about his background.

Q. **[141]** You mentioned yesterday in your introduction remarks that you presented testimonies before the Alberta Utilities Commission. I see in your bio that it was in twenty twenty (2020) proceeding. Was it... My question is just was it a similar case as we're having today to set the rate of return for gas distribution?

R. The proceeding listed, I think the one that's listed in my resume is a different proceeding which was actually more of a rate case proceeding.

The evidence I submitted in a rate return proceeding was in February of this year. So it's in my resume now. But it wasn't when I filed... When my resume was filed last year.

The proceeding from February of this year is what in Alberta is called the Generic cost of capital proceeding. It's a proceeding to set the authorized rates return for all of the gas and electricity distribution, the utilities in Quebec... In I'm sorry excuse me in Alberta.

And on previous occasions I have worked on the dockets, the Generic cost of capital docket in two or three times in Alberta although in those prior occasions I wasn't the... I wasn't the witness.

Q. **[142]** Okay. In this last proceeding was it the same approach that we're having today where you had to work from a third party report like Aviseo or was it your own presentation?

R. It was my own presentation although I would emphasize that the proceeding in February of this year was a little bit unusual and it had sort of a complicated history tied up with the COVID-19 pandemic and so on.

It was really... It was something of an abbreviated proceeding and I think the conclusion of it was to sort of hold over the authorized return from the time before as it were.

But in any event there was nothing equivalent to the Aviseo report, although I would say that I consider myself quite familiar with the operations of the Alberta utilities from my work in other proceedings in that jurisdiction, which is not the case in Quebec.

Q. **[143]** Could you just repeat the last portion of your anser.

R. I'm sorry. Yes. I would say that I'm much more familiar with Alberta regulatory environment than I am with Quebec because before the last time I worked in... I haven't worked in Quebec for maybe ten (10) years. The last ten (10) years.

Q. **[144]** Okay. Perfect. Thank you.

LE PRÉSIDENT :

Alors, ça conclut les questions au Dr. Brown. Thank you au Dr. Brown.

Me PATRICK OUELLET :

J'ai peut-être, si vous me permettez, Monsieur le Président, j'ai peut-être quelques questions de réinterrogatoire, mais...

LE PRÉSIDENT :

Oui. Certainement.

Me PATRICK OUELLET :

Je vous demanderais quelques minutes, mais je vais... I'm gonna say this in English. I'll ask Dr. Brown to leave the room we're in because we want to have a discussion and I don't want to influence his answers.

If I have questions in redirect, so if I could have a few minutes? H will leave the room we'll have a discussion and we'll get back to you maybe in five minutes. Ça va?

LE PRÉSIDENT :

Alors, on peut suspendre pour cinq minutes.

Me PATRICK OUELLET :

Parfait. Merci.

LE PRÉSIDENT :

Parfait. Très bien.

SUSPENSION DE L'AUDIENCE

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REPRISE DE L'AUDIENCE

LE PRÉSIDENT :

Oui. Nous vous écoutons, Maître Ouellet.

Me PATRICK OUELLET :

Parfait. Donc, nous n'avons plus de questions pour le... Nous n'avons pas de questions pour le docteur Brown.

So we have no further questions for Dr. Brown. I think maître Georgescu wanted to... Maître Georgescu voulait mentionner quelque chose là avant de passer au prochain témoin. Donc, je lui cède la parole.

LE PRÉSIDENT :

Oui. D'accord.

Me ADINA GEORGESCU :

Thank you, doctor Brown. Bonjour, Monsieur le Président; bonjour à la formation. Monsieur le Président, c'était simplement pour vous aviser que l'engagement qui a été pris par Aviseo lors du témoignage de monsieur Lessard a été déposé sur le SDÉ, la réponse à l'engagement a été déposée sur le SDÉ ce matin. Donc, il est accessible si la Régie souhaite la consulter. Alors, c'était tout ce que j'avais à vous dire aujourd'hui.

LE PRÉSIDENT :
Parfait. On l'avait noté. Est-ce que l'AHQ-ARQ a pris connaissance de la réponse? Et est-ce que vous auriez des questions sur l'engagement qui a été déposé?
Me STEVE CADRIN :
Oui. Bonjour, Monsieur le Président. Oui, nous en avons pris connaissance. Et nous n'avons pas de questions à poser. Ça répond à ce qu'on pensait.
LE PRÉSIDENT :
Parfait. Merci beaucoup. Puis pour l'engagement numéro 2, est-ce que vous croyez être en mesure de le déposer aujourd'hui?
Me ADINA GEORGESCU :
Juste un petit instant, nous allons juste revérifier l'engagement numéro 2.
Me PATRICK OUELLET :
Donc, je ne sais pas si vous avez entendu malgré les micros fermés, mais on nous informe que ça devrait être prêt en début d'après-midi.
LE PRÉSIDENT :
Parfait. Merci beaucoup.
Me PATRICK OUELLET :
Alors, Monsieur le Président, on est à votre disposition si jamais vous vouliez commencer avec

la docteure Villadsen avant le lunch. Nous, on peut commencer le début. Il y a quelques petites questions introductives. On est à votre disposition. On peut arrêter maintenant aussi. C'est comme vous voulez.

LE PRÉSIDENT :

On peut commencer. Allez-y!

Me PATRICK OUELLET :

Parfait.

Me ADINA GEORGESCU :

Est-ce qu'il serait possible, Monsieur le Président, de libérer le docteur Brown?

LE PRÉSIDENT :

Oui, certainement.

Me PATRICK OUELLET :

Donc, on va prendre quelques petites secondes pour s'organiser et puis on va commencer.

LE PRÉSIDENT :

Oui. Veuillez nous indiquer aussi pour l'engagement numéro 3 quand vous prévoyez y répondre.

Me PATRICK OUELLET :

Je vais consulter docteur Brown.

LE PRÉSIDENT :

Très bien. Merci.

Me PATRICK OUELLET :

Donc, demain matin, il devrait être... on devrait avoir la réponse.

LE PRÉSIDENT :

C’est bien noté. Merci.

Me PATRICK OUELLET :

Est-ce que tout le monde a la présentation de la docteure Villadsen qui a été déposée sur le système? Je crois que c’est EGI-28 si je ne m’abuse.

LE PRÉSIDENT :

La cote de la Régie est B-0350.

Me PATRICK OUELLET :

Très bien. Exactement. Good morning, Doctor Villadsen. We’re going to put on the screen the PowerPoint presentation that you prepared. So I think you’re familiar with... it’s going to be shown on the screen, so do you adopte this as being part of your evidence?

LE STÉNOGRAPHE :

Il faudrait assermenter le témoin.

Me PATRICK OUELLET :

Vous avez raison, je m’excuse, je suis un petit peu trop pressé. So you’ll be sworn in before I’m asking my questions obviously.

PREUVE DES DEMANDERESSES - Panel 5 - Détermination du taux de rendement et structures de capital présumée des demanderesses

IN THE YEAR TWO THOUSAND TWENTY TWO, on this fifteenth (15th) day of June, PERSONALLY CAME AND APPEARED:

Dre BENTE VILLADSEN, principal at The Brattle Group business address is 1, Beacon Street, Boston, Massachusetts (USA);

WHO, after having made a solemn affirmation, doth depose and saith as follows:

EXAMINED BY Me PATRICK OUELLET:

Q. **[145]** So, I'll restate my earlier question : you have on the screen in front of you a PowerPoint presentation. Do you recognize the document?

R. I do.

Q. **[146]** Can you briefly explain what this document is?

R. This document is a presentation of my direct evidence in brief.

Q. **[147]** Do you adopt this as being part of your

evidence?
R. I do.
Q. **[148]** So, we see... you can start briefly with the agenda that we see on the second slide.
R. If we could move down a little bit, so we can see the agenda. What I was going to talk about here is my background and what information I would rely upon to come up with my recommendations. I will discuss a few key concepts that's very important for cost of capital determination, and I'll provide a brief summary of my recommendations before I move into some key issues that are of interest here, mainly input to the various models we use, interest rates, the market risk premium, systematic risk of beta, and then the input to the discounted cash flow model which is growth rates. I will talk about capital structure and I've already seen some questions about that that I'll try to address. And lastly, I'll review some of my ROE recommendations and capital structure recommendations and how I arrived at those.
Q. **[149]** What is it that you mean by "key issues"? You have five key issues there, what are those generally?
R. Those are key issues that really determines what

cost of equity we come up with, and it's also issues that are somewhat controversial in this proceeding. Issues where we are all in agreement, I didn't want to do it specifically.

Q. **[150]** Okay. So, those five issues would be disagreement with who?

R. With Dr. Booth who is another witness in this proceeding.

Q. **[151]** Maybe we can move to the next slide on background and you can brief us on your... on your background and mandate.

R. So, my background is I have twenty-two (22) years of experience primarily in cost of capital and regulatory finance. I focus on cost of capital, regulatory accounting and utility mergers and acquisitions, that's the bulk of my work.

I have worked extensively in Canada, I have been a consulting to the British-Columbia Utilities Commission, I have served as an expert for the Ontario Energy Board and I have served as an expert for utilities in Alberta as well as an expert in pipeline arbitration. I have also done extensive consulting work for Canadian pipelines, electric utilities ans gas utilities in five different provinces. And lastly, I have cost of capital extensive experience in both Canada, the US, as well as outside like Mexico, Barbados, Australia and in Europe. So, that's...

Q. **[152]** What kind of... what kind of experience do you have outside of Canada, just briefly?

R. So, I have served as cost of capital in US cost of capital proceedings, in Mexico, cost of capital proceedings as well as in Barbados, Australia and Europe. I provided other experts reports and in some cases appeared at hearings.

Q. **[153]** Maybe you can go on with your mandate?

R. In terms of my mandate, I was asked to provide recommendation for the cost of equity and equity percentage for the regulated Quebec gas utilities such as Énergir and Gazifère until a new rate case, and in the case of Intragaz on for the next ten years. And jointly I'll refer to those as the Utilities, it's all the gas utilities here in Quebec. So those, that was my mandate.

And if you just go down to the information I relied upon. In terms of the information I relied upon, from the Utilities I have got a number of financial data and I used that primarily for my credit metric analysis, they also provided me with credit rating reports as well as a list of prior cost of capital proceedings here in Alberta (sic). And I looked extensively at data providers and I listed those here in my second bullet point. I don't think I need to mention all of them, but these are all well recognized data sources that I used to come up with my estimates.

Q. **[154]** If you'll just excuse me for a second. You said that you were provided by the Utilities with a list of prior cost of capital proceedings "here in Alberta", was that what you meant?

R. Here in Quebec. My apologies.

Q. **[155]** Go on, I'm sorry.

R. And I also looked at various public data that's simply available on the Internet, that includes documents from the Régie as well as from other regulators, the Bank of Canada, Federal Reserve and other public sources, also credit rating reports and articles in the news. And lastly, I would mention the testimony of Dr. Brown who assesses the risk of the Utilities relative to my US gas sample. So that was an input to my analysis.

So, if we could move down to my cost of capital recommendations. I just want to summarize before we get into all the details of how we got there. So, my summary is that: I recommend a benchmark return on equity of ten percent (10 %) and on forty-three percent (43 %) equity, common equity.

