MANITOBA PUBLIC UTILITIES BOARD

Re: MANITOBA HYDRO

NEEDS FOR AND ALTERNATIVES TO

REVIEW OF MANITOBA HYDRO'S

PREFERRED DEVELOPMENT PLAN

Regis Gosselin   - Chairperson

Marilyn Kapitany   - Board Member

Larry Soldier   - Board Member

Richard Bel   - Board Member

Hugh Grant   - Board Member

HELD AT:

Public Utilities Board

400, 330 Portage Avenue

Winnipeg, Manitoba

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Pages 7918 to 8199

7919

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 1                        APPEARANCES

 2  Bob Peters        (np)              )Board Counsel

 3  Sven Hombach

 4

 5  Patti Ramage                        )Manitoba Hydro

 6  Marla Boyd                          )

 7  Douglas Bedford  (np)               )

 8  Helga Van Iderstine (np)            )

 9  Jennifer Moroz   (np)               )

10  Odette Fernandes (np)               )

11

12  Byron Williams                      )CAC

13  Meghan Menzies   (np)               )

14

15  William Gange                       )GAC

16  Peter Miller                        )

17

18  Antoine Hacault                     )MIPUG

19

20  George Orle                         )MKO

21  Michael Anderson (np)               )

22

23

24

25
```

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1   APPEARANCES (Con't)

2

3 Jessica Saunders (np)   )MMF

4 Corey Shefman   )

5

6 Christian Monnin (np)   )IEC

7 Michael Weinstein   )

8

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7921

1   TABLE OF CONTENTS

2   Page No.

7922

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

7923

14

15

16

17

18

19

20

21

22

23

24

25

7924

1   LIST OF UNDERTAKINGS

2   NO.   DESCRIPTION   PAGE NO.

3   120   Mr. Dunsky to provide employment

4   impact study of energy efficiency,

5   if it becomes public prior to end

6   of the hearing   7975

7   121   Mr. Dunsky to provide supporting

8   tables for the information found in

9   Figure 15 of his pre-filed written

10   evidence relating to grid parity,

11   and it will address the conclusions

12   drawn for Ontario, Minnesota, North

13   Dakota, Saskatchewan, and Manitoba   8108

14 122   Mr. Dunsky to provide the recent

15   report of the National energy

16   Efficiency Screening Project   8194

17 123   Mr. Dunsky to provide an electronic

18   copy of his written report provided

19   to the Public Utilities Board on

20   low-income programming, along with

21   his supporting PowerPoint   8198

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23

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 1  --- Upon commencing at 8:49 p.m.

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 3              THE CHAIRPERSON:   Good morning.  I

 4  think that we are in position to resume the proceedings

 5  of this NFAT, so Mr. Hombach, please.

 6              MR. SVEN HOMBACH:   Yes.  Thank you, Mr.

 7  Chairman.  Good morning, members of the panel.  Today

 8  is a busy schedule.  The majority of the day is

 9  reserved for the evidence of Mr. Philippe Dunsky, on

10  behalf of the Consumers' Association of Canada.  But

11  we're starting the day with a presentation by Mr. Ken

12  Klassen, who is sitting across from you.  Mr. Klassen

13  has been briefed.  Because he's a presenter, he will

14  not have to be sworn as a witness, so I suggest we turn

15  it over to him to commence his presentation.

16              Good morning, Mr. Klassen.

17

18  PRESENTATION BY MR. KEN KLASSEN:

19              MR. KEN KLASSEN:   Good morning.  And

20  thank you for the opportunity to present.  What I'm

21  going to do in my presentation is I'll briefly

22  introduce who I am and where I derive my perspective

23  from on the Preferred Development Plan.

24              I'm going to talk about some

25  socioeconomic considerations, particularly employment.
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1 I'm going to talk primarily about demand-side

2 management issues, a little bit about renewables and

3 future load growth, and then presenting it with my

4 overall conclusion.

5   I have more than three (3) decades of

6 experience in promoting energy environmental

7 performance of new and existing homes, buildings, and

8 communities. I spent eighteen (18) years with the

9 Province of Manitoba and their Energy Department. That

10 was followed by three (3) years working for the

11 CanmetENERGY Technology Centre out of Ottawa and the

12 last ten (10) years as a private consultant.

13   You can imagine with a career spanning

14 three (3) decades I've done pretty much everything when

15 it comes to energy, from policy, codes, product

16 standards, research, program design, delivery,

17 education, and training.

18   I think one (1) of the things that's

19 perhaps different from other presenters is I've got a

20 lot of international experience. I've spent a lot of

21 time over the last decade doing work, you know, not

22 just only North America, but a lot of work in Europe, a

23 lot of work in Asia, talking to governments, you know,

24 and policy, energy, energy efficiency, and so on.

25   So that helped shape and inform my

7927

1 perspective. I -- I took a more global perspective

2 than some other people may. Let's start with social

3 economic considerations. One (1) of the things when I

4 was in government, I was always asked when we would

5 have an initiative: How many jobs are you going to

6 create? When I looked at the Preferred Development

7 Plan, I was confused and stunned.

8   I started doing some analysis of the

9 cost per person year of employment that would be

10 created on the Prefer -- Preferred Development Plan.

11 People keep telling me, Ken, this thing's going to

12 create so many jobs. Well, how expensive are those

13 jobs that are created?

14   The other thing that I was kind of

15 floored by was how few permanent jobs are going to be

16 created by the Preferred Development Plan. And the

17 third thing, and this one kind of annoyed me because my

18 heart is really in demand-side management, is that the

19 demand-side management potential employment impacts,

20 they weren't even assessed.

21   So the first thing I did is -- Manitoba

22 Hydro, I know has come up with a revised estimate for

23 the final cost for Wuskwatim, $1.71 billion. Deloitte

24 provided Manitoba Hydro with an assessment of the

25 direction construction employment impact of thirty-five

7928

1 hundred and thirty-five (3,535) person years of

2 employment. It's simple math; divide one by the other.

3 A half a million dollars -- half a million dollars per

4 direct person year of employment, not a job, just a

5 person year of employment.

6   Well, I said, Well, wow, you know, maybe

7 I made a mistake. So I looked at the cost for Keeyask

8 and Conawapa, $17.2 billion. Manitoba Hydro, in this

9 hearing, they've testified that it's going to create

10 nineteen thousand, two hundred (19,200) person years of

11 direct and indirect. And this gets confusing, because

12 sometimes Hydro talks about direct, sometimes they talk

13 about direct and indirect.

14   So this one, they said direct and

15 indirect, nineteen thousand two hundred (19,200).

16 Almost nine hundred thousand dollars ($900,000) per --

17 per person year of employment. I -- I'm confused. You

18 know, maybe I've made a mistake, I've slipped a decimal

19 point, I've misinterpreted the tables.

20   So the next thing I did is I said, How

21 does this energy megaproject compare to other energy

22 megaprojects? So I -- I benchmarked against natural

23 gas. There's been a lot of discuss -- discussion here

24 about natural gas generation.

25   Grant Thorton, for the BC government,

 1 has recently completed an unemployment impact

 2 assessment of LNG export plants, five (5) plants,

 3 almost $100 billion. I did the math there. Well, very

 4 expensive job creation. You know, you can see it's

 5 around three hundred thousand dollars ($300,000) per

 6 person year of employment. Quite a bit less than

 7 Hydro, but still very expensive.

 8   Now, this is the one that -- that I

 9 almost fell off my chair. Hydro dams do not create a

10 lot of permanent jobs. Manitoba Hydro, again, through

11 this hearing

12 process has said the Keeyask and Conawapa will create

13 three hundred (300) permanent jobs for a $17.2 billion

14 investment.

15   Benchmark that against BC. Their

16 project -- their five (5) LNG plants will create

17 seventy-five thousand (75,000) permanent jobs. They're

18 spending a lot more money, so let's prorate it and say

19 if they spend $17.2 billion on a LNG plant, it would

20 create thirteen thousand (13,000) permanent jobs. For

21 every job that a Hydro dam creates, a LNG export

22 terminal creates forty (40) jobs.

23   And -- and this one thing, like -- like

24 I said, it kind of annoyed me and angered me a little

25 bit. Manitoba Hydro, again, through this hearing, they

7930

1 testified that they said Hydro offers the highest level

2 of construction and operation employment -- three

3 hundred (300) permeant jobs. And at the bottom, DSM

4 employment impacts not estimated. Not estimated? That

5 struck me as really odd because I know there's tonnes

6 of studies on the employment impacts of DSM and energy

7 efficiency.

8   I spent a few minutes on the internet.

9 Again like, you know, I do a lot of work in Europe. I

10 know they study it a lot, so I dug up on the studies

11 from Europe. Thirty-five (35) studies by twenty (20)

12 different organizations. Wide variation in the

13 estimated employment impacts, but they found that it

14 created about nineteen (19) jobs for retrofitting

15 buildings for energy efficiency or about eighty

16 thousand dollars ($80,000) Canadian per job -- a

17 fraction of what the Preferred Development Plan is

18 going to do.

19   The focus needs to be not only the

20 quantity of jobs, but on the quality jobs. And when

21 you look at the employment benefits, let's say for

22 First Nations peoples or -- or Northern people or

23 whatever, there's numerous advantages of the employment

24 that's created through demand-side management or energy

25 efficiency programs compared to dams. There's not the

7931

1 boom/bust cycle. A much higher fraction of employment

2 remains within the province. Only 40, 45 percent of

3 Keeyask and -- and Conawapa remain within the province.

4   It stimulates local businesses. A way

5 better geographic distribution of jobs. And then

6 perhaps most importantly is the skills that you acquire

7 through retrofitting buildings are much more relevant

8 to the needs of First Nations communities, Northern

9 communities, than building a dam.

10   There's a lot of other advantages beyond

11 employment for demand-side management. I don't have

12 time this morning to talk about them, but I want to

13 encourage you to look at reports such as this one by

14 International Energy, and see that documents those

15 other benefits.

16   So let's talk about DSM. I think it's

17 important to distinguish what Manitobans really want

18 here, is they don't want energy. They want the

19 services that energy provides: cold beer for my fridge.

20 I want a warm home in -- in the wintertime, not energy.

21   The other thing that gets lost -- you

22 know, I see it every day in the paper, right. All we

23 ever hear about is, you know, oil sands and fracking

24 and stuff like that. The truth is in Canada our

25 largest single-most important source of energy

7932

1 services, it is not natural gas, it is not oil, it is

2 not Hydro, it's not wind, and not it's not solar; it's

3 energy efficiency. And this is from -- from the

4 Conference Board of Canada from last fall from their

5 forecast from the energy future in Canada.

6   Looking at past and future, you can see

7 that half of all the growth in the economy -- you know,

8 increased GDP -- half of all the demand for additional

9 energy services has been met by efficiency, and all

10 those other supply-side options made up the other half.

11 But you would never know that if you read the Globe and

12 Mail or -- or watch the news. The efficiency, it's --

13 it's like Rodney Dangerfield; it gets no respect.

14   The other thing is that, you know, we've

15 known the energy efficiency are -- is our lowest cost

16 source of electricity services. And that was

17 reaffirmed last month. The American Council for an

18 Energy-Efficient Economy released a new study. They

19 looked at twenty (20) states from 2009 to 2012, two

20 point eight (2.8) cents per kilowatt hour. One-half

21 (1/2) to one-third (1/3) of all of the supply-side

22 options that you could do.

23   I know one (1) of the criticisms in

24 Manitoba is that our potential for saving energy and

25 doing demand-side management is less because of our low

7933

1 electricity prices. There is truth to that. But the

2 other half of the coin is that a large fraction of the

3 electricity used in Manitoba is related to our cold

4 climate.

5   If we look at the population when we had

6 heating/cooling-degree days, we live in one of the most

7 extreme climates in the world. So that offsets a lot

8 of the fact that we have low energy prices.

9

10   (BRIEF PAUSE)

11

12   MR. KEN KLASSEN: Okay. Now, in -- in

13 terms of the plans that Manitoba Hydro has put forward,

14 their -- their Power Smart Plan, in terms of the

15 EnerNOC Demand-side Management Potential Study that

16 informed their Power Smart Plan, and the Elenchus

17 review that was commissioned by the Public Utility

18 Board, I was kind of curious to find out what

19 consultation with local energy experts or local

20 stakeholders occurred.

21   So I called what I consider to be the

22 five (5) leading experts, local experts, in energy

23 efficiency. I said, Did anybody talk to you in the

24 development of the Power Smart Plan, the EnerNOC Plan,

25 or Elenchus? The most common answers I got were, No,

1 and the other common answer I got is, Who's EnerNOC,

2 who's Elenchus?

3   My concern is that Manitoba Hydro's come

4 up with a new Power Smart Plan, a 2014/2017 Power Smart

5 Plan. And again, I don't know what, if any,

6 consultation occurred. Nobody's consulted with me. No

7 one's consulted with the people that I've asked, who I

8 think are leading experts in the local market here.

9   I was also quite surprised to see that

10 they've doubled their demand-side management efforts.

11 And, you know, we've been told for years by Manitoba

12 Hydro, We're doing everything that is -- is feasible

13 and cost effective. And from one plan to the other

14 plan within a one (1) year period, they suddenly

15 doubled their targets. And I read the plan and I don't

16 understand what's changed so radically that would allow

17 you to double the targets.

18   And there's -- there's other details.

19 For example, the budget in their plants to support

20 implementation of codes and standards, or to support

21 innovation and -- and encourage the introduction of new

22 technologies, they're absent. There -- there's no

23 section in that report that talks about what are they

24 going -- what's the plan for codes and standards? What

25 is the budget for that? What's the budget for R&D or

1 innovation?

2   The other thing is, where's their longer

3 term fifteen (15) year production -- or projections?

4 Is this just a -- like a short little three (3) year

5 blip? When we go back, if we look at their previous

6 supplemental report and fifteen (15) year plan, a lot

7 of Manitoba Hydro's demand-side management efforts in

8 the future collapsed; you know, 89 percent, 100 percent

9 reductions in some of the programs.

10   So I guess that raises the question:

11 Are we running our of energy efficiency opportunities?

12 The resounding answer is, No. Again, there is some

13 truth. We are. There's only so many basements to

14 insulate and, you know, light bulbs to replace and so

15 on. But that's being offset by an unprecedented number

16 of new and innovative technologies.

17   I, in three (3) decades, have never seen

18 more opportunities for saving energy than I see today.

19 I'll just quickly run through examples. One (1) of the

20 best examples is solid-state lighting, LED, or OLED,

21 organic light-emitting diodes. The US Department of

22 Energy has come up with an estimate. They figure that

23 they can reduce lighting energy usage in the United

24 States by half by 2030. Lighting is one (1) of the

25 largest single loads for Manitoba Hydro.

 1   Vacuum insulation and aerogels, these

 2 are innovative insulation materials that have up to ten

 3 (10) times the insulating capacity. These are not

 4 research lab products. When I go to Asia, I see these

 5 products. They're commercialized. They're being

 6 installed in buildings, and equipment, and rice

 7 cookers, and bathtubs even.

 8   Cold climate air-source heat pumps.

 9 We're seeing steady progress and lowering the cost,

10 improving the performance. Hybrid heat pump water

11 heaters, Manitoba Hydro has talked a lot about the

12 problems they're having with growth and water heating

13 loads, electric water heating loads. These can reduce

14 electric water heating loads by up to 62 percent, but

15 they cause your heating bill to go up. But if you have

16 a high efficiency gas furnace, it can still be a

17 positive impact on the homeowner and solve some of

18 Manitoba Hydro's problems with load growth and water

19 heaters.

20   Another good example is drain water heat

21 recovery; an ingenious, simple device, you know, fairly

22 quick payback. It should be in every home in Manitoba.

23 More needs to be done to encourage that. We have web-

24 enabled smart thermostats, energy monitors, dashboards,

25 so you get feedback on how well your house is

1 performing. You wouldn't buy a car without a

2 dashboard, would you? But you have a house without a

3 dashboard.   And there's people who are making those

4 corrections so that you get instantaneous feedback, not

5 at the end of the month when you get a utility bill.

6   High-performance windows. Again, these

7 are now becoming commercial products where we can cut

8 down cooling loads. We can switch glazing on or off.

9   And what people are doing is they are

10 taking those and many other technologies that are

11 combined with high levels of energy efficiency, and

12 there's just a tidal wave of interest in net zero

13 housing.

14   So when I go -- I just came back from

15 Korea just over a month ago. I met with Korean

16 government officials. They want all new buildings in

17 Korea to be net zero by 2025. And the European Union,

18 they want all new buildings and houses to be near net

19 zero by 2018. There is a profound change going on

20 globally in reducing the energy usage of our building

21 sector.

22   So that leads me to my final section,

23 the age of renewables, and future load growth. If we

24 look at history, history informs us. It tells us that

25 we've seen a constant churning of our energy sources.

 1 We first started in the age of wood; it was replaced by

 2 coal, age of oil. Now people say we're in the golden

 3 age of natural gas with fracking.

 4   But if you look at these projections,

 5 and this comes from the International Energy Agency,

 6 the US Energy Information Agency, and Citi Research.

 7 They're saying we're entering the -- a different age;

 8 we're entering the age of renewables.

 9   The two (2) main renewables that are

10 relevant to -- to this panel is wind and PV. I'm not a

11 wind expert. Other people have covered wind, so I'm

12 not going to talk about wind. But I will talk about

13 PV.

14   PV, photovoltaic, generated electricity

15 is exploding. We've seen globally massive increases.

16 Again, you know, when I go to China, I see plants

17 turning out PV panels that are the size of Polo Park.

18 And PV, if you monitor what's going on in the utility

19 industry, there's a lot of very nervous utility

20 executives all around the world. They realize that

21 this is a disruptive technology.

22   If -- this is kind of a complicated

23 graph. I would encourage you to view it later. But

24 really what it's saying is by 2020, PV will be cheaper

25 than grid electricity without subsidy in a growing

7939

1 number of markets, including many markets in Canada.

2 And what is PV doing? Distributed PV, where you have

3 it on individual roofs, what is that doing to projected

4 load growth?

5   Well, if we look at what's going on the

6 United States, this is the projection by GMT (sic)

7 Research by 2016. In Hawaii, load growth isn't slowing

8 down. Electrical demand is shrinking. California, all

9 the load growth will be destroyed in PV, 90 percent in

10 New Jersey, you know, 80 percent in Massachusetts and

11 so on. So it's already happening in other markets that

12 have much more expensive electricity than we do.

13   So the question is: What is PV going to

14 do here, to Manitoba Hydro's future load growth, and to

15 the load growth and their export markets? I think the

16 -- the answer is it's not a question of if, but when.

17 It's going to happen later here because we do have

18 relatively low cost, clean electricity from

19 hydroelectric. But there's a strong prob --

20 probability that PV is going to become cost-effective

21 alternative grid electricity without any subsidies well

22 within our lifetime.

23   And what we need to be doing, what we're

24 not doing, if I go to Manitoba Hydro's website and if

25 I'm building a new home and say I want to future-proof

7940

1 my home, PV are not cost effective today, but they will

2 be well before I pay off my mortgage, what should I do

3 to my home to make it ready for PV? There's no

4 guidance. We're not doing that. We're not planning

5 Waverley West, communities like that, so that the

6 houses are oriented to maximize solar access. There's

7 a lot more that we can be doing.

8   The other issue I want to talk about is

9 the reliability of load forecast. Previous load

10 forecast have grossly overestimated long-term

11 electricity growth in Manitoba. Manitoba Hydro, I

12 noticed, they testified about their five (5) and their

13 ten (10) year track record on predicting load growth.

14   I think you need to look back more like

15 thirty (30) years because hydro dams are not paid back

16 in five (5) or ten (10) years. And if you actually

17 look a generation ago what Manitoba Hydro was saying,

18 they said that we would have built out all of the

19 hydroelectric capacity in Manitoba and that we'd be

20 building nuclear power plants. When I worked for the

21 Energy Department, I stumbled across a report that was

22 yay thick that showed where we would be putting nuclear

23 power commission by Manitoba Hydro, where we would be

24 putting nuclear power plants around now, you know.

25   And if you look at this US electricity

1 demand growth curve, you can see that -- you can see

2 the trajectory that we're on, okay. I don't have one

3 for Canada. You know, Canada's a similar trajectory.

4 Now, that raises the question: Well, what if we did

5 more aggressive demand-side management, and rather than

6 a three (3) year plan, if we have a fifteen (15) yeah

7 plan and an aggressive target, is that a big risk?

8   I think it's not. Again, if we look at

9 -- a study came out just earlier this month again by

10 the American Council for an Energy-Efficient Economy.

11 They looked at the United States. Half of all the

12 states in the United States have an energy efficiency

13 resource standard. In 2012, fifteen (15) of those

14 states either met or exceeded those targets. Only --

15 and six (6) came within 90 percent. Only one (1) state

16 didn't meet their target -- or met -- met less than 80

17 percent of their target.

18   So -- so kind of wrapping it up, I --

19 you know, I think we need to be more like the Pacific

20 Northwest United States. If you look at the Pacific

21 Northwest, they regard energy efficiency as their

22 single most important resource. This is a region with

23 an abundance of low cost hydroelectric power like

24 Manitoba. So their top thing isn't supply side. It's

25 demand-side. It's demand-side management.

7942

1   And look at, since 1980 -- 1980 --

2   thirty-four (34) years, a third of the century, they've

3   met half of all their load growth through efficiency.

4   So in conclusion, Manitoba Hydro's

5   Preferred Development Plan, in my opinion I think it's

6   a product of a flawed process. I think there -- there

7   wasn't enough collaboration in development of the plan.

8   The -- to span, you know, years and $1.3 billion and to

9   not even calculate the employment impacts of demand-

10 side management, I -- I don't understand that. I just

11 don't. You know. We have a lot of expertise in this

12 province. Those people were not consulted in the

13 development of the plan, to my knowledge.

14   So I think it represents an enormous

15 risks for -- for far too little gain. There's other

16 people who -- to testify here about the -- the profound

17 changes and uncertainty that are going forward in the

18 utility industry. I won't repeat that.

19   But there is an alternative. And the

20 alternative is to set aggressive long-term DSM

21 strategies. From what I've read from other testimony,

22 it looks like wind is -- looks remarkably attractive in

23 Manitoba, and it's a coin toss between it and levelized

24 cost of energy in -- in new dams. And, no, PV isn't

25 ready yet here but it will be eventually, and we need

1 to start future-proofing our homes, buildings, and

2 communities for that eventuality.

3   And we need to recognize that the

4 Preferred Development Plan is unbelievably expensive.

5 It's -- it -- yes, it does create jobs. Those jobs are

6 unbelievably expensive. It doesn't create a lot of

7 permanent employment. If we really want to strengthen

8 our communities, create jobs, you know, throughout all

9 of Manitoba, including for First Nations people in the

10 North, I think there's a better path. Thank you.

11   MS. MARILYN KAPITANY: Thanks, Mr.

12 Klassen. When you talk about net zero energy houses,

13 do you mean just houses that are energy self-

14 sufficient?

15   MR. KEN KLASSEN: Yes. A net zero

16 energy house would be defined as a house which

17 generates as much energy as it uses over the course of

18 a year. So at night or on a cloudy day, the house may

19 require power from the grid, but at other times it's

20 exporting a surplus of power. In Manitoba, we may find

21 that net zero isn't practical because of our extreme

22 climate, so maybe near net zero or net zero ready.

23   And, for example, I'm involved with the

24 discussions about the design for the new skill trades

25 and technology centre at Red River College. And, you

7944

1 know, hopefully that's what we're going to strive for,

2 is that we're not going to make the building net zero,

3 but we'll make it net zero ready.

4   MS. MARILYN KAPITANY: Okay, thank you.

5 And my other question, you had talked about DSM

6 potential employment and you mentioned jobs created for

7 retrofitting houses.

8   MR. KEN KLASSEN: Yes.

9   MS. MARILYN KAPITANY: What other kind

10 of jobs could be created by DSM?

11   MR. KEN KLASSEN: Well, I mean, it

12 creates jobs through -- through the whole chain. I

13 mean, there's -- there's engineering jobs. When you

14 retrofit more complicated buildings, like if did a

15 retrofit of a building like this, there's a lot of

16 engineering services. There's people who actually

17 install the equipment. There's a lot of -- you may

18 recommission this building to improve its performance.

19 It's one of the most cost-effective ways to improve the

20 performance of a commercial building.

21   So it's not just people putting in

22 insulation. There's -- there's also sort of technical

23 jobs, service jobs, and supporting those service

24 industries; doing energy audits, things like that.

25   MS. MARILYN KAPITANY: Thank you.

7945

1   THE CHAIRPERSON: Could you comment on

2 the difficulties associated with trying to introduce

3 energy savings in a cold environment? I'm thinking

4 particularly with Northern Manitoba.

5   MR. KEN KLASSEN: Right.

6   THE CHAIRPERSON: Could you -- could

7 you speak about that and the stickiness associated with

8 implementing new measures in -- in that environment?

9   MR. KEN KLASSEN: Well, you know, again

10 this goes to -- to my concern that there used to be in

11 Manitoba Hydro's plans more support for innovation. I

12 was asked to go to Alaska. The homebuilders in Alaska

13 found that a lot of the techniques that we use, you

14 know, in -- in the Southern United States were not

15 relevant to the -- to the Northern climate of Alaska.

16   They got together. They pitched in

17 money. They got support from the State of Alaska. And

18 they created a cold climate housing research centre.

19 We need something like that here in Manitoba too,

20 because what works in Winnipeg may not work in

21 Thompson, or The Pas, or -- or Churchill.

22   So, you know, we need more -- not just

23 more energy efficient houses; we need more durable

24 houses, you know. And that's a big problem that we

25 have up North. It's not just energy efficiency.

1 Energy cannot be seen in isolation. And, you know, if

2 we're building houses in Northern communities and the

3 houses are only lasting ten (10) or fifteen (15) years

4 and they fall apart and they're mouldy, who cares if

5 they're energy efficient?

6   We -- we have to have a broader housing

7 strategy, and that begins with innovation and support

8 for research.

9   THE CHAIRPERSON: Thank you. I think

10 that's all the questions the panel has for today.

11 Unfortunately, we're time restricted, so we are a

12 little bit behind schedule already. I know we started

13 late, but I thank you for coming in and putting some

14 time and effort into the excellent presentation you

15 gave us.

16   And, you know, I invite you to stay for

17 today, because Mr. Dunsky, who is going to be a witness

18 today, his presentation and -- and evidence aligns

19 closely to some of the things that you described today.

20 So you're quite welcome to attend today. Thank you.

21   MR. SVEN HOMBACH: Mr. Chairman, should

22 we stand down for a minute to allow the parties to get

23 into position?

24   THE CHAIRPERSON: Agreed.

25

1 --- Upon recessing at 9:14 a.m.

2 --- Upon resuming at 9:21 a.m.

3

4   THE CHAIRPERSON: Good morning. I

5 believe that everybody's in position, so we will start

6 this morning's proceedings. I'll turn the microphone

7 over to Mr. Hombach, please.

8   MR. SVEN HOMBACH: Thank you, Mr.

9 Chairman. As I advised earlier, today is reserved for

10 the testimony of Mr. Philippe Dunsky. And I misspoke

11 at 8:45 when I indicated that he speaks on behalf of

12 the Consumers' Association. He's actually a joint

13 witness for the Consumers' Association and the Green

14 Action Centre.

15   Before we get started, I do have an

16 administrative matter to speak to. Today there are two

17 (2) presentations scheduled during the lunch break.

18 Those are presentations by Janie Duncan and Solange

19 Garson. Due to panel member availability, we'll have

20 to slightly modify the schedule today. We'll break at

21 11:45. We'll regroup at one o'clock for the

22 presentations. We'll continue the cross-examination of

23 Mr. Dunsky at 1:30. And the panel has prepared to see

24 -- to sit beyond on 4:30 if necessary.

25   I'm also advised by My Friend opposite,

1 Ms. Boyd, that Manitoba Hydro has an administrative

2 matter to address before we get started.

3   THE CHAIRPERSON: Good morning, Ms.

4 Boyd.

5   MS. MARLA BOYD: Thank you. Good

6 morning. I wanted to respond to the list of priorities

7 that you indicated yesterday. You asked us to come

8 back with an indication of our timing, so I'm in a

9 position to speak to that this morning.

10   With respect to the -- the item that you

11 designated as the highest priority, Plan 2 with DSM 2,

12 we will make that our priority. Assuming that

13 everything goes well, we expect we'll be able to file

14 it next week. So we're targeting May 2nd for that

15 filing.

16   The pipeline analysis that had been

17 commenced is partly done and it will be filed as a

18 package. So that would include Plan 5 with Level 2 DSM

19 and the pipeline load, Plan 1 with Level 2 DSM and the

20 pipeline load, and Plan 14 with DSM 2 and the pipeline

21 load. That will be filed along with the financial

22 analysis of Plan 6 DSM 2, which we expect will be filed

23 the following week, the week of May the 5th to the 9th.

24   With respect to Plan 12, we do not have

25 the SPLASH data necessary for that plan. I'm not in a

7949

1 position to tell you today when that could be done. It

2 will be updated later, but we expect it will be

3 significantly later than the -- the other materials.

4   With respect to Plan 4, the economic

5 analysis will be filed this week, so by April 28th.

6 The supporting materials, the economic summary tables

7 and the supply and demand tables and the like, will be

8 filed thereafter. So that will follow in the following

9 week.

10   There's a bit of confusion in the

11 transcript, and I don't know if you happened to note

12 it, but on page 3 of the transcript both item numbers 5

13 and 6 are indicated to be:

14   "Perform the financial analysis of

15   fully updated Plan 6 DSM 2."

16   And I expect you didn't mean the same

17 thing twice, but we do require some direction from you

18 in terms of what one or the other was to be.

19   So between lines 5 and lines 8 we've

20 been asked to do the same thing twice. And I expect

21 one (1) of them needs a correction that we'll -- we'll

22 wait for your direction on.

23   THE CHAIRPERSON: Could we agree that

24 we'll clarify that after break --

25   MS. MARLA BOYD: Certainly.

7950

1   THE CHAIRPERSON: -- this morning?

2   MS. MARLA BOYD: There was a bit of

3   confusion upstairs as well as with respect to whether

4   the Board was looking for or was aware that they had

5   received the Plan 6 economics. They were filed with

6   Manitoba Hydro evidence as Exhibit 104-6. Manitoba

7   Hydro spoke to that on March 25th. So if that's

8   something that you're looking for, it is in the record.

9   Thank you.

10   THE CHAIRPERSON: Okay, let us attempt

11 to clarify that piece, as well.

12   MS. MARLA BOYD: Thanks.

13   THE CHAIRPERSON: So with that, I don't

14 believe there's any other business matters to attend

15 to, so I will turn the microphone over to you, Mr.

16 Gange. Good morning, Mr. Gange.

17   MR. WILLIAM GANGE: Thank you, Mr.

18 Chair and members of the Board. Today, on behalf of

19 Consumers' Association of Canada and Green Action

20 Centre, we're presenting the evidence of Philippe

21 Dunsky. I will be doing the voir dire with respect to

22 Mr. Dunsky's qualifications. And Mr. Williams will be

23 taking Mr. Dunsky through his report and -- and the

24 presentation.

25   There has been provided to the Board Mr.

7951

1 Dunsky's presentation for today, which I believe has

2 been marked as CAC-62.

3   MR. KURT SIMONSEN: Correct, CAC-62.

4

5 --- EXHIBIT NO. CAC-62:   Presentation by Philippe

6   Dunsky

7

8   MR. WILLIAM GANGE: Thank you, Mr.

9 Simonsen. So with that, if I can go through the

10 qualifications of Mr. Dunsky after Mr. Simonsen swears

11 Mr. Dunsky, or affirms, your choice.

12

13 CAC/GAC DSM PANEL:

14   PHILIPPE DUNSKY, Affirmed (Qual.)

15

16 QUALIFICATION OF WITNESS:

17   MR. WILLIAM GANGE: Mr. Dunsky, good

18 morning. You are responsible for the report, 'The Role

19 and Value of DSM in Manitoba Hydro's Resource Planning

20 Process,' which has been marked as Exhibit CAC-19.

21   Is that correct, sir?

22   MR. PHILIPPE DUNSKY: Yes, it is.

23   MR. WILLIAM GANGE: And as well, sir,

24 you have been responsible for the responses to

25 Information Requests that have been filed as Manitoba

 1 Hydro/CAC/GAC-1 to 7, MIPUG/CAC/GAC-1 to 9,

 2 MMF/CAC/GAC-1 to 6, and PUB/CAC/GAC-1 to 16.

 3   Is that correct, sir?

 4   MR. PHILIPPE DUNSKY: Yes.

 5   MR. WILLIAM GANGE: And assisting you

 6 with the -- the preparation of your report and with

 7 respect to working on the responses to the Information

 8 Requests was a number of people from your firm.

 9   Is that correct?

10   MR. PHILIPPE DUNSKY: Yes.

11   MR. WILLIAM GANGE: To the best of your

12 knowledge, the material that has been filed is

13 accurate, sir?

14   MR. PHILIPPE DUNSKY: I certainly hope

15 so.

16   MR. WILLIAM GANGE: In dealing with the

17 qualifications, you have appeared before the Public

18 Utilities Board of Manitoba twice before and you've

19 been qualified as an expert with respect to demand-side

20 management issues.

21   Is that correct?

22   MR. PHILIPPE DUNSKY: Yes.

23   MR. WILLIAM GANGE: We have filed your

24 curriculum vitae as CAC Exhibit 33, and your bio

25 appears as part of CAC Exhibit 35. You may not know

7953

1 those numbers, sir, but those -- that material has been

2 provided to us and then on to the Board.

3   Is that correct?

4   MR. PHILIPPE DUNSKY: I'm assuming that

5 it is.

6   MR. WILLIAM GANGE: The term that is

7 referred to, 'DSM', refers to what, sir?

8   MR. PHILIPPE DUNSKY: Demand-side

9 management.

10   MR. WILLIAM GANGE: And generally

11 speaking, can you just define 'demand-side management'

12 for us?

13   MR. PHILIPPE DUNSKY: Demand-side

14 management is -- is essentially a broad array of -- of

15 strategies that can be used to reduce the -- to reduce

16 the need for grid-supplied power on the demand side.

17 So that would include energy efficiency. It would

18 include customer-sided renewables. It would include

19 demand response and array of others; everything,

20 essentially, that happens on the demand side of the

21 equation, on the customer side of the equation.

22   MR. WILLIAM GANGE: Thank you. And you

23 are, sir, the President of Dunsky Energy Consulting and

24 have been for -- since the foundation of that company.

25   Is that correct?

7954

1   MR. PHILIPPE DUNSKY: That is.

2   MR. WILLIAM GANGE: And -- and how long

3 have you been in the field, providing advice with -- to

4 clients regarding energy efficiency and renewable

5 energy?

6   MR. PHILIPPE DUNSKY: Twenty-three (23)

7 years.

8   MR. WILLIAM GANGE: Thank you. During

9 that time, sir, your work has focussed on -- and if you

10 can just give the Board a brief summary, because I -- I

11 don't want to be here until noon hour going through

12 your expertise, but comprehensive plans?

13   MR. PHILIPPE DUNSKY: Yes.

14   MR. WILLIAM GANGE: Comment on -- could

15 -- if you could -- if you could comment on what you've

16 done in that field, sir.

17   MR. PHILIPPE DUNSKY: Sure, so we've --

18 we -- we have assisted a number of -- a number of

19 clients in developing comprehensive demand-side

20 management plans. We're doing, still right now, in New

21 Brunswick with -- for NB Power. We've done so

22 previously for Efficiency Maine Trust. We've done it

23 for the State of New Jersey. I'm doing that right now

24 in a -- in a related way for the State of Vermont, as

25 well.

 1   So we've certainly worked with a number

 2 of clients, developing comprehensive demand -- demand-

 3 side management plans.

 4   MR. WILLIAM GANGE: And -- and as well,

 5 you've done comprehensive plans with respect to

 6 Manitoba Hydro?

 7   MR. PHILIPPE DUNSKY: Well, I've had

 8 the opportunity to -- to review and assess Manitoba

 9 Hydro's Power Smart Plan, yes.

10   MR. WILLIAM GANGE: Thank you. You've