Q. **[156]** Now, Dr. Villadsen, if you allow me I see here on this slide that you have no preferred shares. Maybe, can you discuss that in a bit more details why you have no preferred shares while we know that Énergir presently has seven point five percent (7.5 %) of preferred shares?

R. So, on the account that you have seven point five percent (7.5 %) deemed preferred shares. They don’t have any actual preferred shares. So, it’s a little off to have preferred shares in a capital structure when they are no preferred shares and cannot be any preferred shares because they have only... they don’t have to issue equity of preferred shares, on their own.

So, a question we ask also, so I ask myself is, what would be reasonable for these Utilities assuming that we start from scratch. So, we need to have a capital structure that is reasonable. And we also need to have a capital of structure that leads to a reasonable fair returned in combination with the allowed return on equity.

I heard yesterday some discussions of an optimal capital structure. In my opinion, there is no such things. There's good capital structure and there's bad capital structure. And I'll explain what I mean by that. A good capital structure is one that allowed you to have solid credit metrics and allowed you to take advantage of the tax benefits of that. That put you somewhere in the middle of the range, you can't have a hundred percent (100 %) equity. You can't have a hundred percent (100 %) debt. So you need to put it the middle.

Within that range you can sort of chose between debt equity and preferred. If you have less equity, your custom equity goes up, and your request of debt will also go up. For further equity, addressing that specifically, is in between debt and equity. That's how credit rating agencies use it, that's how equity analysis use it. So, and the cost of it, is in between the cost of debt and the cost of common equity.

So, when we are thinking of it is that preferred shares that Énergir currently is deemed to have, was allocated to common equity and to debt, sixty percent (60 %) to common equity, forty percent (40 %) to debt. It's a little bit less to common equity then what PBIS, which is a credit rating agency would have done, that was to be conservative. It’s also taking into a account what I’ll get into later which is that... at forty-three percent (43 %) equity Énergir will be able to meet a ten percent (10 %) return on equity. And at the end will be able to meet his credit metrics. So that was two considerations.

And, I also list on this page, that... because doctor Brown says the business risk of Intragaz and Énergir is similar, the common equity percentage is the same. And then I recommend a ten percent (10 %) base ROE plus fifty percent (50 %) adder for keeping it fix for ten (10) years. And lastly, Gazifère is riskier than the other utilities, that is also the recommendation of doctor Brown. It’s also consistent with what Énergir currently (inaudible) Gazifère therefore we need to increase it’s common equity percentages. So, that’s where we are currently sitting. I would say here, and I heard some questions from the Tribunal yesterday in this regard is, couldn’t we just increase the equity percentage, for example, for Intragaz who currently has more equity and then reduce the return on equity. And that’s certainly a possibility. You could, instead of having this ten / forty-three (10/43), you could have forty-six (46) and a slightly lower cost of equity. That's an option. Though forty-three (43 %) and forty-six percent (46 %) equity would be in the ways of what I consider reasonable. Does that address your question?

Q. **[157]** It does.

R. Thank you.

Q. **[158]** So. Next slide. On the Key Concepts. Maybe we can do a few of those key concepts and, and then when it's time to break... I don't know what the Régie wants in terms of the lunch break or would you prefer to go to noon? Let's go on and we will do the first key concepts and then will see where that take us.

R. So I want to make sure we all understand the key concepts before we get into the nitty gritty details of what we're actually doing in estimating the cost of capital.

I think all those in finance and economists will agree a key concept in financial economics is the risk-return tradeoff. The higher the risk of an investment the higher the return needs to be. And that's what I've depicted in this chart we see right here.

Importantly the chart start at that dotted line where you have what I call the risk-free rate, that the return on a risk-free asset, you cannot have a lower return then that on any kind of an investment. And then it moves upwards so that the higher the risk is the higher the return. That’s a key concept.

Two other key concepts that will become important is one the cost of capital. What do we mean when we say that? It’s the expected return on alternative investment of equivalent risk. And I would underline two things here. One it’s an expected return, not the current return, not an historical return but the expected return. And the other key concept is equivalent risk, that comes from the fair return standard: we need to provide investors with the same return as they can get elsewhere. And elsewhere is the marketplace.

And lastly, and that’s just a definition, let’s look at what is systematic or non-diversifiable risk. It’s the risk that investors cannot avoid by holding a diversified portfolio of assets. That’s distinct from business risk that doctor Brown was talking about earlier in that it’s the risk he meet in the marketplace it's not related to risk that can be mitigated in other manners, and let me just say the word it's what we (inaudible) sampling model.

So that's the key concepts we need to know. If we can go the next slide.

So how do we go actually about determining the cost of equity. One thing that's really important to know is that we cannot observe the cost of equity. It represents the way the return in capital market, that's the key concept, we need to look at publicly traded issues to determine anything about the cost of equity. So that's where we get back to what doctor Brown was talking about earlier, we cannot look at subsidiaries of companies if we want to estimate the cost of equity, we need to look at traded entities, they have to have publicly traded securities.

Q. **[159]** May I ask you, doctor Villadsen, to speak maybe a little slower because we're advised that it may be difficult for the translation. So I'm sorry about that but go on on you key concept, just a little bit slower.

R. I'll do my very best. So that's why we look to publicly traded entities. And also what we often do is we select a sample of publicly traded entities, we select those so they have comparable business risk, to the degree we can. And then we apply financial model to determine what is the cost of equity for these comparable business risk entities. And we do so using various models for estimating the cost of equity.

And a couple of models are commonly preferred, so most analysts would look to the capital asset pricing model or the CAPM, and another commonly use model is the discounted cash flow model or the DCF model. In my opinion it’s important to look at least at a couple of models because all models have pros and cons and which one dominate at anyone given time is a question mark of what the data shows you and what economic environment it is. So multiple models are important.

Moving on to the models, let’s go to the next slide. The first model the capital asset pricing model it’s based on a financial economics, and I won’t go through the criteria because I think everyone would be bored by then, but what it essentially says is: the cost of equity is equal to a risk-free rate plus an amount. That was what we talked about before in the risk-return tradeoff, we need to add to that risk. We add a factor that determines a systematic risk, we call it Beta, and then we multiplied that with the market risk premium. And I've illustrated that over on the chart where the CAPM line shows how it relates. The Beta is on the X axis and the cost of equity is on the y axis. The Beta is the slope of this line and what you can see is the market was premium at 1.0 is simply the rate over and above the risk-free rate that investors require to hold equity instead of a risk-free asset. The cost of equity is always higher than the risk-free rate.

So, the higher, all else equal, the higher the risk-free rate, the higher the cost of equity. All else equal the larger the systematic risk for the beta, the higher the cost of equity, and all else equal the higher the market risk premium, the larger the cost of equity. Importantly... especially the risk-free rate and the market risk premium interact, so you can't just say if you increase one by one, you would have the similar increase in your cost of equity, that would not be a true statement.

Q. **[160]** What relationship is there in your opinion, between the risk-free rate and the market risk premium?

R. In general, when, especially if we look at a forward looking market risk premium, as the risk-free rate increases you will generally see the market risk premium decline, because the market risk premium is the rate investors require to hold equity over and above to risk-free rate. So, you subtract the risk-free rate from the market return essentially to get the market risk premium. So, those two would generally move in a slightly opposite direction. Not one to one...

Q. **[161]** I don't know if I'm the only one, but I lost your sound completely?

Me PATRICK OUELLET :

Est-ce que vous m'entendez... est-ce que vous entendez Dr. Villadsen, les autres?

LE PRÉSIDENT :

Oui, très bien.

Me PATRICK OUELLET :

O.K. O.K. Je m'excuse, moi, j'ai... mon son a coupé, mais c'est revenu, là.

So, I'm sorry, Dr. Villadsen. If you could go back, because I did not hear your answer the relationship... I got the last “not one to one”,

but I didn't get what you said before.
R. So, in general what happens is if the risk-free rate increases there will be a thick line in the market risk premium, not... it's not as if the... the risk-free rate increases by one percent (1%), say the market risk premium will not decline by one percent (1%), but it will decline on average.
Q. **[162]** Will it decline more or less than one percent (1%) if it's not one percent (1%)?
R. Less than one percent (1%).
Q. **[163]** So, what would be the total effect on the cost of equity in that theoretical example?
R. I can't give you a precise answer here, simply because there is no such answer it depends on the time.
Q. **[164]** Okay.
R. But historically, you're probably seeing an increase in the cost of equity of point four to point 6 (0.4 to 0.6) of what is the increase in the market... in the risk-free rate, so it's not a full increase, but a part of that increase. That's historically and it... but it all depends on where you are on the line. Let's go to the next slide.
The other key concept here is the discounted cash flow model and what is that. In the

discounted cash flow model, the current price of a stock is the present value of the expected stream of cash flows that accrue to stockholders, discounted at the cost of equity.

Again, a couple of things are important, it's the expected stream of cash flows, not the expected stream of dividends, which is often confused, it's the cash flows.

Q. **[165]** So, aside from dividends, what else can there be that's going to count in the cash flows?

R. That could be, for example, shares buyback would distribute cash to shareholders, so that would be another way of doing it. There could be a buy-out or anything else. If we assume that dividends are the only distribution to shareholders, and if we assume that dividends are the only distribution to shareholders and if we assume that dividends grow at a constant rate, then the cost of equity can be determined by this formula that we have in the middle. The cost of equity is simply the expected dividend in the next period over today's stock price, that's the dividend yield plus the growth rate in dividends.

If we don't have that simple relationship and, for example, the growth varies over time, you will have to built a more sophisticated model to determine what that cost of equity is. It can still be done.

Q. **[166]** How would you go about doing that, briefly?

R. I would build a (inaudible) model out the first several years. For example, I have five years of growing at a company specific growth rate, then I have five years maybe of growing at a rate that converges towards the general DDP growth rate, and then after that, I assume it goes at the DDP growth rate, that's how I model it. And then, you use a very (inaudible) mechanism to figure out what that means to cost of equity.

Q. **[167]** Thank you.

R. Last key concept : capital structure. We've heard a lot about that already.

Q. **[168]** So, that would be the next slide.

R. Next slide, please. So, I will start at my illustration on the right hand side here, which is taken from a textbook in corporate finance, textbook by Brealey, Meyers and Allen. And I think that will help clarify a few things for... what this show in the middle is that expected return on assets -- and notice that I say assets, not equity -- that’s the expected return on on the company's total assets and they show that as being constant over time. It's a simplification, but it's constant in a reasonable range. And what they also show at the top line, the one that's going up above the blue line, is that the expected return on equity increases as you increase the level of debt to equity in your capital structure. And then at the bottom they show that the cost of that also increases as you increase that debt to equity ratio in your capital structure. That's what we talked about earlier on, that there is no such thing as optimal. You can't say that forty-three point two three four (43.234) is the optimal percentage of equity. That's a range of optimal equity structure. So, that's what this chart is illustrating.

What that means for the cost of capital or cost of equity determination is that one, if we are looking at two otherwise identical firms and you're looking at one has a high level of equity, one has a low level of equity, the one with the high level of equity needs a lower return on equity or a lower cost of capital, cost of equity, than the one with high level of equity... sorry, low level of equity, my apologies.