11 also had experience in program design.

12   Is that correct?

13   MR. PHILIPPE DUNSKY: Yes. I've mys --

14 myself and -- and my firm have designed, I'd say,

15 dozens of energy efficiency programs, covering pretty

16 much every -- every sector and every end use, be -- be

17 they residential retrofit programs, new homes,

18 products, appliances, commercial buildings, including

19 new construction retrofit, industrial programs, et

20 cetera.

21   So we've -- we've, you know, covered the

22 gamut. We've done that primarily for utilities and

23 government agencies across Canada. I think we've done

24 that in nearly every province in Canada, and probably

25 about a half of dozen states, as well.

7956

1   MR. WILLIAM GANGE: You've also done

2 best-practice reviews.

3   Is that correct, sir?

4   MR. PHILIPPE DUNSKY: Yes; yes, many.

5   MR. WILLIAM GANGE: And -- and what

6 would that entail?

7   MR. PHILIPPE DUNSKY: That would entail

8 looking at -- looking at practices, depending on the

9 specific area that we're -- that we're interested in,

10 that are taking place across either Canada, the United

11 States, Europe, and elsewhere.

12   And so we -- we look very closely at --

13 at the practices that are -- that are being undertaken.

14 We look very closely at what constitute best practices.

15 We, you know, have lengthy interviews with the program

16 managers throughout North America and -- and Europe,

17 and try to hone down on what works and what doesn't

18 work. Not withstanding local context which, of course,

19 always -- always matter. So we've done that in dozens

20 of times, always on demand-side management.

21   MR. WILLIAM GANGE: And I understand,

22 sir, that you've also conducted numerous analyses of

23 cost effectiveness and market potential?

24   MR. PHILIPPE DUNSKY: Yes. So a couple

25 of different things there. So we -- we've certainly

7957

1 done -- conducted a number of potential studies. We're

2 -- we recently completed one. We're just in the

3 process of -- of completing another. I shouldn't say,

4 "completing"; we've just -- just begun anther in

5 Massachusetts.

6   And in terms of cost-effectiveness

7 analysis, we've -- I mean, we've run cost-effectiveness

8 analysis hundreds of times on -- on thousands of, you

9 know, measures and programs throughout the continent.

10 We've also done a lot of work advising clients on

11 appropriate cost-effectiveness screening, cost-

12 effectiveness frameworks. I'm -- I'm an advisor to the

13 -- the National Energy Efficiency Screening Project,

14 which is a US-based project aimed at reviewing --

15 reviewing cost-effectiveness frameworks across the US

16 and improving them.

17   MR. WILLIAM GANGE: I understand, sir,

18 that you're also the evaluator for -- my recollection

19 is twenty-three (23) California pro -- utilities with

20 respect to DSM programs.

21   Is that correct?

22   MR. PHILIPPE DUNSKY: Yes. We do a

23 fair bit of work in -- in program evaluation as third-

24 party program evaluators. One of those projects now is

25 -- is -- I -- I am the lead evaluator for those

7958

1 programs in California. That's impact evaluation.

2   So we distinguish between different

3 types of evaluations. So I'm leading the -- the impact

4 evaluation, which is for the California Public

5 Utilities Commission, and I was just recently retained

6 by the -- by the utilities in California to work on

7 their process evaluations, as well.

8   MR. WILLIAM GANGE: I understand that

9 you've also had significant involvement with, I -- I

10 think the company is called Energy Vermont?

11   MR. PHILIPPE DUNSKY: Efficient --

12 Efficiency Vermont.

13   MR. WILLIAM GANGE: Efficiency Vermont,

14 thank you.

15   MR. PHILIPPE DUNSKY: Sure. Yeah.

16 We've -- I've worked with Efficiency Vermont over many

17 years, dating back, oh, at least -- at least a dozen or

18 so years.

19

20   (BRIEF PAUSE)

21

22   MR. WILLIAM GANGE: And -- and

23 currently, sir, you're involved with a number of

24 projects, including integrated DSM planning for a

25 number of different utilities and regulators.

1   Is that correct?

2   MR. PHILIPPE DUNSKY: Yes. We're --

3 when you talk about integrated DSM planning, probably

4 what you're referring to is the integration of kind of

5 the traditional energy efficiency side of DSM, with new

6 demand response, and so capacity-focussed efforts, as

7 well. And, yes, we're -- we're in the process of

8 developing what I think will be Canada's first

9 integrated demand-side management plan.

10   MR. WILLIAM GANGE: And is it fair to

11 say, sir, that you've been qualified as an expert on

12 energy efficiency and demand-side management on -- on

13 numerous occasions before regulatory boards?

14   MR. PHILIPPE DUNSKY: Yes. Yes, well

15 over a dozen.

16   MR. WILLIAM GANGE: Well over a dozen.

17 Thank you. As well, sir, you -- your academic

18 background, I understand that you have -- is a master's

19 degree from -- from London?

20   MR. PHILIPPE DUNSKY: It's a

21 postgraduate degree from, yes, the University of

22 London.

23   MR. WILLIAM GANGE: Thank you. You've

24 published articles as well, sir?

25   MR. PHILIPPE DUNSKY: Yes.

7960

1   MR. WILLIAM GANGE: And including the

2 2012 report with the very catchy title, 'Establishing

3 Savings Algorithms and Evaluation Procedures for

4 Emerging Technologies and Integrated Program

5 Approaches'.

6   Is that correct, sir?

7   MR. PHILIPPE DUNSKY: I'm not sure why

8 you had to hone in on that one in particular, but, yes,

9 that's one of my many catchy titles, yes.

10   MR. WILLIAM GANGE: Mr. Chair, I'm

11 going to ask that Mr. Dunsky be qualified as an expert

12 in -- in a number of areas related to demand-side

13 management, including the development of demand-side

14 management plans, DSM program design, DSM best practice

15 review, DSM cost effectiveness and market potential

16 assessment, and next-generation strategies and

17 opportunities analysis, and program evaluations.

18   THE CHAIRPERSON: I noticed you haven't

19 mentioned energy efficiency. Do you...

20   MR. WILLIAM GANGE: We -- we could. I

21 thought that that had been brought out, but -- but if I

22 haven't, in dealing study -- with studies for energies

23 -- energy efficiencies, sir, you've carried out those

24 studies for various clients, a well?

25   MR. PHILIPPE DUNSKY: Yes. The vast

 1 majority of the work that we have done has been on --

 2 on the energy efficiency component of the broader

 3 demand-side management category.

 4   THE CHAIRPERSON: Okay. Thank you for

 5 that clarification. So we'll canvass the Intervenors

 6 to determine their views regarding this witness.

 7   Ms. -- Me. Hacault, s'il vous plait?

 8   MR. ANTOINE HACAULT: Bonjour, M.

 9 President. On behalf of MIPUG, we have no objections to

10 the qualifications as set out in the presentation to

11 qualify this witness.

12   THE CHAIRPERSON: Merci, Me. Hacault.

13   Mr. Orle, please, on behalf of MKO...?

14   MR. GEORGE ORLE: No objection to the

15 qualification of the witness as an expert, Mr. Chair.

16 Thank you.

17   THE CHAIRPERSON: Thank you, Mr. Orle.

18   And on behalf of the Manitoba Metis

19 Federation...?

20   MR. COREY SHEFMAN: The MMF has no

21 objection to the qualification of the witness.

22   THE CHAIRPERSON: Thank you for that.

23   Mr. Weinstein, please...?

24   MR. MICHAEL WEINSTEIN: Mr. Chair, the

25 EICs have no objection to the qualifications of this

7962

1 witness. Thank you.

2   THE CHAIRPERSON: Thank you, Mr.

3 Weinstein.   On behalf of Manitoba Hydro, Ms. Boyd,

4 please...?

5   MS. MARLA BOYD: We have no objection.

6 Thank you.

7   THE CHAIRPERSON: Thank you for that.

8   Me. Hombach, any comments?

9   MR. SVEN HOMBACH: No concerns.

10

11   (BRIEF PAUSE)

12

13   THE CHAIRPERSON: The panel agrees to

14 accept Mr. Dunsky as an expert witnesses -- expert

15 witness on behalf of DSM, and I won't list all the

16 subqualifications that have been mentioned by you, Mr.

17 Gange.

18   So on behalf of the panel, I'd like to

19 welcome you, Me. -- Mr. Dunsky. Welcome to Winnipeg.

20 I have to confess, a little bit of jealousy, because

21 your Canadiens are still in the playoffs and the Jets

22 are playing golf. So -- but if it's any consolation, I

23 am following the series. So over to you, Mr. Williams.

24

25 EXAMINATION-IN-CHIEF BY MR. BYRON WILLIAMS:

 1   MR. BYRON WILLIAMS: Now that Mr.

 2 Dunsky and Mr. Gange have done all the hard work, Mr.

 3 Dunsky, I'm going to ask you to take us through your

 4 PowerPoint presentation. I'm warning you I might

 5 interrupt from time to time and we'll certainly invite

 6 the panel, if they have questions as you go along, to

 7 ask them as well.

 8   Is -- is that satisfactory?

 9   MR. PHILIPPE DUNSKY: Yes, absolutely.

10 Thank you. And -- and thank you very much for having

11 me here again. Merci beaucoup (FRENCH SPOKEN). And I

12 pro -- I promise that will be the last of the French.

13 As I recall last year, I got a little bit of a hard

14 time over at stenography.

15   So just -- just before I start, just a

16 couple of really quick words. First of all, I want to

17 thank you very much for having me here. You'll --

18 you'll notice -- I just noticed a very poor start to my

19 presentation. On the very first slide I got about four

20 (4) days ahead of myself on the date there, so I

21 apologize that -- for that. We are, I believe, April

22 24th still. Clearly I'm looking forward to spring, and

23 I want to thank you for having me at the very end of

24 April.

25   I recall last year I was here and I

7964

1 think we were in the midst of -- of animated

2 discussions between myself and Manitoba Hydro about the

3 -- the impact of the cold weather in Manitoba on DSM

4 potential. And I -- I somehow suspect that Manitoba

5 Hydro had arranged last year for me to come and testify

6 in February to really drive home that point. And it

7 was driv -- driven home very well. So I'm very glad

8 that this year is -- is late April rather than

9 February.

10   And if you'll -- if you'll allow me one

11 (1) -- one (1) minor -- one (1) minor thing here, that

12 at the risk of -- of shooting my credibility before I

13 even begin, but it's part of a bet back home if I can

14 just put on the record coming to Mr. Gosselin's point:

15 Go, Habs, go. Thank you.

16   Now onto the less important things. I

17 will very quickly just talk about who we are and -- and

18 I -- I won't -- I'll try not to duplicate what was just

19 done in terms of qualifications, but just -- I'm a

20 consultant, so I can't help myself to talk about my

21 firm very quickly.

22   So as I just mentioned, I mean, we do --

23 pretty much everything that we do is -- is related to

24 energy -- energy efficiency and demand-side management,

25 as well as renewable energy and emerging technologies,

1 primarily on the demand-side of the equation.

2   I won't repeat everything that was just

3 said, but we're -- we're very proud to have a number of

4 clients throughout North America. And one (1) of the -

5 - one (1) of the important reasons why we're so

6 focussed on having a broad array of clients throughout

7 North America is -- and I say this as someone who spent

8 a lot of time, many years working solely within one (1)

9 region in the Province of Quebec. You -- you get out

10 and you learn a lot, both -- both the -- the -- you

11 know, both from the successes and the mistakes that

12 others make.

13   So I -- I always hope that the work that

14 we do throughout the continent -- or through that work,

15 we can pick up appropriate pieces, appropriate lessons,

16 if you will, from different regions and bring them --

17 bring them back to our clients. And hopefully that's

18 in part what I'll do today.

19   We -- the work that we do, I think I

20 mentioned, essentially covers all sectors of -- of

21 consumption and all end uses as well, be it in

22 residential or business and government sectors. And we

23 also do a lot of what I'll call cross-sectoral work,

24 meaning work on demand-side related issues that are not

25 specific to a program or specific to -- to an end use,

7966

1 but that -- that cut across the whole portfolio.

2   And again, I won't -- I won't read

3 through the -- the slide, but just to say that's pretty

4 much what we cover. And I've got a slide here about

5 our service areas. I have a hand waving there.

6   MR. KURT SIMONSEN: Sorry, Mr. Dunsky,

7 but you have a large slide deck and I'm wondering if

8 you could reference page numbers as you -- as you walk

9 through it for the purpose of the transcript?

10   MR. PHILIPPE DUNSKY: I'll try to do

11 that. Thank you. And I'm on slide 4 right now. And

12 again, I won't -- I won't read through the whole slide,

13 but just to give you a sense of -- of what my firm

14 does. And my firm is based in -- in Montreal, which

15 you may have guessed by the 'Go, Habs, go'.

16   And I will skip over my qualifications

17 because I just answered those -- those questions. So,

18 let me just get straight to the -- to the heart of the

19 matter then.

20   THE CHAIRPERSON: Mr. Dunsky, before

21 you -- before you start with this, I just noticed there

22 was a very brief mention of implementation, some of the

23 work you do in implementation. I mean, I'm

24 particularly interested in knowing what your experience

25 has been in actually implementing measures in the -- in

1 -- in a work environment.

2   Could you - could you address that,

3 please?

4   MR. PHILIPPE DUNSKY: Sure, so, we --

5 we actually -- we -- we do everything short of

6 implementing. We make a point of not doing on-the-

7 ground implementation. We do provide what we call

8 implementation support. And so I -- and I think you're

9 referring to -- to slide 4 there, and you'll see the

10 little asterisk that says, "Support role."

11   So the implementation support services

12 that we provide, we will support clients who are

13 responsible for implementing DSM programs, clients like

14 Manitoba Hydro, elsewhere. And so that may involve

15 sometimes being the arbiter of issues where that

16 client, for example, has to deal with both auditors and

17 contractors. And there may be technical issues that

18 need to be addressed. We will intervene there.

19   We will develop implementation tools;

20 for example tracking tools that -- that in-field -- in-

21 field staff can use to track both audit results and

22 implementation of measures. We will -- goodness --

23 pretty much, you know, provide support across the board

24 for whatever needs to be done, in terms of implementing

25 those programs. The only thing that we don't do is put

7968

1 boots on the ground and actually go and implement.

2   So, I'm on slide 6. The -- the

3 presentation that I have -- and I have to say I was

4 listening to Mr. -- Mr. Klassen's presentation before,

5 and I was a little bit in awe. He said much of what I

6 was hoping to say, possibly more forcefully and

7 definitely with much nicer slides than -- than mine.

8 So -- so I apologize if I'm -- if I'm going to be

9 repeating myself -- or repeating what Mr. Klassen said.

10   I want to break this presentation into -

11 - into four (4) sections: Begin with an introduction

12 to DSM and quickly into Manitoba Hydro's DSM scenarios.

13 And this is, for me, extremely important as the file

14 has evolved so quickly. So one thing I don't want to

15 do -- and I'm making a point of not doing -- is simply

16 repeating to you the written testimony that I filed in,

17 I believe it was, January or -- or February. I don't

18 want to do that.

19   So much has changed since then. I think

20 there are things that are probably no longer extremely

21 relevant or at least no longer critical to the

22 discussion. I'm not going to address those. I want to

23 take it from where we are and go forward. But to do

24 that, I want to very quickly -- maybe quickly is -- is

25 an overstatement. I want to go through where we are,

1 in terms of what those plans look like, how they

2 compare with what we spoke about previously, and -- and

3 kind of nail down the picture of what exactly it is

4 that we're talking about today. Because I have to

5 admit, for myself, perhaps just being far away from it,

6 there have been so many changes that it -- it was

7 important for me to nail down exactly where we are

8 today.

9   So I'll go through Hydro's DSM

10 scenarios, compare them with the scenarios that -- that

11 I'd previously put forward in -- in my written

12 evidence. And if -- if you will, the presentation will

13 be bookended by that initial presentation of what those

14 scenarios look like today. And then at the back end,

15 the fourth section of the presentation, I'll come back

16 to -- to those and talk about the implications of what

17 I've just said for where -- how we should view this

18 going forward.

19   The -- the second section I will take to

20 address what I think is the remaining -- the remaining

21 problem in Hydro's DSM planning here. And that is an

22 assumption that DSM is more or less static. In other

23 words, we have the opportunities that we have in front

24 of us. We address them now. And after we address

25 them, there's really not much left to do after. And

 1 I'll get into that. That's -- so I'll try to address

 2 that in the second section; again, possibly less --

 3 less forcefully, less -- less clearly than Mr. Klassen

 4 just has, and probably with more time too. But -- but

 5 I'll do my best -- best to give some examples of why

 6 that's not the case.

 7   In the third section, I'll address what

 8 I'll call the planner's dilemma, which is the dilemma

 9 of not knowing exactly what is going to come down the

10 pike in ten (10) years from now and, at the same time,

11 knowing that something is going to come down the pike.

12 And so how do you deal with that in a planning

13 environment? How do you account for the likelihood of

14 continued energy efficiency opportunities and continued

15 energy efficiency improvements over time when you don't

16 know exactly what they will be?

17   And then, as I said, I will then come

18 back to the implications of all of that for -- for

19 proper assumptions for the NFAT review.

20   So I'll begin here with Hydro's DSM

21 scenarios. And, actually, just -- just before I get to

22 them, a couple of very quick slides just introducing

23 DSM. I have to admit, I've got sixty-two (62) slides

24 here today. I -- I stole three (3) from my

25 presentation last year, starting with the first two (2)

7971

 1 here. So I apologize if you've seen them and remember

 2 them.

 3   So just very quickly, demand-side

 4 management, there are essentially two (2) options to --

 5 to ensure that -- that we keep the lights on. And

 6 that's either increase supply or -- or decrease demand

 7 through improved efficiency as our economies grow.

 8   'Our economies grow' means there's, you

 9 know, more -- more people buying more things, building

10 more houses, needing more lighting, more businesses,

11 you know, in the territory growing. And so all of that

12 creates need for energy services. And we can meet that

13 growth by some combination of getting better or get --

14 getting more efficient at how we consume energy or

15 supplying more energy.

16   Efficiency or demand-side management is

17 the second piece of that puzzle.

18

19 CONTINUED BY MR. BYRON WILLIAMS:

20   MR. BYRON WILLIAMS: Mr. Dunsky, I'm

21 just going to interrupt you to make Mr. Simonsen happy

22 and say we're on slide 8.

23   Is that right?

24   MR. PHILIPPE DUNSKY: Yes. Thank you.

25 So in the United States -- and I only use that because

7972

1 we don't have this -- we don't have the -- the thirty-

2 seven (37) year view for Canada. When we go back to

3 1970 to today, energy efficiency has suppled about 75

4 percent of all of the growth in need for energy

5 services. So about 25 percent of that growth has been

6 supplied by new -- new power generation projects and

7 about three-quarters (3/4s) by improved efficiency.

8   Obviously, that's very significant. It

9 means that were -- were it not for that improved

10 efficiency, the US would have had to have built four

11 (4) times more power plants than it did over the same

12 period. We have some numbers for Canada going back to

13 1990. If we look at the -- at the residential sector

14 from 1990 through to 1996, energy efficiency's applied

15 the vast majority of that growth, as well. About 85

16 percent of the growth in -- in demand for energy

17 services was met through improved energy efficiency,

18 and the remaining 15 percent was met through new power

19 supplies.

20   So that's my -- my little way of saying

21 that -- and again reinforcing a point that was made

22 earlier this morning, one of the problems with energy

23 efficiency is it's -- it's not very visible, right. I

24 mean, we see it all around us but we don't really focus

25 on it, and certainly not in one (1) big lump, like a

7973

1 large hydro project or gas project or nuclear plant.

2 But it actually is by far the biggest

3 energy resource that we have and supplies the vast

4 majority of the growth in services that we -- that we

5 need energy for. So I just wanted to make that point,

6 that oftentimes it's a bit overlooked and -- and, much

7 to our detriment, is -- is the single energy resource

8 that we have.

9 It's also typically by a longshot the

10 cheapest energy source that we have. I'm on slide 9

11 now. Efficiency tends to cost in the range of two (2)

12 to four (4) cents a kilowatt hour. Compare that with -

13 - and the graph that I have up here on slide 9, by the

14 way, is real data from several thousand projects over

15 the past several years in North America. Compare that

16 with the cost of hydro power, which can, of course,

17 range a fair bit depending on the site, something in

18 the range of, you know, seven-and-a-half (7 1/2) to --

19 to fourteen (14) cents a kilowatt hour, wind, natural

20 gas, and coal -- and by the way, the coal plant version

21 that you have up there is coal with carbon capture

22 storage, which is the only type of coal plant that

23 could be built in Canada today.

24 So it is systematically the cheapest

25 resource. It also tends to be a much lower risk

7974

1 resource. And I'll come back to that later in the

2 presentation. Energy efficiency also creates a fair

3 bit more employment than do traditional generation

4 plants. The range that you have here is very large,

5 two (2) to ten (10) times more. That's because --

6 because the comparator here, the generation plant,

7 varies so significantly. Obviously, if we're talking

8 about a natural gas plant in a -- in a province that

9 doesn't produce natural gas, you're talking about --

10 you know, again, you're talking about very low numbers

11 for a gas plant as compared to efficiency. So that

12 might look more like the ten (10) times version.

13   If you're talking about hydro power in

14 the Province of Quebec, for example, you're looking at

15 more like two (2) to three (3) times more jobs created

16 by energy efficiency than by -- than by hydro power in

17 Quebec. Again, with the industrial structure that we

18 have -- that we have in Quebec.

19   And, by the way, just as an aside, we

20 recently completed work on an employment impact study

21 of energy efficiency for ten (10) Canadian provinces,

22 obviously including Manitoba. And so that work has

23 been done. Unfortunately, it's not yet been released

24 publicly. It's -- it's in the hands of the -- the

25 Canadian -- Natural Resources Canada. My hope is it

7975

1 will be released shortly. And -- and certainly it will

2 -- it will show findings that -- that very much support

3 the assertion here.

4   MR. WILLIAM GANGE: Mr. Dunsky, I'm

5 going to interrupt you. Mr. Chair, one (1) -- one (1)

6 of the things that we have considered that if that

7 report becomes public prior to the -- the end of this

8 hearing, we would undertake to provide to the Board

9 that report so that that information can be available

10 to the Board.

11   THE CHAIRPERSON: Thank you very much

12 for that.

13

14 --- UNDERTAKING NO. 120:   Mr. Dunsky to provide

15   employment impact study of

16   energy efficiency, if it

17   becomes public prior to end

18   of the hearing

19

20   MR. PHILIPPE DUNSKY: So --

21   THE CHAIRPERSON: I just -- I just want

22 to go back to the jobs issue. I'm seeing a little bit

23 of a difference between some of the -- some of the

24 information we got from Mr. Klassen and this one.

25 What's the distinction here? I mean, I got the sense

7976

1 from Mr. Klassen that there would be a lot more jobs

2 flowing from DSM than there would be from, say, a hydro

3 project.

4   And -- and this seems to suggest -- you

5 said two (2) or three (3) times. It -- am I -- am I

6 wrong on my interpretation of Mr. Klassen and your --

7   MR. PHILIPPE DUNSKY: So I -- I should

8 -- I should clarify. So when I say two (2) to three

9 (3) times, that is very specific to a hydro power

10 project in the Province of Quebec. In the Province of

11 Quebec, as you know has since the mid-'60s, focussed

12 enormous attention at building up an industrial

13 structure around the construction of hydro power

14 projects. We have, you know, large manufacturers in

15 the province that supply the services directly to those

16 projects. So we tend to get pretty much the -- the

17 highest in -- you know, province -- provincial content,

18 if you will, of -- of jobs from hydro projects that you

19 can get anywhere.

20   I can't say what that would be in

21 Manitoba specific to -- to Keeyask. I certainly

22 haven't looked at the numbers. And -- and the numbers

23 that Mr. Klassen talked about this morning I hadn't

24 seen until this morning. So I'm not sure what they

25 would look like. My guess would be that, you know, it

 1 certainly wouldn't be the Quebec numbers; so, you know,

 2 maybe it's in the range of five (5) times. It's hard

 3 to say exactly.

 4   So typically energy efficiency or

 5 demand-side management is the first priority in

 6 reducing CO_2 emissions, primarily because it's the

 7 cheapest way to do it. And then it brings a number of

 8 other economic benefits. It increases household

 9 disposable income, of course, by reducing energy bills.

10 And it frees up business capital for more productive

11 use, helping our businesses be -- be more competitive

12 in the marketplace.

13   So those tend to be the -- the primary

14 reasons why we do it. There's a fifth reason as well

15 why utilities tend to -- tend to do it, and that is it

16 also increases customer satisfaction as utilities help

17 their customers actually reduce their bills.

18   So that -- that concludes the two (2)

19 slides that I've stolen for now from last year. And

20 I'll get into more original content. No, that doesn't.

21 This is the third slide. I'm sorry.

22   So just one (1) quick mention. Manitoba

23 Hydro -- Manitoba Hydro has a very strong history with

24 -- with energy efficiency, dating back a fairly long

25 time. It had, in previous years, received very strong

1 ratings, several awards. And I've done work for -- for

2 Hydro several years ago. And -- and we've just been

3 actually retained to do work for them shortly.

4   And certainly what I saw from that is

5 they bring a number of strengths to delivering DSM in

6 the province and a number of strengths that, frankly,

7 many of my clients do not have and -- and would die to

8 -- to have. And that includes full territorial

9 coverage. So they -- they cover the entire province.

10   You know, I work with a lot of clients.

11 I'll give you an example. In Massachusetts, we work

12 with Northeast Utilities. Northeast -- Northeast

13 Utilities is one of the largest utilities there. They

14 have extremely aggressive energy savings goals; and

15 'goals' is a bit of an understatement. They actually -

16 - they really have to hit those -- have to hit those

17 numbers. But their service territory is a little bit

18 of a Swiss cheese.

19   They serve some electricity over here,

20 some gas over here, some electricity over here, some

21 gas over here. There are territories where they serve

22 both. There are territories where they serve none, all

23 within the -- the State of Massachusetts. That

24 certainly adds a challenge to delivering DSM programs

25 to your customers. That's a challenge that Hydro does

1 not have to face, thankfully.

2   The integration -- full integration of

3 electricity and natural gas in the province is another

4 great -- great strength that Hydro has. And, of

5 course, its -- its history of DSM and -- and the

6 relationships that it has with its market channels

7 really should not be -- should not be understated.

8   The fact that it can integrate its

9 services with its billing, I -- I feel like I'm going

10 into the weeds, but -- but believe me, that is hugely

11 important and hugely valuable. And again, many of my

12 clients don't -- don't have control of the utility

13 bills because they are third-party DSM administrators,

14 and they wish that they could. It's a fantastic tool

15 to have, the ability to integrate the data that they

16 get from -- from their meters and from their billing

17 into their programming and a host of others. So

18 they're starting from a place of strength.

19

20 CONTINUED BY MR. BYRON WILLIAMS:

21   MR. BYRON WILLIAMS: And we're moving

22 to slide 11, aren't we?

23   MR. PHILIPPE DUNSKY: And we are moving

24 to slide 11. And I am continuously forgetting to

25 mention that. Thank you. So let me now get to the

7980

1 case at hand, the NFAT.

2   Obviously, Hydro has -- has made great

3 strides in the past several months alone, in terms of

4 increasing its DSM effort. The -- the plan that we saw

5 at the beginning of this case and -- and the plan that

6 was released several weeks ago, obviously, there --

7 there are very significant differences and a rather

8 dramatic increase in savings goals in the short-run, at

9 least. And -- and that, frankly, is -- is a fantastic

10 evolution to this case.

11   There remain, I believe, some very

12 important steps. And the primary step that remains is

13 ensuring that that increase in focus and attention on

14 DSM in the short-run is also brought to play in the

15 long-run from a planning perspective. And that will be

16 the focus of my presentation here.

17   So my presentation will seek to answer

18 the question: What role should DSM be assumed to play

19 for proper long-run resource planning here? One (1)

20 thing just to -- I know that I'm going to go on

21 probably too long. It could have been worse. And so

22 to -- to keep it within the domain of reasonable, I'll

23 be focussing solely on the energy side of the equation

24 here, not addressing capacity.

25   I -- I would be glad to talk about

7981

1 capacity if -- if you want to. My understanding is

2 that's not an immediate concern here in the province.

3 But certainly, as we get out toward the -- toward the

4 latter parts of the 2020s and into the early 2030s, the

5 ability to defer capacity needs and the ability to

6 address the growth and capacity needs does become a

7 real issue, so. Again, I won't be addressing that in

8 this presentation but please feel free to engage me on

9 that, if that's important.

10   So coming to where we are today. And so

11 let me just start with where we began. Manitoba

12 Hydro's 2013 Power Smart Plan, which you'll see on the

13 chart on slide 12, essentially showed an average annual

14 savings rate of 0.4 percent. I -- I should stop here

15 for a second and apologize and explain a little bit. I

16 apologize in advance, because my slide deck is not

17 nearly as clear and -- and clean and crisp as Mr.

18 Klassen's was. In fact, it's -- it's chock-full with a

19 lot of graphs.

20   And explain -- I should explain that

21 there are two (2) primary graphs that I'm going to be

22 bringing back here over and over again. And I have to

23 admit that, as I look at them, sometimes I get lost in

24 them, primarily because the curves go in opposite

25 directions.

 1   So the first graph that you're going to

 2 see very often throughout the presentation is this one

 3 here. And that is a chart of incremental annual

 4 savings expressed as a percent of total demand. That's

 5 a -- it's a metric that we use very commonly in the DSM

 6 world to get a sense of how aggressive a plan is.

 7   And so just to clarify, for example, if

 8 we're in a world where we're expecting demand to grow

 9 at, let's say, 1 1/2 percent per year, if we talk about

10 a 1 1/2 percent incremental annual savings rate, what

11 that means is we flattened load growth, right? So --

12 so whatever -- however it was going to grow, we're

13 bringing it down by 1 1/2 percent. The next year it

14 was going to go up by 1 1/2. We're bringing it down

15 again. It's incremental annual savings as a percent of

16 load. So this is a chart that you'll see very often.

17   The other chart that will come up on

18 several occasions is the load forecast chart, which

19 you're much more accustomed to seeing. And, obviously,

20 that kind of goes in the other direction. So the

21 higher -- the higher the growth, or the higher the bars

22 here -- or the lines here, in terms of incremental

23 annual savings, the lower -- you know, the more it

24 pushes down the load growth bar. That's all.

25   So we started out with a 2013 plan that

7983

1 had, on average, about 0.4 percent per year savings.

2 As I mentioned in my -- in my written testimony, that

3 was very low, certainly when we compare with other

4 regions. I mentioned Massachusetts earlier. They --

5 they are required to achieve 2.6 percent savings per

6 year. That's on the very high end of the spectrum.

7 Vermont has been doing roughly 2 percent per year for

8 quite some time now. They're in the process of

9 determining whether they increase that to 3 percent per

10 year, which would make it the highest in North America.

11   There are a large number of regions that

12 fall somewhere in the, I'll say, 1 1/4 to 2 percent

13 range. That tends to be a common range for those

14 regions that are -- that are taking energy efficiency

15 very seriously and that are -- that are being

16 reasonably aggressive at it. One example is just south

17 of here, Minnesota.

18   So Minnesota utilities have to achieve

19 1.5 percent per year. They just -- their 2013 numbers

20 just came in. They achieved over 1.7 percent. But --

21 so that's the kind of range that -- that we like to see

22 as a general rule. And obviously they are general

23 rules that, you know, that you then need to -- to

24 adjust for local circumstances. But those are the

25 kinds of rules of thumb that -- that we keep in mind.

7984

1   So, obviously, the 0.4 percent was --

2   was surprising. Then we have the EnerNOC market

3   potential that pegged it at roughly 1 percent per year

4   on average. But there's a very important -- several

5   very important caveats to that. The EnerNOC market

6   potential, the scope of savings that it examined was

7   rather limited.

8   So, for example, it did not look at any

9   fuel switching opportunities. It did not look at any

10 customer-sided renewables. And there are a number of

11 aspects of the methodology that -- again, I won't spend

12 time getting into today, but I -- I did address them in

13 the -- in the written evidence -- that certainly caused

14 a lot of pause.

15   For example, it was -- their study was

16 based on -- on load growth projections that were far

17 lower than Hydro's own load -- load growth projections.

18 And those two (2) really need to be calibrated to -- to

19 get reasonable results. If they're not calibrated,

20 it's -- it's a big red flag. And we all know that, so.

21 That was a problem that -- that led to an underestimate

22 of -- of savings. There were a few others. They used

23 a partic -- a higher discount rate, for example, than

24 Hydro is using.

25   And by the way, I don't mean this in any

7985

1 -- in any respect as -- as criticism of EnerNOC, per

2 se. I believe some of it had to do with them actually

3 doing the work, you know, previous to -- to some of the

4 newer numbers coming out of Manitoba Hydro. But

5 certainly there's a -- a lack of calibration there and

6 a limited scope that explains why those numbers still

7 look a lot lower than what so many others across North

8 America are -- are doing.

9   Hydro then came out with stress tests.

10 And those stress test -- stress tests essentially said,

11 Let's take our plan and increase it by either one point

12 five (1.5) or by four (4). And those were the two (2)

13 stress tests, and you'll see that with the dotted red

14 lines on this chart. And those were, I believe, built

15 into the -- the analysis.

16   And then we came out with, in our

17 written testimony, scenarios that we believe to be the

18 most reasonable scenarios for Manitoba. And so you see

19 them here with the blue lines. Essentially what you

20 see is a -- you know, a reasonably, I don't want to say

21 slow ramp-up, but you know, taking our time to -- to

22 ramp up to something in the range of 1 1/2 percent per

23 year by the fifth or sixth year, and then holding that

24 level steady.

25   And there's a second error; I apologize

1 for this. The -- what you should see here is not

2 Dunsky's scenarios 1.3 and 1.1, but rather 1.5 and 1.3

3 percent on average. And part of that is because all of

4 these numbers here -- in case anyone's looking very

5 carefully and finds any discrepancies -- is because all

6 of these numbers include both program savings and

7 additional savings that are currently expected to come

8 from provincial codes and standards that have already -

9 - that are already on the books. And so they -- those

10 just bumps things up a little bit by about -- I think

11 it's 0.02 percent.

12   MR. BYRON WILLIAMS: Just to stop you,

13 Mr. Dunsky, just for the record. We're looking at

14 slide 12 of your Power Point. And in the bottom left-

15 hand corner, where I see Dunsky's scenario 1.3 percent,

16 when we put in codes and standards, that should be 1.5

17 percent, sir?

18   MR. PHILIPPE DUNSKY: Yes.

19   MR. BYRON WILLIAMS: And when I see the

20 one point one (1.1), that should actually be one point

21 three (1.3)?

22   MR. PHILIPPE DUNSKY: Yes. So that's -

23 - that's essentially where we were. And this is prior

24 to Hydro's rebuttal evidence and their new plans. And

25 so I don't want to focus too much attention on -- on

1 this here.

2   THE CHAIRPERSON: Mr. Dunsky, just --

3 just to clarify -- this -- the figures -- the graph

4 we're seeing there is slightly higher than one point

5 five (1.5).

6   So the -- so the one point three (1.3),

7 one point one (1.1) would be averages, wouldn't it?

8   MR. PHILIPPE DUNSKY: Yes, exactly,

9 exactly. So I'm going to leave that chart for a second

10 and I'm going to come right back to it afterwards,

11 because I want to look at the actual numbers behind

12 that.

13   So the scenario that we produced -- and

14 this -- this speaks to -- to your question, Mr.

15 Gosselin. We -- we put forth a -- a table with very

16 specific annual values going from 2014 to 2020. And

17 then you'll see in the -- in the 2020 column -- I'm on

18 slide 13 -- in the 2020 column, a plus-plus meaning

19 that we maintain that level of savings for all of the

20 years thereafter.

21   And so those are the scenarios that we

22 had. And there you'll see the ten (10) year average in

23 the dark blue for programs only that are at one point

24 three (1.3) or one point one (1.1). And the final

25 column is the ten (10) year average including those

7988

1 codes and standards. And there you'll see one point

2 five (1.5) and one point three (1.3), and that's a ten

3 (10) year average.

4   And the really important thing to

5 mention here is I put in a ten (10) year average really

6 just for simplicity sake. And the critical thing is

7 it's not just for ten (10) years; it then continues

8 thereafter.

9   In Hydro's rebuttal evidence Hydro put

10 up a table that I was very glad to see partly, because

11 it was a very significant departure from their previous

12 -- from their previous plan. And what you see there

13 ultimately, in terms of the ten (10) year average with

14 codes and standards, are essentially the same values,

15 two (2) scenarios or two (2) -- I'm excluding Level 1

16 here because I think we're all, in this hearing,

17 talking primarily about Level 2 and Level -- Level 3,

18 from what I've seen from the transcripts.

19   So in terms of Levels 2 and 3, you're

20 looking at ten (10) year averages that look like 1.3

21 and 1.5 percent again. The actual gigawatt hour

22 numbers are ever so slightly different, but obviously

23 it's a fraction of a decimal different, and so we're

24 looking at very similar numbers.

25   So I was -- you can imagine I was very

1 heartened to -- to see those numbers and kind of

2 thought to myself, Well, great, we're done, and -- and

3 maybe I don't get to come to Winnipeg. And then I -- I

4 looked at something else, which is the impact that it

5 has on the load growth forecast.

6   And I put up here on the top a chart

7 that comes from my original evidence, where you see on

8 the top Hydro's load forecast, the -- the thick blue

9 line is the base forecast without any DSM. The dotted

10 blue line is the forecast with the original Power Smart

11 Plan. And then you'll see in -- with the orange dotted

12 lines the load forecast with our scenarios. And

13 obviously, that essentially looks like a flat -- flat

14 load forecast once you include our scenarios.

15   So I was very surprised when I saw in

16 that presentation the same chart coming from Hydro's

17 new DSM scenarios not looking at all like ours. And so

18 what you see there is actually more of a dip in the

19 initial years for Levels 2 and 3.

20   But then after the few -- the first few

21 years, the curve starts rising again and rising quite

22 substantially. So in the end, their -- their Level 2

23 cuts out roughly 50 percent of the anticipated load

24 growth, whereas my scenarios cut out roughly a hundred

25 percent, give or take, of the growth. All right. It's

 1 a very substantial difference.

 2   So I sought to understand why. And --

 3 and that's when -- you'll have to excuse me. I'm a

 4 very visual person. You'll -- you'll get that from all

 5 the visuals that I'm throwing at you. I don't see

 6 things in a table. I see things in a chart. My -- my

 7 wife hates it. She says I always have to have

 8 conversations through charts.

 9   So I went to -- to plot out those new

10 levels, and -- and this is what they -- what they look

11 like. And what you see, obviously, is a very

12 substantial -- you know, I'll call it a very dramatic

13 increase in savings, you know, over those -- in the

14 initial plan in the early years, going from 2014 to

15 2016. And then it drops it off. And after 2018, the

16 DSM savings really drop off quite dramatically.

17

18 CONTINUED BY MR. BYRON WILLIAMS:

19   MR. BYRON WILLIAMS: Mr. Dunsky, if I

20 could interrupt you. This is important slide. And I

21 just -- you'll confirm that this is slide 14?

22   MR. PHILIPPE DUNSKY: This is slide 14,

23 yes. Thank you. So we're looking at an extremely

24 aggressive ramp up in the first three (3) years, and

25 then a very rapid decline post -- post-2018.

7991

 1   One (1) thing I realized as I was --

 2 and, sorry, I'll -- I'll go back for a second. One (1)

 3 thing I realized as I was looking at that slide is

 4 that, again, I had inadvertently been looking at things

 5 over a ten (10) year window just to kind of simplify my

 6 view. And then when I actually take that and extend it

 7 out over the full planning horizon, I've chose to look

 8 to 2034, you see the enormous importance of that

 9 dropping off of the new DSM scenarios for a planning

10 time frame, for a planning perspective.

11   So in this chart on slide 15 all I've

12 done here is extended the time covered by the graph out

13 to 2034. And again, you see, you know, extremely rapid

14 ramp-up to over 2 1/2 percent by 2016. That would be -

15 - that would put hydro right up at the very top of

16 North America along with Massachusetts and Vermont.

17 And then over the initial ten (10) year period we see

18 an average of 1.3 percent and that's consistent again

19 with that earlier table. But then over the -- over the

20 ten (10) or eleven (11) years following it drops down

21 to an average of, I believe, it's 0.28 percent.

22   And so this is -- again, not to repeat

23 myself, but I will, this is absolutely substantial and

24 critical from a long-term planning perspective to

25 understand, you know, the load fore -- the effect on

 1 load forecast. And again -- so on slide 16, just to --

 2 to clarify that, just again, using the arrows to -- to

 3 point to how those different levels of DSM actually

 4 impact the load forecast and -- and explain the

 5 differences that I was finding in our load forecast

 6 after DSM and -- and Hydro's.

 7   MR. BYRON WILLIAMS: Mr. Dunsky, just

 8 from this slide, just to make sure I have it right, in

 9 -- in the top graph you -- you portray the -- the

10 collapse of the Hydro DSM scenario around 2018 and then

11 the arrow runs down to the left as an explanation for

12 the still significant growth in load under Hydro's DSM

13 Scenario 2.

14   Is that right, sir?

15   MR. PHILIPPE DUNSKY: Yes, it is.

16   MR. BYRON WILLIAMS: And on the -- on

17 the -- again, at the top in the blue you present your

18 two (2) scenarios and a -- a more moderate ramp-up and

19 then a -- a steady pace afterwards. And you suggest

20 how that would lead to, in your scenarios, a close to

21 zero growth on the right-hand side at the bottom.

22   Is that right, sir?

23   MR. PHILIPPE DUNSKY: Yes, it is. So

24 one (1) thing to say is I -- you know, part of this is

25 time, right? And I think part of this, frankly, is --

7993

1 is about how -- you know, turning -- turning ships

2 around. It doesn't happen overnight. This is -- the -

3 - the short-term change that I'm seeing in Hydro's plan

4 is absolutely dramatic and it cannot be -- it cannot be

5 overstated.

6   I strongly suspect that if we were

7 having this conversation in a year from now, the impact

8 of the short-term change to the long-term view will

9 have percolated as well, and we would probably be

10 seeing -- because, you know, the folks at -- I'm -- I'm

11 speaking out of turn here, but I believe that, you

12 know, the folks at -- at Hydro in DSM understand this

13 full well and know that, you know, opportunities

14 continue to evolve over time. And there's actually

15 recognition of that in the evidence. I think I have

16 that on the next slide.

17   So I strongly suspect that that would

18 percolate and we wouldn't be seeing this dramatic drop

19 off in the long-range planning if we're having this

20 conversation again in a year from now, when it -- you

21 know, when it had the time to make its way, you know,

22 through the -- through the process. But because it's

23 fresh and because the fresh changes on the short-term

24 three (3) year plan, that's the only way that I can

25 explain why it hasn't actually made its way into the

 1 longer -- the longer time frame.

 2   So just to summarize that -- that first

 3 section: In the near term Hydro's Levels 2 and 3

 4 represent a dramatic and very commendable change in DSM

 5 planning and target setting that absolutely, you know,

 6 puts them on average for the first ten (10) years in --

 7 in the place that, frankly, I would expect them to be,

 8 given what I know about their capabilities and Manitoba

 9 Hydro -- well, not Manitoba Hydro's, but Manitoba's

10 context in North America.

11   In the long-term, however, the planning

12 level inputs very quickly revert back to previous

13 assumptions. These assumptions grossly understate

14 DSM's future contributions. And that's assuming that

15 Manitoba Hydro maintains its policy that it stated

16 recently in one (1) of the many pieces of evidence that

17 came out -- and I again apologize.

18   I -- I have conversations from time to

19 time with Mr. Williams, who -- who very easily refers

20 to exhibit, you know, one hundred (100) and whatever

21 'C'. I get lost in those. But I did -- I did see a --

22 a pretty clear statement, and welcome statement from

23 Hydro, that its policy is the pursuit of all economic

24 DSM. Assuming that Hydro maintains its pursuit to all

25 economic DSM policy, that understatement would remain

7995

1 and would undermine the credibility of the domestic

2 load forecast.

3   MR. BYRON WILLIAMS: Mr. Dunsky, before

4 we -- and the -- the panel may want a -- a break in a

5 couple moments, but I wonder if I could just ask you to

6 turn back to slide 15 for a moment.

7   And lest you be -- be accused of never

8 meeting an aggressive DSM plan that you didn't like,

9 Mr. Dunsky, have you ever done an analysis where you

10 suggested a more conservative approach to DSM than the

11 DSM provider?

12   MR. PHILIPPE DUNSKY: I'm sure it's

13 happened on several occasions. Never a fun thing, but

14 -- but it definitely does happen. And ultimately --

15 you've been, I've been at it for twenty-three (23)

16 years, so -- so at some point you kind of get the long-

17 run view. And -- and, you know, being in it for long-

18 run, you want to make that this stuff is successful.

19 Not just, you know, pie in the sky.

20   So, to be honest, when I look at this

21 chart, I'm reminded of work I was doing in Nova Scotia

22 several years ago, where -- where Nova Scotia went from

23 doing very little DSM, and all of a sudden was -- was

24 given targets that lead to a chart that looked very

25 much like this, with -- with an enormous spike. In

7996

1 their case, it went up to, I think it was, about 3

2 percent -- 2.9 or 3 percent in the peak year, which

3 was, I believe, three (3) or four (4) years out, and

4 then came back down again and levelled off at around --

5 I think it was around 1 1/2 or -- or 2 percent.

6 And in that case I -- I'd been hired by

7 the -- the DSM administrator to -- to look at their

8 plan and I -- I strongly recommended that they -- that

9 they reduce it. And I testified at a -- at a hearing

10 there, recommending that the -- not so much that the

11 long-run goal be changed, but -- but that the short run

12 increase be levelled, so that you actually have a

13 transition time and a levelling time.

14 I do get very nervous when I see boom

15 and bust cycles. And in energy efficiency, it is

16 extremely important to be engaging with the market in a

17 sustained fashion, helping them build up and then not

18 dropping them -- dropping them out, if you will. You

19 can get into serious trouble in the marketplace with

20 that. And, ultimately, in efficiency -- contrary to

21 other things -- you don't actual control, you're

22 influencing the market and you have to work with the

23 market, and so you don't want to be creating boom and

24 bust situations for them.

25 MR. BYRON WILLIAMS: So, just -- if we

1 stay with this graph for a moment, we see under your

2 scenarios originally presented, you had a more gradual

3 buildup -- I'll suggest to you -- but then you stayed

4 at a -- a consisen -- consistently high level at or

5 around 1.5 percent in terms of forecast load.

6   Is that right?

7   MR. PHILIPPE DUNSKY: Yes. Yeah.

8   MR. BYRON WILLIAMS: And from a comfort

9 level, sir, do you have more comfort recognizing that

10 you -- with -- with the red plan being the hydro plan,

11 or the -- a -- a more gradual but more sustained blue

12 plan?

13   MR. PHILIPPE DUNSKY: Yeah, I mean, I -

14 - obviously I -- I have more comfort with -- with the

15 plan I put forward and that's -- you know, that's why I

16 put it forward. I should say, you know, there's --

17 there's an important caveat and some humility to -- to

18 add into this.

19   And that is that, you know, I haven't --

20 I haven't looked very closely and I certainly haven't

21 discussed with -- with Hydro what is behind the very

22 rapid ramp-up that's currently anticipated in their

23 three (3) year plan. There may be something there that

24 I'm just not aware of. There may be, you know, some --

25 some new development, for example, that is ripe for --

1 for serious savings opportunity.

2   I -- I don't want to assume that -- that

3 that ramp-up is not feasible. But certainly at a high

4 level I tend to prefer a -- a little bit more of a

5 conservative and -- and steady-as-she-goes approach.

6   MR. BYRON WILLIAMS: And if we could

7 just go to slide 17 again, because I don't want my

8 questions to lose your -- your ultimate point.

9   And what I understand you to be saying,

10 sir, is while you're -- you're very appreciative of the

11 dramatic and commendable change in DSM planning by

12 Hydro, your concern is that as we get out past that

13 first big bump, that -- the quick reversion back to

14 previous assumptions will tend to understate

15 significantly the amount of all economic DSM available,

16 and will tend to undermine the credibility of the

17 domestic load forecast and that it is likely to be

18 quite overstated?

19   MR. PHILIPPE DUNSKY: Yeah. I mean, to

20 be clear, you know, my real concern, when I see this --

21 this kind of change, you know, typically, regions that

22 ramp up very quickly, they don't tend to ramp down very

23 quickly thereafter, you know. I -- I suspect that what

24 would happen is, you know, Hydro, you know, achieves

25 this level, and then, you know, learns how to maintain

 1 that level, and -- and eventually does maintain that

 2 level.

 3   And so my concern isn't so much that --

 4 that the level itself would drop off dramatically. My

 5 concerns is that the load forecast upon which you all

 6 are going to be basing your investment decisions today

 7 does not represent what is likely -- what is most

 8 likely to happen in the real world, which is a -- you

 9 know, a sustained DSM effort.

10   MR. BYRON WILLIAMS: Thank you. And,

11 Mr. Chair, subject to the -- the wisdom and direction

12 of the panel, this may be an appropriate time for a

13 break.

14   THE CHAIRPERSON: Thank you for that,

15 Mr. Williams. I agree with you. I think we should

16 take ten (10) minutes. Thank you.

17

18 --- Upon recessing at 10:30 a.m.

19 --- Upon resuming at 10:46 a.m.

20

21   THE CHAIRPERSON: Before we start, I

22 have some -- a few words to say. Manitoba Hydro asked

23 clarification of the priorities for updating the

24 economic and financial analyses. The panel's number 5

25 priority is to perform the financial analysis of the

1 fully updated Plan 4 DSM 2. And the panel's number 6

2 priority is to perform the financial analysis of fully

3 updated Plan 6, the DSM 2. Okay.

4   Does that clarify?

5   MS. MARLA BOYD: Thank you for that.

6   THE CHAIRPERSON: I'm sorry about the

7 error. Thank you.

8   Is it -- can we continue, Ms. Boyd, in

9 the absence of your colleagues?

10   MS. MARLA BOYD: Yes, please do. I'm

11 sorry.

12   THE CHAIRPERSON: Okay. Back to you,

13 Mr. Williams, or Mr. Dunsky.

14

15 CONTINUED BY MR. BYRON WILLIAMS:

16   MR. BYRON WILLIAMS: Provided Mr.

17 Dunsky remembers to reference the slide numbers, I'm

18 going to allow him back on the wagon.

19   MR. PHILIPPE DUNSKY: Thank you. So on

20 slide 18, entering to the second -- second section of

21 the presentation, being why -- fundamentally, why this

22 is a problem. Why -- why it's a problem to assume only

23 the savings that we -- that we have right immediately

24 in front of us in a three (3) year plan, and then to

25 assume that the bottom falls out because we will have -

8001

1 - you know, we will have secured those savings, and --

2 and that's it for the future.

3   So -- so let me just start up -- start

4 off by, you know, mentioning my -- certainly my view on

5 the DSM resource is that, fundamentally, the DSM

6 resource is -- is innovation. It is strictly a matter

7 of innovation. We get more efficient over time because

8 we seek to be more efficient over time because we need

9 to be more efficient over time. And we get there

10 through technological innovations. We get there

11 through -- through social innovations, as well,

12 ultimately, even through regulatory innovation.

13   But the innovation is what drives us to

14 become increasingly energy efficient. It's really no

15 different than mining or oil and gas drilling in the

16 sense that it's not just about what we know to be

17 immediately underneath us in the field. It's about --

18 it's about the more we want to find more oil, the more

19 we find new and innovative ways to get at that oil.

20   So innovation doesn't stop. It tends to

21 strengthen over time. And certainly that's what we're

22 seeing these days. I can certainly say that over the

23 past few years, there's been unprecedented capital

24 flowing toward energy innovations. And that is both on

25 the generation side and on the demand side.

8002

 1   I have, in -- in my experience, never

 2 seen the level of innovation on the energy efficiency

 3 side that I'm seeing today. And those innovations, of

 4 course, are -- are for technologies and approaches that

 5 either have come to market and will continue to grow in

 6 the market, or will becoming to -- to market in the

 7 coming years. And those innovations are what will

 8 ensure that those savings can be sustained over time so

 9 that in ten (10) years from now, we're still improving

10 our efficiency by 1.5 percent per year, and in fifteen

11 (15) years from now, and in twenty (20) years from now.

12   So that's -- that's just a general

13 principle. I -- I read in Hydro's rebuttal evidence

14 what is, you know, nothing other than a recognition of

15 that. And again, not surprisingly, because, you know,

16 they know energy efficiency very well -- and so I'm on

17 slide 20 here, you know, where in the rebuttal evidence

18 we read:

19   "Manitoba Hydro recognizes that the

20   targets in this plan are conservative

21   and some programs and opportunities

22   which could be reasonably expected to

23   be achieved within the planning

24   horizon were excluded. These and

25   other programs are expected to be

8003

1   added in future Power Smart plans."

2   I -- I know that that is certainly the

3   case for the -- for the plans that are immediately in

4   front of us, and I would just suggest that that will

5   continue to be the case over time, again.

6   So what I thought I would do to -- to

7   maybe drive that home a little bit is talk about five

8   (5) very specific examples. These are by no means the

9   only examples that I could talk about. I -- I am, you

10 know, biting my -- biting my fingers limiting it to

11 this, because there's so many others that are

12 absolutely fascinating and they're hitting market

13 today.

14   But let me start with -- with five (5) -

15 - five (5) very concrete examples. And just to -- to

16 throw you off a little bit, I'll actually start with

17 one that is not a technology innovation, but rather a -

18 - I'll call it a regulatory innovation or regulatory

19 change. And that is a very strong and recent drive to

20 increase efficiency standards. After I finish with

21 that I'll talk very quickly about LED lighting. Again,

22 Mr. Klassen mentioned that this morning. I'll talk

23 about heat pumps. I'll talk about data-driven

24 analytics. And -- and I -- I fear that that's where

25 I'll start sounding like the title that Mr. Gange

8004

1 associated with me earlier. And finally, I'll talk

2 about solar photovoltaics, again, as just examples of

3 the sorts of innovations that are coming forward.

4   But so let me just start quickly with

5 codes and standards. Building codes and -- and

6 appliance standards -- and when we say, "appliance,"

7 it's writ large, right, all equipment -- are

8 essentially around to secure the adoption of the DSM

9 innovations. In other words, an innovation hits the

10 market. You know, it follows a typical Rogers's curve.

11 It grows in that market through voluntary adoption, and

12 at some point it's become prevalent enough and -- and

13 cost effective enough and available enough that the

14 government steps in and says, All right, you know, from

15 here on in this is the standard and everyone -- you

16 know, the bar is raised for -- for all.

17   In terms of building codes, they tend to

18 be very specific to geography for obvious reasons.

19 I'll note that Canada recently adopted far more

20 stringent model codes for it's -- for commercial

21 buildings than we had previously. Those are model

22 codes that the provinces then -- then adopt on their

23 own. And I'll also note simply that Manitoba Hydro --

24 sorry, not Manitoba Hydro, but Manitoba has long been

25 among the leaders in Canada in adopting new building

8005

1 codes for energy efficiency.

2   So that's just talking about the codes

3 piece. I really want to talk about the standards.

4   MR. BYRON WILLIAMS: Before you get

5 there, we're -- we're on about page -- slide 22, are

6 we, Mr. Dunsky?

7   MR. PHILIPPE DUNSKY: We are; we are

8 indeed.

9   MR. BYRON WILLIAMS: Good man.

10   MR. PHILIPPE DUNSKY: What -- what I

11 think is more interesting right now is standards. And

12 so standards -- typically standards will be Canada-

13 wide. Some provinces adopt their own standards, but

14 those are few and far between. So typically they're --

15 they're federal standards, they're adopted.

16   In -- in Canada today under this

17 government, we tend to simply follow the US's lead on

18 standards. So we have not been getting out in front.

19 We've been waiting to see what the US does and then

20 harmonizing with them. That's been the policy approach

21 for the past several years.

22   The interesting thing is that over the

23 past four (4) years, under the Obama administration in

24 the US, there's been an absolutely unprecedented

25 overhaul of energy efficiency standards. The standards

 1 that have been adopted in the past several years are

 2 expected to achieve savings in the US by 2030 on the

 3 order of 300 terawatt hours per year. And so to put

 4 that into context, it's about 10 percent of total US

 5 electricity demand. The administration has suggested

 6 that more will come. If they do what they said that

 7 they're going to do, we might be looking at roughly 150

 8 terawatt hours additional coming in the next few years.

 9   And so the point is this, that we're in

10 a period right now of sudden -- a sudden and very

11 significant increase in the adoption of standards in

12 the US that lead directly to very strong energy

13 savings. And we have a policy here of harmonizing with

14 the US. So what happens down there trickles up here

15 and very quickly.

16   And -- and my firm does a lot of work on

17 this question. For example, for Natural Resources

18 Canada, every time the US adopts a new standard, NRCan

19 seeks to examine how quickly and -- and whether there

20 are any minor changes or adaptations for us to adopt

21 those same standards.

22   So those standards are coming here. And

23 just to -- to give you and example. They're currently

24 thirty-two (32) energy efficiency standards proposed

25 for adoption by the federal government in Canada. They

8007

1 cover -- I won't read the list -- but everything from,

2 you know, commercial chillers to room air-conditioners

3 to microwaves, dishwashers, clothes dryers, you know,

4 pool heaters, pre-rinse spray valves, line voltage

5 thermostats, et cetera.

6   All of these standards are about to be

7 adopted and will be coming into effect in the next

8 couple of years. The vast majority of them are

9 standards that will improve the efficiency of

10 electricity use specifically; and again, in all

11 likelihood, a fair a bit more to follow in the coming

12 years as the Obama administration down south continues

13 in its -- in its program of adopting standards.

14   DR. HUGH GRANT: Can I -- can I

15 interrupt with a naive question? If there was this,

16 sort of, new technology -- say, a new hot water heater

17 came along. And it clearly the marginal benefit

18 outweighed the marginal cost, and it should be adopted

19 from a social perspective.

20   Why wouldn't it happen voluntarily?

21   MR. PHILIPPE DUNSKY: Oh, my goodness.

22 So this is -- this is the work of my life you're

23 asking.

24   DR. HUGH GRANT: Then maybe a brief

25 answer.

8008

 1   MR. PHILIPPE DUNSKY: Market barriers,

 2 that's a very brief answer.

 3   DR. HUGH GRANT: Meaning that the

 4 private benefit costs is different than the social?

 5   MR. PHILIPPE DUNSKY: Yes. And meaning

 6 that it takes an awful lot of time for new products to

 7 get to market, to be as available as they ought to be

 8 for market actors to become familiar with them, to find

 9 a business case for them, modify their own businesses

10 to start selling them, you know, give them preferential

11 shelf space. For example, if you just think of, you

12 know, a Home Deport, let's say.

13   There -- there's a lag. There's a real

14 lag. And there's also a lag on the demand-side for

15 customers to become aware of them, appreciate them,

16 understand them, get comfort with them, and eventually

17 move to adoption.

18   On top of all that, a lot of the

19 products that we're talking about are replacements. So

20 I'm not going replace dishwasher even if, you know, a

21 brand new thing comes into market today. You know,

22 that'll happen in ten (10) years.

23   DR. HUGH GRANT: But is that partly a

24 case where the consumer doesn't rationally think about

25 the initial purchase cost and the benefits -- the

8009

1 stream of benefits that are going to be stretched out

2 over the next fifteen (15) years?

3   MR. PHILIPPE DUNSKY: There -- there's

4 -- I mean, absolutely, that's a part of it. It's not

5 the whole picture, but definitely a part of it is

6 consumers -- you know, it's -- it's transaction costs

7 and information costs if we're talking economic terms.

8 So, yes, fundamentally consumers need to understand the

9 technology, need to know what the savings will be over

10 the lifetime of that measure and how that translates

11 into costs, factor that into their decision-making

12 process and, you know, frankly, they're just looking to

13 buy a lightbulb.

14   DR. HUGH GRANT: Just last point, is

15 part of it just sort of incomplete information or -- in

16 a sense, I go to buy a new home. The contractors put

17 in an old-fashioned water heater, but the cos -- it

18 keeps the cost of the house down when in fact if they

19 put in the higher priced hot water heater --

20   MR. PHILIPPE DUNSKY: Right.

21   DR. HUGH GRANT: -- you know, be --

22 over the long term it would be a better purchase for

23 me. So in some ways I'm an ill-informed consumer. So

24 in this case you impose a code or standard on the

25 builder that leads to that optimal outcome.

8010

 1   Would that be the right --

 2   MR. PHILIPPE DUNSKY: Yes. Yes,

 3 absolutely.   So that's really all I wanted to -- to

 4 say about codes and standards, just to say that these

 5 things are coming. These things are -- are not

 6 insignificant. They will continue to grow in the

 7 coming years and they will obviously affect -- affect

 8 demand.

 9   I'll talk very quickly about LED

10 lighting. And again, it was mentioned earlier this

11 morning, but let me just put some numbers to it. LED

12 lighting -- several years ago, you know, we were -- we

13 were all very excited about compact fluorescents. And

14 I remember buying my first compact fluorescent in -- in

15 '95 and it was, you know, flickering, and producing

16 awful quality lighting. And that was kind of the Holy

17 Grail. And eventually we -- I won't say we transformed

18 that market yet; there's still a fair bit to do, but --

19 but we -- we gained pretty good penetration.

20   LED lighting is a fantastic example of

21 the continuous flow of innovations where you find one

22 (1) opportunity; you address it; you, maybe not deplete

23 it, but you come close to depleting it; and in parallel

24 someone else is working on a new innovation that goes

25 even deeper.

8011

 1   LED lighting over the coming ten (10)

 2 years is expected to -- to see a -- well, if I look

 3 from 2010 onward, a -- a cost reduction on the order of

 4 80 percent in terms of dollars for the same light

 5 output. And efficiency increases on the order of three

 6 (3) times what it is today. And I should mention I'm

 7 on slide 24 here.

 8   So three (3) times greater efficiency in

 9 barely a decade, 80 percent cheaper than what they are

10 today, or have been over the past -- you know, were a

11 couple years ago. And because of this, we are

12 anticipating very dramatic savings across all sectors.

13 The nice thing about LEDs is they're not just -- you

14 know, they're -- they're ubiquitous. They can -- they

15 can work for light bulbs. They can work for, you know,

16 to replace, you know, T5s or T8s that are -- that are

17 lighting this room here. And, in fact, they -- they're

18 actually extraordinarily good at providing a number of

19 new lighting services that hadn't even been thought of

20 before.

21   So LED lighting is coming. I noticed in

22 the EnerNOC study, for example, LEDs were not included

23 until 2020, because they were assumed to not be cost

24 effective by then. I also note that Manitoba Hydro

25 currently promotes LEDs in some of its programs. So

8012

 1 it's just another example of something that, you know,

 2 we -- when we -- when we look at things statically

 3 today we say, you know, if it's not cost effective

 4 today, we're not going to -- you know, it's not really

 5 an opportunity. In fact, it absolutely is. You know,

 6 my entire house is -- is lit with LEDs and I'm going to

 7 wager that that will be the case for the vast majority

 8 of homes within a decade.

 9   Let me talk about heat pumps, which was

10 partly the source of that discussion that we had a year

11 ago. And I'll talk very specifically about ductless

12 heat pumps. And the reason I should say I want to talk

13 about ductless heat pumps is partly because we don't

14 talk about them a lot here in Manitoba and partly

15 because they serve a very particular need.

16   The value of ductless heat pumps is that

17 they don't require ducts. And so all of the homes in

18 Manitoba that heat with baseboard electric and would

19 not want to -- you would not want to think about

20 heating them with geothermal because that would require

21 putting in an entire distribution system, you know, can

22 very easily take a ductless heat pump to supplement --

23 to supplement the -- the heat there.

24   So heat pumps are an excellent

25 opportunity for baseboard heated homes. The really

1 nice and interesting thing about ductless heat pumps

2 that didn't exist ten (10) years ago is the advent of

3 what are called inverter-driven models. And I won't

4 bore you with the details there. And, frankly, I'm not

5 an engineer and I wouldn't be able to bore you with the

6 details there. I would have to turn to one (1) of my

7 engineers back in -- back in the office.

8   But inverter-driven models can achieve

9 extremely high efficiencies even at extremely low

10 temperatures, looking at something like 200 percent

11 efficiencies. By the way, that sounds, you know,

12 counterintuitive. But what it means, of course, is

13 that -- is that half (1/2) of the -- half (1/2) of the

14 heat that it's providing is being sucked out of latent

15 heat in the outso -- in the outside air even at minus

16 20 degrees.

17   That heat pumps can supply between 30 to

18 60 percent of the home heating needs in Manitoba given

19 Manitoba's very specific climate. And we did modelling

20 for the City of Winnipeg on this and -- and found

21 numbers in that range depending on the size of the

22 home.

23   Heat pumps have a number of other

24 benefits for customers. They -- they improve air

25 quality in winter. If you're used to baseboard heating

8014

 1 you'll understand what I -- what I mean. They provide

 2 zonal control. So heat pumps, what they are

 3 essentially is you have an outdoor unit. And then you

 4 have a number of indoor units, almost like air

 5 conditioners. So you can have, let's say, you know,

 6 one (1) in the master bedroom and -- and one (1) in the

 7 -- in the livingroom. And if you're not using the

 8 master bedroom throughout the day, you know, it can be

 9 programmed to be at a much lower -- lower temperature.

10 So you get additional savings there.

11   And it provides air conditioning in the

12 summer, which, of course, you know, slightly increases

13 loads overall, but, nonetheless, on a year-round basis,

14 given the climate and -- and -- in Manitoba, provides

15 substantial savings.

16   I -- I put up here just, you know, an

17 example of the performance of a typical inverter-driven

18 heat pump. What you see on the chart is -- well, I'll

19 urge you to look at the -- the blue triangles toward

20 the top there. And that is the coefficient of

21 performance, in other words, the efficiency. So a two

22 point zero (2.0) would be -- would be 200 percent

23 efficiency. And you see here how that evolves across

24 temperature ranges.

25   I'll note the temperature ranges here in

8015

1 Fahrenheit, so a minus 5 Fahrenheit, for example, is

2 roughly minus 20 or minus 21 Celsius. At that level,

3 it's still producing two (2) units of heat for every

4 one (1) unit of electricity that -- that it consumes.

5   If I --

6   MR. BYRON WILLIAMS: Mr. Dunsky, if you

7 could go back to slide 25 just for a second. I see the

8 -- the graph in the right-hand corner is labelled,

9 "Yukon DHP Study."

10   Can you just tell us where this

11 information comes from, sir?

12   MR. PHILIPPE DUNSKY: Sure. This --

13 this is a study that was done for -- or I should say by

14 the Government of -- of the Yukon for their territory.

15 And -- and the results here resemble very much the same

16 results that so many other studies have found.

17   In the Northwest, US in particular,

18 they've done a lot of study. They have a pilot project

19 that recent -- was recently completed. It was a pilot

20 project of over four thousand (4,000) units installed.

21 They did extensive testing on a number of those units

22 and found numbers very, very similar to this.

23   There are other studies, as well.

24   MR. BYRON WILLIAMS: And before you --

25 you turn, at the risk of displaying my ignorance,

1 yesterday we had the benefit of hearing evidence from a

2 Mr. Gio Robson, from prairieHOUSE. And I'll ask you to

3 accept, subject to check, that he described something -

4 - a technology called cold climate air source heat pump

5 and indicated, at least in my notes, that -- that this

6 technology was ready to flower.

7   Is that a different technology, sir,

8 from ductless heat pumps, or is it the same, or have I

9 given you insufficient information?

10   MR. PHILIPPE DUNSKY: It -- it could be

11 the same. So, you -- you can have -- when we say 'cold

12 climate heat pumps', it's, you know, it -- it's a

13 little bit semantics. But it's -- you know, heat

14 pumps, they're designed specifically for cold climates

15 and you can have both -- both cold climate air source

16 heat pumps that -- that distribute their heat through

17 internal distribution systems, and you can have cold

18 climate adapted ductless heat pumps as well. So, this

19 is the ductless heat pump version.

20   MR. BYRON WILLIAMS: Thank you.

21   MR. PHILIPPE DUNSKY: So, if I continue

22 with -- with DHPs a little bit. DHPs are posting very

23 strong growth today across North America, for some of

24 the reasons I just mentioned. In the US, they are

25 doubling every four (4) years in -- in market share.

8017

1   In Canada, I'm afraid I don't have

2 market data per se, but I can definitely say,

3 anecdotally, that the evidence is very strong of very

4 rapid growth. We're working in several markets in

5 Canada where some of our clients have been taken aback

6 by the -- the extraordinary prevalence of ductless heat

7 pumps in the market.

8   The thing to mention with ductless heat

9 pumps, is you have -- you have ductless heat pumps that

10 are designed to produce high performance in cold

11 climates and others that are not. And, so, where DSM

12 programs come into play is really encouraging adoption

13 of the high performance versions of these heat pumps.

14 They are -- in several markets in Canada, they're

15 flying off the shelves, literally. But we want to be

16 there to make sure that only the high performance

17 versions are -- are being sold there as much as

18 possible.

19   In terms of the cost of heat pumps, I

20 put up here a -- a chart from -- from a very recent --

21 well actually, this is from a 2009 study, and there's

22 recent evidence that essentially points to the same

23 numbers. You're looking at, by and large, $6,000 as

24 the install cost for a typical home.

25   Now, the thing to note about ductless

8018

1 heat pumps is they -- they don't need to be designed to

2 supply all of the heating in a home. I mentioned 30 to

3 60 percent before. So, your -- your typical customer

4 for this is going to be a customer that already has

5 baseboard heat, isn't looking to gut their entire house

6 and put in a whole distribution -- air distribution

7 system. But just wants to put this up and they might

8 put one (1) or two (2) what we call heads in. And

9 those heads may supply, let's say, half of the heating

10 needs of the home. The other half to be supplied by

11 the baseboards that are already there. And so, that's

12 -- that's what you might find as a typical $6,000

13 cost.

14   Now, Hydro put in its evidence -- its

15 rebuttal evidence, that it wasn't pursuing heat pumps

16 because they would cost in the range of 14,000 to

17 $16,000 and I was very surprised by that. And I

18 suspect again that we're just talking about different -

19 - different cases. It might cost $14,000 to -- to

20 install -- even then, frankly, it's very high, but

21 let's just say it's $14,000 to -- to install enough

22 heads to cover every single room in the house, but

23 that's not how these things are used.

24   So, the nice thing about heat pumps is

25 that they're -- or ductless heat pumps is that their

 1 price point is much lower than something like

 2 geothermal. It's not to say that geothermal is bad by

 3 any means. I've put geothermal in my own house. But

 4 that's a very large investment and that covers all of

 5 my heating needs and this is another share of the

 6 market, another slice of the market, that can be

 7 addressed in a different way.

 8   I also note that -- that ductless heat