We talked about the level of debt as being the financial risk because it puts risk on equity holders, because remember that investors have a higher claim on a company's cash flows than do equity holders and should things go really wrong and we have a default, all the assets go first to debt holders before equity holders get anything. And also a higher level of debt simply reduces the amount of cash flows available to equity holders.

It's also that level of capital structure (inaudible) of debt and equity is important also for credit metrics analysis, particularly most of the credit rating agencies have targets for what you should be having in terms of the percentage of equity or in terms of how well can you cover the interests you have to pay, etc.

How do we look to this in terms of adjusting for one company has a low percentage of equity, one that has a high, well we look to two methodologies used to account for them. The one I focus on is what I call the Hamada technique in the capital asset pricing model. What it does here is that first you take the beta you've estimated for the systematic risk estimated for anyone company at a given capital structure. You determine what the beta would be if you had a hundred percent (100%)

equity, that is you unlever your beta, so you get your asset beta to a hundred percent (100%) equity beta. Then you will lever it to, in this case forty-seven -- forty-three -- (43%) equity that I recommend for the Utilities, and that's the beta that's relevant to apply for the Utilities if they have forty-three percent (43%) equity.

You could also use the after-tax weighted average cost of capital and hold it constant as its shown in the chart here. I calculate all of these results, but I also make sure that all of my recommendations are fully supported by the Hamada technique, and the reason for that is that the Régie in two thousand and nine-two thousand and ten (2009-2010) decided they didn't want to rely on the after-tax weighted average cost of capital methodology, so for that reason I don't want to rely on it either, and the Régie has, to my knowledge, not previously actually look into the Hamada methodology. That concludes my slide 10.

So, this is just a summary of what I do, I use...

Q. **[169]** So, maybe we can do the summary and then perhaps it would be a good time for a break.
R. So, the summary of what...

LE PRÉSIDENT :

Ce serait très bien.

Me PATRICK OUELLET :

I'm sorry? Je m'excuse, Monsieur le président.

LE PRÉSIDENT :

Oui. Je trouve que vous faites une bonne proposition.

Me PATRICK OUELLET :

Parfait. Merci.

Q. **[170]** So, go on, Dr. Villadsen.

R. So, I will be brief, I have talked about this before. So, in terms of what I actually do, I select a sample, a Canadian utilities sample and a US gas LDC sample -- Dr. Brown was asked about those -- and I also support it by US water utilities sample. For each of these companies in those samples, I implement a capital asset pricing model, I also implement an empirical capital asset pricing model, and I'll talk about why I don't emphasize that so much here later. I also implement two versions of the discounted cash flow model, a single stage and multi-stage plus the one Mr. Ouellet asked me to describe. And then I look to how do we take the leverage of the companies in the sample into account in relation to my recommendation for the Utilities.

I also have to determine what exactly the capital structure I should recommend for these Utilities. I go about that by looking at their current capital structure and a series of different allowed returns to determine at what level would they be able to meet their credit metrics.

Once we know what is the level they need to meet their credit metrics and what we can look at, we can estimate... go back and estimate the cost of equity at that level. So, that's my approach to looking at this approach, and that's what my recommendations I looked at earlier were based on. I will get into more details and especially where Dr. Booth and I disagree as we get into the issues as I call them up, the five issues.

Q. **[171]** Okay. So, I... when we resume after lunch, we would be at slide number 12 of your presentation.

R. Thank you.

LE PRÉSIDENT :

Merci. Alors, on se revoit à treize heures (13 h).

Me PATRICK OUELLET :

Parfait merci beaucoup.

LE PRÉSIDENT :

Merci.

SUSPENSION DE L'AUDIENCE

____

REPRISE DE L'AUDIENCE

LE PRÉSIDENT :

Rebonjour.

Me PATRICK OUELLET :

Rebonjour. Je vais juste ajuster mon écran. O.K.

Q. **[172]** Dr. Villadsen, are you ready?

R. I'm ready.

Q. **[173]** Okay.

R. So, let's go to the next page.

Q. **[174]** I think we were on the slide number 12 now, before we left off.

R. Yes. So, before we get into all of the details of how we estimate the cost of equity, I just wanted to look at some key economic and financial risks, and what is on this slide is all taken from the Bank of Canada June one (1) press release. So, that's new relative to my filed evidence, and that's also why you'll see later I actually updated my evidence to take... to check that my recommendation was still valid.

Key things that the Bank of Canada point out is that we have a rising inflation, it's now quite high, six point eight (6.8) in April. We have a slowing global economy in part due to that growing inflation, it's not just Canada it's also the US, and Europe has high inflation. And since my evidence was filed we have seen an invasion of Russia in Ukraine, and we have significant supply chain disruption around much of the world, and all of that has lead to some significant increases and decreases in stock market in the recent years. And as the Bank of Canada say :

> With the economy in excess demand, and inflation persisting well above target, we expect that interest rate will need to move up in the near future.

So, that's an important consideration to take into account.

Q. **[175]** Where did you take that quote from?

R. That comes from the Bank of Canada, it's the most recent policy statement from the Bank of Canada.

Q. **[176]** Okay.

R. June one (1), twenty twenty-two (2022). Next slide, please, and you can actually move two slides ahead to slide number 14.

Q. **[177]** Okay. So, we're getting into what we've called the “key issues” or the main differences between yourself and Dr. Booth. Perhaps you want to name them, and then we will go with the first one.

R. Yes. The key differences, I took five of them and the fist three : the interest rate, market risk premium and the systematic risk or Beta, are all inputs to the capital asset pricing model. The growth rate, which is number 4, is a key input to a discounted cash flow model, and then last there's the capital structure which affect both the credit ratings of companies and it also affects what level of the cost of equity we should actually assign to the utilities.

With that introduction, let's go to the first key issue : interest rate. And here on slide 15, over on the right hand side, I depict the Canadian thirty (30) year government bond yields from two thousand (2000) until... it's until May of this year, and then also where the dotted line is into the right of that is a forecast. There's also a little dot there that's indicated by a yellow arrow, that's where we were when I filed my evidence. It is clear from the chart we've been going up since. So, and the fork is expected to go up further according to the forecast.

It has become common to use a yield on a long-term government bond for the purpose of estimating the cost of capital for utilities. And I prefer to use the forecast, the best possible forecast, for the period where the rate or the cost of equity that we determined here will be in effect. Dr. Booth, in turn, uses what can best be referred to as a normalized risk-free rate.

So, we have seen an increase, so clearly what I would use today is higher than what I would have use when I filed my evidence, Dr. Booth is just somewhere in between.

And I want to really emphasize that it is important to recognize that interaction between interest rates and the market risk premium for two reasons. One, as we talked about before, they move somewhat in conjunction, and second, you can not go out and say : "I want to use the yield on a thirty (30) year bond", and then use a market risk premium that's all over something different, they have to match, that's important. So, the second issue...

Q. **[178]** Just before we go to the second issue, what does Dr. Booth do when you said they have to match? Does he match them?

R. It's not clear because I'm not quite clear about how Dr. Booth comes up with his market risk premium.

Q. **[179]** Why do you say that?

R. I can explain that if you go to the next page.

Q. **[180]** Okay.

R. I will go down into that. So, I will explain as we get into the market risk premium why it's not clear. It's also a key input to the capital asset pricing model and it's what you would get over the risk-free rate in the stock market (sound cut), you can actually look to the TSX index. I looked to the past and to the future...

LE STÉNOGRAPHE :

Excusez-moi, excusez-moi. Stop, please, votre image a arrêté une petite seconde, il faudrait répéter la dernière phrase.

Me PATRICK OUELLET :

We also had an issue with the sound. Maybe we can go back, Dr. Villadsen, and start over this slide number 16.

R. Sure. Can you hear me now?

Q. **[181]** Yes.

R. So. The Market Risk Premium is the return that investors require over and above the Risk-free Rate. So if we use a (inaudible) is over the thirty years risk-free rate. In Canada, we use to look to a TSX for that, in the US we would look to the S&P 500 or some of big market index. I look to the past and to the future. So I look to historical what has historically been earn over and above the thirty (30) years rate. And I calculated the long-term average.

I also look to the future and that I've look to what does recognized financial data provider forecast what the market will be. If you look back, you should look back a long period of time because textbooks will recommend that. It's a better representation of all kinds of conditions. In turn, doctor Booth looks to historical averages. He also looks to surveys and then, I'm not clear exactly how he mixes those up to come up with his results. We might be able to see that data, if you go to the next stage, next page, page 17.

So what I listed on the top here, was... there was sources I got when I did my original analysis. I got a historical market with premium of 5.68 at the date of filing. It has since increased to 5.91 because twenty twenty-one (2021) data became available. And the market was premium as determined by Bloomerg's forecast as declined for 8.1 as of the date of filing to 5.9 as of May twenty twenty-two (2022). So, we've seen a movement in both directions.

I'm not clear how doctor Booth arrives at his numbers. He looks to the history only because his surveys ask people: "What did you use?". Not: "What will you use?". But "what did you use?". And then he says that's an average of 5.5 to 6 or a midpoint of 5.75. Which is below that historical average I find as of May.

He does not consider anything about the forward looking MRP's. And, he does not have a calculation that shows how he comes up with his 5.5 to 6.0. That's why I say: I don't know exactly where the number came from.

Slide 18. And we get to the third key issue, again an input to the capital asset pricing model. The beta. What I depicted over on the right hand side is how do we determine a beta. So each of these little dots here, indicate where under X axis have a market return, and then the Y axis I have a company specific return in the market. And then, I find what is the best fitting line in a statistical sense. In other words, where are the variations around the line, the smallest. That's my regression. And that's slope is my beta. And that capture how, how does that market... how does the individual companies risk varies with that of the market. That what it captures.

I think once you'd look to three to five years of preferably weekly data. Too short a period you don't have enough data to get a statistically high quality estimate. Too long a period you failed to recognize changes in the industry. And that's an important issue.

I also use that Blume adjustment which importantly moves the beta towards a value that statistically provide a better forecasted beta. It's not a matter of moving towards one which is what many people say. It's a matter of providing the best possible statistical forecast.

Q. **[182]** What do you mean but... you just said it's not a matter of bringing it close to one that's what people say. What are you, what are you referring to?

R. So. For example doctor Booth will say I move it towards one. That's not my intention. My intention is to provide the best possible forecast of the beta.

Slide 19. And, in the last cross-examination we heard a lot about samples. So let's look at the samples. I selected three samples of which I'm showing two, here. And that those were the two I relied upon. The Canadian Regulated Utilities and US Natural Gas Distribution Utilities. I also looked to US Water Utilities as a check on the other two samples.

So how did I go about coming up with these samples. I looked to what are the companies that are listed as either Canadian Utilities, they have to be listed on the stock market for me to use them, or what is listed as US Natural Gas utilities.

Q. **[183]** Why do you say they have to be listed on the stock market for you to use them?

R. Because before I said, I needed to calculate my beta which is the market return versus the return in the market on an individual company. So I have to have a company that is publicly trade. So I talked to all the companies that will classified as such, and then I started looking at what to these companies do. Clearly they need to have enough data that I can estimate my results. They need to be, at least, investment grade otherwise there's problematic issues. If I wanna do the discounted cash flow model they need to pay dividends, and then I eliminate any company that is actively involved in a very large merger position, because that impacts their stock prices.