 9 pumps were excluded from the EnerNOC study, despite

10 being absolutely present in the market today and going

11 very strong.

12   Let me switch to the fourth example,

13 slide 28. I'm now getting it from both sides. That's

14 good. You clearly found my blind spot.

15   Fourth example is -- is data driven

16 analytics and that sounds extraordinarily dry. But

17 for me is one of the most exciting things that's

18 happening today in demand-side management. And I want

19 to give you three (3) examples of how that works and

20 how that's changing things in -- in terms of what we

21 do.

22   And really, when -- when I say, "Data-

23 driven analytics," this is a combination of two (2)

24 things. It's the growth in computing power combined

25 with the growth in communications, in IT, basically,

 1 you know, wireless communications.

 2   So we now have access to -- to so much

 3 more data than we ever did. And we have the ability to

 4 communicate that data outside of our homes. And that

 5 leads to, I'll say, you know, a little explosion of --

 6 of new opportunities. Those opportunities help us to

 7 get savings by changing behaviour, if you will, in the

 8 residential sector by changing the way commercial

 9 building facilities are operated and by even enabling

10 direct utility control of some end uses.

11   So I'll go through the three (3)

12 examples. The first example, some of you may have

13 heard of Opower. Opower is, in the world of energy

14 efficiency, a very well -- it's a little bit of a

15 darling firm now. They started out in the US several

16 years ago. They just had their -- their IPO, a very

17 successful IPO.

18   What they do is provide a very simple

19 concept of neighbour comparisons. They essentially

20 have developed, you know, a pretty strong algorithm and

21 analytic services and social science research and

22 converted that into a very simple way to take customer

23 data, compare the usage of that customer with similar

24 customers in the same region having the same -- having

25 similar housing characteristics, and so, you know,

8021

1 ensuring an apples-to-apples comparison, and then

2 providing that information back to customers to say,

3 Here's how you compare to your neighbour.

4   That sounds very simple. And that has

5 been producing systematically annual savings on the

6 order of 1 to 3 percent in the homes of customers that

7 receive this notice over the past several years now.

8 And that's now operating in a number of states and

9 provinces throughout -- throughout North America.

10   It's fantastically simple. It's

11 something actually I was -- I was involved in -- in

12 looking at, something that Norway was doing in this --

13 in this light just about fifteen (15) years ago today,

14 actually. But they never had the -- the combination of

15 the data and the analytics that enables this to

16 actually be as powerful as it is today.

17   So Opower is one (1) example of a new

18 opportunity for new energy savings that we weren't able

19 to access previously.

20   Another area is what we call smart

21 thermostats. In the past couple of years, there have

22 been over fifty (50) new entrance into the smart thermo

23 -- you know, five (5) years ago, thermostats was --

24 were -- was a pretty dull space to be in, right. I

25 mean, there weren't that may choices. They didn't do

1 very much other than allow you to set the thermostat

2 and -- and maybe program it, and that's about it.

3   Right now, we're looking at an explosion

4 of thermostats in the marketplace, including ones by --

5 by Nest, which is now owned by Google, by Honeywell,

6 which have installed Man in my home. Ecobee is a

7 Canadian manufacturer. The types of functionalities

8 that they offer are extraordinary. They start with

9 assisted programming.

10   So I'm not sure how many of you have

11 programmable thermostats in your homes. Certainly the

12 one that I have, you know, if my wife, who tends to be

13 much smarter than I am, you know, wants to change the

14 program on that, she asks me because that's my work

15 because, otherwise, we don't remember how to change the

16 -- the damn thermostat.

17   So these things provide assisted

18 programming in many different ways. It can be a voice

19 question and answer. They also learn your consumption

20 patterns, and so adjusts automatically to those

21 patterns. They provide nudges, customized nudges. For

22 example, in some cases, they will communicate with your

23 smart phone. And if they notice that you've been -- if

24 your GPS is on, they notice that you've been out-of-

25 town for the past couple of days, they'll sent you a

8023

1 little message saying: Hey, are you out-of-town? If

2 you are, maybe you want to press this button to lower

3 your -- your temperature thermostat until you get back.

4 They will do what are called touchless home energy

5 assessments.

6   So it costs -- today it costs something

7 in the order of five (5) to six hundred ($600) to do an

8 audit of my home. The thermostat is -- is collecting

9 the data, is comparing based on outdoor temperature,

10 and the time that it takes for the -- for the

11 temperature in your home to ramp up to the set that it

12 has, is able to calculate with, you know, reasonable

13 precision, the performance of your home's envelope; in

14 other words, the heat loss of the home.

15   And so it's doing that on its own in the

16 background. No one's coming to your home and it can

17 then provide feedback to you on the performance of your

18 home. It does predictive start to temperature setting

19 algorithms. So in other words, if I want my

20 temperature to be 20 degrees when I wake up at -- at

21 7:15 in the morning, it will know exactly when to start

22 ramping up the temperature, because it knows how well

23 my home performs and how long it takes before -- from

24 the time it starts pumping out heat to the time the

25 temperature in my home gets to 20 degrees. So it'll

8024

1 start it at, you know, 6:48, or at 7:01, whatever my

2 home needs.

3   They offer distance-based controls.

4 They offer distance -- distance-based utility controls

5 as well, so utilities -- if I -- if I choose to allow

6 my utility to do this, often time a utility will say,

7 I'll pay you twenty-five (25) bucks, twenty-five (25)

8 bucks a year and -- for the right to lower your

9 temperature by half a degree up to five (5) times in

10 the year for up to five (5) hours. And if I say yes

11 voluntarily, it allows them to take control of my

12 thermostat and do that within the balance of the

13 contract that we have, and that allows them to address

14 capacity issues, or peak -- peak issues.

15   It offers, you know, alerts to replace

16 your furnace, and then depending on the model that you

17 choose there are some that allow you to put photos up

18 there on your screen, or even control your music

19 system. The point is that these -- these new

20 thermostats offer very impressive new energy savings

21 that we would not have imagined three (3) years ago,

22 that are not to be found in the EnerNOC potential study

23 or, I believe, the current three (3) year plan, though

24 I may be wrong on that. But certainly savings that

25 will be growing over time.

8025

 1   On the commercial building side very

 2 similar things. The case study here is a -- is a firm

 3 by the name of FirstFuel. What they do is they take

 4 realtime meter data from commercial buildings and not

 5 just individual commercial buildings, but fleets of

 6 commercial buildings. So if I own eighty (80)

 7 different commercial buildings across Canada, I can

 8 give them the data for my fleet and they can just

 9 access it in realtime. They take the data, they do the

10 analytics, they bring in other -- other inputs, for

11 example, from satellite imagery, or from climate -- you

12 know, weather statistics.

13   And through that can do what we call a

14 touchless audit and actually audit my building without

15 ever having set foot in it at a bit less than one-third

16 (1/3) of the cost of a traditional audit. And most

17 importantly, they can do that on the eighty (80) plus

18 buildings that I have in my fleet, not one (1) at a

19 time. So this is scaling now.

20   This is an extraordinary new opportunity

21 that we have. I'm just providing a few images from

22 this, but they are not only finding significant savings

23 opportunities and -- and leading to significant

24 savings, but finding it in areas that our previous

25 programs never looked at or never really addressed

1 well. Primarily, operational savings as opposed to

2 just replacing any equipment, now it becomes about how

3 the building manager, for example, is -- is operating

4 the HVAC equipment and making sure they're bringing

5 savings there.

6   MR. BYRON WILLIAMS: And -- and we just

7 left -- we just left slide 33 there, did we, Mr.

8 Dunsky?

9   MR. PHILIPPE DUNSKY: Yes, indeed we

10 did. And so finally let me get to solar photovoltaics.

11   MR. BYRON WILLIAMS: And, sir, the --

12 sir, before we go into solar, can you describe a little

13 bit of how -- how, if at all, you've gained experience

14 in this field whether your work in Saskatoon or -- or

15 otherwise?

16   MR. PHILIPPE DUNSKY: In solar in

17 particular?

18   MR. BYRON WILLIAMS: Yeah.

19   MR. PHILIPPE DUNSKY: Sure. We --

20 we've been doing a fair amount of work on -- on solar

21 power in a variety of different places.

22   In Saskatchewan you mentioned, we worked

23 -- we initially worked with the government of

24 Saskatchewan. They hired -- they had a -- a program to

25 encourage adoption of solar PV. They hired us to take

1 a look at that program and -- and recommend changes to

2 it to -- to ramp up its performance. In the process of

3 doing that we, you know, analyzed data on hundreds of

4 solar installations, looked at best practices

5 throughout North America. That was a couple of years

6 ago.

7   Currently, we are developing a solar

8 finance program for the City of Saskatoon. And that's

9 an innovative program that will allow the city to offer

10 -- well, to offer innovative financing for customers

11 who want to put solar power on their roofs, be it

12 residential or commercial.

13   So solar power is -- is a very

14 interesting story. You see -- I'm on slide 34 on the

15 left a chart showing the evolution of the cost of PV

16 modules. And as you can see a very dramatic decline,

17 and that's over the past -- in this thirty (30) --

18 thirty (30) odd years. On the top right, you see from

19 Manitoba Hydro's filing a chart of the declining clo --

20 declining costs of installed PV systems. There's a

21 slight distinction there.

22   In all cases what we're looking at is

23 extremely rapid cost reductions that are allowing solar

24 to move from what once was a niche to scale. And to

25 scale in residential rooftops, commercial rooftops, and

8028

1 utility scale solar farms. And that is extraordinarily

2 big right now. I'll be able to talk to that soon.

3   Let me go to slide 35. The -- the graph

4 that you just saw previously in Hydro's evidence, to be

5 honest with you, I find a little -- and it's not --

6 it's not from Hydro. Hydro took it from a Citigroup

7 study. I find it overly optimistic for solar, so I

8 prefer to kind of let that -- set that aside.

9   I think what you have here is -- is

10 practical, real world solar costs on the chart on slide

11 35. And what you see is in the past four (4) years

12 alone, the cost has come down from about $8 a watt to

13 under $3 a watt.

14   And in that same time frame, we're

15 looking at rapid growth of solar power installations.

16 Annual installations of solar power have increased by

17 fifteen (15) fold in -- in barely the past five (5)

18 years; that's extraordinary growth.

19   Last year alone in the US, solar PV had

20 30 percent -- well, 29 percent of market share. It was

21 the number 2 installed electric power resource last

22 year, which is remarkable for those of us who have been

23 looking at solar for a long time now. It was just

24 behind gas power plants and well ahead of wind power

25 biomass plants and coal plants.

8029

1   So this is obviously a very rapidly

2 growing resource. When we look to the future, we see

3 continued cost declines on the horizon. Modules are

4 expected to drop in costs by an additional 25 percent

5 over the next four (4) years because of automation.

6 Installation costs are dropping as designs make it

7 easier to install.

8   And financing -- there's an

9 extraordinary movement of financing of capital toward

10 the solar market today and is driving down financing

11 costs, and also bringing to market more adapted

12 financing products that just make it easier for

13 customers to adopt this.

14   Over the -- over the coming three (3)

15 years alone, we're looking at anticipated doubling of

16 demand in the US again. So that would bring it from

17 just under 5,000 megawatts to just under -- just under

18 10,000 megawatts of installed capacity being installed

19 in 2016 alone. If you look at that in a cumulative

20 basis, you know, we're looking at tens of thousands of

21 megawatts being installed over -- over the next five

22 (5) to six (6) years.

23   And worldwide we're looking at a

24 threefold increase in anticipated manufacturing

25 capacity, again, only over five (5) years. This is --

8030

1 this is absolutely dramatic. By the way, as an aside,

2 I'm someone who believed in solar power in the late

3 '90s, got burned by it horribly, and -- and really for

4 a long time assumed that it was not actually going to

5 break out. I've now come around on this. It is

6 absolutely breaking out in a very big way.

7   On slide 37 I put up a little chart of

8 the -- what we call the global solar radiation. It's

9 the -- the solar potential in Canada. And as you can

10 see, Manitoba fairs quite well, not quite as

11 beautifully as Saskatchewan but very strong solar

12 radiation potential in the province here, especially in

13 the southern parts.

14   When we look at the solar radiation

15 available in southern Manitoba, we combine it with the

16 current forecast of electricity prices and a couple of

17 forecasts of declining PV prices what we find is,

18 essentially, two (2) scenarios of what we call grid

19 parity.

20   Grid parity is the point at which, for a

21 customer who finances their system, the annual cost of

22 financing is going to be equal to or cheaper than the

23 electricity that they don't have to buy from Manitoba

24 Hydro as a result.

25   If we take -- so you'll see here in this

8031

1 -- in the chart on slide 37 two (2) orange lines.

2 Those are two (2) assumptions of declining solar PV

3 costs. The bottom line is -- is the line from the

4 chart in Manitoba Hydro's evidence that is a very

5 aggressive cost decline. If that were to happen, it

6 would lead to grid parity in Manitoba in 2018.

7   We then sought to test a much more

8 conservative assumption of only 5 percent per year cost

9 declines, and that would lead to grid parity in 2026.

10 In any event, it'll probably be something in-between

11 those. The important thing here is that we're looking

12 at grid parity certainly within the planning horizon

13 that we're talking about.

14   And when grid parity hits, you know,

15 it's anyone's guess as to how quickly adoption will

16 ramp up. Certainly we're seeing very rapid adoption in

17 some other markets that are hitting it before us,

18 California being a good example.

19   So the implications for Manitoba of --

20 of solar power are really threefold. One (1) is it is

21 a tremendous growing new opportunity for demand-side

22 savings. In other words, if Manitoba Hydro wants to

23 see this as another measure that can reduce the need

24 for grid supplied power, it can absolutely get involved

25 in promoting solar power, get ahead of it, if you will.

 1   And again, if you think of that chart

 2 looking out to 2034 and we think of the big chasm

 3 there, this is certainly something that can fill it up

 4 and contribute to our ability to maintain those -- a

 5 sustained level of savings over time.

 6   The second implication is that it could

 7 be what we'll call a breakout demand suppression

 8 threat. In other words, it could take off on its own.

 9 We may not get ahead of it. We may find ourselves

10 behind it. And there's a lot of concern now in

11 utilities' fears throughout North America, and Europe,

12 as well, that this is going to fundamentally change the

13 game for utilities. There's a lot of talk about this.

14   To be perfectly honest with you, I'm

15 still a little bit on the fence on it. I suspect

16 there's a bit of hyperbole in all of it. But in the

17 long-run, there's no doubt that this is a game changer.

18   The third implication is that it become

19 a low cost utility scale power supply option for Hydro

20 and/or a low cost utility scale power supply competitor

21 to Manitoba Hydro in terms of its export markets. So

22 if Minnesota is looking at this and looking at it as a

23 utility scale option, not today, but let's say in five

24 (5) or ten (10) years from now it may very well be

25 cheaper than the available power from other sources,

8033

1 including Manitoba. And that is a real threat as well.

2   A very -- a very quick analogy along

3 those lines: A number of utilities have -- have

4 recently gone into this -- you'll remember before I

5 mentioned that in the past year alone there were five

6 thousand (5,000) new megawatts of installed solar

7 capacity in the US. Almost half of that were -- were

8 utility-scaled projects.

9   One (1) very recent example that I find

10 very telling is from Austin, Texas, where the utility

11 in Austin put out an RFP looking for 50 megawatts of

12 solar power. The prices that they got were so cheap

13 and so compelling that they ended up taking over 150

14 megawatts at a price point just under five (5) cents a

15 kilowatt hour. And that is supplied to them by an

16 independent power producer.

17   When you account for a federal tax

18 credit that exists in the US, that comes out to seven

19 (7) cents a kilowatt hour by a private power supplier

20 for solar power in 2014. So again, look at those cost

21 decline curves, think out to the 2020s, and we're

22 looking at a real potential competitor here.

23   MR. BYRON WILLIAMS: And -- and that

24 slide, sir, in terms of the implications -- or

25 potential implications for Manitoba was slide 37?

8034

 1   MR. PHILIPPE DUNSKY: Yes, indeed. I -

 2 - I thought it might be interesting -- I mentioned

 3 before there's a lot of talk now about the implications

 4 of solar and other distributed technologies for

 5 utilities. I thought it would be worth putting up just

 6 a quick quote from Morningstar -- a Morningstar report

 7 that said:

 8   "Investors beware, distributed

 9   generation could kill utilities as we

10   know them today."

11   Again, you know, how much of his is

12 hyperbole and how much of it is -- is real. To my mind

13 the real question is -- is time. You know, is that

14 today going to happen in the next ten (10) years or in

15 the next thirty (30) years. I'm not sure.

16   But there's -- very little is out now

17 that -- that this will have very, very significant

18 implications for -- for the utility world and for

19 utility capital investments today. And that's the big

20 concern for utilities today, is what happens to the

21 capital that they've invested on an assumption of, you

22 know, twenty (20) or thirty (30) year service, and then

23 they get sideswiped by customers sticking the -- the

24 panel on their roof and avoiding them altogether.

25   So to sum up the second section, energy

1 innovations are moving much faster today than any

2 recent time -- or anytime in recent history. New DSM

3 opportunities certainly abound, including a number of

4 game changers that have already landed in market and

5 with many more to come.

6   Not accounting for these -- for these

7 game changing future opportunities really exposes long-

8 term investment plans to significant risk. And that's

9 not to say it's not a risk worth taking, but there's a

10 really -- a very real risk that needs to be accounted

11 for, especially in terms of long-term forecasts.

12   I'm on slide 40. I -- I was going to

13 say how am I doing for time, but I think I'm not doing

14 well for time.

15   MR. BYRON WILLIAMS: I'd suggest we --

16 we keep going until I think the panel has to break at

17 11:45. There's been a lot of heavy grinding. The

18 stuff that comes next I expect will move more quickly.

19 But this was essential setup, so we appreciate the

20 Board's indulgence.

21   MR. PHILIPPE DUNSKY: So the next

22 question is how then to address this dilemma of, you

23 know, we need to plan out twenty (20) or thirty (30)

24 years forth. We -- we know what we know about DSM --

25 about our DSM plan for the next few years, but we don't

1 know what's going to happen in ten (10), fifteen (15)

2 years from now. How do we address that and how have

3 others addressed this?

4   The truth is that in a number of

5 regions, including some of the leading regions in North

6 America, this was often ignored until recently. And so

7 I want to go through a couple of examples of that where

8 we're looking at regions that are leading on -- on DSM

9 that were ignoring this until recently and that have

10 now taken it upon themselves to examine it much more

11 carefully to figure out how they -- how they should be

12 accounting for future DSM in their planning.

13   We have three (3) examples. The

14 starting part -- and primarily with the New England

15 ISO. So that would be the New England equivalent to

16 the MISO here. I'll talk about the California ISO, as

17 well, and then a couple other examples from Canada.

18   The New England ISO, as you can imagine,

19 their mandate is to ensure reliable supply of

20 electricity across the six (6) region state of New

21 England. They have three (3) basic tasks: The first

22 is day-to-day operation of the bulk power system. The

23 second is oversight and administration of regional

24 wholesale market. And the third is management of the

25 comprehensive power planning process to make sure that

8037

1 the lights can stay on, not just today and not just

2 this year, but into the future. And that's what I want

3 to focus on here.

4   Until a few years ago, the -- the ISO

5 essentially, in their long-run forecasts, took into

6 account the DSM plans that were already approved, but

7 nothing thereafter. And again, it's a little bit

8 understandable because if you don't have anything

9 specific thereafter, well, you know, how can you

10 account for it?

11   They -- they came to realize that this

12 was a significant problem, significant problem to

13 actually conducting accurate forecasts and, as a

14 result, accurate planning. They struck a committee to

15 examine the issue. That committee went out and held

16 consultations regionally with a broad array of market

17 stakeholders. And, ultimately, they came to a new

18 approach that essentially finds that long-term

19 assumptions are absolutely critical to planning. In

20 other words, zero cannot be the right answer.

21   Their key finding was that there is

22 sufficient evidence that DSM potential replenishes

23 itself at roughly the same cost as its previous cost.

24 So that's huge, right? That comes back to the point

25 around innovation. We deplete some innovations, some

8038

1 new -- new measures, we get them into market, and then

2 the market develops new measures, new savings

3 opportunities, to replace the old ones.

4   This assumption lead them. And you can

5 imagine, of course -- you know, this is the ISO. It's

6 not -- not, you know, an environmental group. They are

7 fundamentally responsible system reliability, so they

8 did not come to that easily. But they came to that

9 with a great deal of study and thought, and especially

10 study of historical data.

11   Once they came to that, they -- they

12 built in long-range assumptions for DSM going far

13 beyond the immediate plans. They -- they assume -- or

14 let me put it differently. They account for 100

15 percent of those savings happening in market. There's

16 no notion of discounting those savings in any way. And

17 the result of this has been new load forecasts that

18 anticipate essentially zero net load growth across the

19 entire region.

20   And that's now what they're planning for

21 and what they are building for. And I say "building"

22 in that case because there is building happening, and

23 that is to replace old, aging power plants that are

24 taken off of line.

25   MS. MARILYN KAPITANY: Mr. Dunsky, can

8039

1 I just ask you, does this mean that DSM is categorized

2 as dependable energy?

3   MR. PHILIPPE DUNSKY: Yes, effectively,

4 it is.

5   MS. MARILYN KAPITANY: Thank you.

6   MR. PHILIPPE DUNSKY: It is. So --

7

8 CONTINUED BY MR. BYRON WILLIAMS:

9   MR. BYRON WILLIAMS: And, sir, just

10 before you leave slide 43. When you say that they are

11 responsible for system reliability, would the

12 colloquial way to say that would be to say they're

13 responsible to keep the lights on?

14   MR. PHILIPPE DUNSKY: Yes, indeed.

15 Indeed. So I -- I put up here the latest -- the latest

16 forecast. And by the way, this is actually -- we'll

17 call it a draft forecast. It's out for consultation

18 before they finalize it. But this is the ISO's latest

19 draft forecasts looking out ten (10) years.

20   I have to say there's -- there's a

21 unique situation here in that you guys are looking out

22 much further ahead than most places do. And that's

23 just, you know, by necessity because you're looking at

24 a hydro power plant with a long construction lead time.

25   So, you know, most other regions only

 1 look out, let's say, ten (10) or fifteen (15) years

 2 because they're not looking at, you know, long lead

 3 time resources. So this is a ten (10) year -- ten (10)

 4 year planning horizon.

 5 If we look at some of the individual

 6 states there, just to give you a sense of it, you'll

 7 see Connecticut flat load -- load is -- becomes flat by

 8 2016 and is anticipated to stay that way throughout the

 9 planning horizon as result of DSM. Massachusetts, the

10 same thing: ever so slight decline in -- in load.

11 Those are two (2) of the states that are recognized as

12 leaders -- among the leaders in energy efficiency.

13 Maine and Rhode Island you have a

14 similar situation, except in those cases their DSM is

15 so large that it leads to declining loads over time.

16 So again, the -- the power planners there are now

17 planning for and counting on declining loads as a

18 result of the DSM in those -- in those two (2) states.

19 I want to put Vermont here. I -- I

20 should recognize, too, I said there was six (6) states

21 and I only put five (5) here. And it was a little bit

22 of an embarrassing technical glitch that I couldn't

23 actually get New Hampshire into this. New Hampshire

24 actually has increasing loads because they're one of

25 the places that do very little on -- on energy

1 efficiency. I just want to say that.

2   Vermont here is the biggest gap, as you

3 can tell, between the baseline load forecast and what's

4 now being planned for as a result of DSM. They are the

5 historic leader in DSM in the States. We -- we've been

6 working with them for some time now on their long --

7 long run energy planning.

8   And at the state level, they now assume

9 a 2 percent per year DSM happening consistently on a

10 sustained basis for the next thirty-five (35) years for

11 their long run planning. Because they actually do do

12 long run planning; we're doing that with them now.

13   So that's the case of the ISO New

14 England. CalISO --

15   THE CHAIRPERSON: Excuse me, Mr.

16 Dunsky. I think it's probably an appropriate time to

17 break because we agreed that we would adjourn at --

18 pardon me, we'd recess at 11:45. So with that we'll

19 just have to continue after -- after the -- the panel

20 recommences its proceedings.

21   I -- I would ask, Mr. Hombach, please

22 could you canvass the counsels to get an approximation

23 of the amount of time that each of them needs this

24 afternoon, so we can appropriately budget for the

25 available time that's -- that's open to us this

8042

1 afternoon.

2   MR. SVEN HOMBACH: I will do that off

3 the record, Mr. Chairman. And I just remind the

4 parties that the panel will regroup at 1:00 to hear two

5 (2) presentations. The evidence of Mr. Dunsky will

6 only continue at 1:30 once the two (2) presenters are

7 finished.

8   THE CHAIRPERSON: Thank you.

9

10   (PANEL RETIRES)

11

12 --- Upon recessing at 11:47 a.m.

13 --- Upon resuming at 1:05 p.m.

14

15   THE CHAIRPERSON: Good afternoon. I

16 believe that we're ready to continue with today's

17 proceedings. On behalf of the panel, I'd like to

18 welcome three (3) individuals who are presenting to the

19 panel today: Mrs. Janie Duncan, Ms. Solange Garson, and

20 Carol Kobliski (sic). I hope I pronounced that

21 correctly.

22   So I'd like to welcome you all. I'll

23 just let you know that one (1) of the panel members

24 could not be in attendance right now. He's got a

25 commitment that he had to fulfill, but he'll probably

8043

1 join us very shortly. And you should know that we are

2 going to be recording your comments, and so he'll be

3 able to read the transcript, that is, when he's

4 available, so. And he may join us before you finish,

5 so. He just had a commitment that he had to fulfill.

6   And I know this can be a very

7 intimidating process, so please stay relaxed. You

8 know, we want to hear from you. And, you know, please

9 feel comfortable. This is not -- it's not an intention

10 to grill you or anything. We just want to hear your

11 perspectives.

12   So I'm not sure who's going to start,

13 but go ahead.

14

15 PRESENTATION BY MS. SOLANGE GARSON:

16   MS. SOLANGE GARSON: Hi. Good

17 afternoon.

18   THE CHAIRPERSON: Good afternoon.

19   MS. SOLANGE GARSON: My name is Solange

20 Garson. I'm from Split Lake, Manitoba, also known as

21 Tataskweyak Cree Nation. And also, I'm a councilor for

22 my community. So I'm going to be -- I'm going to read

23 this letter. I -- I apologize. My English is not that

24 great, but I'm going to -- I'm going to read this. And

25 if there's any mistakes or grammar, please excuse me.

8044

1 And I'll continue with this. Thank you.

2 Okay, this letter will be brief. And I

3 would like to point out why Manitoba Hydro has to be

4 held accountable, where they must show the public

5 exactly how they're spending Manitoba taxpayers' money.

6 I have been elected as councilor for my

7 community of Tataskweyak Cree Nation in 2012. But my

8 position was in jeopardy as soon as I began asking for

9 an investigation with TCN's consultants and lawyers and

10 non-band members who benefited Manitoba Hydro's jobs

11 and prosperity, promises that were made back in the

12 late '70s.

13 I'm not an expert with economics, export

14 prices, or whatever the excuses Manitoba Hydro is using

15 to hide the true financial picture. I have been

16 fighting for transparencies in accountability with my

17 community leaders to release where exactly the money

18 went. It is quoted by FIPA 244 million alone went to

19 the dam negotiation expenses.

20 My goodness. I do apologize here. I

21 just have to get this up.

22

23 (BRIEF PAUSE)

24

25 MS. SOLANGE GARSON: It's just that my

8045

1 -- my computer is not working properly here. Okay. I

2 -- continue on.

3   I am so fed up. How can't -- why can't

4 we see any financial records to show where we stand or

5 how much we owe with the supposedly partners with

6 Hydro? Not once we are shown with any audit regarding

7 Manitoba Hydro's portion. The only quoted numbers I

8 see is -- I see is from ombudsman, Canada Taxpay --

9 Taxpayer Federation, or FIPA.

10   I'm not sure if it shows the true

11 financial records. So now Manitoba Hydro wants us to

12 sign off with Bipole III for 7 million, where would

13 they -- where they would pay TCN two hundred and forty

14 thousand (240,000) for the next fifty (50) years.

15   Now, compared to what these consultants

16 or lawyers, they billed TCN two hundred and seventy-

17 three thousand nine hundred and thirty-seven and

18 thirty-seven cents (273,937.37) within -- within a

19 month. I'm also going to include these figures, how

20 much these consultants and lawyers got for their past

21 work.

22   I do apologize for this. Goodness, what

23 is wrong with this? My com -- my computer's not

24 working here.

25   MR. SVEN HOMBACH: Ms. Garson, would

8046

1 you like us to take a break for a minute to --

2   MS. SOLANGE GARSON: No, no. It's

3 okay. It's okay. Okay. I'll continue on with this.

4 Okay. One (1) other consultant, his name is Robert

5 Roddick, received five hundred and forty-two thousand

6 six hundred and twenty point forty-eight (540,620.48)

7 for the year 2011 and 2012. Yet he worked for how long

8 for TCN? Approximately over thirty (30) years or less.

9   Douglas Mackenzie from Campbell and Marr

10 (sic), also a TCN counsel, made two hundred and one

11 thousand eight hundred and seven (201,807) for the year

12 2011/2012. He worked for TCN over twenty (20) years or

13 more. Ernie Hobbs, an associate, received six million

14 ninety-five thousand five hundred and two point eighty-

15 one cents (6,095,502.81) cents for year 2011 and 2012,

16 and he worked the longest for TCN, thirty (30) years or

17 more.

18   And I... It's very disturbing how my

19 community are being used to push this Hydro development

20 with empty promises while these consultants or lawyers

21 are continuing to be in conflict with Hydro and TCN.

22 How can we believe them when they're supposed to be

23 protecting our interests?

24   Yes, Manitoba Hydro tried to push this

25 clean, renewable energy on us when we -- when we are

8047

1 experiencing the devastation impact with the

2 environment by these hydro dams, practically right in

3 our backyard. I moved back to TCN early '70s and I was

4 blessed to see TCN with six (6) beautiful beaches,

5 clean clear water. Now it's ugly, murky brown, beaches

6 are washed out, with my community looking more like a

7 slum reserve and 70 percent unemployed.

8   With that said, I came across this

9 internet with GEOptimize, where they build ground-

10 coupled heat pump systems. I saw their presentation on

11 the website how their bes -- how their business can be

12 less expensive to implement than building dams and

13 powerlines, and employment and skills Manitoba for long

14 term. Better for the ratepayer -- for the ratepayer,

15 provincial economy, and the environment.

16   Hydro's track record, year 2001, four

17 thousand seven-o-one (4,701) to 2012, six hundred (600)

18 -- six thousand three hundred and twenty-four (6,324)

19 were hired. Only one thousand six hundred -- six

20 hundred and twenty three (1,623) were hired between

21 these years. I wonder if this includes First Nations.

22   I'm not surprised how Manitoba continues

23 to overlook all this when their slogan, 'clean,

24 renewable energy', is in question. The fact is they're

25 destroying the environment. I believe my people are

8048

1 dying from mercury poisoning that is created by Hydro

2 dams already cut corners on expenses.

3   Manitoba Hydro -- Manitoba Hydro will

4 quickly silence anyone who questions or challenges if

5 their numbers are quoted wrong. Of course they would,

6 since we don't see any financial records. When we try

7 to get information, we are warned or terminated with

8 our jobs.

9   My brother was ousted out as chief for

10 asking this lawyer from Alberta, Robert Roderick, to

11 send all expense claims to him so he can approve all

12 claims. But he was out for questioning these

13 activities of these negotiators. Then TCN lawyer

14 Douglas MacKenzie prepared a BCR for my brother to be

15 stripped of his authority. And not once has he

16 contacted him to advise him of his right.

17   From what I witnessed, Hydro and others

18 wanted total control of our finances while we are

19 suffering the consequences of these individuals.

20 Unfortunately, my brother signed that dreaded

21 confidential agreement with Hydro and he didn't want

22 TCN to be -- be piled up with lawsuits that are set up

23 to fail if anyone decides to sue.

24   I may not be a university intellect or

25 sav -- savvy with words, but I know there's something

8049

1 more to this and I know TCN will inherit a financial

2 mess if we continue this route. Now I'm asking for

3 this organization -- NAFTA (sic), you guys -- to

4 consider how Manitoba Hydro manages their finances or

5 how these dams are reck -- wreaking havoc with our

6 community with distress with their empty promises they

7 made years -- years ago.

8   We must look at other ways to create

9 energy and jobs for all Manitoba than destroying the

10 environment. That's my letter. Thank you.

11   THE CHAIRPERSON: Thank you, Mrs.

12 Garson. Would you like to add anything else to what

13 you've said?

14   MS. SOLANGE GARSON: I just want --

15 with all these negotiations that's been happening, from

16 early '70s, we are always dependent on -- on Indian

17 Affairs or AANDC or whatever names that they come up

18 with; we're always dependent on them. And we would try

19 to get some businesses going in our communities, and

20 then Hydro comes along and makes all these promises.

21 Yes, my people will say, Yeah. And then we have these

22 consultants coming along and taking advantage of that

23 situation.

24   And now I see my people, it's terrible.

25 And I -- I didn't think I was going to do this. But

8050

1 I'm a councilor and I can't even exercise my duty as a

2 councilor because I'm asking these questions. We

3 shouldn't do this; this is Canada. And we have every

4 right to answer these -- for Manitoba Hydro to be

5 accountable, and the government. That's all I have to

6 say right now. Sorry, apologize.

7   THE CHAIRPERSON: Thank you. Now I

8 wonder who is next to speak? Is it Mrs. Kobliski?

9

10 PRESENTATION BY MS. CAROL KOBLISKI:

11   MS. CAROL KOBLISKI: Tansi. That means

12 'hello' in my language. My throat is kind of sore

13 right now, but I'll do my best. I am from Nelson

14 House, also known as Nisichawayasihk. My name is Carol

15 Kobliski, and I'm a partner with Manitoba Hydro.

16   There's a lot of things that I would

17 like to bring forth as well in regards to what my

18 friend Solange was saying. With all the things that

19 are going on in her community, the same thing applies

20 to my community as well.

21   I know Wuskwatim was signed off and it's

22 been in operation, but the community has been asking

23 our leaders, you know, what's happening with Wuskwatim,

24 because we found out that they were renegotiating the

25 contract. And it was something that our community

8051

1 wasn't aware of until we heard it in the news. And

2 lately, our community has been hearing a lot in the

3 news. Nobody's telling us anything back home.

4   We want to know if we've reached a 33

5 percent partnership or are we at twenty-seven point

6 five (27.5)? We've been asking our leaders and our

7 lawyers this, and they won't answer us. They just say

8 that it's -- they sign a confidentiality and they can't