And once I've done that, I looked to what do these companies do. And for me the key thing here is: regulated assets. You need to have sufficient amount of regulated assets that you actually can qualifying as a regulated entity. And as a sample, because that's what we enter into the rate base and earn a return on. In turn like revenues, for example, vary widely from year to year, that's good measure, so I look to assets. And what percentage is regulated? I'm not so concern about whether you are, engage in say providing gas distribution or electric distribution. It's more important that you are highly regulated by the provincial or state regulator.

So I looked at that for all of those companies, and I list over there on the white hand side, you have the Canadian Sample and not only did I provide, as it is in my testimony and what we look at in prior testimony that (inaudible), higher than eighty (80) or not but also the actual percentage. So, you can see what the percentage of regulated assets is.

And I will also say that I have a couple of dots over there to the left of the tables. Those are companies that since the filing of my testimony, have engaged in substantial merges or acquisitions. And therefore I would not include them today.

One thing to know here, is, all the gas LCD sample, which we've heard a number of criticism off and we might talk more about that later but, these companies all have a quite high regulated asset mix. The only company, in my US gas sample, that does not have more than 80 % regulated assets is New Jersey Resources. So, yes it's true that some of these companies certainly have water distribution, electric distribution, some even have pipeline segments. But the pipeline segments are by in large gas pipelines that served their own customers. And I treated them similar to other assets.

So that's what the companies look like. For each of these, I estimate the beta and then I look to what would that result is in terms of the capital asset pricing model cost of capital.

Next slide please. Here what this shows is on the right hand side, I have three year weekly betas. The green line is the Canadian sample, the blue line is the US gas sample. And what we can see is that both have moved up in recent years and what is also important to know this year, there was a period of time when the... especially the US gas LCD sample actually moved down and then it came back up. And I think here, I use three year weekly beta. I think it's important to use a long enough period that you can get statistically valid results, but also as doctor Booth says, betas changed through time as the risk of the underlying asset or portfolio changes. Therefore, you also need to make sure that it's current enough that you can take that into account. That's especially important in something like the gas industry that's currently changes.

I want to address a couple of issues with doctor Booth's testimony. Doctor Booth chooses a beta of 0.50-0.55. The average beta he estimates, he himself estimates in his appendix for the Canadian, for his Canadian sample is 0.74. So that's an...

Q. **[184]** Do you understand why that's not the figure he uses?

R. I can't speak for doctor Booth. In terms of...

should we use adjusted versus unadjusted betas, as I said before, it's not... it's an adjustment that's made to get a better reflexion of the future beta. And I also wanna mention clearly that, if we look at today and my average beta is about .85 it really doesn't matter much whether you adjust it or not. That's .05 change difference. Whether if you did it at the average of say doctor Booth sample it does matter. It does not matter with the numbers I use. Which are today's numbers.

Next slide please. So, this is just a summary of our differences. And I don't think I wanna spend a whole lot of time on that. I use three and five... I present three and five year beta. My results use three year beta that's not much of a difference. Doctor Booth looks back up to twenty (20) years. He does provide estimates with I believe a five year monthly betas, they are higher than what he uses. And the last I want to say is that I have and many others have move to use higher frequency beta that we would have done ten (10) years ago. Ten (10) years ago, entity such as Value Line would use monthly data to estimate their beta. Today they use weekly. So does someone like S&P Global Intelligence. Again they use weekly today. Bloomberg I believe has always used weekly betas. And that's why I believe today it's a profit to use weekly betas.

Q. **[185]** Can you briefly explain the difference. If you use weekly versus monthly? What is it gonna change?

R. So that's two things that really change. One is that if you use monthly you have to go back further to get enough data. So if you use a three year of monthly, data you only have 36 observations. Where if you use three years of weekly you have hundred and fifty six (156) observations. That's a lot more and give you better statistical results.

Second, if you go back, and if you go back that far, you don't capture today's environment. Second, depending on circumstances, you might failed to capture interaction in between so, most stocks will change on a daily basis. So if you only measure once a month, you're getting very (inaudible) measurement in changes of that. Okay.

Slide 22. Next issue. Now we're moving to a discounted cash flow which is the other model. And here we are looking at the growth rate to... which is use in the controversial part of that. It would... what percentage expected compound annual growth in a company’s earnings over the next three to five years. I use Consensus forecast that is forecast that are aggregated by data providers as many equity analysis as they can find who provide a forecast. In the multi-stage DCF that growth forecast is combined with a forecast on the long-term nominal GDP growth, and use to be tapered up or down over a period of time. I use five years for that table.

Next slide please. And on slide 23, I’m trying to illustrate the key differences between doctor Booth and myself. Doctor Booth criticize analysts’ forecasted growth as being upward biassed and he also criticize the use of earnings growth.

I have a problem with Dr. Booth criticism and my problem is really that Dr. Booth relies on generic research on wether or not analyst upward bias growth rate for say a period X.

That’s not what we’re looking at. The relevant question is wether or not the growth rate for the utilities were using in the sample is bias.

That is utilities, highly regulated utilities. Such utilities are generally more stable, have longer histories, and more assets to revenues and therefore their growth rates according to research is much more reliable. I would not necessarily disagree that a tech company such as say Google, or you can name it, have high unreliable growth rate.

The other thing I would be concern about is when he looks to industry data, he looks only up to two thousand fifteen to two thousand eighteen not contemporaneous data. That’s an initiative along the way to try to eliminate that growth bias.

The last thing I’m concern about is looking to GDP growth for a discounted cash flow model is problematic. It’s possible that utilities growth converges to that, but clearly we have better data in the near term. Clearly companies such as utilities or companies in my samples, both equity analysts and the utilities themselves have ideas about where they are going in the next two to five years. So we should never use just annual growth rate for the near term.

Now I would like to address the issue of wether we should use earnings growth. Ultimately all earnings accrue to shareholders, that’s the first thing to note. So they will get them, it’s a question of at what time. And second if you want to look only to cash flow that accrue to dividends in anyone given period you need to look at all cash flows that accrue to shareholders, not just dividends but also, for example, share buybacks or any other cash that might accrue, share buybacks are the most common. So those are my comments on the DCF model.

Next topic and that will be my last topic on this issue: capital structure. The first thing I put on this slide is a cite from a textbook, the Berk and DeMarzo from two thousand thirteen (2013) which I also cite in my evidence.

And what is important here in the blue box:

> The levered equity return equals the unlevered equity return, plus an extra "kick" due to leverage.

What to they mean by that? They mean the more debt you have the higher the cost of equity. So that's a fundamental issue in corporate finance. And important here when we go out and measure, for example, I've said it a couple of times, when we go out and measure beta or any other return data we go to the market. Therefore we measure everything in the marketplace using market data, so as well the capital structure is also based on the market. That's important.

And as I told you earlier on in this presentation there's multiple ways we can do that. Formally tracking a number out of this results, I chose to focus on the Hamada approach, that's the key methodology I used and I made sure all my results are supported by that. We can also use the after-tax weighted average cost of capital, I chose not to rely on that because as we have seen in the past you did not appreciated that method.

Q. **[186]** Can you maybe give a little more details on the Hamada approach?

R. Sure. So the Hamada approach, I'll use two versions of it, but basically what it does, it says: Okay, I've estimated a beta in the market, and say the company in the market has sixty percent (60%) equity, so the first thing I do, I go out and figure out what should that beta be if I had a hundred percent (100%) equity. That's my unlevered beta. Having done that I now go back and say well my target utilities, say, in this case Énergir, Gazifère and Intragaz, I recommend a benchmark of forty-three percent (43%) so what would that beta be at forty-three percent (43%). I relever that beta a forty-three percent (43%) equity.

In doing so, I take into account, in one of my method, what is the impact of taxes. Dollar metrics does not. But you can do, a (inaudible) taxes. So that’s basically what it does to come up with what should you be doing.

The last thing I wanted to address in capital structure, and that’s on page 25, is one of the data request from doctor Booth to myself, looked at Market to Book ratio. And, basically the suggestion was that, if the market ratio to book ratio is about one, so if the market value of equity is higher than the book value of equity, you’re earning above your allowed return. What the return should be.

That’s a very simplified and misconstrued conception. For several reasons. When we look at market values, we look at the value of all the assets of the traded company. It could be regulated entities, unregulated entities, growth opportunities, etc. All of these things would be included. So it’s important, it’s not... even if you have a company that’s a hundred percent (100 %) regulated, the market value does not just reflect what you currently have as your assets. It also reflects growth opportunities. So, you can’t say that that’s should be one. It does not mean that a utility is at risk of having it’s capital structure change or having it’s stock price drop or having it’s allowed return cut. It’s just a measure in the marketplace of what investors believe they will pay for that asset.

Slide 26, please. The last thing I wanna say about capital structure is, in doctor Booth’s testimony, he critiques heavily the reliance on the ATWACC method, but barely mentions the Hamada approach. And the other thing that is important to note, the Régie has not previously addressed the Hamada approach, so I think it’s... does everybody also got a feedback? O.K.

So the Régie has not previously addressed the Hamada approach, so therefore I would present that to the Régie in this case. And I wanna make sure that people understands, and especially the Régie understands, that it does consider the impact of taxes and that my approach is completely supported by the Hamada approach. The ATWACC numbers that I reported in my evidence, are slightly higher, I ignored there was for the purpose of my recommendation.

Q. **[187]** So you did not use the ATWACC method for the capital structure?

R. I used it in my DCF methodology, but I would think what I recommend has to be supported by the Hamada approach or I cannot recommend that number.

Q. **[188]** Okay.

R. Next slide please. Just to summarize my recommendations. And I did that upfront also. The benchmark ROE is ten percent (10 %) on forty-three percent (43 %) equity. So fifty-seven percent (57 %) debt. And then, and that's a reset basically as we talked about earlier on. And then we recommend that Gazifère is getting a higher equity percentage because doctor Brown, and as the Régie has previously recognized his riskier, and for Intragaz, which is requesting a ten (10) year fixed rate, we recommend a fifty (50) bases points adder to that return on equity. It's also indicate a little bit later, toward the end of my presentation, I'll talk about how I looked at credit metrics and how also, then discuss, why these numbers make sense. I can also say for example that forty-three (43 %) equity is the same as taking Énergir currently thirty-eight point five (38.5 %) equity and sixty percent (60 %) percent of its current seven point five (7.5 %) preferred and allocating that to equity and then the remainder to debt. So we just removing the preferred.

Last slide in this section, on slide 28. I don’t wanna go into details on doctor Booth’s recommendations. I obviously disagree because we have two very different numbers. But, what I would say is, it’s not based on, I don’t know where all of his numbers come from. It’s not based on utilities that face similar business risk, he does not take a sample and estimate a number. He does not consider the financial risk. It’s also true that doctor Booth relies on beta predominantly of January twenty twenty-two (2022) and since then obviously economic and financial conditions have significantly changed.

I also would take exception to ongoing any kind of an ROE decision to a decision made in an another jurisdiction pertaining to a different utility. I don’t think that’s a way of setting ROEs. So the last...

Q. **[189]** Why, why do you say it’s not, you don’t think it’s a way of setting ROE to look at a decision in New-Brunswick?

R. Because if every regulator went out and looked at all the other decisions and set the ROE at the same it would be circular. We would never move anywhere.

What I believe any regulator and the Régie and any other regulators should do, it’s to look at the evidence in front of them, take the best possible evidence and come up with their decision. That’s what I believe every regulator should be doing. And that of course takes into account today’s conditions not what the conditions might had been in New Brunswick whenever that decision came out. And also takes into account whatever the specific circumstances are in Québec.

So the last thing I wanna do here on doctor Booth’s estimates, it’s to look at what happens to his estimates if we take his beta and just do very simple modifications to them.

Q. **[190]** Maybe we, before we, we go there. I don’t think you covered the last part of that slide on page 28. When you say “doctor Booth ignores his own data.” What do you mean by that?

R. I mean that doctor Booth estimates a beta for his Canadian sample to be 0.74 but he uses an average beta of 0.5 to 0.55. I don’t know where that number come from. Doctor Booth says his MRP estimate is 0.5 to 0.60 and, I again don’t really know where that number come from. He doesn’t have a specific source. And then he has this bond buying adjustment that I am not really sure of where it comes from either. He has a number of things where there's not one specific source where it comes from. Therefore it is not clear to me how he comes up with his estimate.

And I think we could to slide 29. And all I did on this slide is to take the two... all of the next slides have the same format. They have doctor Booth's testimony page 85, it has two left columns, the low and the high. So it's all doctor Booth's risk-free rates, his adjustment for Bond Buying and then, the 0.5 to 0.55 is his beta, his market risk premium and then his flotation costs adjustment. And for simplicity, in all of the following slides, I just took the average of his market risk premium, to not have two columns. And then, all I'm working with here is the beta.

Assume doctor Booth had used his estimated Canadian sample beta 0.74. What would he get? 8.56. It increases his results, his recommendation for beta from 7.5 to 8.5 or 8.6. So that's simple change would change his estimate dramatically.

Next slide. Assume the Blume adjusted that beta estimate doctor Booth comes up with, so that we take into account that a Blume's adjustment provides a better prediction. That gives us a beta of 0.83. And the estimate becomes 9.05. So, again, that will move it up a little bit. Let’s look at slide, next slide, slide 31.

Now, let's take Booth's beta of the point seventy-four (0.74) and do the Hamada adjustment, unlever it and then we relever, so it becomes consistent with a forty-three percent (43%) equity, and it becomes point eight five (0.85) and his result is nine point one seven (9.17). So, we can see that it's all moving his numbers up in something that's over nine, pretty much.

The last slide I have on this is on slide 32, where I looked at Booth's US sample beta and then I did a Blume adjustment to that beta to see what would that result in. His beta becomes point nine (0.9), and now his result is nine point five (9.5). So, even these small changes to his beta estimate result in estimates that are quite a bit higher, so that's where I really have the main problem with Dr. Booth's estimates. He does not go out and take a sample and estimate his betas and then say : « This is what we should use. » So, that would be my recommendation that we should look at these issues.

The last segment of my presentation is really looking at the cost of equity estimates and recommendations, and also the capital structure recommendations. And I want to do that fairly quickly, so we don't have too much time, but I do want to show you what the results are and talk about a couple of things that has been criticized. And again I'll talk only about the Canadian sample and the US gas sample, not about the water sample.

The first here shows my numbers at the time of filing for the Canadian sample and the natural gas sample. I show first the capital asset pricing and ECAPM based numbers and then the DCF based results. And I will only focus on the Hamada adjustments because as I said, I don't want to look to the DCF models. And one of the things you can see regardless of where I look on this table, ten percent (10%) is in between these two ROEs with the higher and the lower numbers, that's what we found.

I also want to point to that Dr. Booth criticized the use of the empirical capital asset pricing model as being a way of upward adjusting the results. What we actually can see on this table here is it actually slightly downward adjust the results depending on where you look. So, it's about point one (0.1) lower than what you actually see, and that's the ones in the boxes, there are about point one (0.1) to a little bit more than that to point four (0.4) below the number that's right above this, which means it has a slight downward adjustment.

So, what does that mean? Well, my reasonable range before any kind of adjustment is nine and a quarter (9.25) to ten (10.00) and seven five (7.5). So, basically ten percent (10%) is right in the middle of there. That's my reasonable ranges. Dr. Brown says that Utilities in Quebec are slightly riskier than my US gas LDCs.

I have a little bit of an issue here in terms of actually placing them, because as you can see at the time of my estimation the capital asset pricing model was slightly lower for my Canadian sample than for my US sample, and so what I decided to do here is to actually not go to the upper half of the natural gas sample simply because I wanted to take into account that maybe there is something Canadian specific, so it became more like the middle. I wanted to make sure I was inside that ten point five (10.5) I see from the Canadian sample as my recommendation. So, ten percent (10%) is in all of these boxes, and they are therefore a reasonable recommendation.

In terms of equity, now this here was based on data as of last summer and we filed in November. So, a lot has happened in the world since then, it's a very different world. So, I thought it would be prudent to update the estimates, and especially to do so to make sure that I was not over estimating the cost of equity, that there was nothing that indicated that I should change my recommendation.

In terms of just what has happened is that forecasted interest rates as well as actual interest rates have increased by almost over one percent (1%), a hundred and ten (110) basis points. Inflation has risen dramatically and the historical market risk premium, one of my measures, have increased, whereas actually forward looking market risk premium has declined, which I'm not overly surprised about, I'm surprised about the level of the decline, but I did expect it to decline given interest rates were increasing, but it declined by more than that, so that's a little surprising. I also checked the betas to see that there's nothing there. The average of my samples remain the same even if I actually changed the samples slightly.

In terms of the discounted cash flow models, both weights for the Canadian utilities declined slightly, but they actually increased for the US gas LDC sample.

So overall, what actually happens here, and that's mostly driven by the fact that the growth rates moved the way they did and then the difference between their historical and their forecast MRP narrowed, so all my results narrowed the range, that's what happened essentially.

So, if can go to the next slide, I will show you the reasonable ranges. So, here what I have, over on the right hand side, is my reasonable ranges at forty-three percent (43%) equity as of filing, and on the left hand side is my model as of May thirty-first (31st), which is the most recent I could update to.

And what you can see is my ranges are much narrower than what they were. The upper end came down on average, the lower end came up, so I narrowed my range. And what I see here is that, well, ten percent (10%) is inside the range still of everything except for the Canadian sample CAPM/ECAPM. On the other hand, ten percent (10%) is below the DCF model for the Canadian sample now. So, based on this and based on Dr. Brown's testimony that the natural gas sample is the best comparable, ten percent (10%) remains a valid number, there's no reason to change our recommendation. So, it's still supported by numbers and I thought that was important given the changes in the economy.

The last thing I want to talk about is how did I come up with a forty-three percent (43%). And as I said early on, there's not one capital structure that's perfect, there's no optimal capital structure, there's reasonable capital structures. One of the things that put a limit on what is a reasonable capital structure is credit ratings. If you want the utilities to have a solid credit rating, say a A-rating, you need to be able to satisfy the benchmarks credit rating agencies have for such utilities.

And I listed here on this slide some of the key things DBRS, the Canadian credit rating agency, Moody's, a US credit rating agency, and S&P, again a US credit rating agency look through. So, they have on the left hand side here in my table is their benchmarks. It all consist of rating gigs. So far the earnings before interests and taxes coverage that is how many times can you cover interests. DBRS says it has to be between one point eight (1.8) and two point five (2.5).

Q. **[191]** You said two point five (2.5), I think I have two point eight (2.8) on the slide?

R. Two point eight (2.8), that should be two point eight (2.8). I can't read it it's too small.

And the other benchmark they use, especially Moody's like that, funds from operations, how many times can debt cover interests, it's a slightly different measure. You measure it because you actually add back depreciation to that, so its funds from operations measure, they say four point five to six (4.5 to 6), and all of the credit rating agencies look to funds from operations to debt, how many times can you actually have debt covering or how many... what is that in percentage of the debt is how they usually measure that. And as you can see, it's... they're not exactly the same, so DBRS is a little bit more lenient than the others, so that probably reflects the Canadian market.

And the other thing I looked at : what do actually A-rated Canadian and US utilities look like in terms of these measures, go out and look at what do Canadian utilities according to DBRS on average have according to these measures, and that's what I listed on the right hand side. That's another important consideration. How do we make these utilities look like the rest of the world.

And interestingly enough you will see that none of these had anything near the lower bond of these measures, there's nothing near there, and I also think it's important to not be at the very low end, but be somewhere in the middle of these ranges. So, that's what we're looking to, and how do we do that, well that's where the data I said I got from the utilities come into play. I got all this data on depreciation rates, what do you have in terms actually of the interest you are paying, and then we built a model where you have an hypothetical a thousand dollars (1 000$) rate base, and then we say : « Well, if you have 10% return on equity in each of the utility specific and better cost of debt, each of the utilities specific depreciation rates, each of the utilities construction work in progress in proportion to their asset base, and look at what would that actually mean for all of these ratio here. » And then we calculated it at various cost of equity, estimates and at various, and see what capital structure do we need to get something meaningful. And that's what is on the next page.

And here, on the last -- can I have the next page? And here what I'm showing, I'm showing it at a ten percent (10%) ROE. When we actually did that, we did for a whole slew of different reasons, and then looked at what capital structure we would look at. I also look, not at every capital structure, but start at thirty-five (35%) and move up to fifty-five (55), which is sort of what I say a reasonable range.

And then, what I highlighted in green is where do we get through something that's meaningful on all of these measures, and it turns out that Énergir is the easy utility on the block.

Q. **[192]** What do you mean by you say “what do we... what we see... where we get something meaningful”, what do you mean by “meaningful”?

R. Whether we get a EBIT coverage ratio, that's at ten percent (10%) ROE fulfills the credit rating agencies criteria for where it should be. Say... and you have a look at two point five (2.5). So, if EBIT should be at two point five (2.5), we can fulfill that at thirty-five percent (35%) equity and ten percent (10%) ROE for Énergir. We can not do that for Intragaz. We can again do that for Gazifère. That's what we see.

We do the same thing for the funds from operations to coverage ratio where we would get to a combination of equity percentage and ten percent (10%) ROE, that actually meets that definite benchmark. So, that's what I mean. So, you want a whole lot of numbers and simulate where would you get something that fulfills all of these three key credit metrics for the utilities, using their depreciation rates, their embedded cost of debt and their construction work in progress numbers.

So, if we look at that, Énergir gets all of the three metrics inside the range of what the credit rating agencies want at forty-two point five percent (42.5%) equity. So, forty-three percent (43%) as we found also by taking sixty percent (60%) of the preferred and allocating it to equity, and forty percent (40%) to debt, again we see the same number forty-three percent (43%) is a reasonable number to fulfill all of these.

Again, we could move them up to... if we, for example, would use the ROE, we would need to move the equity percentage up to meet those credit metrics. And we do the same exercise for Intragaz with their numbers, same exercise for Gazifère. And that's where it becomes a little bit more tricky because, for example, Intragaz never really gets to fifteen (15%) FFO to debt at this range here. However, because Dr. Brown testifies it has the same business risk, it seems reasonable to have them at the same capital structure.