9 disclose any information to us. And yet we're telling

10 our leaders and Manitoba Hydro, Why can't anything be

11 disclosed to us when we're partners?

12   We don't know what's going on behind

13 closed doors with this renegotiation and it concerns us

14 because we thought it was a -- a done deal already. So

15 this is something that I'm bringing to the table is,

16 you know, even as our community -- probably there's an

17 80 percent rate of unemployment in our community.

18 That's going on. And the housing condition's real bad.

19   You'll see an article in the paper

20 probably next week that I'm submitting in regards to

21 employment, housing, education, economic development.

22 It's all going to be in there. And I know my leaders

23 are pretty pissed off with me right now, but it's

24 something that has to be done. You know, we -- we've

25 been pushing and pushing for answers and nobody wants

8052

1 to disclose anything to us.

2   And I think it's about time that Hydro

3 is held accountable for the way they practice their --

4 their ethics and how they do -- how they conduct their

5 work. You know, they -- they come into our

6 communities, they come into our land and destroy it,

7 and make promises like my friend said. And yet we don't

8 see it.

9   We were told at a general band meeting

10 last week that we already pulled in 18 million. We

11 asked, Where is it? All of a sudden we were told, Next

12 question. Nobody wanted to answer it. But I asked,

13 Are we still sitting at twenty-seven point five (27.5).

14 They said, Yes, we're short sixteen point five (16.5).

15 And then I said, Okay, where are you going to get it

16 from? They won't disclose that to us either. I -- I

17 just called one of my council members yesterday and

18 asked, and then they just said, Well, we'll try and get

19 the information to you, but I don't think we'll be able

20 to hand it out because we're sitting at the table

21 again, we're renegotiating, we can't disclose anything.

22   So this is kind of a -- it's a big

23 concern to us as a community, you know, when -- when

24 we're being told, We can't tell you anything. And yet,

25 we thought it was signed already. So that was the

8053

 1 thing that I wanted to mention, was that, you know, I'm

 2 pretty sick and tired about Hydro treats First Nations

 3 people and how they come into our land, into our

 4 territory, and do whatever they want. And they get

 5 away with it. There's no accountability.

 6   Right now, our leaders are trying to

 7 push for a constitution to go self-government. And I

 8 know for a fact that the government is pushing

 9 accountability on First Nations, which is going to come

10 out in 2015, where they have to report everything.

11 Well, I know that they're pushing this constitution so

12 that they don't have to be accountable to the

13 government for anything. And our people are saying,

14 No, we're not going to -- we're not going to have this.

15   They want to push -- put rules on us and

16 -- and on the Wuskwatim project, as well. And we're

17 kind of concerned about that. If they would tell us

18 what they were doing, maybe then we could sit with

19 them, as well, and work together as a community with

20 out partner. But there's nothing happening.

21 Everything is being kept secret. And we're -- we're

22 tired of it.

23   So that's what I wanted to -- to share

24 with you guys today. Thank you.

25   THE CHAIRPERSON: Thank you very much,

1 Ms. -- Ms. Kobliski. And now, Ms. Duncan please?

2

3 PRESENTATION BY MS. JANIE DUNCAN:

4   MS. JANIE DUNCAN: Good afternoon to

5 the panel members and lawyers. Thank you for the

6 opportunity to make a presentation. My name is Janie

7 Duncan. I made a written submission dated April 14th

8 of 2014. I trust that you've all had an opportunity to

9 review it; if you haven't, please do so.

10   The purpose of my presentation today

11 will be to expand on some key issues addressed in my

12 written pre -- presentation, as well -- as well expand

13 on key issues that have just been discussed today.

14   When Manitoba Hydro began to construct

15 the generating stations in the early 1950s in the

16 Northern communities, they did not consult with the

17 First Nations. These generating stations destroyed

18 their lands and their way of life. This lack of

19 consultation with the First Nations prior to building

20 these generating stations led to a deep-rooted

21 resentment and mistrust against Manitoba Hydro. The

22 First Nations eventually joined in unity to protect

23 their rights so they could be compensated for their

24 losses from the destruction caused to their lands by

25 these generating stations.

8055

1   In 1992, Split Lake received

2 approximately $47 million in compensation. Mr.

3 Roderick and Mr. Ernie Hobbs were the negotiators

4 involved in the cod flood -- flood claim settlement,

5 according to an article in the Winnipeg Free Press back

6 in 1990.

7   Fast-forward to today; it's our

8 premier's position to compensate the First Nations

9 first to avoid the mistakes that Manitoba Hydro made in

10 the past.

11   The First Nations are now partners in

12 the business of the Keeyask generating station so they

13 can receive the economic benefits. From 1999 to 2012,

14 a total of $110 million was reimbursed to the Cree

15 Nation partners from Manitoba Hydro, according to a

16 letter dated May 30th of 2012. As you know, the Cree

17 Nation partners consist of War Lake and TCN. This

18 compensation represented future development costs

19 pertaining to the Keeyask, Conawapa, Wuskwatim, and

20 Bipole III projects. These development costs

21 represented process costs, negotiation, mitigation, and

22 compensation.

23   The Cree Nation partners never existed

24 as an entity in Manitoba Hydro -- or pardon me, in

25 Manitoba, according to the Companies Office.

 1   Mr. Douglas MacKenzie represented TCN

 2   and War Lake, and he participated in the planning and

 3   the development of the Joint Keeyask Development

 4   Agreement. Ernie Hobbs, through his company, and

 5   Robert Roderick were also involved in planning and the

 6   development of the Keeysak -- Keeyask Project and the

 7   development of the Joint Keeyask Development Agreement.

 8   And so was the law firm Borden Ladner Gervais. Mr.

 9   MacKenzie, and other members of the law firm of

10   Campbell, Marr also established corporate entities

11   beneficially owned by TC and War Lake, so they could

12   receive the economic benefits from the business

13   opportunities from the Keeyask project.

14   Manitoba Hydro had a reimbursement --

15   reimbursement policy in place with the Cree Nation

16   partners, which included War Lake and TCN for all

17   future development costs, according to their own

18   correspondence. All payments made were payable to --

19   were made to Robert Roderick Corporation in trust. He

20   was responsible for distributing the payments to the

21   invoicing parties in the -- in the reimbursement claim.

22   Mr. Lor -- Mr. Roderick is a lawyer that is licensed to

23   practise law in Alberta. He is not licensed to

24   practise law in Manitoba.

25   As you know and outlined in my

8057

1 presentation, Manitoba Hydro has refused to provide

2 copies of the invoices even though Manitoba ratepayers

3 paid for their legal bills. These invoices may shed

4 some light on who is billing for the export forecast

5 pricing and agreements with the US power utilities.

6   Manitoba Hydro has kept this secret from

7 the public on the basis that they are apparently

8 commercially sensitive information. Manitoba Hydro

9 takes the position that they do not want the

10 competitors to know the details of the export pricing,

11 even though they claim that they have contracts in

12 place. However, if they had contracts in place, their

13 argument becomes moot.

14   When Manitoba Hydro made the decision to

15 reimburse the Cree Nation partners for participation

16 and negotiation costs, they proposed to use common

17 consultants and experts as cost-cutting measures,

18 including the use of Manitoba Hydro's consultants,

19 according to the Gull Rapids station potential Cree

20 Nation participation Manitoba Hydro proposal.

21   As you know and since that time,

22 Manitoba Hydro has reimbursed close to a quarter of a

23 billion dollars in negotiation costs, process costs,

24 and mitigation for all the Northern communities

25 involved in the Keeyask project, Conawapa, Wuskwatim,

8058

1 and Bipole III projects.

2   These negotiations led to the

3 development of a limited partnership that isn't a

4 business called the Keeyask Hydro power Limited

5 Partnership. The Keeyask Cree Nation partners'

6 investment entities will only have an opportunity to

7 own up to 25 percent equity into the generating

8 station.

9   The Cree Nation Partners Limited

10 partnership was created in 2009 pursuant to a limited

11 partnership agreement with the general partner, 5872066

12 Manitoba Limited, and TCN and War Lake as limited

13 partners for the investment into the Keeyask Hydro

14 power Limited Partnership, along with Fox Lake Cree

15 Nation, Keeyask Investments Inc., and York Factory

16 First Nation Limited Partnership.

17   Manitoba Hydro has refused to provide a

18 copy of the financial statements of the Keeyask Hydro

19 power Limited Partnership on the basis that it is not

20 an entity which is subject to the Hydro Act. The

21 general partner of the Cree Nation Partners Limited

22 Partnership is in default for failure to file their

23 2013 annual return. The general partner of the Keeyask

24 Hydro power Limited Partnership is wholly owned by

25 Manitoba Hydro.

8059

 1   This general partner has an obligation

 2 to look in the best interest of the limited

 3 partnership. But there would appear to be an inherent

 4 conflict of interest in the structure because Manitoba

 5 Hydro also has an obligation to look in the best

 6 interest of the ratepayers.

 7   Manitoba Hydro will be selling all the

 8 energy and capacity to the limited partnership and

 9 entering into agreements with Manitoba Hydro. But

10 Manitoba Hydro is not being transparent to the

11 ratepayers on the basis that they are refusing to

12 provide the financial details of the limited

13 partnership.

14   The Cree Nation Partners Limited

15 Partnership number 2 was created in 2009 as the

16 business of the partnership and was a joint venture

17 with Signuset Northern (phonetic) called 'A

18 Misconstruction'. This joint venture was established

19 to perform direct negotiated contracts with Manitoba

20 Hydro under the provisions of Article 13 of the Joint

21 Keeyask Development Agreement.

22   Approximately 50 to $75 million was

23 awarded to A Misconstruction in infrastructure work in

24 Split Lake. The general partner of the Cree Nation

25 Partners Limit -- Limited Partnership number 2 is in

8060

1 default for failure to file their annual -- failed to

2 file its 2013 annual return.

3   The Cree Nation Partners Limited

4 Partnership number 3 was also created in 2009. But the

5 general partner of this limited partnership is also in

6 default for failure to file its 2013 annual return.

7 The registered office is Campbell, Marr.

8   They have -- they have -- there have

9 been many other entities that were created so that TCN

10 and War Lake could receive the economic benefits in

11 various other projects, but I'm only limited to fifteen

12 (15) minutes.

13   In 2012, many TCN members held a protest

14 in their community requesting a forensic audit of all

15 the millions of dollars invested into their community

16 and to find out more details about all the entities,

17 because despite the millions of dollars invested, they

18 are living in poverty. I've been to Split Lake myself

19 last year. And Split Lake is not receiving the

20 economic benefits despite the millions of dollars, as

21 you've heard from Solange Garson and as you've heard

22 from Ms. Kobliski.

23   In fact, there's 70 percent unemployment

24 in Split Lake, 80 percent in Nelson Hills. Is that

25 correct? When TCN members held their protest, the

1 general partner of the limited partnership sought an

2 injunction against some members in TCN, in the Court of

3 Queen's Bench in July of 2012, because their protest

4 was interrupting the Keeyask operations in Split Lake.

5   As you know, the general partner has

6 full control. As part of the Joint Keeyask Development

7 Agreement, training funds for both the Wus -- Wuskwatim

8 and Keeyask projects were provided from all levels of

9 gov -- government under a tribe -- under a federal,

10 provincial, and Hydro agreement. These monies were

11 contributed to the training initiative funds which were

12 administered -- administered by the Wuskwatim Keeyask

13 Training Consortium Inc.

14   Human resources and skills development

15 contributed $22 million. Manitoba Hydro contributed

16 $20 million. The government of Manitoba contributed

17 $10 million. Western Economic and Diversification

18 contributed $5 million. Indian and North -- Northern

19 Affairs Canada contributed $3.3 million. And the

20 Aboriginal training partners contributed $1.7 million,

21 for a total of $62 million. Millions of dollars have

22 been disbursed for a sewer and water project in Split

23 Lake that was never completed.

24   Four million dollars ($4,000,000) was

25 also bill -- provided to Split Lake to build a Keeyask

8062

1 centre. The Keeyask centre does not exist. I have

2 attended to Split Lake in Manitoba as I said and I

3 would like to show you some photographs if I could.

4   These photographs do not represent a

5 community that is benefiting economically. You have

6 heard from testimony from other First Nations people

7 how they express their concerns and sacrifices that

8 they have made by promises that were never fulfilled to

9 them by Manitoba Hydro under the Northern Flood

10 Agreement and as we hear today.

11   Many of them clearly stated to the panel

12 that they were living in poverty stricken conditions.

13 Millions of dollars have been invested in negotiations

14 while the US still have to undergo their own regulatory

15 approvals as well. Yet the former CEO of Manitoba

16 Hydro said in a legislative assembly that if the United

17 States does not obtain their reg -- regulatory

18 approvals, Manitoba Hydro would not proceed with the

19 capital.

20   So the question remains today to all of

21 you, is: Why are we proceeding today? As you know,

22 these projects were developed for our export markets,

23 yet our expert revenues have continued to decrease

24 while our rates increase.

25   These expo -- export markets were

8063

 1 intended to keep our rates low, however, our rates

 2 continue to rise. What may have been a good idea in

 3 the early stages of development is not an economically

 4 sound idea today, because natural gas is much cheaper

 5 in the United States, which is reflected in a decline

 6 of our export revenues.

 7   Ratepayers are subsidizing a huge

 8 capital expenditure -- expenditures of these projects

 9 and the benefits are not realized in the northern

10 communities. Furthermore, as our rates continue to

11 rise, this -- this will have a negative impact on

12 consumer's spending, which will crowd out private

13 investment and cause our interest rates to soar.

14   Seventy-five (75) percent of this

15 project is funded by debt financing, which may increase

16 to 85 percent, according to the Joint Keeyask

17 Development Agreement. Manitoba Hydro is reli --

18 relying on these export markets to keep our rates low,

19 but they are not disclosing these details to the

20 public.

21   What are the implications to Manitoba

22 ratepayers if we do not have the revenues to support

23 the capital expenditures. If the First Nations

24 communities are living in poverty, can they sustain a

25 business partnership and what happens if they do not

8064

1 have the capital to invest in the project.

2   I'm almost done. The Needs For an

3 Alternatives To panel, here today, is faced with a very

4 difficult burden to determine whether Manitoba Hydro's

5 plan, and I quote:

6   "Are thoroughly justified and sound.

7   Its timing is warranted and the

8   factors the Hydro are relying upon to

9   prov -- to provide its needs are

10   complete, reasonable, and accurate

11   and whether the plan is justified as

12   superior to potential alternatives

13   that could -- could fulfill the

14   need."

15   However, it is my position that Manitoba

16 Hydro has not provided you with all the relevant

17 information in order to make an informed decision. The

18 question you need to ask yourself today is: Why is

19 Manitoba Hydro refusing to provide the panel here today

20 with the key information in order to come to any

21 conclusion?

22   We need a full independent and

23 transparent review of the training and expertise of the

24 parties that prepared the forecasting for the export

25 prices and contracts, including the millions of dollars

 1 that have been invested to the First Nations over time

 2 first and foremost before Manitoba Hydro invests

 3 billions of dollars of the ratepayers' money.

 4   Were any of these consultants involved

 5 in the export pricing, and if so, what was their level

 6 of expertise? Where did all the millions of dollars in

 7 compensation go? I have copies of all the cance --

 8 cancelled cheques from the compensation and payment

 9 letters, payment transmittal letters from Manitoba

10 Hydro. But I don't think that this would be an

11 appropriate forum to discuss my concerns.

12   I would like to close by saying that

13 many people that have come forward about mismanagement

14 issues and risk issues to the appropriate parties,

15 including the RCMP and Manitoba Hydro, about Manitoba

16 Hydro's plan have faced some serious repercussions,

17 including myself, the -- the consultant who blew the

18 whistle on Manitoba Hydro, and Counsellor Garson, here

19 -- who is here today with me who has been ostracized

20 from her community for speaking out.

21   I don't believe anyone should be bullied

22 or threatened with lawsuits for taking a courageous

23 stance by speaking out about issues that have

24 significant public concern. I have made this

25 presentation to you in good faith because this is a

8066

1 matter of public importance and you have a

2 corresponding interest to receive the information.

3   Mr. Gosselin, Mr. -- sorry, Ms.

4 Kapitany, Mr. Soldier, Mr. Bel, who's not here, and Mr.

5 Grant, Mr. Singh, Mr. Simonsen, Mr. Peters, Mr.

6 Hombach, and Ms. Lemoine, thank you so much for your

7 involvement and the timing you have invested into this

8 project. Your decision will be a difficult one.

9   But last but not least, you, Solange

10 Garson, I admire your tenacity and fighting for your

11 community that so desperately needs people like you to

12 expose the inequalities that have existed for many

13 years. No one is a better expert than you. You have

14 witnessed firsthand and have lived by the destrux -- by

15 the destruction of your land and the secrecy that

16 emanates from Manitoba Hydro.

17   The lives that were lost and the

18 sacrifices that you and many others have made in your

19 community can never be regained. But I want you to

20 know that I will continue to support you every step of

21 the way, as you have done for me. We have both

22 overcome some major obstacles and we will continue our

23 pursuit to ensure that justice is done.

24   Thank you.

25   THE CHAIRPERSON: Thank you very much.

8067

 1   MS. JANIE DUNCAN: Do you have the

 2 photograph?

 3   THE CHAIRPERSON: I'm sorry?

 4   MS. JANIE DUNCAN: Do you have the

 5 photograph? Yes, you have -- okay. No, you keep them.

 6 Keep the photographs.

 7   THE CHAIRPERSON: Thank you very much

 8 for appearing before us. We have -- unfortunately, we

 9 have a limited amount of time available to us. We'll

10 certainly be considering what you've told us today. I

11 know that you've taken considerable initiative to come

12 here and speak to us. And I know you are facing

13 difficult personal situations given the stances you've

14 taken, so thank you very much for sharing those

15 opinions. And we will make sure that Board Member Bel

16 is made aware of your concerns, as well.

17   So thank you very much for appearing

18 before us.

19   MS. SOLANGE GARSON: I'll be submitting

20 my letter to you guys later.

21   THE CHAIRPERSON: Okay. Thank you very

22 much.

23   MS. SOLANGE GARSON: Thank you.

24

25 --- Upon recessing at 1:38 p.m.

8068

1 --- Upon resuming at 1:42 p.m.

2

3   THE CHAIRPERSON: I believe that

4 everyone's in position. We're a little bit late. So

5 without further ado, I'll turn the microphone back to

6 Mr. Williams unless there's some business to attend to.

7 I don't see anybody -- any hands up, so Mr. Williams,

8 please, or Mr. Gange or Mr. Dunsky.

9

10 CAC/GAC DSM PANEL CONTINUED:

11   PHILIPPE DUNSKY, Previously Affirmed (Qual.)

12

13 CONTINUED EXAMINATION-IN-CHIEF BY MR. BYRON WILLIAMS:

14   MR. BYRON WILLIAMS: We -- we flipped a

15 coin. I will turn it over to Mr. Dunsky.

16   MR. PHILIPPE DUNSKY: Thank you. It's

17 hard to jump into California ISO after -- after that.

18 So coming back to -- to where we left off.

19   I -- I talked just previously about the

20 -- the New England ISO and their -- they -- the

21 decision that they took in terms of how they treat DSM

22 on the long-term basis for planning purposes. The

23 California ISO was in a very similar situation and --

24 and similarly decided to take a cold, hard look at --

25 at the issue, to ensure that -- that they were planning

8069

1 in the most prudent way possible.

2   Obviously, the California ISO is very

3 similar to ISO New England. It's very similar to MISO.

4 Again, these are the people who are responsible for

5 system reliability or, in layman's terms, for keeping

6 the lights on in the short and even long runs.

7   In California ISO's case, they, too, had

8 previously accounted only for approved short-term,

9 basically three (3) year, plans and assumed very

10 little, if anything, after that in terms of energy

11 efficiency. When they -- when they undertook to

12 examine the issue, they did so jointly with the two (2)

13 other state agencies. So the California Energy

14 Commission, the California Public Utilities Commission

15 - essentially your counterparts - and the California

16 ISO worked jointly to examine this issue.

17   Again, held state-wide consultations of

18 key market stakeholders and actors and ultimately

19 concluded very similarly to the New England ISO that --

20 that demand-side management -- that there's sufficient

21 evidence that demand-side management potential

22 effectively replenishes itself over time. So again, a

23 very similar conclusion.

24   The approach in that case was a little

25 bit different in terms of how to account for DSM on a

8070

1 forward-looking basis. They essentially adapted their

2 long-run DSM potential modelling approach to account

3 for future savings opportunities. So it was a little

4 bit of a different approach but fundamentally rooted in

5 the same decision, in the same perspective, of

6 accounting for sustainable savings over the long haul.

7   As -- in the way that -- that they do

8 their planning in California, they -- they use

9 sensitivity analyses of course, and so they did so for

10 the DSM as well. So you'll have a mid-DSM scenario

11 that represents the full potential, and then -- and

12 then a recognition that the actual DSM can be somewhat

13 higher or somewhat lower than the full potential

14 assessment.

15   In other words, we may be wrong. It may

16 be that in 15 years, there's not quite as many new

17 opportunities and maybe that in 15 years there are more

18 opportunities than there have been in the past. But

19 the mid scenario is, once again, the 100 percent of the

20 assessed potential.

21   The result of this change to the

22 California ISO's planning, similarly to the New England

23 ISO, was essentially flat load growth forecast into the

24 future. And so you see that on the chart here. I'm on

25 slide 48, by the way. And you'll see that by the --

8071

1 the red squares in the charts. So those -- that

2 represents now the mid-demand scenario with mid-

3 efficiency savings, assumptions going out a dozen years

4 in that case.

5   THE CHAIRPERSON: Mr. Dunsky, are you

6 talking of DSM achievable potential?

7   MR. PHILIPPE DUNSKY: Yes.

8   THE CHAIRPERSON: Hundred percent DSM

9 achievable?

10   MR. PHILIPPE DUNSKY: Yes. Yes.

11   So that's New England and California

12 ISO's. Very quickly just to note in Canada, very

13 similar approaches elsewhere. I'll take the example of

14 Nova Scotia because I was very involved with them

15 throughout the time period.

16   In 2007, Nova Scotia Power conducted an

17 IRP. As part of that, they had a -- a long-run DSM

18 potential study conducted. At the conclusion of the

19 DSM potential study, the regulatory board determined

20 that there was probably actually more potential than

21 had been indicated in the study. They asked for --

22 they asked essentially for the study to be adjusted to

23 account for a much higher level and then incorporated

24 100 percent of that higher level into the load

25 forecast.

1   And so the -- the current earliest --

2 the most recent NSPI load forecast as a result projects

3 declining load in the province. And again, that is how

4 they're planning their -- their system today.

5   So I unfortunately didn't have a chart

6 for this, but you'll see the numbers on the table

7 essentially are moving from 12 1/2 terawatt hours load

8 in 2008 pretty quickly down to roughly 11 terawatt

9 hours in 2013, and then continuing a slight decline

10 thereafter.

11   Following that IRP, DSM was handed over

12 to an independent body called Efficiency Nova Scotia

13 with whom we've been working ever since then. And they

14 very quickly ramped up DSM from next to nothing up to

15 roughly 1 1/2 percent per year in the span of -- it was

16 about two and half (2 1/2) years actually that they did

17 that. And they've been maintaining that rate ever

18 since.

19   I honestly threw in this chart from

20 Ontario; basically just says the same thing.

21   Let me just mention a few -- a few other

22 cases, because of a number of regions have looked at

23 the issue of risk. And the issue of risk I'm aware was

24 -- was raised by Elenchus in their testimony. And I

25 understand in that testimony, Elenchus put forth a -- a

8073

1 proposal -- a bit of a theoretical proposal, but -- of

2 accounting for risks in DSM. And they also noted that

3 -- that to their knowledge, that's not actually done

4 anywhere. And I concur with them, it's not practised

5 anywhere in North America that I'm aware of.

6   So noone has actually con -- noone has

7 actually found that -- that DSM's risk merits any

8 downward adjustment on a forward-going basis. To the

9 contrary, though, some who have looked very carefully

10 at the risk associated with DSM have found rather that

11 DSM actually has a significantly lower risk profile

12 than the supply options that it is effectively

13 competing with.

14   So as a result, in the Northwest US for

15 example -- and frankly my personal perspective,

16 Northwest US is probably the region in North America

17 that has the longest history of very advanced power

18 planning.

19   When I started out in this -- I remember

20 in 1991, the Northwest Power Planning Council's five

21 (5) year plan was my Bible. I -- I learned from --

22 from that plan because they did - and continue to do

23 today - probably the deepest dive in terms of risk

24 analysis on the full range of options from planning

25 perspective. And they do long-term planning because

8074

1 they were also, you know, less and less so, but remain

2 largely a Hydro power region.

3   The Northwest US applies -- assessed the

4 issue of risk, concluded that DSM's risk profile is

5 indeed lower and, therefore, more advantageous than

6 that of new supply. And as a result when they're doing

7 their cost effectiveness analysis, they apply a 10

8 percent reduction to DSM costs to account for that risk

9 benefit.

10   The State of Vermont and a number of

11 other states throughout New England do essentially the

12 same thing. On the flip side, they apply a 10 percent

13 risk premium to the cost of supply options to, again,

14 account for the higher risk with supply versus --

15 versus DSM so.

16   And there's -- there's a -- a note on

17 this slide that somehow got lost in the bottom, but

18 that's okay. The bottom line is that -- oh, and it

19 printed well, though, that's fine.

20   The bottom line is that -- is that the

21 serious people who have really taken the time to

22 examine the issue of risk have either concluded that --

23 that there is no need to -- to ass -- to treat risk any

24 differently for DSM or that there is a need to account

25 for a lower risk profile from DSM.

8075

 1

 2 CONTINUED BY MR. BYRON WILLIAMS:

 3   MR. BYRON WILLIAMS: Could I, Mr.

 4 Dunsky -- just go back to slide 49 for a second. And

 5 the Chairperson asked you question about -- excuse me,

 6 back one (1) more slide, slide 48, I guess is

 7 California.

 8   The Chairperson asked you a question

 9 about California. And you've been reading the

10 transcript fairly regularly, sir --

11   MR. PHILIPPE DUNSKY: Excerpts thereof,

12 yes.

13   MR. BYRON WILLIAMS: Excerpts. And

14 you'll recall there was some discussion between myself

15 as counsel for CAC and Elenchus about the California

16 experience.

17   Do you recall reading that, sir?

18   MR. PHILIPPE DUNSKY: Yes, somewhat.

19   MR. BYRON WILLIAMS: And if -- you'll

20 agree with me, subject to check, that if the panel was

21 looking for more insight into that particular

22 experience in California and their approach, they could

23 go to Exhibit 8 from ERA, which contains the -- a very

24 recent California study?

25   Is that your understanding, sir?

 1   MR. PHILIPPE DUNSKY: Yeah, subject to

 2 check on which exhibit. But I think you're talking

 3 about the -- the California Potential Study. Sure. Is

 4 -- is that it? Yeah. Yeah, that -- that does contain

 5 a good discussion of -- of this issue.

 6   So just to conclude on -- on the third

 7 section: System planners who've been tasked with

 8 shining like on DSM have concluded that rather than

 9 seeing its potential depleted, it renews itself quite

10 systematically through continued innovation. They also

11 conclude that it a dependable and low risk resource.

12 As a result, they've concluded that it would be

13 imprudent to not assume continued DSM improvements for

14 planning purposes over time.

15   And with that I'll move to the fourth

16 and final section of the presentation, the shortest one

17 as well, and that is what this all means for preferred

18 assumptions around DSM, and ultimately around load

19 growth for your -- for your assessments.

20   Let me start on slide 54. I -- I simply

21 put back here the chart that we saw previously that is

22 the incremental savings scenarios. And, again, just to

23 -- just to recall, the -- the solid red lines are

24 Manitoba Hydro's Level 2 and 3. The solid blue lines

25 are the scenarios that we put forth in my written

8077

 1 testimony in January or February; I'm sorry, I don't --

 2 I don't recall.

 3   And what I've done is said, All right,

 4 let's -- let's assume that we -- that we start with

 5 Manitoba Hydro's Levels 2 and 3, and rather than assume

 6 a partici -- a precipitous fall after 2018, what if we

 7 assume that savings are sustained.

 8   In other words, that new measures

 9 continue to -- to evolve, Manitoba Hydro finds new

10 opportunities to promote DSM, and -- and we essentially

11 sustain incremental savings at that rate over time. I

12 used a -- a rolling three (3) year average starting

13 from Hydro's Level 2s -- Level 2 and 3 to extend that

14 out.

15   And so if I go to slide 54 you'll see in

16 the dashed red lines -- sorry, 55, you'll see with the

17 dashed red lines what that looks like. And so I have

18 those labelled as: MH Level 3, no drop off; and MH --

19 MH Level 2, no drop off. Probably the better wor --

20 you know, better term for that would be: extended

21 versions of Hydro's Level 2 and 3 DSM.

22   Essentially what we -- what we see is

23 that the results are, by and large, similar to our

24 original Scenarios A and B. I would say that they are

25 -- their Level 2, on average, is pretty close to our

1 scenarios. Their Level 3 adjusted, on average is a

2 fair bit higher than our scenarios. Both of those

3 extended, or adjusted levels, look very much like what

4 others throughout North America are planning on and

5 counting on going pretty far into the future.

6   So this chart here has that -- that ten

7 (10) year view going out to 2023. If I then take that

8 and extend it out another decade, I go to slide 56 --

9 well, I'm sorry, let me correct myself there.

10   Slide 56 is a little bit of a different

11 view. And this is just to confound you. When I looked

12 at -- what we -- what we were looking at before were

13 incremental annual savings. This is the same numbers

14 but on a cumulative basis.

15   So what we see here is -- you know, if

16 you look out to 2025 and you look at MH Level 2 with no

17 drop-off, you're looking at a cumulation of 18 percent

18 savings relative to the forecast demand at that -- at

19 that point. And that is precisely in line at that

20 point with my Scenario A. And you can see again that,

21 on a cumulative basis, their Level 3 is significantly

22 higher on a cumulative basis. So that's just to

23 confound things.

24   Now, if I go back to the incremental

25 view, with your indulgence, but extend that out further

8079

1   into time -- no, that's not what I'm doing here either.

2   All right. I apologize.

3   You know, I'm used to having the -- this

4   thing with PowerPoint where you can actually see the

5   next slide on your screen and others can't. So now I

6   actually have to count on my memory, which is -- which

7   is always a bad thing.

8   Moving to slide 57. What I've done is

9   taken that and now moved this to the load forecast. So

10 we're coming back to load forecast scenarios here. So

11 I'm on -- I'm on slide 57. And what we have here is,

12 at the very top, Hydro's original load forecast without

13 their Power Smart followed by their load forecast with

14 their original Power Smart Plan of 2013, which is now

15 old and outdated.

16   The yellow lines are the forecast that

17 we put in our testimony in January and February. And

18 the dark dashed red are the -- the resulting load

19 forecasts assuming extended Levels 2 and 3.

20   As you can see, if we look at Level 2

21 extended by 2025, we're looking at the total load --

22 total forecast load that is essentially the same as --

23 as our Scenario A, somewhat lesser than our Scenario B.

24 And I'm not sure if you see on -- on your screens my

25 cursor, but, essentially, I'm looking over here.

 1   So what we're looking at here in terms

 2 of the forecast out to 2025 looks pretty close to flat

 3 load growth scenario under Level 2, and declining under

 4 Level 3. When I then, and now I think this is it, take

 5 that out and extend that forecast out to 2034, this is

 6 now on slide 58, we see the very same data but just

 7 extended outward. And again we're looking at a Level 2

 8 extended that shows demand out to 2034 being just a

 9 little bit higher than current demand, and Level 3

10 extended following far below.

11   That's starting to look a lot more like

12 what Massachusetts, Maine, Rhode Island, Vermont are --

13 are starting to look at, in terms of their -- their

14 load growth forecasts.

15   So, ultimately, that's where -- I think

16 if we are making the assumption that Hydro is going to

17 continue to pursue a policy of -- of pursuing all cost-

18 effective DSM opportunities, these I would consider the

19 likeliest scenarios in terms of what future load in

20 Manitoba will look like.

21   So what does that mean? First, just a

22 little caveat. It's not a prediction, all right.

23 There -- there's a really important distinction between

24 a prediction and projection. This is a projection,

25 again, assuming that that stated policy remains in

8081

1 place. There is -- there's a risk as well, that if you

2 do end up in a situation of -- of surplus, or if, you

3 know, if the export market, for example, becomes depr -

4 - depressed, that then you will start moving quickly

5 away from that policy of pursuing all economic DSM

6 because there would be no value to saving energy that

7 you have in surplus. And that is a fundamental risk

8 that I really believe ought to be taken into account.

9   Speaking a little bit from experience

10 here, we -- we have a situation in -- in my home

11 province of Quebec right now that is extremely

12 unfortunate situation, wherein we committed to building

13 and buying far beyond what demand will support, both

14 domestically and in export markets. We counted on

15 export markets being there. They're not there. We are

16 now selling enormous amounts of surplus energy.

17   We're looking by the way -- just to give

18 you a sense of it, the -- the best estimate that I saw

19 is over the next fourteen (14) years we will have 169

20 terawatt hours of surplus energy, over fourteen (14)

21 years.

22   And that surplus energy cost us in the

23 range of ten (10) cents a kilowatt hour. We're selling

24 it at between three (3) and three and a half (3 1/2)

25 cents. It's costing our economy just over a billion

8082

1 dollars, between 1.1 and $1.2 billion per year in

2 losses. And that's going to go on over fourteen (14)

3 years.

4   So it's a very big hit for -- for our

5 economy. Frankly, it's a very big subsidy for our

6 neighbours to the south. But there's -- there's a real

7 risk there.

8   Now, that having been said, assuming

9 that doesn't happen and you maintain the policy of

10 economic DSM, the flat long-run demand curve is the

11 most prudent assumption for domestic needs.

12   Ultimately that implies that Keeyask and

13 other supply investments will primarily or exclusively

14 serve export opportunities. That doesn't mean that

15 it's a good thing or a bad thing. It just means that

16 it's important to view it in that light and to assess

17 it in that light.

18   And ultimately, that light implies a

19 merchant plant perspective, that fundamentally these

20 are -- these are merchant plants that are being built

21 and -- and it may be -- it may be a very good

22 investment and it may not. But I think it's very

23 important to -- to view things in that perspective.

24   So as I said -- and I'm on to sli --

25 slide 60 now -- the Preferred Plan may still be

8083

1 preferential. You guys have some things -- if I can

2 put it this way, good things going for you that we

3 didn't have in Quebec, for example. You have,

4 potentially at least, initial export contracts to

5 secure a part of the -- of the upfront investment. And

6 that -- that's a great strength. You have additional

7 export opportunities down the road and -- and you

8 potentially have added reliability benefits from having

9 such surplus power being exported.

10   But that said, if you're looking at this