And lastly we look at Gazifère, Gazifère is the riskiest of the three utilities according to doctor Brown and the Régie’s prior findings. We also see it here it needs to move quite up on the scale to actually meet its credit metrics. Especially on the FFO to debt.

So if we were to follow this scheme here we would give them fifty-two point five percent (52.5%) equity and that’s where some judgement came into play because I think fifty-two point five (52.5) might be find but it is a very big change in what we are currently seeing, so I thought it would be meaningful to move them higher that the other two utilities toward that range but in Canada fifty-two point five (52.5) would be high, it would not be in the US, so forty-five percent (45%) was a reasonable compromise between the forty-three percent (43%) for the other two utilities and the fifty-two point five (52.5) that is needed here.

So that's how I came up with these numbers and I will end my presentation here.

Q. **[193]** I have one more question at least for you Dr. Villadsen, if madame la greffière, can put on the screen exhibit B-0131, donc B-0131, so I understand you don't read French, which was not the case for Dr. Brown, so I'll maybe just translate what we see here. Can we maybe make it a little bit bigger. I'm suggesting that Dr. Villadsen cannot read it but I certainly cannot.

So to the left we have, the first column is the year, the second column is rate and at the top just behind Énergir you have authorized, autorisé, and realized, réalisé. So what this is, is what was Énergir authorized rate of return for a specific year versus what they achieved in term of return for that specific year. And you have the same information for Intragaz and Gazifère on this chart.

My question to you is: in your opinion what is the relevance of these returns for the purpose of this hearing?

R. For the purpose of determining the cost of equity, it's not relevant. For the reason that what investors care about, is what total return do they get in the market place. That's not represented by this realized accounting return, and remember this an accounting return, so they care about what do they actually get from both earnings in the company and for capital appreciation, all of that matters to investors. This here is historic accounting information and therefore not relevant for my purpose of determining the cost of equity.

Q. **[194]** When you say "accounting", accounting as oppose to what?

R. Accounting as oppose to market returns.

Q. **[195]** So, Mister President, if you could allow me just a few minutes to consult my colleagues to see if we have other questions for Dr. Villadsen?

LE PRÉSIDENT :

Oui, sans problème.

Me PATRICK OUELLET :

Merci.

PAUSE

Me PATRICK OUELLET :

Q. **[196]** I have one more question.

R. Yes.

Q. **[197]** Can you explain, please, to the Régie your understanding of the purpose and the significance of the standalone principle?

R. If I understand it, the standalone principle says that a regulated entity needs to be regulated on its own merits and it's irrelevant who owns it or what entity it's a part of. It's a principle that comes up, for example, Principles of Regulatory Economics of Alfred Kuhn's book, it dates back to the seventies. It's also a principle I understand that was here recognized in the past.

Q. **[198]** And do you agree with that principle and if so, why?

R. I agree with that principle because we are not trying to regulate any of the assets that are not subject to the Quebec regulation. We're only trying to regulate the gas distribution assets and the Intragaz storage facilities. We are not trying to regulate anything else that might be under the same umbrella.

Q. **[199]** Those were my questions. Alors je n'ai plus de questions pour le docteur Villadsen.

LE PRÉSIDENT :

Merci beaucoup alors on va passer au contre-interrogatoire des intervenants.

Me PAULE HAMELIN :

Si vous me permettez Monsieur le Président, peut-être juste quelques remarques introductives and I can do it in English for the purpose of doctor Villadsen.

First, we were provided of course with the presentation of doctor Villadsen just maybe, like thirty (30) minutes or one hour before she testified so, of course I haven't had the chance of reviewing it with my own expert (coupure Internet).

Le STÉNOGRAPHE :

Je présume que ça a coupé pour tout le monde?

Me PAULE HAMELIN :

Oui.

LE PRÉSIDENT :

Ça arrive quand ça dure trop longtemps, l'audience.

Me ÉRIC McDEVITT DAVID :

Effectivement, ça a été la même chose de notre côté. On est de retour.

Me PAULE HAMELIN :

So the comment I was making is that we received the presentation of doctor Villadsen just a few, if possible I would say an hour...

LE PRÉSIDENT :

... est-ce que vous m'entendez?

Me PAULE HAMELIN :

Oui, je vous entends.

LE PRÉSIDENT :

Ah. Parce qu'on a perdu l'image, on a un problème technique ici qu'on est en train de tenter de résoudre.

Me ÉRIC McDEVITT DAVID :

Si vous permettez, Maître Hamelin, c'est parce qu'il y a beaucoup de gens qui ne sont pas encore reconnectés.

Me PAULE HAMELIN :

Ah, je vais attendre.

Me ÉRIC McDEVITT DAVID :

Dont le docteur Booth. Ça fait que je suggère que vous patientez encore un peu.

LE PRÉSIDENT :

Bon. Alors, on vous voit maintenant. Est-ce qu'on a tout le monde en ligne?

Me PAULE HAMELIN :

Est-ce qu'on peut vérifier de notre côté? Il semble que oui.

LE PRÉSIDENT :

Maître David, vous vous inquiétiez pour docteur Booth, est-ce que...

Me ÉRIC McDEVITT DAVID :

Je le vois dans la liste des participants. Donc, je présume que...

LE PRÉSIDENT :

Parfait.

Me ÉRIC McDEVITT DAVID :

... qu'il est là. Attendez! Je le voyais mais... Je pense qu'il est là.

Me PAULE HAMELIN :

On me dit qu'il est là.

LE PRÉSIDENT :

Très bien. Alors on peut poursuivre.

Me PAULE HAMELIN :

Alors, Monsieur le Président, comme je vous disais, j'avais certaines remarques préliminaires à faire. Je disais que la présentation du docteur Villadsen nous a été transmise quelque temps avant qu'elle témoigne. Depuis le début du dossier, on essaie d'y aller rondement. Et, généralement, comme vous le savez, les présentations, d'habitude, on les a à peu près vingt-quatre (24) heures d'avance à la Régie. Dans un contexte aussi important que ce dossier-ci, naturellement une demi-heure avant la présentation, c'est très court, surtout quand ça relève de l'expertise, d'une part.

D'autre part, il y a des données récentes. On a mis à jour... Docteure Villadsen a mis à jour son rapport. Donc, c'est des informations nouvelles que je vais devoir valider. Et il y a également, bon, tout l'aspect de référence à l'expertise du docteur Booth.

Alors ce que je vais vous proposer, c'est la chose suivante. C'est que je vais commencer avec certaines lignes de questions et je vais demander l'indulgence de la Régie pour que je puisse avoir le temps nécessaire pour qu'on puisse assimiler, d'une part, les nouvelles informations, que je puisse parler avec notre expert au niveau de la direction que prendra le contre-interrogatoire. Alors, c'est la suggestion que je vous fais pour qu'on puisse avoir un temps raisonnable. Et je vais m'assurer que ça ne change pas et ça ne bousille pas l'horaire. Je vois qu'il est quand même déjà deux heures (2 h). Donc, je vais essayer d'avancer dans certaines de mes questions. Mais j'aimerais être en mesure de pouvoir naturellement avoir le temps nécessaire pour parler à notre expert.

LE PRÉSIDENT :

Oui. Ça va.

Me PAULE HAMELIN :

Et je voulais juste aussi, dernier point, je vais transmettre sur le SDÉ, on sait qu'il y a une question de confidentialité, on en parlera ou j'allais dire, on en parlera, mais on vous l'écrira dans le cadre des plaidoiries les questions de confidentialité dans le cadre du dossier. Ce que l'on a fait, c'est qu'on a pris un des... On va parler tout à l'heure du Blume adjustment. On a pris un exemple et on a caviardé l'information. Alors, juste pour que mes collègues le sachent. On n'a pas... On va déposer un document qui est comme un exemple de Blume adjustment. Ça va être juste pour les fins de mon contre-interrogatoire avec la docteure Villadsen.

Ceci étant fait comme remarques, je vais maintenant débuter.

Me PATRICK OUELLET :

Si vous me permettez, Maître Hamelin, juste... Je vais passer la parole à maître Cloutier. Il y a un aspect de confidentialité, je pense qu'on veut porter à l'attention de tout le monde, pour le bénéfice de tous.

Me MARIE-PIER CLOUTIER :

Oui, exact. Ce matin avec la présentation...

Me PAULE HAMELIN :

Je ne vous entends plus.

DISCUSSION HORS DOSSIER - PROBLÈME TECHNIQUE

Me MARIE-PIER CLOUTIER :

Je serai brève. Tout simplement pour vous mentionner qu'avec la présentation de la docteure Villadsen ont été transmis deux documents PDF qui correspondent à certaines données qui, finalement, pourront être au dossier public du tribunal. C'était des données qui étaient contenues dans les annexes BV-6 et BV-12 au soutien du Direct Testimony de la docteure Villadsen. Ces deux annexes-là avaient été déposées complètement de manière confidentielle en novembre dernier. Suivant les révisions de la docteure Villadsen en préparation de son interrogatoire, elle a réalisé que certaines choses pouvaient être libérées au dossier public de la cour. Donc, c'est ce qu'on vous a fourni. Donc, ce n'est pas des nouvelles données au dossier, mais c'est juste que certaines pouvaient être libérées de manière publique. Donc ce qu'on a fait.

LE PRÉSIDENT :

Merci. Alors, Maître Hamelin, on va faire un petit bout peut-être jusqu'à quatorze heures trente

(14 h 30), puis on prendra une petite pause à ce moment-là.

Me ADINA GEORGESCU :

Maître Hamelin, on ne vous entend pas?

CROSS-EXAMINED BY Me PAULE HAMELIN :

Q. **[200]** Hi, Dr. Villadsen, my name is Paule Hamelin, I represent IGUA. Good afternoon. Just so... a few questions with respect to the guiding principles in this... in this matter. In your direct testimony, your report B-0015, at page 10, you refer to the criteria used by the Régie in the decision D-2009-156 to determine a fair return.

R. Yes.

Q. **[201]** Okay. So, I understand that in fact what you are doing is that you're referring to paragraph 173 of the decision D-2009-156 stating the three criteria, which are : comparable requirement, capital attraction requirement and financial integrity requirement. Correct?

R. That's correct.

Q. **[202]** And just so I understand correctly, the first bullet in your report would be referring to the comparable investment criteria?

R. That's correct. Yes.

Q. **[203]** Okay. The second one was... would be the financial integrity requirement?

R. That's correct. Yes.

Q. **[204]** And the third bullet, the capital attraction requirement?

R. That's correct. Yes.

Q. **[205]** I don't know if it's already on... on the Régie site, but... Not yet? We have sent a... what we have as an official, an unofficial translation of the decision from the Régie, the D-2009-156. First of all, were you provided with the decision or any translation of that decision?

R. I looked at the decision, yes, and I've seen translated part of that, yes.

Q. **[206]** Okay.

R. I got unofficial.

Q. **[207]** So, I do not know if my unofficial translation is the same as yours, so maybe we can try to move on. It it's not the same, I would like to have, as an undertaking, the copy, your translated version of the decision D-2009-156.

Me PATRICK OUELLET :

So, can we first see if we agree on your translation and then we'll see if we take the undertaking?