11 as -- as merchant investments, the value is heavily

12 dependant on some really big risk factors. Notably --

13 I'll throw out three (3) of them that -- that for me

14 are the biggest: How will natural gas prices evolve; I

15 think it's a very significant wild card. How quickly

16 will solar PV costs continue to decline will

17 significantly impact export prices. And whether, and to

18 what extent, the US will adopt more aggressive carbon

19 reduction requirements is a big one as well.

20   If the US ends up adopting very

21 aggressive carbon reduction requirements, they will

22 have to -- they will have to go on a pretty aggressive

23 retirement schedule -- retirement of old plants, and

24 that could open up some real opportunities for you.

25 If, on the other hand, they don't, then, you know,

8084

1 there's a -- there's a real big risk there.

2   So, ultimately, I'm not going to come

3 down one way or another. It's not my -- not my mandate

4 here and -- and I honestly haven't -- haven't looked at

5 all the -- at all the facts involved. But I do think

6 it's important at least that in terms of the

7 assessment, that the assessment be rooted in the

8 perspective, or start from the basis of this is not for

9 domestic demand, this is not to meet domestic load

10 growth; this is an export play.

11   So, to conclude, for planning purposes,

12 it may be more prudent to assume Manitoba Hydro Level 2

13 extended after 2018. And again, this adjusts an early

14 flat domestic demand curve to 2034, which in turn

15 suggests that Keeyask and other supply investments

16 should be assessed primarily as merchant plants.

17   One (1) little note that I should

18 mention, I know that when we -- when we talk about

19 2034, we do actually start getting into the area where

20 capacity constraints become an issue. And, in fact, we

21 pass by, I think a few years, the area where capacity

22 constraints become an issue.

23   As I mentioned earlier this morning,

24 that's not something I addressed in the presentation,

25 but it certainly is something for which we -- we did

 1 the -- the initial analytics and could very easily pull

 2 that out and provide you additional analytics if that's

 3 -- if that's sought.

 4   So thank you very much.

 5   MR. BYRON WILLIAMS: Just before we

 6 turn you over to questions from the panel, or cross-

 7 examination, I have just a couple more questions.

 8   And, Mr. Dunsky, I'll ask you to accept,

 9 subject to check, that we heard evidence yesterday from

10 some consumers on fixed or low income, that they did

11 not know a lot about Hydro DSM programming or they were

12 expect -- experiencing certain barriers in accessing

13 programming.

14   From an equity perspective, does a more

15 aggressive approach to DSM hurt or help low income

16 customers?

17   MR. PHILIPPE DUNSKY: It depends, is

18 the real answer. You know, it depends on a number of

19 factors. Ultimately, it can help very much if -- if

20 the conditions are -- are right. The nice thing about

21 going deeper on DSM is it means that you by necessity

22 have to offer expanded opportunities to participate.

23 If you do very limited DSM you will not be reaching as

24 many people and very often those on the lower income of

25 the -- of the scale will be those not participating,

8086

1 because they won't have the initial capital, for

2 example, that you need to take part.

3   So to the extent that you do go deeper,

4 you certainly are offering much more opportunity to

5 participate, I think under those conditions. And --

6 and if that is a goal, then absolutely you can be

7 increasing the -- the equity.

8   The other thing I'll -- I'll mention is,

9 to the extent that you have a dedicated effort aimed a

10 low income customers, that obviously helps very much

11 from an equity standpoint. The same thing for small

12 commercial customers as well, I should say.

13   MR. BYRON WILLIAMS: And what do you

14 mean by dedicated effort?

15   MR. PHILIPPE DUNSKY: Well, low-income

16 programs, obviously. But one (1) -- one (1) thing to

17 note, low-income programs tend to address some large

18 end-uses and some large measures. And that's very

19 important because without them low-income customers

20 would not have access.

21   But low-income customers can also access

22 what I'll call standard market programs on smaller

23 ticket items. So if we look at programs that address

24 things like light bulbs, or fridges, or appliances, and

25 we actually look at who participates in those, we find

8087

1 that low-income customers participate a fair bit so

2 long as those programs are out there and aggressively

3 out there, such that they can actually access it.

4   MR. BYRON WILLIAMS: Okay. And just a

5 final question. In terms of DSM, what exactly are you

6 recommending that the PUB do?

7   MR. PHILIPPE DUNSKY: My recommendation

8 really is -- is that the PUB assesses this case using a

9 more prudent load forecast. And the more prudent load

10 forecast is one that would assume a more sustainable

11 rather than a dramatic drop off DSM effort and DSM

12 results.

13   And so, very specifically, you know, I

14 have a -- I have a slight preference for -- for our

15 scenarios. I think they're -- I think they're good and

16 -- and reasonable scenarios and those would be the

17 Scenarios A and B.

18   But I think it's -- it's equally

19 judicious, if -- if the Board uses the new Manitoba

20 Hydro Level 2 and 3 Scenarios with the extensions to

21 correct the -- the dramatic drop-off that was otherwise

22 there.

23   MR. BYRON WILLIAMS: Just to finish the

24 point, going forward over the long-term, are there any

25 reporting or oversight mechanisms that you might

8088

1 recommend going forward?

2   MR. PHILIPPE DUNSKY: Well, yeah, I

3 mean, you know, going forward if -- if Hydro does

4 maintain its -- its policy of pursuing all economic

5 DSM, I certainly think that there's value in looking at

6 the framework here. There -- what's common elsewhere

7 is independent evaluation of programs; for example, an

8 oversight mechanism. I think you would want to be

9 looking at a framework in which multiple parties have a

10 view into what Hydro is doing and -- and can direct the

11 reporting requirements, as well.

12   Once -- once you get good reporting and

13 get good feedback and you get third-party evaluations -

14 -and, you know, this is true for anyone, myself

15 included, you know, you put my feet to the fire and I

16 will perform -- perform more and you will be certain of

17 what I'm doing. You'll be certain that I'm performing

18 at the level that -- that is expected of me. And so

19 certainly I think there's value in looking at the -- at

20 the framework.

21   MR. BYRON WILLIAMS: Sorry, and I

22 apologize. My back row would -- would like one (1)

23 last question, and just as a teaser, so. But capacity

24 concerns in the future may be important.

25   So if you can offer a little teaser

 1 about demand response, just give a little --

 2   MR. PHILIPPE DUNSKY: Okay, sure.

 3 Well, the -- the first thing is that ener -- energy

 4 efficiency -- just traditional energy efficiency

 5 actually produces demand reductions as well. And so we

 6 put those in -- in our initial testimony and -- so that

 7 our Scenarios A and B come with megawatts to begin

 8 with. And that's because, you know, if you're

 9 insulating a home, you know, you're getting energy

10 savings, but you're also reducing peak, for example.

11   But beyond that, there are a plethora of

12 mechanisms that you can use and that Hydro can use to

13 add additional capacity savings through demand

14 response. And demand response can mean a lot of

15 different things. It can mean direct load control of

16 the source that we talked about earlier. It can mean

17 using, for example, three (3) phase water heaters. And

18 it can mean use of -- of rates as a mechanism for

19 demand response, as well as interruptible rates with --

20 with large industrial. So it's a very -- a very

21 summary response.

22   But again, we're -- we're actually

23 developing a demand response plan now for -- for

24 another Canadian utility. I can certainly expand on

25 that if -- if that's of interest.

8090

 1   MR. BYRON WILLIAMS: Thank you.   We --

 2   Mr. Dunsky is now available for questions from the

 3   panel or cross.

 4   MR. RICHARD BEL: Mr. Dunsky, would

 5   there be an interplay between the uptake of

 6   photovoltaic and -- so the market taking care of CO2

 7   reduction in a certain way and would encourage

 8   regulators to not impose CO2 pricing, or -- or would

 9   that not be significant?

10   MR. PHILIPPE DUNSKY: I think the

11   problem with solar PV right now is that -- is that it's

12   anyone's guess exactly how far and fast it's going to -

13   - it's going to take off. So, you know, that's --

14   that's really an open question and, frank -- frankly, a

15   risk factor, as -- as far as I'm concerned.

16   And, you know, beyond that, from a

17   political standpoint, my experience is almost to the

18   contrary. Regulators tend to get involved when -- when

19   they see that -- that imposing the constraint will

20   actually be achievable. And so sometimes it's easier

21   to impose constraints like that when you know that that

22   -- let's say that solar resource is -- is taking off or

23   some other solution is.

24

25   (BRIEF PAUSE)

8091

 1   DR. HUGH GRANT: I've been imposing

 2 myself on the patience of people in the room lately,

 3 but... Can I -- I have actually like eight (8) or nine

 4 (9) questions, but I'll limit myself to three (3). Can

 5 I start with this -- this static kind of vision.

 6   And I'm having one (1) of these -- I

 7 think we call it in economics big bills on the sidewalk

 8 moment, where the story is an economist is walking down

 9 the street, sees a hundred dollar bill on the sidewalk.

10 They won't pick it up because it's too good to be true;

11 somebody else would have gotten it, you know, months

12 ago. And I'm having a bit of that, if I understand

13 this correctly, with DSM.

14   So are you saying that the -- the

15 marginal cost of some of these DSM initiatives is in

16 the order of three and a half (3 1/2) cents a kilowatt

17 hour? And this is compared to twelve (12) cents in

18 some US states of generating an equivalent amount of

19 power.

20   MR. PHILIPPE DUNSKY: Absolutely.

21   DR. HUGH GRANT: And that's the total

22 resource cost, not necessarily the cost of the utility?

23 Or even if it was, there's still going to be a huge gap

24 between...

25   MR. PHILIPPE DUNSKY: Enormous gap. So

8092

1 if we look at the past -- I think it's roughly twelve

2 (12) years in -- of US data just, because sometimes

3 it's easier to use. US data's just published more

4 often. They're -- they've been producing savings over

5 that period systematically at around two and a half (2

6 1/2) cents a kilowatt hour. I believe the two and a

7 half (2 1/2) cents is -- is utility costs subject to

8 check, so it might be in the range of three and a half

9 (3 1/2) cents total resource cost. But, yes, this is -

10 - this is multiples cheaper than -- than supply.

11   DR. HUGH GRANT: So in what world of

12 perversely misaligned incentives does this go on in,

13 right? And you think from just a socially optimal

14 perspective this is a no-brainer. It should've been

15 done a long time ago.

16   What's preventing this from happening?

17 Is it regulatory framework, is it in the average cost

18 pricing models or...

19   MR. PHILIPPE DUNSKY: Yes. And you

20 could've gone on with others and I would've answered,

21 Yes. They're -- they're a number of -- they're a

22 number of reasons. First of all I should say that, you

23 know, we're in a situation today where we have I'd say,

24 you know, probably a third, maybe up to 40 percent of

25 regions in North America that are now going -- I won't

8093

1 say all out but -- but going pretty hard at DSM,

2 because they have recognized what an enormous

3 opportunity this is. An opportunity that -- that if

4 you -- if you don't go after it, you -- you leave that

5 dollar bill on the ground, absolutely.

6   So they've come to -- to that

7 realization and are pursuing it. So it's not like, you

8 know, the whole continent is -- is neglecting this --

9 this tremendous opportunity.

10   That said, there are real impediments to

11 -- to pursuing it. Sometimes they are regulatory.

12 Sometimes, for example, the -- the regulatory framework

13 is a cost plus framework, and the cost plus flame --

14 framework provides no incentive at -- at all to

15 utilities to do this. So you do need regulators to

16 step in and say, you know: It's in the public

17 interest. It may not be in yours, but it's in the

18 public interest; you got to do this.

19   California, for example, just adopted a

20 -- a very strong incentive mechanism for the utilities

21 to -- to make sure that it's absolutely in their

22 interest to -- to hit and exceed targets. So there's a

23 bit of that.

24   Frankly -- and this is from the, you

25 know, twenty-three (23) years or so I've been doing

8094

1 this -- the biggest impediment oddly enough is, to put

2 it in crude terms, it's not sexy. It's -- it's very

3 easy to wrap your head around a large project -- a

4 supply project. It's very easy to focus the mind on

5 that. It's much harder to explain the what this beast

6 is, this demand-side thing. And that, too, plays a --

7 plays a pretty important role.

8   DR. HUGH GRANT: Okay. Now, let me

9 pause for a minute. And I'm persuaded, but that

10 essentially just puts me in line where with where maybe

11 Manitoba Hydro is how now. And that's at a static

12 model. There's some -- some gains to be made from DSM

13 in the -- in the short term.

14   And I -- I take your point of getting

15 out of this head space where you think there's never

16 going to be any more innovations, so we should start

17 thinking about this constantly evolving innovation

18 but...

19   I wasn't thrilled by your example of the

20 oil industry because I remember oil at three fifty

21 (350) a barrel. And so -- but I -- I understand

22 there's been lots of technological changes; that may be

23 an exceptional case, given the resource constraint

24 but...

25   I -- I took your point, I think it was

8095

1 on Figure 13 in your report which showed on the one

2 hand -- it had all the different states and the amount

3 of DSM being undertaken and the cost per kilowatt hour,

4 saying it didn't seem to matter if you were trying for

5 2.5 percent -- I'm sorry, there it is. So there wasn't

6 any strong correlation between the amount of DSM you're

7 undertaking and the -- and the cost per kilowatt hour.

8   Okay, I kind of buy into that. I think

9 I'd be more interested in hearing, if you could talk

10 about, say, Vermont where you've got some experience

11 that -- and it's way off to the right on this slide.

12   Do you have any insight on what

13 Vermont's done sort of year after year after year to

14 kind of maintain that kind of 2 percent saving and

15 still -- without the marginal costs going up at all?

16   MR. PHILIPPE DUNSKY: Yeah. Vermont is

17 a -- is an interesting place. Let me -- you know, the

18 -- the thing with -- the thing with DSM is you have to

19 almost leave the world of resource economics and go to

20 the world of managerial economics.

21   Ultimately, DSM is a product that you

22 sell. And there are companies out there who sell

23 products really well and there are companies out there

24 who sell products very poorly. And fundamentally, you

25 know, what's going to make the difference between those

8096

1 who sell well and those who sell poorly is a

2 combination of skill and motivation.

3   Vermont was extremely motivated. And

4 sometimes these things come down to -- to entirely

5 issues of personality, if you will. In Vermont, there

6 was a -- there was an organization that believed very

7 strongly in this. They convinced the legislature to --

8 to essentially make a bet on them, give them a contract

9 to actually implement this. And they were very

10 motivated and believed very strongly in achieving this.

11   Now, that was -- that was tempered by

12 independent evaluation and independent oversight of

13 what they do. But that motivation that they had -- I

14 mean, I can tell you because I worked very closely with

15 them for many years, you would never go a day without

16 the key people there waking up and thinking of some way

17 to improve their processes, to improve their

18 strategies, to find a new opportunity, to test that new

19 opportunity, to bring it to market, to find a better

20 way to bring it to market, and then start the whole

21 thing over again.

22   That -- that was and remains today the

23 environment that you have in that particular

24 organization. And it is primarily for that reason that

25 they have been able to achieve and maintain

8097

1 systematically this pace. And the extraordinary thing

2 is you would think -- you know, coming back to this

3 question of depletion, you would think that if anyone

4 had depleted the opportunity, it would be them, all

5 right. I mean, they've been at this for, you know,

6 almost twenty (20) years now.

7   They are the ones who recently went to

8 the legislature and said, For our next contract we'd

9 like to up the ante because we believe that we should

10 now be doing 3 percent a year, and we are convinced

11 that we can achieve that. And they have a bonus

12 incentive mechanism built into their contract. So, you

13 know, they're on a very personal level. You know, the

14 people who work there, part of their -- part of their

15 payments are based on whether they hit their targets.

16   So it's unusual to find that situation -

17 - or in that situation, find an entity that says, you

18 know, Up the ante, give me more targets for the same

19 bonus. But that's -- that's in their character.

20   DR. HUGH GRANT: If I may, just one (1)

21 last point.

22   MR. PHILIPPE DUNSKY: Not seven (7) or

23 eight (8)?

24   DR. HUGH GRANT: I'm trying to keep

25 myself to three (3). It was ugly yesterday. They

1 were...

2   I was just thinking back, you know, sort

3 of different examples of disruptive technologies. And

4 you think of all the different ways somehow some firms

5 get out ahead of the curve and actually are the

6 innovators; some just disappear and...

7   But you mentioned -- at one point, I

8 think you used the term 'utility scale innovations' or

9 'options'. And I was wondering if -- if we did -- did

10 get to this world of new innovations and a lot of off-

11 grid type of stuff, does it necessarily mean the

12 destruction of the utility?

13   Or are there going to be instances where

14 the utility, in fact, there may be scale economies to

15 it, becomes the produce of what had -- the off grid

16 comes back on grid, or even if you're off grid, you

17 need to stay connected for the power saving or...

18   MR. PHILIPPE DUNSKY: Yeah.

19   DR. HUGH GRANT: Can you just -- I

20 don't know if there's any examples, but --

21   MR. PHILIPPE DUNSKY: Sure.

22   DR. HUGH GRANT: -- do you see any

23 patterns to some of the new technologies as it evolves?

24   MR. PHILIPPE DUNSKY: Sure. And -- and

25 by the way, that's -- that's kind of the question of

8099

1 the day throughout our industry right now, not the DSM

2 industry, but -- but, you know, the utility industry,

3 especially in those areas that are already dealing with

4 the advent of solar. It's a huge question.

5   So there are -- you know, I think you

6 put it very well. There are -- every time that -- that

7 situation is -- is being faced, as is the case with

8 utilities today, there are some who say, We're going to

9 get ahead out -- we're going to go out and get ahead of

10 it, and others who -- who let them get -- let

11 themselves get swallowed by it, if you will.

12   There's a very strong argument for those

13 to get ahead of it because of economies of scale with

14 utility-scale solar. So when we talk about utility-

15 scale solar, we might be talking about -- you know,

16 we're talking about power plants here. All right. I -

17 - I visited one in California. I mean, it's, you know,

18 you got acres and acres of panels.

19   And you can imagine the economies of

20 scale that you have on that, first, in terms of the

21 pricing that you get on the panels; second, in terms of

22 the installation costs. As compared with buying them

23 one-off, panel by panel almost, and then installing

24 them panel by panel, roof by roof. So the current cost

25 estimates for utility-scale solar are just a hair north

 1 of half the cost of rooftop.

 2   And that's why you see, in the last

 3 year, over half of all solar installations being

 4 utility-scale solar installations, those utilities that

 5 are getting ahead of the game by investing in it. And

 6 once -- you know, the bet there is that I can't be beat

 7 if my solar is cheaper than my customer's solar

 8 opportunity. That's the bet.

 9   DR. HUGH GRANT: Yeah, I'd better stop

10 now. They'll get nasty on me. Thanks very much.

11   MR. PHILIPPE DUNSKY: Pleasure.

12   MS. MARILYN KAPITANY: On your slide

13 61, you suggested to us that Keeyask and other supply

14 investment should be assessed primarily as merchant

15 plans. You talked quite a bit about New England and

16 California and Nova Scotia and what's happening there

17 in terms of DSM.

18   But given that we sell our power into

19 the MISO market, and into Saskatchewan to some extent,

20 could you talk a bit about what's happening in those

21 areas that might affect how -- how successful we might

22 be selling power there in the future.

23   MR. PHILIPPE DUNSKY: Sure. I will --

24 yeah, and, I mean, can talk to a couple of -- couple

25 places there. Let me start with -- with Minnesota that

8101

1 I happen to know pretty well. So Minnesota is, I think

2 I mentioned earlier -- utilities in Minnesota have to

3 achieve at least 1.5 percent demand savings every year,

4 which essentially means they are flattening their load.

5   What that means for you, if they didn't

6 have to be in the world of retiring plants, that would

7 mean that it would, obviously, create a big hit on your

8 export opportunities. What it really means is that

9 your export opportunities, to Minnesota at least, are

10 limited to the retirement rate of their plants.

11   And -- and that's why, when I talked

12 earlier about -- about risk factors, the key one there

13 from my perspective is how quickly will they have to

14 retire their plants and/or to what extent can they

15 replace those retired plants with gas plants and/or

16 with solar, as opposed to your power. So I think

17 that's -- that's, you know, it's to that level that it

18 affects them. That's in terms of the DSM.

19   The question of the solar outbreak, you

20 know, that's a whole other question. And that will --

21 actually, what I could do -- let me see here. If you

22 bear with me, I believe I have -- I do. All right. So

23 -- I'm sorry, I was -- no, it doesn't go automatically,

24 does it? It does. So I'm sorry, I don't have this --

25 I don't have this perfectly ready to present but, you

8102

1 know, I'll share with you what I have.

2   So, you know, we -- we have a -- we have

3 a model that looks at grid parity in -- in different

4 places. And so, you know, when -- if I'm looking at

5 this here -- what we're seeing -- I'm sorry we're not -

6 - it's kind of hard to look at because we don't see the

7 years here. Geez, let's see.

8   Okay, if I take my conservative

9 assumption, about 5 percent cost reductions for PV, as

10 opposed to the 18 percent annual cost reductions of the

11 other scenario, North Dakota is looking at grid parity

12 by 2021. If I -- can I do this? I can. Okay.

13 SaskPower is looking at grid parity by 2017. And

14 that's -- that's significant. And that's partly

15 because Saskatchewan has the -- the single best solar

16 power resource in Canada today, you know, Manitoba

17 falls just behind that.

18   But with their resource and with their

19 rates they're looking at grid parity coming very

20 quickly and that's why we're -- we're working with them

21 now to help them get ahead of the game and actually be

22 involved in -- in working on, you know, implementing

23 solar, and having their customers implement solar

24 during that period.

25   If I look, and I'm -- I'm just -- to

8103

1 answer your question, right, you're looking at the

2 neighbours. The OPA is a bit unusual because given the

3 incentives that they have in the market today they're

4 already at grid parity and beyond. You know, it's

5 extremely interesting to put solar power on your roof

6 in Ontario.

7   Okay. Minnesota hit grid parity this

8 past year, 2013. And when I say "grid parity," by the

9 way, this is grid parity for residential rooftop

10 installations, 5 kilowatt systems to be specific. And

11 I believe the last one -- no, that would be it. I

12 think that would cover most of the immediate

13 neighbours, right.

14   So that's in terms of that -- that risk,

15 if you will. I can -- do you want me to talk about the

16 others? Ontario being another export -- potential

17 export client, they similarly have a pretty aggressive

18 DSM plan now.

19   I would have to look at the actual

20 numbers, but I know -- I certainly know it's somewhere

21 between 1 to 1 1/2 percent a year in that range. So

22 they are effectively looking at flat demand. And

23 again, as with the case in Minnesota, the export

24 opportunity for you is in exporting to -- to meet the

25 needs associated with their -- with their existing

8104

1 power plants coming off of line. And you'll be

2 competing with us for that to some extent and with our

3 enormous surplus.

4   And then Saskatchewan is a very

5 different story. So Saskatchewan is not doing very

6 aggressive DSM right now. And on top of that they

7 have, you know, a very significant load growth

8 associated with their -- their resource economy that's,

9 you know, quite on fire right now. So there certainly

10 you'd be looking at, you know, a greater opportunity.

11   And ultimately if they face carbon --

12 you know, carbon regulations and carbon regulations

13 start hitting their plants and they don't build their -

14 - their famous car -- capture and storage facility,

15 then you're looking at something very interesting

16 there.

17   MR. BYRON WILLIAMS: Mr. -- Mr. Chair,

18 could I have one (1) moment with My Friend Mr. Gange

19 and Mr. -- Mr. Dunsky?

20

21   (BRIEF PAUSE)

22

23   MR. BYRON WILLIAMS: I'm sorry, I was

24 just making sure that that material was on the -- on

25 the record somewhere. And it's in Mr. Dunsky's

8105

1 original evidence, so.

2   THE CHAIRPERSON: Probably an

3 appropriate time to take a break before I turn the

4 microphone over to the Intervenors. So let's take ten

5 (10) minutes.

6

7 --- Upon recessing at 2:37 p.m.

8 --- Upon resuming at 2:54 p.m.

9

10   THE CHAIRPERSON: If people can get

11 into position we'll start the -- resume the

12 proceedings. Mr. Williams, I just noticed that there's

13 a document that's been handed out.

14   Do you want to record it -- enter it

15 into the record?

16   MR. BYRON WILLIAMS: Yes, My Learned

17 Friend, Ms. Craft, who will be appearing tomorrow has

18 instructed me to request that the Board accept the

19 Aboriginal Litigation Practice Guidelines from October

20 of 2012. She's requested that we put this on the

21 record.

22   And it's something that's certainly --

23 at our office we use to guide our practice in -- in

24 dealing with our -- with the -- our -- our First people

25 in -- in terms of evidence. And so it's something we'd

8106

1 recommend for the Board's reading.

2   THE CHAIRPERSON: Mr. Williams --

3   MR. KURT SIMONSEN: That'll be CAC-63,

4 Mr. Williams.

5   MR. BYRON WILLIAMS: Yes, thank you for

6 doing my job for me, Mr. Simonsen. I'm very grateful.

7   THE CHAIRPERSON: Thank you, Mr.

8 Williams.

9

10 --- EXHIBIT NO. CAC-63:   Aboriginal Litigation

11   Practice Guidelines from

12   October of 2012

13

14   THE CHAIRPERSON: I'll turn the

15 microphone over to Me. Hacault. S'il vois plait.

16

17 CROSS-EXAMINATION BY MR. ANTOINE HACAULT:

18   MR. ANTOINE HACAULT: Merci, M.

19 President. I'm just back here, so don't worry. Just a

20 couple little points, Mr. Dunsky. You had shown us on

21 your screen some Excel spreadsheets which I think are

22 the background information to some of the information

23 on PV system grid parity, which is discussed in your

24 report around page 39.

25   Would it be possible to print out some

8107

1 of that information that you referred to, sir? And if

2 so, could you -- I'll leave you the care of describing

3 the undertaking.

4   MR. PHILIPPE DUNSKY: Sure. So I -- I

5 do need to -- to be just a little bit careful, because

6 the model itself was -- was initially built for -- for

7 another client and is -- is protected in that -- in

8 that sense. But -- but I can certainly provide the

9 details of the -- of the solar power grid parity

10 assessment that we did for each of the -- each of the

11 four (4) neighbouring states and provinces, as well as

12 for Manitoba, if that -- if that meets the need.

13   MR. ANTOINE HACAULT: Yes. That --

14 that would be great.

15   MR. BYRON WILLIAMS: And --

16   MR. ANTOINE HACAULT: Thank you.

17   MR. BYRON WILLIAMS: And to confirm the

18 undertaking, it's to provide supporting tables for the

19 information found in Figure 15 of Mr. Dunsky's pre-

20 filed written evidence relating to grid parity. And it

21 will address the calculat -- the -- the conclusions

22 drawn for Ontario, Minnesota, North Dakota,

23 Saskatchewan, and Manitoba?

24   MR. PHILIPPE DUNSKY: That's perfect.

25   MR. ANTOINE HACAULT: Thank you, sir.

8108

1 --- UNDERTAKING NO. 121: Mr. Dunsky to provide

2 supporting tables for the

3 information found in Figure

4 15 of his pre-filed written

5 evidence relating to grid

6 parity, and it will address

7 the conclusions drawn for

8 Ontario, Minnesota, North

9 Dakota, Saskatchewan, and

10 Manitoba

11

12 CONTINUED BY MR. ANTOINE HACAULT:

13 MR. ANTOINE HACAULT: The next question

14 I have, sir, relates to some of the exchange that was

15 occurring between Dr. Grant and yourself about the

16 hundred dollar bill on the sidewalk and the DSM costs.

17 And I'd like to draw your attention to an exhibit which

18 was filed earlier on in this proceeding, we've all been

19 here for some time, but it's MIPUG Exhibit 20-3. And

20 this is a document that was prepared by InterGroup

21 Consultants, sir.

22 And I reviewed this document very

23 briefly with you when we were having our break,

24 correct?

25 MR. PHILIPPE DUNSKY: Yes.

8109

1   MR. ANTOINE HACAULT: And, sir, if we

2 look at this spreadsheet, and the example too, what

3 we're doing is adding generation or lost exports at ten

4 (10) cents, for a total revenue requirement of eighty

5 dollars ($80).

6   If we proceed with the assumptions

7 there, do you agree mathematically that that example

8 shows that adding ten (10) cent power would give us an

9 average rate per kilowatt hour of seven point two-seven

10 (7.27) cents?

11   MR. PHILIPPE DUNSKY: I -- I have no

12 reason to -- to think otherwise. I haven't done the

13 math, but it seems to make sense.

14   MR. ANTOINE HACAULT: And so if a

15 customer used 10,000 kilowatts in a year, the math on

16 the -- would lead you to a bill of -- for that

17 customer, of seven hundred and twenty-seven dollars

18 ($727), correct?

19   MR. PHILIPPE DUNSKY: That one is

20 pretty straightforward, yeah.

21   MR. ANTOINE HACAULT: And then if we

22 did DSM, for example, a new showerhead with a lower hot

23 water usage, and say if that was a program -- and I

24 don't think it would be a ten (10) cent program -- but

25 if it was a ten (10) cent program per kilowatt hour,

8110

1 this is Example 3, we'd have a revenue requirement of

2 eighty dollars ($80).

3 Are you following me so far?

4 MR. PHILIPPE DUNSKY: Yes.

5 MR. ANTOINE HACAULT: And then this

6 assumption or illustration, we're actually seeing that

7 the DSM program worked and we've taken out the expected

8 growth so that we remain at 1,000 gigawatt hours for

9 the system.

10 Do you see that?

11 MR. PHILIPPE DUNSKY: Yep.

12 MR. ANTOINE HACAULT: And the average

13 rate if we spend as much on DSM as new generation,

14 actually leads us to a higher average rate?

15 MR. PHILIPPE DUNSKY: Sure, less

16 revenue. Yeah.

17 MR. ANTOINE HACAULT: And if we look at

18 -- we've established that some customers will

19 participate in the programs depending on the programs,

20 and some won't be participating in the programs, fair?

21 MR. PHILIPPE DUNSKY: Yes.

22 MR. ANTOINE HACAULT: So that the

23 customer who participates in this particular program,

24 if his usage was reduced because of the program to

25 9,000 kilowatts hours per year, we'd see that his or

8111

1 her bill would be seven hundred and twenty (720). And

2 that is obtained by multiplying the eight (8) cents

3 times 9,000 kilowatt hours per year.

4   Do you see that, sir?

5   MR. PHILIPPE DUNSKY: Yes.

6   MR. ANTOINE HACAULT: Okay. So -- but

7 the non-participating customer would see his bill --

8 his or her bill increase to eight hundred dollars

9 ($800) in Example 3, compared to Example 2 at seven

10 hundred and twenty-seven dollars ($727), correct?

11   MR. PHILIPPE DUNSKY: Yes.

12   MR. ANTOINE HACAULT: So is it fair to

13 suggest to you, sir, that we can't automatically say if

14 we spend ten (10) cents per kilowatt hour on a DSM

15 program, that it leads to the same results for

16 customers as spending ten (10) cents on generation?

17   MR. PHILIPPE DUNSKY: Yes, certainly.

18 For individual customers, yes. Yes. It would really

19 depend on who's participating. And so participants win

20 and non-participants lose. And I think that just comes

21 right back to the -- to the question earlier from Mr.

22 Williams, which is, you know, do you -- how do you

23 address this issue of equity, right.

24   And the way to address the issue of

25 equity is really one (1) of two (2) routes. You can

1 either minimize the effort, but in which case you will

2 have many more losers than winners. Or you can

3 maximize the effort and try to ensure that while not

4 everyone is going to take a showerhead, everyone takes

5 something, right. Someone's going to take a

6 showerhead, someone's going to take a light bulb,

7 someone's going to take insulation. And overall

8 everyone is participating in the overall reduction in -

9 - in total cost.

10   MR. ANTOINE HACAULT: Thank you. Next

11 short subject, and I think you've touched upon it

12 fairly well, one of the themes I have been dealing with

13 as it relates to various witnesses and their particular

14 area of expertise is: Have we got the bandwidth wide

15 enough.

16   And with respect to DSM and our approach

17 and -- and load growth, do I understand your

18 recommendation, sir, that the way Manitoba Hydro has

19 approached DSM in its analysis, that it's your view

20 that we have not got that bandwidth wide enough if

21 we're not examining an example that basically has flat

22 load growth?

23   We are not analyzing the possibilities

24 in a wide enough manner?

25   MR. PHILIPPE DUNSKY: By -- by

8113

1 bandwidth you mean -- you mean essentially scenario

2 analysis?

3   MR. ANTOINE HACAULT: Yes.

4   MR. PHILIPPE DUNSKY: Yeah. Well,

5 certainly. I mean, my -- my analysis is that -- that a

6 zero growth scenario is the likeliest -- the likeliest

7 scenario. And so clearly, if -- if that is not one (1)

8 of the scenarios that is being assessed, then

9 absolutely, there's a -- there's a real issue in terms

10 of the -- the band, if you will, of analysis.

11   MR. ANTOINE HACAULT: And therefore, if

12 we don't have that scenario and we have to go to the

13 next best one, what, in your view, is the next best one

14 that's on the record so far, apart from yours, in -- in

15 Manitoba Hydro's material?

16   MR. PHILIPPE DUNSKY: This -- this is

17 where my limitations kick in. So I -- I have not

18 looked at that side of -- of the evidence. I've been

19 pretty singularly focussed on the DSM side. So I'm

20 sorry, I -- I would have to assume that it would be the

21 -- the next -- the next lowest load growth forecast,

22 but I can't really speak to that.

23   MR. ANTOINE HACAULT: Okay, I thought

24 you might be able to as regards to your specific area

25 because, without suggesting the answer, Manitoba Hydro

8114

1 had looked at a DSM 2 scenario, a DSM 3 scenario, and

2 you had presented your scenarios and the record that

3 Manitoba Hydro has provided to -- in -- in this

4 proceedings -- the most aggressive DSM would be a DSM

5 3, but tapering off, as you showed, sir.

6   MR. PHILIPPE DUNSKY: Yes.

7   MR. ANTOINE HACAULT: If -- it that's

8 the best information that we have, the DSM 3...

9   MR. PHILIPPE DUNSKY: I -- I would -- I

10 would be very wary of suggesting the use of DSM 3 for a

11 couple of reasons. First is that that tapering off

12 affects DSM 3 just as much as it does DSM 2. You know,

13 Level 3 and Level 2. In the -- over the planning hori

14 -- you know, over a short period of time, there's a

15 difference there. Over the planning horizon, you know,

16 it's a grain of sand on a pretty long beach. It --

17 it's largely immaterial for planning purposes.

18   The other concern that I would have is I

19 did look quickly at Level 3 costs, and Level 3 costs

20 are extremely high. There's -- you know, my -- my

21 guess would be that'll -- that, you know, effort was

22 put into looking at Level 2 and then, you know, Level 3

23 just put a very high cost there. But that is certainly

24 not in line with anything that I've ever seen for the

25 level of -- of DSM that is involved in -- in Level 3.

8115

1 So I -- I would be very -- very wary of putting any --

2 any use to the -- to the costs assumptions for Level 3.

3   MR. ANTOINE HACAULT: Thank you very

4 much for that perspective, because one might have

5 assumed, well, if we're going to be doing more --

6 looking at a more aggressive DSM scenario, we should

7 look at DSM 3 to get us a better idea of what might be

8 occurring based on your belief of what's going to be

9 reasonable.

10   But you say we should be cautious about

11 that because of the tapering off at the very end and --

12 and because of the additional cost that's being

13 attributed to a DSM 3 scenario, which would skew the

14 results.

15   Is that a -- a fair summary?

16   MR. PHILIPPE DUNSKY: Yes, and it --

17 you know, in effect DSM Level 3 is no -- no prefer --

18 no more preferable than -- than DSM Level 2. I would

19 just temper that by saying that, you know, those same

20 concerns apply to DSM Level 2, in terms of the tapering

21 off. I just don't think it's a realistic long-term

22 savings assessment from that perspective.

23   If there is any way to -- to run the

24 numbers using a -- using the adjusted levels, then if

25 that were the case, then I would certainly recommend

8116

1 you using an adjusted or extended Level 2, rather than

2 an adjusted -- or extended Level 3, both for prudency

3 sake and -- and for cost sake.

4   MR. ANTOINE HACAULT: Thank you, sir.

5 And in your testimony, you focussed, as you said,

6 mainly on, I'm going to call it, energy DSM. In your