Me PAULE HAMELIN :
Okay. So, I'll move on with my questions and perhaps I'll read the... what I have as the English translation and we'll see. Yes?
Me PATRICK OUELLET :
Is it possible to send us your translation...
Me PAULE HAMELIN :
Oui.
Me PATRICK OUELLET :
... so we can follow and I'll just forward it to Dr. Villadsen as soon as I receive it by email, it should take just a matter of seconds. It would make it easier for us to follow.
Me PAULE HAMELIN :
Of course. And I'm... apologies to the Régie, I can send it to the greffe as well, but I think it should be filed soon. Just a second, it's just that my... my analyst does not have your email address in my computer...
Me PATRICK OUELLET :
Je vais vous envoyer un courriel tout de suite, Maître Hamelin, comme ça vous allez l'avoir, là, ça va être ça qui a être le plus facile.
Me ADINA GEORGESCU :
Maître Hamelin, je pense que vous avez le mien,

donc vous pouvez me l'envoyer à moi, puis je vais le faire circuler.

Me PAULE HAMELIN :

Oui, sauf que je n'ai pas mon... mon ordi à côté de moi, là.

Me PATRICK OUELLET :

Okay. So, I'm advised that Dr. Villadsen has received what was available on the Régie website.

Me PAULE HAMELIN :

Okay.

Me PATRICK OUELLET :

So, if you... Do you have that accessible in front of you, Dr. Villadsen?

R. No. I don't.

Me PATRICK OUELLET :

Okay.

Me ADINA GEORGESCU :

I'm sorry to interject again. Would it be possible to maybe, Madame la Greffière, to post the exhibit so for everyone to see, if it's available on the Régie's website than it must be available to put up.

Me PAULE HAMELIN :

Tu peux-tu me sortir la page? Est-ce qu'on... est-ce qu'on a le document? D'accord, merci.

Me LISE DUQUETTE :

Maître Hamelin, la page...

Me PAULE HAMELIN :

Oui.

Me LISE DUQUETTE :

La page 45?

Me PAULE HAMELIN :

C'est du PDF, donnez-moi deux minutes. C'était le paragraphe 173.

Me LISE DUQUETTE :

Donc, c'est la D-2009-156, paragraphe?

Me PAULE HAMELIN :

Paragraphe 173.

Me LISE DUQUETTE :

Merci.

Me PAULE HAMELIN :

Mais ce n'est pas la version traduite que j'ai transmise, mais...O.K. Bien, je peux y aller avec...

Q. **[208]** I can go on with this, I'll read you what I have as a translation for each of the... of the criteria and Dr. Villadsen you can indicate to me if you consider that it's comparable. First of all, in the... in the translation that I have with respect to the first criteria, with respect to comparable investment requirement, the Régie essentially indicates that it must be comparable to the return available from the application of the invested capital to the other enterprises of like risk. So...

R. That sounds... that sounds familiar, yes.

Q. **[209]** Okay. With respect to the financial integrity requirement, would you agree with the Régie's description as "enable the financial integrity of the regulated enterprise to be maintained", so this is the financial integrity requirement?

R. Yes.

Q. **[210]** For the third requirement, the same question, I have as per a translation that the capital attraction requirement "must permit incremental capital to be attracted to the enterprise on reasonable terms and conditions"?

R. I don't recall if that's what I read in the translation, but I will take that subject to check.

Q. **[211]** Okay. Is it your understanding that in this decision, the Régie has essentially stated that these three criteria have historically been recognize by regulatory agencies and of course as a basis for the determination of the fair return standard?

R. Yes.

Q. **[212]** And you agree that the Régie decided that these three criteria enjoy consensus support and should be guiding the Régie in his jurisdiction to determine a reasonable rate of return?

R. Yes.

Q. **[213]** I now refer you to your report. Merci, Madame la Greffière. At page 11, line 3.

R. Yes.

Q. **[214]** You indicate that:

> The third component of the fair return standard requires that the allowed return be sufficient to maintain the company's financial integrity such that it's operations are not hampered by inadequate cash flows.

Can you explain what you mean by that?

R. So, by that I mean that it should be sufficient that it can attract capital, and it is sufficient that it can continue its operations. That's my economist understanding of what these criteria mean.

Q. **[215]** And to your knowledge, are you aware of any decisions where, for this third requirement, regulators would have taken into account that a company's operations must not be hampered by inadequate cash flows, this expression that you used?

R. That is my terminology and not that of the decision.

Q. **[216]** Thank you. So, let's turn to the applicable methodologies. You have indicated in your report and also in your presentation today that there are multiple methodologies to estimate the cost of capital and that you find it reasonable to use more than one methodology in the estimation process.

Sorry, Madame la Greffière. I will refer again to the... to the Régie's decision. I don't know if we have received the translation version or not.

LE PRÉSIDENT :

ACIG-0077.

Me PAULE HAMELIN :

Parfait. So, for reference purposes I'm referring to the decision D-2009-156. It's at paragraph 238 and following. We can put it on the screen if...

Me LISE DUQUETTE :

Ce ne sera pas long, Maître Hamelin, on...

Me PAULE HAMELIN :

Parfait.

Me LISE DUQUETTE :

... on va le chercher.

Me PAULE HAMELIN :

Merci.

Me LISE DUQUETTE :

C-ACIG-0076.

Me PAULE HAMELIN :

C-ACIG-00... on m'a dit 77, mais je ne sais pas...

LE PRÉSIDENT :

Je pense que c'est 76.

Me PAULE HAMELIN :

Parfait. Alors, C-ACIG-0076.

Me LISE DUQUETTE :

Quelle page, Maître Hamelin?

Me PAULE HAMELIN :

Alors, c'est au... j'irais au paragraphe 238.

Me LISE DUQUETTE :

Merci. 17, page 17.

Me PAULE HAMELIN :

Q. **[217]** So, I want to draw your attention to paragraph 238 indicating that :

> The Régie has decided to rely primarily on the Capital Asset Pricing Method in reaching its decision and the fact that this is the method the

> Régie has applied in previous decisions and in the most widely... and it is the most widely used approach in Canada.

Do you agree, based on these extracts, and I'll refer you just before I ask you the question, if you have had the time to... to read it. I would then turn to paragraph 289, but I will wait until your indication that you find it, so I can move on.

R. I have read it, yes.

Q. **[218]** Okay. So, let's go to paragraph 289.

Me PATRICK OUELLET :

I’m sorry, was there... I don’t, I don’t think there was a... was there a question on 238?

Me PAULE HAMELIN :

It will come after my, my next paragraph.

Q. **[219]** So, in, in... I refer you to paragraph 289 where the Régie indicates that:

> In its view the CAPM remains the most appropriate base model to guide the determination of a reasonable rate of return.

So base on paragraphs 238 and 289, would you agree with me that as for these abstracts the Régie in this decision, and of course the previous decisions, as it is stated, as primarily applied the CAPM method?

R. I will agree with you that in two thousand and nine (2009) the Régie decided to rely primarily on the CAPM pricing model. It's also true that that is more than ten (10) years ago and Canadian Regulation has changed since then. For example, the British-Columbia Utilities Commission has applied both DCF and the Capital Asset Pricing Model has as Alberta Utilities Commission.

Q. **[220]** What was the first one you mentioned.

R. British-Columbia Utilities Commission and Alberta Utilities Commission. As for others, I don't know.

Q. **[221]** And that was being applied... which methods? The CAPM and DCF?

R. The CAPM and the DCF, yes.

Q. **[222]** O.K. After the Régie's finding in two thousand and nine (2009), is it to your knowledge that the Régie has also relied primarily on the CAPM method in two thousand eleven (2011)?

R. I believe the Régie primarily relied on that too. If I may, I believe that the Régie at all time should be presented with the best evidence the experts have to offer and then make a decision from there.

Q. **[223]** I understand your point. But my question is that: is it to your knowledge that in two thousand and nine (2009) the Régie relied still on the CAPM method as a primarily method?

R. The Régie relied primarily on the CAPM method, yes.

Q. **[224]** Okay. And I'm referring to, if I'm telling you it's decision D2011-182 is it something that, that you are familiar with?

R. I do not recall. I probably have seen it at some point in time.

Q. **[225]** Just for the reference purposes and for, for the stenographic notes, I refer to paragraph 205 of that decision and paragraph 242 of that decision.

Me PATRICK OUELLET :

If I may, Maître Hamelin, instead of just giving the number two thousand eleven, hyphen something, maybe you could tell her what the topic of the decision was? Maybe it would help her recall if she has seen it or not? Cause I personally don't remember by heart all the two thousand eleven (2011) something.

Me PAULE HAMELIN :

Q. **[226]** Okay. It's a rate of return decision pertaining to Énergir.

R. I believe I've seen that decision, yes.

Q. **[227]** Okay.
R. But I don’t remember the details.
Q. **[228]** Okay. Would you know if, for instance, Intragaz in previous decisions well, for Intragaz in previous decisions, the Régie has also relied primarily on the CAPM method?
R. It’s my understanding that the Régie has relied primarily on the CAPM in all of its prior decisions, yes.
Q. **[229]** And just as a reference, for information, this Intragaz decision is dated in twenty thirteen (2013). So, is it to your knowledge that the Régie has also given great weight to the CAPM method in other rate of returns pertaining let’s say to the electricity HQD, HQT rate of return cases in twenty fourteen (2014)?
R. I do not know.
Q. **[230]** Okay. Let’s talk a little bit about DCF based estimates as DCF is one method that you use. For the DCF... Je vois qu’il est quand même deux heures trente (2 h 30) aussi... Monsieur le Président je peux continuer...
LE PRÉSIDENT :
Est-ce que votre ligne de questions est longue ou... combien de temps vous pensez en avoir?

Me PAULE HAMELIN :

Bien, j'en ai sûrement pour une demi-heure avec cette ligne de questions-là.

LE PRÉSIDENT :

Alors on va prendre une pause tout de suite pour quinze (15) minutes.

Me PAULE HAMELIN :

Parfait.

LE PRÉSIDENT :

Merci. Alors on se revoit à quatorze heures quarante-cinq (14 h 45).

SUSPENSION DE L'AUDIENCE

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REPRISE DE L'AUDIENCE

LE PRÉSIDENT :

Alors, nous allons poursuivre avec les questions de maître Hamelin.

Me PAULE HAMELIN :

Q. **[231]** So, just before the break, I was indicating that I would want to ask you some questions pertaining to the DCF method. You described in your report the DCF method and just to put in context and I am just reading essentially, paraphrasing what you're saying in your report, that the first step of your analysis is to examine a sample of investment analysts's forecasted earnings growth rate for companies in your samples. So, I just referred to the -- so everybody knows that we are going to talk about investment analysts's forecasted earnings growth.

I understand that for both of the DCF method, either the single-stage or the multi-stage, you have used analyst forecasts of companies specific growth rates that was sourced by either Value Line and Thomson Reuters, IBES, I don't know if it's the way to pronounce it. Is it fair to say that the forecast comes... comes from security analyst that followed the stock?

R. The IBES growth forecast comes from security analysts, the Value Line forecast comes from Value Line staff.

Q. **[232]** Okay. So, Value Line from their staff and the IBES from security analysts?

R. Yes.

Q. **[233]** Okay. Have you checked how many analysts actually cover these stocks versus the number of analysts that provide growth forecasts?

R. No. I have checked how many analysts provided a forecast, I responded to that in a data request.

Q. **[234]** And would you agree with me that, let's say in terms of ratio, if I was going to say that probably thirty (30) analysts would generally cover the stocks while there would be, let's say, two or three analysts that would provide the forecast? Would that be a fair ratio?

R. I don't know. It sounds high because the entities we're talking about are utilities and they tend to on average, at least the US gas LDC sample are probably smaller than the average company in the index, let's say, TSX.

Q. **[235]** Okay. But in terms of the security analysts to say that there would be a few would be... would be correct?

R. There would be a few analysts forecast rates company. I think that data response I responded to is everywhere between two and, I think, six for the most... it's the most we have for any company.

Q. **[236]** And I understand that most of the companies in the Canadian utility sample are not covered by Value Line and that's why you have relied on IBES growth rates for these companies, correct?

R. That is correct. Most of them are not follow, some of them are, not all.

Q. **[237]** Okay. And IBES is an American company?

R. It is.

Q. **[238]** You know if their analysts are based in the US essentially?

R. The IBES forecast, they don't provide forecast, they collect forecast from equity analysts and they collect forecast including from Canadian analysts. HBIS, for example, I see comes up in them. Bank of Montreal comes up on some of them.

Q. **[239]** Okay. I would like you to go to your Exhibit BV-4.5 and... Madame la Greffière, c'est dans les annexes au rapport. So, it's a schedule to... to Dr. Villadsen's report, which is Exhibit B-0015, but the schedule starts -- it's a little bit difficult or confusing -- it's BV-4... BV-3, but then you go to the schedule BV-4.5, and it's at page 4 of BV-3.

Me LISE DUQUETTE :

Maître Hamelin, pourriez-vous nous donner la page PDF de la pièce B-0015?

Me PAULE HAMELIN :

J'ai juste le document papier devant moi, peut-être qu'on peut m'aider.

Me PATRICK OUELLET :

La page 143 de 215.

R. I'm there.

Me PAULE HAMELIN :

Mais je veux m'assurer que la Régie le soit aussi. Okay. Parfait.

Q. **[240]** So, in this... in this page, we see the estimates, so the estimated growth rates for the Canadian sample and in the second column, we see the number of estimates, and especially with respect to IBES we see that the numbers go for estimates from two to four at the maximum. Am I summarizing it correctly, Dr. Villadsen?

R. Yes.

Q. **[241]** Okay. If a utility analyst provides a growth forecast for a company they cover, in your judgement, are they likely to provide a forecast for all the utilities they cover?

R. No. Not necessarily.

Q. **[242]** Is it possible that for the... with five of the eight Canadians where we only have two forecasts that it's really a low number of analysts that would follow those companies?

R. I don't know. The other thing to keep in mind here is that the way IBES do their forecasts is at if anyone forecast is more than a hundred and eighty (180) days old, they no longer use that forecast, they consider it outdated. So, it's possible that more analysts have provided forecast, but those are outdated as of this time.

Q. **[243]** So, you explain the low number of estimates not by, am I to understand, not by the fact that there are a few security analysts, but by the fact that some estimates would be outdated? Is that what I should understand?

R. I don't know, but it's one other explanation for why there might be fewer.

Q. **[244]** But one of the reasons could be the number of analysts, correct?

R. Yes.

Q. **[245]** Okay. And I see that for Value Line, because they do not necessarily cover the jurisdiction, we only have two estimates.

R. That's correct.

Q. **[246]** Okay. Would you agree with me that it's a small representation for... for the sample?

R. I would agree that it would preferable to have more analysts covering, but I still believe that this is information that is provided by very large, mostly institutional investors and I believe they probably do have value and investor's look at this.

Q. **[247]** I understand from your answer that it could be better?

R. It’s always better to have more data in terms of the history, yes. But it doesn’t mean you should dismiss the data we do have.

Q. **[248]** Would it be fair to say that most of the, of these estimates would be given by US agencies?

R. I don’t know. I will have to go back and look at my responses to where the analysis can from. It’s also important here to actually realise that with exception of two companies in this sample, we’re looking at here, the rest of them have more assets in the US than they have in Canada. So it’s really a North American sample rather then a Canadian sample. Which means that’s it’s not unnatural for US analyst to provide forecast on them.

Q. **[249]** I turn back to your report. This time it’s in the schedule BV-1 page 4 if somebody could give me the PDF and... sorry during the break I left my computer in my office so. So I was referring to schedule 1 of your report which is BV-1 and the paper page is page 4. So, apologies to the Régie.

Me ADINA GEORGESCU :

Alors si Maître Duquette pouvait nous donner la page PDF.

Me LISE DUQUETTE :

Je pensais que vous alliez me la donner alors je me disais...

Me ADINA GEORGESCU :

Non.

Me LISE DUQUETTE :

Ça serait la page 110.

Me PAULE HAMELIN :

Q. **[250]** Alors, it's just under section 2, and I think that you referred briefly to that in your presentation today. It's your... the question of the optimism bias. Doctor Booth refers to these, the security's analysts as a, as a sell-side journalist. But in your report, you indicate your position on optimism bias. At the end of, of this paragraph when you say, perhaps we can just scroll down. Yes. Here. You refer to economic studies and at the end you say:

> None of which is applicable to most utility companies with wide analyst coverage and information transparency.

R. Yes.

Q. **[251]** Would you agree with me that when you refer here to analyst coverage, you mean, you mean security analyst for this case?

R. Yes.

Q. **[252]** And, would you agree with me that the few analysts that we have talked about, could be, well, would not necessarily be wide coverage. Do you agree?

R. So, wide cover is a relative term because if you look at, for example, the S&P 500 you have an average of two analysts covering the five hundred (500) largest, each of the five hundred (500) largest companies in the US. So, here we look at something between two and four that's relatively wide.

Q. **[253]** It's a question of perspective.

R. Yes.

Q. **[254]** Do you agree with me that the growth rates forecast you use are short term?

R. There are three to five years.

Q. **[255]** And you, do you qualify this as short term?

R. It depends on the perspective. It's short term in terms of the life of a utility's assets. It's long term from an accounting perspective.

Q. **[256]** And my understanding... is it fair to say that the model generally requires the forecast growth rates that reflect investors expectations about the pattern of dividend growth for the companies should be a sufficient long horizon?

R. It requires a forecast for the cashflow for a sufficiently long horizon ideally for as long as the company exists.

Q. **[257]** Do you know the name, the names of the investment banks that provides these growth forecasts?

R. I provided that in a response to one of the data requests. I think from OC, I can't recall as I sit here.

Q. **[258]** Is it possible for you to verify and provide us with the information?

R. Yes.

Q. **[259]** Sorry if I don't have it at hand, we can...

Me PATRICK OUELLET :

Do you want to us to verify now?

Me PAULE HAMELIN :

Non. Je vais, je vais... I think we have, I'm just taking a note for, for the decision and for, for, for the IRs.

Q. **[260]** And you do not remember by heart which Canadian banks?

R. No. I do not.

Q. **[261]** O.K. Is it to your knowledge that the Régie has considered in the past the question of the optimistic bias?

R. I do not recall.

Q. **[262]** I think I've tried to file, during the break, the decision which I was going to refer you to. Which is decision D-2014-34. I don't know if it's already 78, so it's C-ACIG-78. If I can ask, Madame la Greffière, to put it on the screen. And just as a little bit of context, if I remember correctly this was in a rate of return file with respect to Hydro-Québec. Yes.

So I'm referring you to paragraph 182 and I will explain to you while I'm looking at it. So there was a debate, Dr. Villadsen has to... the similar question that you are, well, the similar question of optimism bias in that decision and, I want to draw your attention to paragraph 184, where the Utility essentially referred to an authority to suggest that we should put aside this question of optimism bias and I refer you to the Financial Analyst Journal. My understanding, it's the same article that you are referring in your report. Is that correct?

R. Yes.

Q. **[263]** So that was not, you were not aware of that decision. Dr. Villadsen?

R. I have not seen this decision, no.

Q. **[264]** Okay.

R. And I think, has been indicate before, I do not read French.

Q. **[265]** Yes. I understand, but sometimes you may discuss with colleagues in preparation of this file, so that's the reason why I've ask you. So, it's the... the evidence that was filed by Concentric in that file it was not understand to your knowledge either? And he represented Hydro-Québec.

R. I did not review Concentric's file in that docket, no.

Q. **[266]** And in that case, it was Dr. Booth's testifying for one of the intervener, and he refers to two references to contradict the position that Concentric was... was taking. I now refer you to paragraph 188 and 189. If we can just scroll down. So, Dr. Booth was referring in that decision to a -- I don't know if I can say a study -- but an authority from Easton and Sommers, and also another authority from the firm McKinsey & Company which was published in the... where there was an article published in the Globe and Mail. Were you aware of those... those authorities?

R. I know of the Easton and Sommers paper which is a general study of companies that are in the S&P 500 and not pertaining to utilities specifically. It's also a fairly old article, so the study... what might have happen, I can't remember when it was published, but it's not an article that dates back the last five years or so.

Q. **[267]** But I understand that your... the article that you are yourself citing is dated back twenty ten (2010), correct?

R. Yes. The (inaudible) article goes back to twenty ten (2010), yes.

Q. **[268]** Okay. And the other one from McKinsey & Company, was it, to your knowledge?

R. The McKinsey article, no, I have not seen that.

Q. **[269]** So, in your own report, I understand that you have cited, I think, four articles that was essentially on the same side as the position that was taken by, in this case, by Dr. Booth. So, in addition to your articles, there are those two articles also raising the issue of optimism bias, correct?

R. They do. Of importance here, is that we need to look at whether or not articles that pertain to the TSX companies or to companies in general have any bearing on utilities, and that was what I was looking for when I was looking for articles for my report. I was looking for what other characteristics of utilities as opposed to say the S&P 500 or the TSX. Utilities are much more stable companies, they tend to be much older, they tend to be, and that's an important aspect of what you asked me to before, mainly that they have informatial transparency, because not only are they regulated by their FEC and similar agencies, but there is also a lot of information in the regulatory environment such as where they have to do filings. So, that's a lot of information for analysts to look at for utilities that are not available in general.

Q. **[270]** So, we'll go down to paragraph 206, just to indicate the Régie's findings. On that question, they essentially indicate that there was the position of Concentric, there was the position of Dr. Booth and indicated that there must be prudence using those... those estimates in the model. So, I understand that you were not aware of the Régie's decision indicating that there should be prudence in using those estimates. Correct?

R. I was not, but I do agree that you certainly have to use prudence when you look at these estimates, and that's one of the reasons that I always look to what are those estimates, and one of the reasons that I look also to the multi-stage DCF.

Me PAULE HAMELIN :

Mister President, if that would be a good time to... to call it the day, this would probably give me the time to make sure that I can speak with our expert and be ready as much as possible for tomorrow morning, the continuation of my cross-examination.

LE PRÉSIDENT :

Bien, si vous avez terminé, oui, effectivement, ce serait un très bon moment, là, pour terminer la journée, et on se reverrait... on se revoit, donc demain à... demain matin à neuf heures (9 h).

Me PAULE HAMELIN :

Parfait.

AJOURNEMENT DE L'AUDIENCE

Riopel Gagnon Larose & Associés.