7 report, you mention various, I'm going to say, demand-

8 type DSM. For example, at page 7 of your report, you

9 talk about demand response programs, interruptible

10 rates.

11   Can you explain, sir, your views of how

12 these, I'm going to call it, capacity, or dealing with

13 the peak type of DSM, in your view should be considered

14 as resource options?

15   MR. PHILIPPE DUNSKY: Sure, you know,

16 it's -- it's very much analogous to -- to energy, in

17 that, you know, the -- the conventional thing to do is

18 say, Well, you know, if energy demand rises then we

19 need to, you know, build more to -- to meet that

20 demand. And we now know that energy efficiency can

21 supply that same service.

22   Well, the same thing is true for -- for

23 capacity, and so there are demand-side management

24 options that address capacity very specifically that

25 can be undertaken at a lower cost than the cost of new

8117

1 capacity being built. And so in that respect, I'm

2 absolutely favourable to at least looking at those

3 options.

4   And we -- we recently completed a demand

5 response potential study. And that potentials --

6 actually I completed two (2) -- two (2) different

7 demand response potential studies for two (2) different

8 regions. We found they have very significant savings

9 opportunities, not unlike other demand response

10 potential studies.

11   And when we look at those and apply

12 those to

13 -- to Manitoba Hydro's case, I think we put the -- the

14 numbers in here, we make just adjustments for Manitoba

15 and this is, you know, reasonably high level. You

16 know, we think it's pretty safe to add an additional

17 somewhere between a hundred and twenty-two (122) and

18 400 megawatts of capacity savings just from demand

19 response. And that would be on top of the roughly

20 1,000 megawatts of capacity savings associated with the

21 energy efficiency programs.

22   MR. ANTOINE HACAULT: And I won't take

23 you through that, sir, but in the DSM reports prepared

24 by Manitoba Hydro there's a fairly large sector of the

25 DSM initiatives that relate to commercial land

 1 industrial users.

 2   Would that be fairly consistent with

 3 your experience in other jurisdictions that the

 4 commercial and industrial sectors have a role to play

 5 in capacity DSM programs?

 6   MR. PHILIPPE DUNSKY: Oh, absolutely,

 7 yes. Yes, they have a very large role to play. And

 8 that would frankly depend on, you know, the specifics

 9 of each region.

10   One of the big differentiating factors

11 is how much control one has over domestic water

12 heaters, so that'll, you know, temper or not the value

13 of the commercial industrial side. But you know,

14 interruptible rates in the industrial side, as well as,

15 demand response in commercial buildings offer very

16 interesting opportunities.

17   MR. ANTOINE HACAULT: So if Manitoba

18 Hydro was proposing to cap certain demand-side capacity

19 programs in industrials, that wouldn't be something

20 that you would be recommending as long as those

21 programs are economically feasible?

22   MR. PHILIPPE DUNSKY: I guess it's --

23 it's a little bit of a hypothetical for me. I think, I

24 probably need to know a little more before -- before

25 advising. You know, it depends what -- what the cap is

1 for and -- and what that cub -- what that cap does in

2 terms of, you know, savings on the one hand and -- and

3 costs on the other.

4   MR. ANTOINE HACAULT: One of the

5 programs that we've discussed is the curtailable rates

6 program. Are you familiar with all the details, if you

7 aren't I'll just end there?

8   MR. PHILIPPE DUNSKY: Yeah, I'm -- I'm

9 not familiar with the -- with the fine print details of

10 -- of the specific curtailable rates in Manitoba.

11   MR. ANTOINE HACAULT: Thank you very

12 much. Those are all my questions.

13   MR. PHILIPPE DUNSKY: Okay.

14   THE CHAIRPERSON: Merci, Me. Hacault.

15 I'll turn it over -- microphone over to Mr. Orle on

16 behalf of MKO.

17

18 CROSS-EXAMINATION BY MR. GEORGE ORLE:

19   MR. GEORGE ORLE: Thank you, Mr. Chair.

20 Mr. Dunsky, hello.

21   MR. PHILIPPE DUNSKY: Hello.

22   MR. GEORGE ORLE: I just have a few

23 questions for you and they relate to some of the

24 service areas of your -- of your company. You indicate

25 planning design and -- and then some partial

8120

1 implementation are -- are part of the services that you

2 provide.

3   And I gather that planning and design of

4 DSM programs is part of what you -- you do in your

5 company?

6   MR. PHILIPPE DUNSKY: A very, very

7 large part of what we do, yes.

8   MR. GEORGE ORLE: And in planning and

9 designing a -- a program, do you take into account

10 differences such as geographical location within the

11 territory?

12   MR. PHILIPPE DUNSKY: Absolutely.

13   MR. GEORGE ORLE: And in a province

14 like Manitoba where a bulk of our population is in the

15 south that a -- and a large portion of the population

16 is scattered throughout the north, there would be

17 particular considerations that you would take into

18 account in -- in designing a program?

19   MR. PHILIPPE DUNSKY: Anywhere we're

20 designing a program we're going to design it

21 specifically for the -- for the characteristics of the

22 province. And so in this case, yes, clearly the -- the

23 unique characteristics of the northern population would

24 certainly be a part of it.

25   MR. GEORGE ORLE: And in designing

8121

1 programs -- if you're designing a program that would

2 involve or would require a large participation by low-

3 income groups, would there also be specific factors

4 that you would take into account in designing that

5 program?

6   MR. PHILIPPE DUNSKY: Absolutely.

7   MR. GEORGE ORLE: And can you indicate

8 just on general sense what sorts of -- of designs or

9 planning would be required in dealing with low-income

10 groups.

11   MR. PHILIPPE DUNSKY: There are a lot

12 of options there. I mean, you know, the --

13 unfortunately, what we -- what we find very commonly is

14 -- is the need to cover essentially the full cost of --

15 of measures. In -- to the extent that we're talking

16 about home retrofits, we tend to find that there is a

17 need to do what's called direct installation.

18   So in other words, it's not just putting

19 out the option, but it's actually offering the service

20 of go -- of going to the home, installing the measures,

21 conducting the work, doing the audits. In other words,

22 it's -- it becomes a very turnkey program. And -- and

23 there have been, you know, different efforts over

24 different -- different locations over time to try to

25 get away from that, with very little success. So that's

8122

1 as a general rule, again, you know, notwithstanding

2 specifics.

3   MR. GEORGE ORLE: That would be a

4 general case though throughout North America. You --

5 you wouldn't fine a much different way of dealing with

6 the low-income population?

7   MR. PHILIPPE DUNSKY: Not -- not in

8 terms of -- of home retrofit programs. I mean, and --

9 and sorry, just -- I mean, just to be very precise,

10 there are exceptions to the rule, but oftentimes, they

11 don't pan out. So just to give you an example, Nova

12 Scotia, a long time ago, tried something where they

13 said, You know, okay, we can't ask for financial

14 contributions, but maybe we can ask for sweat equity.

15   And what they quickly found was that a

16 large proportion of their low-income customer base was

17 -- was also seniors, and seniors were not able to

18 provide the sweat equity. So a lot of places have --

19 have attempted different tweaks to try to get a greater

20 contribution from low-income customers. Some have

21 succeeded. Vermont, for example, has succeeded to a

22 limited extent to get some contributions, for example,

23 from -- from landlords; a limited extent though.

24   MR. GEORGE ORLE: Okay. And I would

25 assume, and correct me if I'm wrong, that if one's

8123

1 talking about loan programs, then if they're directed

2 towards low-income persons, who normally don't have

3 anything in their budget leftover for -- you would have

4 to have almost an immediate payback to cover the cost

5 of the load on whatever it is that you put into effect

6 to reduce the -- the costs?

7   MR. PHILIPPE DUNSKY: Yeah, let me

8 stratify this a little bit more, right, because it

9 depends.   There -- there's low income and there's low

10 income.   And within low income, there's -- there is --

11 there are different levels of education as well that

12 affect the ability to take on finance, and there's

13 also, frankly, different levels of debt aversion.

14   So, you know, we see cases where you can

15 -- you can put together the -- you know, the most, on

16 paper, perfect finance mechanism, and, you know, some

17 segments of the low-income population will not touch it

18 with a 10-foot pole because they've been burned by debt

19 problems in the past, and they just will not take on

20 new debt, you know.

21   And there are other segments that, you

22 know, unfortunately, you can sell debt pretty -- pretty

23 easily and too easily.   So I wouldn't -- I wouldn't

24 generalize it, and I'd want to closer at the

25 sociodemographics of the low-income population in

 1 Manitoba.

 2   MR. GEORGE ORLE: And I guess where the

 3 strong point of your company is that you also provide

 4 the evaluation of these plans, and the opinions you're

 5 giving here now are based upon the -- the amount of

 6 time you've had to evaluate various plans of this type?

 7   MR. PHILIPPE DUNSKY: Yes. We do -- we

 8 do a program evaluation, typically not on the programs

 9 that we've designed, but...

10   MR. GEORGE ORLE: Okay. And have you,

11 in your experience, done any work in designing or -- or

12 planning DSM programs on First Nations territories?

13   MR. PHILIPPE DUNSKY: Yes, we have.

14   MR. GEORGE ORLE: Okay. And do they

15 have any specific requirements in terms of the design

16 of the -- of the plan?

17   MR. PHILIPPE DUNSKY: Sure. And again,

18 they -- 'they' being a generalization, so I -- I want

19 to be careful. But, you know, certainly there -- there

20 are some specific considerations that we -- that we

21 focus in on there. Again, you know, depending on the

22 territory, literacy sometimes is an issue -- excuse me

23 -- and sociodemographics, as well.

24   Sometimes there are, you know, simply

25 different -- differences as simple as, you know, for

8125

1 example, we did work in Labrador and helped -- you

2 know, helped them in particular with -- with Native

3 populations there, in some places where there are areas

4 of very high unemployment. And where there's very high

5 unemployment, you know, we're finding a lot of people

6 who are at home all day long, and that leads to

7 different usage patterns. And that means that some

8 measures, for example, are going to be more interesting

9 or less interesting to address.

10   So all those factors we try to -- we try

11 to look at when we design a program.

12   MR. GEORGE ORLE: Okay. And the input

13 for that, where -- where would you get that input from?

14   MR. PHILIPPE DUNSKY: Well, it really -

15 - again, it depends on location. We'll start with

16 secondary data, whatever secondary data is available.

17 We'll then go on to consulting populations and so we

18 can, you know, either consult at a -- at a secondary

19 level with people that know the populations. It -- you

20 know, in the worst case -- I shouldn't say worst case,

21 but -- because cost wise it becomes a worst case. You

22 have to go a level further and actually you had to do

23 consultations with individuals.

24   You know, we'll do phone -- phone

25 surveys, for example, if needed. And we've certainly

8126

 1 done that in the past.

 2   MR. GEORGE ORLE: Okay.

 3   MR. PHILIPPE DUNSKY: It depends on the

 4 available data, really.

 5   MR. GEORGE ORLE: And -- and how

 6 effective is things like phone consultation with either

 7 low income participants or First Nations participants?

 8   MR. PHILIPPE DUNSKY: I -- I hate to

 9 keep answering with it -- it depends, but it depends.

10 And I -- I think if -- certainly sometimes there are

11 concerns around -- again, to strat -- just to stratify

12 this, because low income -- you know, there could be a

13 lot of people considered low income. At the very, very

14 bottom strata there you can have significant

15 populations, for example, that don't have phone

16 service. And, you know, in that case phone surveys --

17 you won't know it if you're not conscious of it that

18 you're going to be missing, you know, stratas of that -

19 - of that population using phone surveys.

20   MR. GEORGE ORLE: My point wasn't to

21 try to put you on the spot. I'm assuming that it's

22 very important that there be a lot of contribution from

23 the -- the areas that you want to penetrate into as to

24 what's going to work, what's going to be culturally

25 appropriate, what may be socially appropriate, and that

1 there's a lot of work that needs to go into preparing a

2 plan.

3   You just don't cookie cut them out of

4 somebody else's plan, or do anything of that sort?

5   MR. PHILIPPE DUNSKY: That -- that is

6 absolutely true, yes. Yes. One (1) of the things I

7 should say with -- with First Nations populations, in

8 particular, that we try to do is -- is bring in their

9 participation into the program and -- and in to

10 delivering the program; that tends to have a higher

11 level of success.

12   MR. GEORGE ORLE: Okay. And at one (1)

13 point in your testimony you talked about dealing with

14 DSM programs with low income people. And I believe you

15 used the words that one would have to be fairly

16 aggressive -- sorry --

17   MR. PHILIPPE DUNSKY: No, it's --

18   MR. GEORGE ORLE: -- that one would

19 have to be fairly aggressive in promoting these plans

20 in order to -- to get them into the -- the low income

21 areas?

22   MR. PHILIPPE DUNSKY: Yes, that's true.

23   MR. GEORGE ORLE: Okay. And -- and why

24 is that?

25   MR. PHILIPPE DUNSKY: Gee, I wish I

8128

1 knew. It's something that we hit up against

2 systematically. You know, there -- there are people

3 who have gotten burned once too often and look at that

4 hundred dollar bill laying on the sidewalk and say, you

5 know, Too good to be true.

6   You know, there are people who are hard

7 to reach. Other people -- in many cases, for example -

8 - well, I won't say just in urban environments but in

9 many cases who have far greater problems that they're

10 dealing with than -- than thinking about energy bills

11 and getting their time and attention is -- is

12 exceedingly difficult.

13   So there are a number of different

14 factors.

15   MR. GEORGE ORLE: So we're -- we're

16 basically talking aggressive marketing?

17   MR. PHILIPPE DUNSKY: Yeah.

18   MR. GEORGE ORLE: Going some --

19 something more than just putting out a pamphlet or --

20 or making an announcement?

21   MR. PHILIPPE DUNSKY: Absolutely.

22   MR. GEORGE ORLE: Yeah.

23   MR. PHILIPPE DUNSKY: I'm a little bit

24 nervous on this, because I'm going to be looking at

25 Hydro's Low Income Program, which I haven't begun to

8129

1 look at yet, so talking a little bit ahead here.

2   MR. GEORGE ORLE: I'm just giving you a

3 few ideas.

4

5   (BRIEF PAUSE)

6

7   MR. GEORGE ORLE: On -- on slide 10 you

8 talk about some of the unique strengths that Manitoba

9 Hydro has in -- in dealing with -- with DSM programs.

10 And the -- the second bullet on that is electric gas

11 integration. And you -- you set this out as being a --

12 a strength on delivering DSM.

13   We've heard some testimony, and it's

14 gone back and forth, but that one (1) of the problems

15 that -- a problem, in fact, is the fact that it's

16 integrated. That if there had been a separation and

17 each side was allowed to aggressively market, then one

18 would be able to reach each of the different groups of

19 the program that was appropriate to them as opposed to

20 having a neutral aspect to -- to what program you may

21 use?

22   MR. PHILIPPE DUNSKY: I -- I wouldn't

23 really understand why, unless what you're talking about

24 is -- is the motivation for the utilities, respective

25 utilities in that case, to do this. You know, in some

8130

1 cases one could argue that a utility -- let's say, you

2 know, a gas utility that's competing for market share

3 will be more motivated to go out and help their

4 customers as a -- as a retention tool. But otherwise,

5 I don't really see the -- the challenge that you're --

6 that you'd be referring to there.

7   MR. GEORGE ORLE: Okay. Thank you very

8 much, Mr. Dunsky. Those are my questions. Thank you,

9 Mr. Chair.

10   MR. PHILIPPE DUNSKY: Thank you.

11   THE CHAIRPERSON: Thank you, Mr. Orle.

12 And on behalf of Manitoba Metis Federation, Mr.

13 Shefman, please.

14

15 CROSS-EXAMINATION BY MR. COREY SHEFMAN:

16   MR. COREY SHEFMAN: Thank you, Mr.

17 Chair. Sorry, I'm kind of hidden behind the pillar

18 here. I'll move over a bit. I have very few

19 questions. I did have more, but your presentation was

20 so thorough it answered most of them. So I'm going to

21 start by going back to your example, speaking about the

22 utility-scale solar generation.

23   You gave us an example of a project in

24 Texas where they were able to produce significant solar

25 power at, I think you were saying, significantly lower

8131

1 cost than is available generally.

2   My question is: Would implementing

3 solar PV on a community power generation level have

4 similar efficiencies for the grid and for ratepayers?

5   MR. PHILIPPE DUNSKY: Would it have

6 similar -- similar economies of scale?

7   MR. COREY SHEFMAN: Yeah.

8   MR. PHILIPPE DUNSKY: It would just --

9 it would depend on the scale. So if you're -- it's

10 really hard to answer. You know, so in that case, they

11 were looking at 150 megawatt project.

12   MR. COREY SHEFMAN: Okay.

13   MR. PHILIPPE DUNSKY: If we're looking

14 at 150 megawatt project, then certainly you'd be

15 looking at the same economies of scale.

16   MR. COREY SHEFMAN: Can you tell us,

17 have any projects on that scale been tried in Canada?

18   MR. PHILIPPE DUNSKY: Yes, there --

19 there's a project in Ontario, and I'm just -- I'm

20 trying to remember the -- the capacity. It's not

21 coming to me. I believe it was, you know, north of a

22 hundred megawatts, but that would be really subject to

23 check.

24   MR. COREY SHEFMAN: Fair. So if --

25 given that -- given that it -- it's been implemented

8132

1 elsewhere, if good parity were to happen in Manitoba --

2 or, sorry, could happen in Manitoba as soon as four (4)

3 years from now, according to Manitoba Hydro's

4 estimates, and I believe I have that number right,

5 would you agree with me that the PDP appears -- the

6 Preferred Development Plan appears to be lacking an

7 emphasis on solar that the evidence you presented us

8 suggests should probably be there?

9   MR. PHILIPPE DUNSKY: Yes, absolutely.

10   MR. COREY SHEFMAN: Thank you. Moving

11 on to slide 55, in particular, and -- and continuing on

12 this same theme. Your projections seem to expose what

13 appears to me to be some pretty dramatic flaws in the

14 PDP's reasoning. In response to Board member Grant,

15 you attributed Vermont's success at DSM at least in

16 part to their motivation to succeed.

17   If we compare what Manitoba Hydro has

18 been doing for many years now and continues to do at

19 Power Smart and what Vermont does, is motivation the

20 significant distinction there or is there something

21 else that's holding Manitoba back?

22   MR. PHILIPPE DUNSKY: Honestly, that's

23 hard to speculate on.

24   MR. COREY SHEFMAN: Okay. That would

25 be my questions then. Thank you, Mr. Chair.

8133

 1   THE CHAIRPERSON: Thank you, Mr.

 2 Shefman.   Mr. Weinstein, on behalf of the

 3 independent consultants, please.

 4   MR. MICHAEL WEINSTEIN: We have no

 5 questions for this witness. Thank you.

 6   THE CHAIRPERSON: Thank you, Ms. --

 7 thank you, Mr. Weinstein.

 8   Ms. Boyd, please.

 9

10 CROSS-EXAMINATION BY MS. MARLA BOYD:

11   MS. MARLA BOYD: Thank you. Good

12 afternoon, Mr. Dunsky.

13   MR. PHILIPPE DUNSKY: Good afternoon.

14 I want to start with a few questions regarding solar

15 power. You'd agree with me that solar is an

16 intermittent resource?

17   MR. PHILIPPE DUNSKY: Yes.

18   MS. MARLA BOYD: The sun doesn't shine

19 twenty-four (24) hours a day?

20   MR. PHILIPPE DUNSKY: Indeed.

21   MS. MARLA BOYD: Sometimes it's cloudy?

22   MR. PHILIPPE DUNSKY: Yes.

23   MS. MARLA BOYD: Can you confirm that

24 the cost for solar provided in your evidence do not

25 include the costs required to manage that intermittency

 1 of the resource?

 2   MR. PHILIPPE DUNSKY: Absolutely.

 3 There's an additional cost for capacity.

 4   MS. MARLA BOYD: Those costs would

 5 include system integration costs, the cost of storage

 6 to back up or support the variability of the solar

 7 resource.

 8   Is that right?

 9   MR. PHILIPPE DUNSKY: Storage costs,

10 yes. System -- by system -- if by 'system integration'

11 you mean the storage?

12   MS. MARLA BOYD: Well, connection with

13 the system back and forth, yes.

14   MR. PHILIPPE DUNSKY: Yeah, I'm -- you

15 know, utility scale, costs, my guess is, would include

16 system connection. I could check that. But absolutely

17 on storage, yeah, you need to add storage costs to do

18 an apples-to-apples comparison.

19   MS. MARLA BOYD: We heard evidence,

20 probably a week or so ago, from Morrison Park Advisors,

21 one of the independent expert consultants, that the

22 utility rate structure would have to adapt to ensure

23 that customers pay the cost associated with receiving

24 backup support or integration from the grid.

25   Would you agree with that?

8135

 1   MR. PHILIPPE DUNSKY: Over the long-

 2 term I think it would.

 3   MS. MARLA BOYD: And can you also

 4 confirm that the cost for solar provided in your

 5 evidence do not include the operation, maintenance, and

 6 invertor replacement costs that would con -- continue

 7 to accrue through the life cycle of the measure?

 8   MR. PHILIPPE DUNSKY: No, that is not

 9 true. So --

10   MS. MARLA BOYD: Those costs are

11 included?

12   MR. PHILIPPE DUNSKY: Yeah. The life -

13 - well, the life cycle analysis that we do is based on

14 the life of each of those equipment. And so they're

15 blended into the separate kilowatt hour.

16   MS. MARLA BOYD: Thank you. Turning to

17 your discussion of certainty or uncertainty, would you

18 agree that there's uncertainty with respect to the

19 delivery of power from any resource option, including

20 hydro of DSM?

21   MR. PHILIPPE DUNSKY: Yes.

22   MS. MARLA BOYD: And given where we are

23 today, looking at negotiating long-term export

24 contracts for power to be delivered from Keeyask in

25 advance of the requirement for Manitoba load in the

1 order of a thousand gigawatt hours for ten (10) years,

2 would you agree that there would be uncertainty related

3 to receiving regulatory approvals which could delay the

4 in-service date and affect the availability -- or the

5 ability to deliver power from such a sale?

6   MR. PHILIPPE DUNSKY: Sure.

7   MS. MARLA BOYD: From a del -- delivery

8 of a dependable energy perspective for the sale of that

9 thousand gigawatt hours for ten (10) years, the risk

10 from Keeyask, or at Keeyask, is at the front end,

11 correct?

12   Once Keeyask is in service the

13 dependable energy can be relied upon?

14   MR. PHILIPPE DUNSKY: Once it's in

15 service -- well, okay, let me come back to the

16 question.

17   MS. MARLA BOYD: Sure.

18   MR. PHILIPPE DUNSKY: The question was:

19 Is the risk to Keeyask from -- from the front end?

20 From my perspective, if what you're talking about is is

21 the cost risk to Keeyask at the front end, absolutely.

22 The revenue risk to Keeyask of course is on the back-

23 end. And then the -- you know, the smaller, but

24 nonetheless present risk is -- is a question of

25 resource risk, you know, rainfall over twenty (20),

8137

 1 thirty (30) years, but that's -- you know, that's a

 2 smaller issue.

 3   MS. MARLA BOYD: I -- I was actually

 4 talking about the delivery risk, the ability to be able

 5 to deliver power from Keeyask.

 6   MR. PHILIPPE DUNSKY: Oh, to deliver

 7 power. Yes.

 8   MS. MARLA BOYD: Would be at the front-

 9 end?

10   MR. PHILIPPE DUNSKY: Primarily, with

11 the exception of -- of rainfall projections.

12   MS. MARLA BOYD: And you're aware that

13 the -- the source of power is dependable energy, it's

14 based on the lowest water level in a hundred years?

15   MR. PHILIPPE DUNSKY: Okay. I was not.

16   MS. MARLA BOYD: Okay. So with respect

17 to DSM, would you agree with me that DSM savings are

18 generally built up year-by-year?

19   MR. PHILIPPE DUNSKY: Yes.

20   MS. MARLA BOYD: So there'd be

21 uncertainty as to whether those savings would be

22 realized every year as projected?

23   MR. PHILIPPE DUNSKY: Yes.

24   MS. MARLA BOYD: And would you accept

25 that page 40 of Manitoba's Clean Energy Strategy --

 1 first of all, have you looked at Manitoba's Clean

 2 Energy Strategy?

 3   MR. PHILIPPE DUNSKY: No.

 4   MS. MARLA BOYD: Okay. It's -- it's

 5 part of Manitoba Hydro's filing and will you accept,

 6 subject to check, that it says that:

 7   "Nonetheless, for most Manitobans,

 8   the opportunity to move from

 9   conventional fossil fuel use to clean

10   energy and even onto fossil fuel

11   freedom is increasingly a reality."

12   MR. PHILIPPE DUNSKY: I will accept

13 that's what it says, yes.

14   MS. MARLA BOYD: Are you aware that the

15 fifteen (15) year DSM plan Manitoba Hydro has put

16 forward includes a component of fuel switching?

17   MR. PHILIPPE DUNSKY: Yes, I am.

18   MS. MARLA BOYD: And would you agree

19 that there's a potential to have some programs in that

20 plan not approved or even cancelled at a later date?

21   MR. PHILIPPE DUNSKY: Yes. If -- if

22 we're in the world of yes/no, then yes. If we're in

23 the world of nuance, I might nuance.

24   MS. MARLA BOYD: Feel free.

25   MR. PHILIPPE DUNSKY: Okay. The -- the

8139

1 nuance is that -- that DSM is -- it's a portfolio.

2 It's comprised of many different pieces, many different

3 levers. And so, yes, individual pieces are -- are at

4 risk, as is everything, but the fact that you have such

5 a broad portfolio of options in front of you means that

6 when -- when one (1) item is at risk, another one (1)

7 can be used to kick in further.

8   And, you know, the risk -- like first of

9 all, the risk goes up and down -- anyways, the risk is

10 -- is both ways, but more to the point you control a

11 lot of different levers. And so you can deliberately

12 address a risk with one (1) area by putting more

13 emphasis, putting more effort into another area.

14   In that sense the risk is reduced.

15   MS. MARLA BOYD: But you're not saying

16 it's non-existent?

17   MR. PHILIPPE DUNSKY: I -- I will never

18 say -- I don't know of anywhere where risk is non-

19 existent.

20   MS. MARLA BOYD: Thank you.

21   MR. PHILIPPE DUNSKY: I would invest

22 there if I could, but...

23   MS. MARLA BOYD: Thank you very much,

24 Mr. Dunsky.

25   MR. PHILIPPE DUNSKY: My pleasure.

8140

1   MS. MARLA BOYD: Those are our

2 questions.

3   THE CHAIRPERSON: Mr. Dunsky, before I

4 turn the microphone over to Mr. -- our counsel, I -- I

5 have a few questions I wanted to ask you. And

6 specifically, you indicated that you did a couple DSM

7 potential studies for other jurisdictions.

8   How long did it take you to do that? I

9 mean, from the point you got the mandate until the

10 point you generated the report, how long was it that...

11   MR. PHILIPPE DUNSKY: It depends on the

12 region, but typically six (6) to twelve (12) months.

13   THE CHAIRPERSON: Oh, that's -- okay.

14 Now, I -- I'd -- you know, there was a reference in

15 your report that you submitted where you mentioned

16 transmission. And you'd indicated in your report that

17 you hadn't -- it wasn't part of your mandate and I

18 agree with that, but you did provide a tantalizing clue

19 that there might be some benefit for you to consider --

20 examine transmission.

21   And so I'm -- do you have any off -- any

22 perspectives to offer on the link between transmission

23 DSM based on work you've done, and so on?

24   MR. PHILIPPE DUNSKY: Well, okay, there

25 -- there are a couple of pieces, and I'm not sure if

8141

1 this is -- if this is what -- what you're getting at,

2 but I'll -- so you know, DSM certainly offsets the need

3 for new generation, but -- but DSM also has the benefit

4 of offsetting the need for -- for capital investments,

5 period.

6   And so to the extent that -- for

7 example, you have -- you have load growth where you

8 have anticipated transmission constraints in certain

9 areas, you can intensify the DSM effort in that

10 particular area. And it, as a result, push back the

11 need date -- you know, defer the need date for any

12 capital investments in transmission upgrades to meet

13 the load in that particular area. And that certainly

14 don -- something that's done in several regions.

15   You know, and simply put the costs --

16 the cost effectiveness of DSM in those regions where

17 you have transmission constraints, you know, changes

18 dramatically and allows you to do a lot more -- a lot

19 more DSM to create those deferrals of capital needs.

20 I'm not sure if that's --

21   THE CHAIRPERSON: I guess I assumed

22 that -- I kind of had the impression that you were

23 referring to the planned transmission investments that

24 Manitoba Hydro was going to make in relation to the

25 Preferred Development Plan.

8142

1   So I wasn't sure. I just wanted to

2 clarify with you what you were alluding to when you

3 made that reference in your report to transmission.

4   MR. PHILIPPE DUNSKY: I wish I knew,

5 and I'm a little bit embarrassed that I don't. But if

6 there is a specific place in -- in the report, I can

7 certainly take a look at it.

8   THE CHAIRPERSON: You know what I -- I

9 don't recall where I -- where I saw it, so.

10   MR. PHILIPPE DUNSKY: You and me both.

11   THE CHAIRPERSON: Now, I guess the

12 other question I wanted to ask you is, in the -- in

13 dealing with utilities where DSM has become a priority,

14 is it a case where that is part of their strategic

15 direction?

16   In other words, is there a clear DSM

17 goal imbedded in a strategic plan of the organization

18 that would cause that organization to focus on DSM in

19 particular?

20   MR. PHILIPPE DUNSKY: Yes and no.

21   THE CHAIRPERSON: Or does it make a

22 difference?

23   MR. PHILIPPE DUNSKY: Well, it -- so

24 they're two (2) -- they're two (2) ways I can answer

25 this. And I'll -- I'll try and answer both to make

8143

1 sure I'm being comprehensive in my answer.

2   There's the question of origination, so

3 in other words where does it come from. And typically

4 where it will come from is the regulator. So whenever

5 we look at, you know, those regions that are rather

6 aggressive on DSM, it's the regulator that is saying --

7 you know, as a -- as a requirement of -- of your -- of

8 your licence you need to achieve these goals. So

9 that's where the motivation comes from.

10   Once -- once that is put into place

11 then, absolutely, utilities, to put that into the

12 strategic plans, you know, ideally have incentive --

13 and the incentive can be monetary or not, but incentive

14 to hit those targets. And that has to be built into,

15 you know, every nook and cranny of the organization,

16 and of the organizations indicators -- key indicators

17 of success.

18   THE CHAIRPERSON: I guess -- I guess

19 you -- you made -- you mentioned the situation that's

20 going on in Quebec with respect to the surplus

21 production and the fact that it represents to some

22 extent a disincentive for increased DSM investment.

23 And I'm -- I'm trying to draw a parallel to Manitoba

24 where, you know, selling power to a US marketplace at

25 three (3), four (4) cents a kilowatt hour, and you

8144

1 know, you can get seven (7) or eight (8) cents from a

2 domestic customer for power. So it seems to me that

3 there's a bit of a parallel there in that -- in that --

4 that situation may represent a disincentive for an

5 institution to invest in DSM.

6   Am I misreading this situation --

7   MR. PHILIPPE DUNSKY: Sure. No, I

8 think that's fair. I -- you know, I think the -- the

9 important thing is to -- is to define if we're looking

10 at this from a short-term or long-term perspective.

11 And if you're looking at it for a long-term

12 perspective, which I think is -- is the appropriate way

13 to look at things in terms of resource planning, right,

14 then the DSM that we do today -- even if export markets

15 are -- are down or depressed, the -- the DSM that we do

16 today is pushing the need date for future investments

17 back. And that deferral is a deferral of real capital

18 investments and has a significant value to us. So the

19 deferral value is real.

20   The -- the problem arises when -- when

21 you have surplus, and so much surplus that it becomes a

22 long-term surplus. And so Quebec is in that situation

23 where we -- you know, we're looking at fifteen (15)

24 years of surplus ahead of us, fourteen (14), according

25 to the latest projection. When you're looking at

8145

1 fourteen (14) years of surplus, you know, the value of

2 the deferral -- now you're looking at, you know,

3 deferral value only kicking in, you know, deep into the

4 future that -- you know, once you've discou --

5 discounted the value, it starts becoming pretty

6 minimal.

7   So, you know, I think -- I guess what

8 I'm trying to say is the fundamental difference is how

9 deep surplus you're in or not, not so much the -- the

10 short-term export price.

11   THE CHAIRPERSON: There's an expression

12 in English which I'll share with you. Most of you have

13 heard it. But there's -- you know, the expression is

14 there's many a slip between the cup and the lips.

15   MR. PHILIPPE DUNSKY: I had not heard

16 that.

17   THE CHAIRPERSON: Well, I don't know if

18 there's a French expression, but that's the English

19 that I learned. And -- and I guess my concern is

20 around the fact you may build a nice structure. You

21 may build -- you know, you have a beautiful DSM

22 program. And then the question becomes: Will they

23 come?

24   And so -- and a low income -- I don't

25 want you to do -- I don't want you to dwell on that

 1 because I know you're going to be studying that later,

 2 but the Low Income Program has been in place -- the

 3 Furnace -- the Furnace Replacement Program has been in

 4 place for a number of years, and the drawdown has not

 5 been there, you know, peop -- when people are not

 6 taking advantage.

 7   So there is a program there that's --

 8 that's been put in place. I guess the question I have

 9 -- you know, it's one thing to say we're going to

10 invest 50, 60, $70 million dollars in DSM, but

11 expecting that there will be a benefit short-term. I

12 guess I have some real concerns there. And I -- you

13 know --

14   MR. PHILIPPE DUNSKY: Okay.

15   THE CHAIRPERSON: -- you don't seem to

16 have that same concern. So I guess...

17   MR. PHILIPPE DUNSKY: And I did have

18 that concern when -- when I started out in this, and

19 for some time. But what I've come to see is that -- if

20 I may, I'll take issue with the premise. And the

21 premise is that you put something out there and you

22 wait for them to come, and maybe they'll come and maybe

23 they won't, and that -- that would be a pretty big

24 risk. If that's the way we're delivering DSM, then

25 we're doing -- then we're doing a real disservice to

8147

1 DSM and to ourselves.

2   So it's not something that we put out

3 there and hope that people will come. It's something

4 that we have to sell and actively sell, and go out

5 there and pound the pavement and make sure that the

6 sales happen. When you have a good product you can do

7 that if you know how to sell and -- you know, and allow

8 yourself to do so.

9   So, you know, I think the way -- the

10 question that you ask is -- is extraordinarily

11 pertinent because I've worked with both types of

12 organizations. I've worked with organizations that --

13 that put DSM out there and hope that people will come.

14 And oftentimes they find that they don't, and -- and

15 then declare failure.

16   Those organizations tend not to have

17 motivation to deliver, to sell. They tend not to have

18 a solid reporting framework where they have to actually

19 report on their results in -- in a specific way. They

20 tend not to have an oversight framework.

21   Now, let me switch over. Those

22 organizations that operate under a clear oversight

23 framework with clear reporting requirements and,

24 ideally, performance requirements, they deliver, and

25 they systematically deliver. So I will work in an

8148

1 organization like that, and I know they're going to hit

2 their targets every year, year after year. And that's

3 because the managers of those DSM programs, they have

4 KPIs.

5   You walk into that organization. The

6 very first thing that you see is, you know, the -- the

7 monthly -- the monthly scale of where we are and where

8 we need to be, and we're measuring that on -- I won't

9 say a realtime basis, but something pretty close. You

10 know, every couple of weeks we know exactly where the

11 needle is, we know exactly where it needs to hit. And

12 we have the flexibility to ensure that if -- if our

13 needle is looking too low in a given month, the next

14 month we're going to change it up to make sure that we

15 ramp up our sales and hit those sales targets.

16   Now, that all sounds nice in theory.

17 When we look at practice -- Mr. Klassen actually this

18 morning put up a chart. And I would urge you to -- to

19 look at that chart. And that was -- if I remember it

20 correctly, it's a report by the -- by the ACEEE which

21 is the premiere organization in DSM.

22   And they looked at the -- I think they

23 took -- look -- took a look at something at twenty (20)

24 odd states, and I forget if it was over the past year,

25 over the past years, indicated the initial target and

8149

1 what they achieved. And in the vast, vast majority of

2 cases, targets were either met or exceeded.

3   And in very few cases were they not met,

4 and where they were not met, it was by very small

5 margins. And that's because those organizations have a

6 framework in place, reporting requirements. Oftentimes

7 they have financial incentives including penalties and

8 bonuses that are tied to performance. When that

9 happens, DSM is a power plant. And you operate that

10 power plant to produce the output that you need to

11 produce in that year.

12   I -- I've --I can't -- I can't express

13 it really any other way other than to say that, you

14 know, there are those two (2) organizations and you

15 want to make sure that you, or Hydro, is -- is the

16 former. Sorry -- is the latter, to be clear.

17   THE CHAIRPERSON: Thanks. Mr. Hombach,

18 please?

19   MR. PHILIPPE DUNSKY: Oh, and -- sorry,

20 if I can just add one (1) little thing. When I say

21 "hit the targets," those are independently evaluated

22 numbers. So in all cases, you know, the -- the program

23 savings are given over to independent evaluators to

24 verify exactly what happened in market and exactly how

25 much savings are related specifically to the programs

8150

 1 that those entities put in place.

 2   MR. SVEN HOMBACH: Thank you, Mr.

 3 Chairman. Good afternoon, Mr. Dunsky, and welcome to

 4 Winnipeg.

 5   MR. PHILIPPE DUNSKY: Good afternoon.

 6 thank you.

 7   MR. SVEN HOMBACH: Before we get

 8 started, I do have two (2) exhibits to introduce. Both

 9 of those are comparisons between Manitoba Hydro's 2013

10 Power Smart Plan and the 2014 Power Smart Plan.

11   The first is a chart that focusses on

12 the projected electric savings between those two (2)

13 plans. The second is a chart that focusses on the

14 difference in planned investment between those two (2)

15 plans, and I propose to have those entered as PUB

16 Exhibits 67 and 68.

17

18 --- EXHIBIT NO. PUB-67:   Chart that focusses on the

19   projected electric savings

20   between Manitoba Hydro's

21   2013 and 2014 Power Smart

22   Plans

23

24 --- EXHIBIT NO. PUB-68:   Chart that focusses on the

25   differences in planned

8151
1   investment between Manitoba

2   Hydro's 2-13 and 2014 Power

3   Smart Plans

4

5   MR. SVEN HOMBACH: And Mr. Chairman, if

6 we could stand down for a minute, I can hand out paper

7 copies.

8

9   (BRIEF PAUSE)

10

11   THE CHAIRPERSON: I think we're ready

12 to resume the proceedings.

13

14 CROSS-EXAMINATION BY MR. SVEN HOMBACH:

15   MR. SVEN HOMBACH: Yes, we are, Mr.

16 Chairman. Thank you. So, Mr. Dunsky, you could have

17 left the microphone on since I'm about to ask you

18 questions now anyway. Before we get into the nuts and

19 bolts of your report, I'd like to follow up on a few

20 issues relating to your expertise, just to get a better

21 understanding. And I appreciate you've testified

22 before the PUB before.

23   You spoke this morning about a pending

24 retainer with Manitoba Hydro, and I was wondering if

25 you could provide a little more clarification of what

 1 that entails and what the status of that currently is?

 2   MR. PHILIPPE DUNSKY: Sure. So my firm

 3 responded to Manitoba Hydro RFP for a review of their

 4 Low Income Program. And we were retained to conduct

 5 that work. So I believe that we're, you know, at the

 6 stage of just waiting for contracts to be signed and --

 7 and work to begin shortly.

 8   MR. SVEN HOMBACH: And I note that your

 9 website lists a project for the City of Saskatoon

10 relating to solar photovoltaic panels.

11   Can you provide a brief overview of what

12 that retainer entailed?

13   MR. PHILIPPE DUNSKY: Sure. For the

14 City of Saskatoon, we were -- we were asked to examine

15 -- first of all, to examine the opportunity for -- for

16 solar PV for the city; questions of grid parity, for

17 example, so the costs and -- and benefits thereof. And

18 then to work with the city as well as its -- its

19 utility to examine a variety of different financing

20 mechanisms that the city could use to promote -- or to

21 facilitate adoption of solar PV by its -- by homeowners

22 and businesses in the region.

23   And so we've -- we've essentially, you

24 know, examined those scenarios and -- and ultimately

25 recommended strategies for the city related to the

8153

1 finance of solar PV.

2   MR. SVEN HOMBACH: Can you advise what

3 the purpose of that city initiative is?

4   MR. PHILIPPE DUNSKY: Sure, the -- the

5 -- their purpose is to accelerate adoption of solar PV

6 in the city, examine -- examine financial models for

7 them that would ensure -- if I can come back to -- to

8 the point that -- that Commissioner Grant made earlier,

9 ultimately their point is to get ahead of the game, if

10 you will, and make sure that they are involved in the

11 eventual adoption of solar PV within their -- their

12 city.

13   MR. SVEN HOMBACH: And if I heard you

14 correctly this morning, I believe you indicated that

15 you're currently working on the preparation of a

16 Canadian Integrated Resource Plan?

17   MR. PHILIPPE DUNSKY: Integrated

18 Resource Plan, no.

19   MR. SVEN HOMBACH: An IRP?

20   MR. PHILIPPE DUNSKY: Well --

21   MR. SVEN HOMBACH: I misheard. I

22 apologize. I'm --

23   MR. PHILIPPE DUNSKY: No, that's fine.

24 So in terms of IRP, we're currently advising one (1) of

25 our clients in the context of -- of the IRP that's --

 1 that's taking place in their province, yes.

 2   MR. SVEN HOMBACH: Are you aware of the

 3 fact that -- that one of the recommendations that this

 4 panel has received from Elenchus Research Associates,

 5 who was an independent expert retained to -- to speak

 6 to load forecasting and DSM, is to apply an Integrated

 7 Resource Plan perspective to the evaluation of DSM?

 8   MR. PHILIPPE DUNSKY: I believe I read

 9 that, yes.

10   MR. SVEN HOMBACH: Are you in a

11 position to speak to what the difference is between the

12 way Manitoba Hydro currently evaluates programs and the

13 way programs would be evaluated in an Integrated

14 Resource Plan?

15   MR. PHILIPPE DUNSKY: Sure. In a -- an

16 Integrated Resource Planning process -- let me say it

17 this way, the fundamental difference is prior to --

18 prior -- prior to the advent of IRP, utilities largely

19 begun with a load forecast and then examined options to

20 meet that forecast. And that was kind of the way to

21 go.

22   Eventually, people realized as -- as I

23 was, you know, having a conversation with -- with

24 Commissioner Grant, that -- that demand-side resources

25 can be far more economic than supply. And so bending

8155

1 down the -- the supply curve -- or, sorry, bending down

2 the demand curve can be far more economic than

3 increasing the supply curve.

4   And that's -- so IRP was born of that --

5 of that concern, that -- that the previous way of

6 planning almost necessarily, or almost by design, led

7 to higher cost solutions than were necessary.

8   So to come to -- to your question then,

9 the fundament difference is IRP looks at demand-side

10 options on an equal footing and in the same pacing as

11 supply options. And that means that at the very outset

12 you look at the full array of -- of demand-side

13 opportunities at the same time as you look at the

14 supply-side opportunities. You bring those together

15 and you examine, you know, which -- which combinations,

16 if you will, are the -- are the lowest cost and lowest

17 risk options to ensuring that the lights get -- are

18 kept on over the long haul.

19   MR. SVEN HOMBACH: How would the

20 practical outcome be different between those two (2)

21 approaches if in one approach you're comparing it

22 directly to new supply, whereas in another one you're

23 evaluating the cost and looking at it from a reduction

24 of the load forecast perspective?

25   MR. PHILIPPE DUNSKY: The -- the way it

1 -- it effectively changes things is that when you're

2 not doing IRP, you tend to take load as a given. And

3 when you take load as a given, you focus on supply

4 options alone. You compare your -- your supply options

5 amongst themselves. You -- you assess which ones are -

6 - are more costly, less costly; which ones are more

7 sensitive or less sensitive to changes, including to

8 changes in demand.

9   But ultimately it becomes, if you will,

10 a competition strictly between supply options, not

11 between supply options and demand options. As a

12 result, you can get locked into the choice of the --

13 the preferred supply option, or series of supply

14 options, to meet that hypothetical demand and not have

15 had the opportunity to choose a lower cost path which

16 involves greater use of demand-side options.

17   Does that help, or am I not being clear?

18   MR. SVEN HOMBACH: It's -- it's quite

19 helpful. That doesn't mean I don't have a follow-up

20 question still. And that's the test that you apply in

21 the two (2) approaches to evaluate a new DSM measure.

22   Is there any fundamental difference in

23 the tests?

24   MR. PHILIPPE DUNSKY: I'm not sure

25 exactly what you mean.

8157

1   MR. SVEN HOMBACH: There is a --

2 there's several different tests that are used to

3 evaluate DSM. There's the total resource cost test.

4 There's Manitoba Hydro's modified total resource cost

5 test. There's RIM, the rate impact measure.

6   Is there any fundamental difference in

7 the tests that would be used under either of those two

8 (2) approaches?

9   MR. PHILIPPE DUNSKY: IRP or non-IRP?

10   MR. SVEN HOMBACH: Yes.

11   MR. PHILIPPE DUNSKY: It's a little bit

12 of a different context. So those tests are usually

13 talked about when -- when you're looking at building a

14 DSM plan. When you do that, your tests are comparing -

15 - in all cases, your tests are fundamentally comparing

16 the DSM option against your voided cost. And your

17 voided cost has a certain value given to it.

18   If you think of IRP as being you put all

19 these resources in the mix and see which ones come out,

20 then you're no longer really looking at a test, per se.

21 You -- the test, in other words, is: Is the demand-

22 side option cheaper than the supply options? So in

23 effect you're -- by analogy, the test that you use in

24 an IRP is what's known as the program administrator

25 cost test, or alternatively known as the utility cost

 1 test. Because all you're doing is comparing the cost

 2 to, let's say, Hydro of supply options and the cost to

 3 Hydro of demand options.

 4   So that's -- that's what an IRP

 5 effectively, de facto does. If you're talking outside

 6 of an IRP and -- and let's say, you know, the process

 7 here, then really you can do whatever you want. If

 8 you're not using that integrated approach, you can --

 9 you can use pretty much any test. It ultimately won't

10 really matter because you're not testing for different

11 -- different levels of DSM.

12   MR. SVEN HOMBACH: Let's go to Manitoba

13 Hydro Exhibit 87, page 69 for a moment, please. And

14 that can be flashed up on screen.

15

16   (BRIEF PAUSE)

17

18   MR. SVEN HOMBACH: I don't know if

19 you've seen the chart, Mr. Dunsky. That's a chart

20 that's from Manitoba Hydro's DSM evidence. And it

21 shows the levelized resource costs of a number of

22 different measures. And I believe if we skip back one

23 (1) page. Sorry, if we -- it shows that on average the

24 levelized utility cost of the existing DSM measures are

25 about two point four (2.4) cents per kilowatt hour.

8159

1   Are you familiar with the levelized

2 utility costs that Manitoba Hydro's projecting for

3 Keeyask and Conawapa?

4   MR. PHILIPPE DUNSKY: My -- I -- I only

5 have a vague understanding that it's somewhere in the

6 range of eight (8) to ten (10) cents.

7   Is that fair?

8   MR. SVEN HOMBACH: I -- I believe it's

9 -- it's above six (6) cents, but lower than -- than

10 what you indicated.

11   MR. PHILIPPE DUNSKY: Okay.

12   MR. SVEN HOMBACH: But in any case, it

13 is significantly higher than the two point four (2.4)

14 cents.

15   So can you describe to the panel at a

16 high level how you would evaluate individual measures,

17 or, if you'd prefer, a basket of measures against the

18 levelized utility cost for new generation?

19   MR. PHILIPPE DUNSKY: Sure. And -- and

20 I remember now, I -- I believe I had eight (8)

21 something cents in mind, and I think that was because

22 it was including the -- the original cost writeoffs.

23 But, yeah, the -- the -- to answer the question, I

24 mean, it's the -- the utility cost test, if you will,

25 is very straightforward, and that is you compare the

 1 cost to the utility against the cost to the utility,

 2 both costs being costs that will be passed on to -- to

 3 ratepayers eventually.

 4   And so if you take this example, you

 5 would say, you know, at the portfolio level, you're

 6 looking at two point four (2.4) cent option and you're

 7 comparing that against a, you know, six (6), seven (7),

 8 or eight (8) cent kilowatt hour option.

 9   And it -- it's -- I don't mean to

10 belittle it. You know, there are a lot of complexities

11 behind that, but at a fundamental level, it's that

12 simple and ought to remain that simple.

13   MR. SVEN HOMBACH: Are you suggesting,

14 then, that Manitoba Hydro look at a basket of DSM

15 measures and take the total levelized utility cost or

16 the total resource cost of that basket and compare it

17 against the levelized utility cost of new generation?

18   MR. PHILIPPE DUNSKY: I -- I would

19 absolutely recommend that in this case, that you be

20 looking exclusively at the utility costs, not what's

21 called the TRC, or the total resource cost, and so,

22 yes, you would take a basket of opportunities.

23   And depending on the -- on the precise

24 situation, there are different levels at which you

25 might want to group those baskets, all right? So for

1 resource planning purposes, the way we'll typically do

2 it is we will look at several scenarios. And so let's

3 say, you know, we would look at -- you know, let's say

4 it's the Hydro Level 2 and the Hydro Level 3 and maybe

5 a Hydro Level 2 adjusted, or, you know, extended and a

6 3 extended. Let's say we took those four (4)

7 scenarios, we attributed costs to them, and -- and we

8 would compare those against the utility avoided costs,

9 which, in this case, would be -- would be Keeyask,

10 again, always at the utility cost level, not the total

11 resource cost level.

12   MR. SVEN HOMBACH: As a corollary to

13 that, you spoke about economic DSM in your testimony

14 this morning. What's your definition of economic DSM

15 then?

16   MR. PHILIPPE DUNSKY: Well, there are

17 different ways of doing it. So there are fundamentally

18 two (2) -- two (2) different ways, and it depends on

19 the perspective that you are interested in. If you're

20 interested in a societal perspective, then -- then the

21 economic DSM would compare the full societal cost of

22 DSM against the full societal benefits.

23   If you're doing that, you have to look

24 at an awful number of factors. Societal benefits get

25 pretty -- pretty large, and so there are a number of

8162

1 regions, probably about, you know, I'd say roughly a

2 fifth or so of -- of states and provinces that do DSM

3 significantly that use that as their metric, a societal

4 cost test, if you will.

5   Alternatively, you take a narrower but

6 simpler view, which is the utility perspective, and if

7 you're doing that, then you are comparing again the

8 utility cost against the utility benefit, and that is

9 what defines what is economic for the utility to do on

10 behalf of its ratepayers.

11   My -- ultimately, I don't land on one

12 (1) side or the other of that debate, because I think

13 it depends on how far you're willing to go and

14 interested to go in assessing that social perspective.

15 The one (1) thing I urge all my clients not to do is to

16 take a societal perspective on cost but not on benefit,

17 because the societal benefits are more difficult to

18 calculate, and that skews things a fair bit.

19   So when that's the case -- and I suspect

20 that's the case here; I don't think anyone has -- has

21 done extensive non-energy benefit studies -- then

22 certainly if you want an apples-to-apples comparison,

23 you compare utility cost to utility cost.

24   MR. SVEN HOMBACH: When you prepared

25 your original report, you had reviewed the EnerNOC

8163

 1 study that forms part of the original NFAT filing?

 2   MR. PHILIPPE DUNSKY: Yes, I had.

 3   MR. SVEN HOMBACH: And that is a

 4 bottom-up study?

 5   MR. PHILIPPE DUNSKY: Yes.

 6   MR. SVEN HOMBACH: And that compares to

 7 a -- a top-down approach that you took in preparing

 8 your report?

 9   MR. PHILIPPE DUNSKY: To some extent,

10 yes.

11   MR. SVEN HOMBACH: Have you ever prepa

12 --

13   MR. PHILIPPE DUNSKY: Can I just nuance

14 that a little bit?

15   MR. SVEN HOMBACH: Absolutely.

16   MR. PHILIPPE DUNSKY: So in our report,

17 what we did was we accounted for -- we took a -- a

18 mixture of top-down approach but -- but accounted for

19 the EnerNOC results as well, as well as the limitations

20 of the EnerNOC study, as a counterbalance to that top

21 down. So, in other words, we did account for that

22 bottom-up analysis but as well as its limitations.

23   MR. SVEN HOMBACH: Have you ever

24 actually prepared or assisted in the preparation of

25 bottom-up studies?

8164

 1   MR. PHILIPPE DUNSKY: Absolutely.

 2   MR. SVEN HOMBACH: And --

 3   MR. PHILIPPE DUNSKY: We're doing some

 4 right now.

 5   MR. SVEN HOMBACH: I take it you've

 6 reviewed Manitoba Hydro's rebuttal evidence?

 7   MR. PHILIPPE DUNSKY: Yes.

 8   MR. SVEN HOMBACH: So you're aware that

 9 Level 2 DSM is approximately three point eight (3.8)

10 times base DSM?

11   MR. PHILIPPE DUNSKY: Absolutely.

12   MR. SVEN HOMBACH: And that compares to

13 the stress test that Manitoba Hydro had initially filed

14 of four (4) times base DSM?

15   MR. PHILIPPE DUNSKY: Yes. And just

16 with one (1) -- one (1) very important caveat, and that

17 is that that is three point eight (3.8) times in the

18 very short term. But over the full planning period,

19 it's nowhere near that. And I think that's the -- the

20 fundamental rift there.

21   MR. SVEN HOMBACH: And before we

22 address that point, let's go to Manitoba Hydro's

23 rebuttal evidence, which is Manitoba Hydro Exhibit 85,

24 page 35 of the PDF.

25

8165

1   (BRIEF PAUSE)

2

3   MR. SVEN HOMBACH: Sorry, page 35, not

4 page 85. On the bottom of that page, there's a

5 description of what Level 2 DSM actually entails. And

6 it's my understanding that Level 2 means the -- the

7 measures that are included in DSM Level 1, as well as

8 conservation rates, load displacement, and fuel

9 switching.

10   That's your understanding as well?

11   MR. PHILIPPE DUNSKY: Absolutely.

12   MR. SVEN HOMBACH: And conservation

13 rates, that's just another word for saying it's going

14 to be an inclining tail block rate?

15   MR. PHILIPPE DUNSKY: Primarily. It

16 depends what your conservation goal is but...

17   MR. SVEN HOMBACH: Fuel switching, that

18 means switching from electricity to gas or to other

19 fuels?

20   MR. PHILIPPE DUNSKY: Yes.

21   MR. SVEN HOMBACH: And what's your

22 understanding of load displacement?

23   MR. PHILIPPE DUNSKY: That depends what

24 -- what you build into -- into load displacement. It

25 can mean a lot of different things, quite frankly.

8166

 1   MR. SVEN HOMBACH: Is it your

 2 understanding that to implement conservation rates,

 3 Manitoba Hydro would need PUB approval?

 4   MR. PHILIPPE DUNSKY: Yes, but... My

 5 assumption is yes.

 6   MR. SVEN HOMBACH: Have you had an

 7 opportunity to review the 2014 Power Smart Plan?

 8   MR. PHILIPPE DUNSKY: At a very cursory

 9 level, and if you're talking about the -- the three (3)

10 year plan, right? Certainly not the fifteen (15) year

11 plan that was...

12   MR. SVEN HOMBACH: Yes, at this point,

13 I'm asking you about the three (3) year plan that was

14 filed a -- a while ago.

15   MR. PHILIPPE DUNSKY: At -- at a very

16 cursory level.

17   MR. SVEN HOMBACH: Based on your

18 review, is it your view that it represents a credible

19 means of achieving Level 2 DSM?

20   MR. PHILIPPE DUNSKY: To be perfectly

21 honest with you, I couldn't say. And I couldn't say

22 simply because I did not that level of review to try to

23 get to the answer to that question.

24   MR. SVEN HOMBACH: Have you had an

25 opportunity, at least at a cursory level, to compare

8167

1 the difference in expenditures and projected measures

2 year over year between the two (2) plans.

3   MR. PHILIPPE DUNSKY: Yes, I did so

4 begin at a cursory level when looking at it. Not in

5 that -- not in an analytical level.

6   MR. SVEN HOMBACH: Okay. If we could

7 flash PUB Exhibit 67 up on the screen for a moment?

8 That's the chart prepared by PUB advisors that shows

9 the difference in projected savings on a measure-by-

10 measure basis.

11   And I appreciate, Mr. Dunsky, that this

12 was just handed out and you haven't had an opportunity

13 to review it beforehand, but you see that for some of

14 the measures, there's a very significant increase.

15   Like, for example, for the Lower Income

16 Energy Efficiency Program insulation measure, it's a

17 643 percent increase.

18   MR. PHILIPPE DUNSKY: Yes, on the

19 capacity side, yes.

20   MR. SVEN HOMBACH: Conversely, for some

21 of the programs listed further down, if we could scroll

22 down?

23   On the capacity side, the Commercial

24 Kitchen Appliance Program projects a 2,600 percent

25 increase.

8168

1   MR. PHILIPPE DUNSKY: Yes.

2   MR. SVEN HOMBACH: When you see such

3   sharp increases, are you optimistic that those can

4   actually be met?

5   MR. PHILIPPE DUNSKY: Certainly. You

6   know, if you look, for example, at the Commercial

7   Kitchen Appliance Program, I'm not concerned at all by

8   that, because forget about the 2,600 percent number,

9   but look at the starting point.

10   The starting point is essentially --

11   there's very little activity. Perhaps that was a

12   pilot, you know? Perhaps it's -- it's something that's

13   dormant and will now be activated.

14   And so -- but I'm not concerned about,

15   you know, increasing twenty-five (25) fold from -- from

16   essentially nothing.

17   You know, where -- where I might get

18   concerned is if we're looking at programs that -- that

19   are already very aggressive and are then projecting

20   doubling or tripling. And unfortunately, that's not

21   the sort of assessment that I can -- that I can make on

22   the fly here.

23   What I can say is that, and I think I

24   said it before, you know, the -- I -- I understand that

25   a part of the very large increase comes from the -- the

8169

1 Load Displacement Program, and so that offsets a -- a

2 fair bit of my concern for the very peaky nature of

3 this.

4   Setting that aside, when I look at

5 things in the aggregate and -- and, yeah, I look at

6 this list and I -- I would really encourage you not to

7 be, you know, phased, if you will, by individual

8 measures. You need to look at this in the aggregate.

9   And -- and I would certainly assume that

10 -- that, you know, the folks at Manitoba Hydro

11 understand, you know, which areas have room for

12 improvement and which -- and which don't.

13   It's in the aggregate where I would be

14 concerned. And in the aggregate, again, to be

15 perfectly honest, the Utility's existing Power Smart

16 Plan, or at least the previous years' savings, were

17 very, very much on the low side.

18   So I have worked with a number of

19 regions that have ramped up, you know, this quickly

20 from those levels. If their levels of savings up until

21 now were triple what they are and you're still looking

22 at the same percentages, then I'd be concerned.

23   MR. SVEN HOMBACH: And you testified

24 earlier that you're not aware of any US jurisdictions

25 or North American jurisdictions that are discounting

8170

1 DSM measures at this point.

2   Did I get that right?

3   MR. PHILIPPE DUNSKY: Yes.

4   MR. SVEN HOMBACH: When you say there

5 is no discounting going on, what is the baseline for

6 that, because estimates can change over time?

7   MR. PHILIPPE DUNSKY: Oh, sure.

8   MR. SVEN HOMBACH: So when you say

9 there is no discounting, there is no discounting from -

10 - from what underlying assumption or from what

11 baseline?

12   MR. PHILIPPE DUNSKY: There's no

13 discounting in a systematic way in a planning process.

14 So, in other words, if I'm doing long-term resource

15 planning and I look at the DSM opportunity and I assess

16 that the DSM opportunity is, let's say, 1,000 gigawatt

17 hours in year X, I don't have a systematic policy to,

18 let's say, only take half of that, which is what I

19 believe, without getting into the specifics of the

20 half, but -- but directionally, is what, I believe,

21 Elenchus was originally talking about in their written

22 testimony, and I -- I believe that in their oral

23 testimony they perhaps walked back from that a bit.

24   But that having been said, you know, any

25 plan should be constantly re-evaluated, and that

8171

 1 includes DSM.

 2   MR. SVEN HOMBACH: And you mentioned

 3 that it might just be necessary to come up with other

 4 programs to -- to meet those targets. When you have an

 5 existing list of proposed programs, be that a list like

 6 the one developed in the Power Smart Plan in front of

 7 you here or one developed by way of a bottom-up study

 8 that proposes specific measures, do those have to be

 9 discounted?

10   MR. PHILIPPE DUNSKY: Do they have to

11 be discounted? Do you mean for --

12   MR. SVEN HOMBACH: And you assume that

13 if you have a list of specific measures and you're

14 projecting savings for those specific measures, that in

15 the aggregate, you can meet those projections?

16   MR. PHILIPPE DUNSKY: In the aggregate,

17 yes. In the aggregate, if you're -- if you are

18 properly doing your potential study -- and again, I

19 have some caveats about that potential study and the

20 scoping, you know, the scope limitations -- but in the

21 aggregate, if I'm doing my potential study correctly,

22 in the aggregate, a DSM manager should be able to

23 implement that and achieve those targets.

24   MR. SVEN HOMBACH: Does that hold true

25 for both projected capacity savings and projected

 1 energy savings?

 2   MR. PHILIPPE DUNSKY: Yes, it does. It

 3 doesn't necessarily simultaneously, and -- and so

 4 that's where, again, you have to be very clear about

 5 what the targets are.

 6   And I come back to, you know, what I was

 7 saying before about having your -- you know, the -- the

 8 program manager needs to understand what the -- what

 9 the targets are and have those key indicators right

10 there in front of them everyday.

11   You know, if the key indi -- I'll give

12 you an example, we keep talking to -- about Vermont

13 from time-to-time. So Vermont -- part of their bonus

14 structure is actually a fairly long list of specific

15 targets. They have gigawatt hour targets, megawatt

16 targets, equity targets, and others, and they have to

17 hit each and one of those -- each and every one of

18 those, and so they, you know, manage to that goal.

19   If on the other hand you're focussed on,

20 let's say, an energy-only target, and you're making an

21 assumption that megawatts are going to come, you might

22 miss those megawatts, because to get to your energy-

23 only target, you may end up changing things around.

24 You may end up dropping one measure, adopting a

25 different one, and that different one may have a very

8173

1 different capacity factor to it. So -- so you want to

2 just make sure, you know, that if the megawatt target

3 is a critical one, that that one be put -- put up as

4 well, and be managed, too.

5

6   (BRIEF PAUSE)

7

8   MR. SVEN HOMBACH: Can we go to slide

9 14 of your presentation from this morning please?

10 That's the chart that you walked us through this

11 morning that shows your scenario with a gradual ramp up

12 and a sustained 1.5 percent incremental DSM level --

13   MR. PHILIPPE DUNSKY: Yes.

14   MR. SVEN HOMBACH: -- compared to

15 Manitoba Hydro's target.

16   Are you aware of why there are these two

17 (2) projected peaks in Manitoba Hydro's projections?

18   MR. PHILIPPE DUNSKY: The first one, as

19 I understand it, is -- is primarily load displacement.

20 The -- the second one, to be honest with you, I'm not

21 entirely sure.

22   MR. SVEN HOMBACH: 2017, that would be

23 the expiry of the three (3) year 2014 Power Smart Plan,

24 would it not?

25   MR. PHILIPPE DUNSKY: Yes. I believe

8174

1 20 -- 2016 would be.

2   MR. SVEN HOMBACH: And 2019, the

3 projected in-service date of Keeyask?

4   MR. PHILIPPE DUNSKY: I would assume

5 that's the case.

6   MR. SVEN HOMBACH: In -- in reaching

7 your recommendations to assume a sustained incremental

8 level of about 1.5 percent, you relied on codes and

9 standards, and you spoke about new technology.

10   Are you familiar with the term Rogers'

11 Curve? I take that as a yes?

12   MR. PHILIPPE DUNSKY: Very much so,

13 yes.

14   MR. SVEN HOMBACH: And that's just a

15 fancy way for saying that you have some early adopters

16 -- you've got some people that take their time, and

17 you've got some laggers that wait until the last

18 possible minute.

19   MR. PHILIPPE DUNSKY: Yeah.

20   MR. SVEN HOMBACH: So when there is a

21 new standard or a new technology, it might take a

22 number of years for people to upgrade?

23   MR. PHILIPPE DUNSKY: Well, so just to

24 clarify, yes, when you're talking about new technology.

25 No, when you're talking about new standard, all right?

8175

 1   MR. SVEN HOMBACH: Well, even with a

 2 new standard it's -- you indicated this morning

 3 somebody that has a -- an appliance might only replace

 4 it once that appliance actually breaks and isn't

 5 salvageable anymore?

 6   MR. PHILIPPE DUNSKY: Yeah. Yeah, and

 7 so that's -- that's a little bit different, but yes, I

 8 mean, ultimately the standard will take the full -- the

 9 full average life, let's say, of measures before the

10 full impact is felt.

11   MR. SVEN HOMBACH: Does that introduce

12 any specific risk too that you cannot count on -- on

13 new technology measure necessarily having the desired

14 effect immediately or within a short time frame?

15   MR. PHILIPPE DUNSKY: Yes and no. See,

16 again, if this were -- if this were something that is

17 focussed on a single resource then I would say, yes,

18 I'd -- I'd be very concerned about that. But this is

19 hundreds of resources.

20   I mean, frankly, this is, you know,

21 thousands of different resources, because you're

22 talking about, you know, well over a hundred different

23 measures applied in -- in a whole, you know, a large

24 variety of different market segments. And so the point

25 is that when -- when some aspects don't kick in the way

8176

1 you expected, and there will be many that don't kick in

2 the way you expected, you have levers. And I can't

3 emphasize that enough. It's -- it is not a static

4 resource. It's a resource that you manage dynamically.

5   And because you have so many levers you

6 can do that dynamic resource management where, you

7 know, one (1) takes longer to get to market than you

8 anticipated, but another one (1) takes faster, or

9 another one (1) -- or both of them take longer and the

10 resources that you have in front of you, you can push

11 harder to the ground to get them in place in the

12 interim.

13   That -- that's the nature of this

14 resource. And again, that is why -- you know, I come

15 back to the question that -- that Commissioner Grant

16 asked earlier, you know, why -- why does this not

17 happen when you have two point five (2.5) cents versus

18 -- versus ten (10) let's say in the States. And the

19 answer is these sorts of things, right.

20   It -- it's more diffuse. And when it's

21 more diffuse it's harder to wrap our -- wrap our heads

22 around and -- and harder to -- to trust, let's say,

23 unless you're in it on a day-to-day basis. But once

24 you are and once you look at the -- at the data, which,

25 you know, again, the -- you know, the ISOs have looked

8177

1 at now, you very quickly become convinced that, yes,

2 this is -- this is available and is managed to hit the

3 target on a pretty systematic basis.

4   MR. SVEN HOMBACH: Overall, is it fair

5 to say that the risk of missing the target is less in

6 the long term than the short term?

7   MR. PHILIPPE DUNSKY: Yes, absolutely.

8   MR. SVEN HOMBACH: And it's less the

9 bigger your basket of different DSM measures is?

10   MR. PHILIPPE DUNSKY: That is critical.

11   MR. SVEN HOMBACH: Let's go to Manitoba

12 Hydro Exhibit 153.

13

14   (BRIEF PAUSE)

15

16   MR. SVEN HOMBACH: That is the 2014

17 Power Smart Plan that you've had an opportunity to

18 cursorily review. Let's go to page 42 of the document,

19 please.

20

21   (BRIEF PAUSE)

22

23   MR. BYRON WILLIAMS: Mr. Hombach, just

24 -- your -- your gifted colleagues don't have an extra

25 copy of the -- the twenty (20) -- the three (3) year

 1 Power Smart Plan lurking about, do you?

 2   MR. SVEN HOMBACH: Not in a paper form.

 3 I'm just taking Mr. Dunsky to one (1) specific page,

 4 which is on the screen.

 5   MR. BYRON WILLIAMS: This is the big

 6 one. We were looking for the -- that's okay, go ahead.

 7   MR. PHILIPPE DUNSKY: That's okay.

 8 That's okay. We'll just use this here.

 9   MR. BYRON WILLIAMS: Thank you.

10   MR. PHILIPPE DUNSKY: Yep.

11

12 CONTINUED BY MR. SVEN HOMBACH:

13   MR. SVEN HOMBACH: I took you through

14 Level 2 DSM earlier and there -- you're aware that that

15 includes achievable DSM from the EnerNOC Study which

16 forms Level 1 and then load displacement conservation

17 rates and fuel switching.

18   In front of you you see a new measure

19 from the 2014 Power Smart Plan related to customer site

20 load displacement?

21   MR. PHILIPPE DUNSKY: M-hm.

22   MR. SVEN HOMBACH: And if we could

23 scroll down a bit on the page? Do you see that over a

24 three (3) year time frame there's a projected -- a

25 fairly significant projected increase, 137.5 gigawatt

8179

1 hours in 2014/'15; 191 in 2015/'16; and then 335.6 in

2 2016/'17. And those are cumulative. Those are not in

3 the video.

4   MR. PHILIPPE DUNSKY: Okay.

5   MR. SVEN HOMBACH: And keeping in mind

6 what you said about long-term risk being less than

7 short-term risk, would you be concerned that for such a

8 relatively short-term measure that it's relying on to

9 achieve Level 2, it may not be feasible to meet it in

10 three (3) years?

11   MR. PHILIPPE DUNSKY: I -- I think it's

12 possible. To be honest with you, the -- my -- my

13 hesitation in -- in answering in the affirmative is

14 simply that in my experience sometimes -- oftentimes

15 program managers know something that I don't. In other

16 words, they know their customer base.

17   And so it's entirely possible that these

18 numbers come from very specific projects that are --

19 that are already planned or under discussion in which

20 case they would have a higher liability. If they do

21 not, and it's purely a, you know, a very high level

22 incentive based forecast of impact then, yes, I would

23 have -- I would have some concern about putting a lot

24 of eggs into a single basket.

25   MR. SVEN HOMBACH: Based on the data

8180

 1 that you've reviewed now, and Manitoba Hydro's

 2 projections, are -- do you -- you see yourself in a

 3 position to speak to what the deferral prospects for

 4 Keeyask would be based on the new DSM? And in

 5 particular, you spoke to the fact that you thought it

 6 would be prudent to assume a flat load growth curve.

 7   MR. PHILIPPE DUNSKY: Yes.

 8   MR. SVEN HOMBACH: So what is your view

 9 now on the deferral prospects?

10   MR. PHILIPPE DUNSKY: Well, as -- as I

11 mentioned before, I mean, the -- my understanding is

12 that currently the -- the need date is somewhere out in

13 the mid '20s if -- if I'm not mistaken.

14   And there is little doubt in my mind

15 that if Manitoba Hydro continues to pursue a policy of

16 pursuing all economic DSM that need date can be

17 successfully deferred out to beyond the planning

18 period. In that respect I'm not sure how to say it

19 otherwise, but --

20   MR. SVEN HOMBACH: But you're not

21 prepared to commit yourself to a time frame?

22   MR. PHILIPPE DUNSKY: Oh, maybe I'm

23 misunderstanding the question then.

24   Could -- could you restate the question?

25   MR. SVEN HOMBACH: Sorry. Yeah, I'm

8181

1 interested in your view as to the potential time frame

2 that new generation could be deferred under your

3 suggestions.

4   MR. PHILIPPE DUNSKY: Under my

5 suggestions, in terms of meeting domestic load -- in

6 terms of meeting domestic load --

7   MR. SVEN HOMBACH: Yes.

8   MR. PHILIPPE DUNSKY: I believe that

9 you can defer the need for new generation at least to

10 the 2033/2034 time frame, at least. And to be -- to

11 maybe go a little bit -- to maybe go a little bit

12 further on that I should say this. You know, anything

13 that we're talking about in 2033/2034, is a long ways

14 away.

15   And, you know, my -- my assumption about

16 what DSM can do over the next twenty (20) years is

17 probably about as good or -- or as bad as anyone's

18 assumption about what load will look like. Load will

19 have -- about how load will naturally grow or not grow

20 in twenty (20) years. So there is real uncertainty

21 there. And that's just uncertainty related to load in

22 the long-term.

23   What's -- what's unique here is that

24 you're -- you're faced with a decision -- you're faced

25 with a -- with a challenge of having to make a decision

8182

1 today based on what you think might be the case in the

2 future. What I would argue is, if you have sufficient

3 confidence that you can defer domestic need out, you

4 know, at least to the mid '20s or to late '20s, it buys

5 you time to watch and see what happens in the real

6 world, and then adjust over time.

7   MR. SVEN HOMBACH: It may be helpful to

8 put up a slide from a Manitoba Hydro exhibit on screen.

9 If we could have a look at Manitoba Hydro Exhibit 95,

10 slide 4. And I note that your counsel was able to

11 predict which slide I would put up. I'm very

12 impressed.

13   Have you had an opportunity to actually

14 see this slide before, Mr. Dunsky?

15   MR. PHILIPPE DUNSKY: Yes, I have.

16   MR. SVEN HOMBACH: And you see that

17 based on level 2 without what Manitoba Hydro refers to

18 as "the pipeline load" and Manitoba Hydro is projecting

19 a -- that dependable energy would be required in

20 Manitoba in 2031 and new capacity the same year with

21 level 3 DSM, again, that's without new pipeline load,

22 it would be 2033 for energy and, again, the same year

23 for capacity?

24   MR. PHILIPPE DUNSKY: Yes.

25   MR. SVEN HOMBACH: Now, keeping in mind

8183

1 your chart that shows that both level 2 and level 3 DSM

2 would be dropping off after a number of years.

3   Would it be fair to say that with your

4 suggestions to assume an ongoing incremental level of

5 DSM that would push back both of these dates further?

6   MR. PHILIPPE DUNSKY: Indefinitely.

7   MR. SVEN HOMBACH: And does that hold

8 true, in your view, for both level 2 and level 3?

9   MR. PHILIPPE DUNSKY: Yes.

10   MR. SVEN HOMBACH: Okay. Thank you.

11 Those are all my questions.

12   THE CHAIRPERSON: I have a few more

13 questions, although Ms. Boyd, I guess you're entitled

14 to redirect. But let me ask my questions first, then

15 you can probably ask some more questions.

16   I just wanted to discuss with you the

17 perspective that Mr. Klassen brought this morning in

18 respect of jobs that flow from DSM.

19   Can you comment on -- on the -- the job

20 creation that stems from DSM? Are you in a position to

21 -- to provide some of your experience there?

22   MR. PHILIPPE DUNSKY: Sure. So I've

23 actually worked on a number of employment impact

24 studies for DSM. The first one I managed was -- was

25 actually in -- in 1990 -- in '95 or '96. I can't

8184

1 recall. I think it was 1996.

2   And I've also over time had a chance to

3 review and -- and assess a large number of -- of

4 different employment impact studies of DSM that have

5 been undertaken throughout North America.

6   What we find typically is, you know --

7 when we talk about employment impacts, we talk about

8 person years -- person years of employment, and we talk

9 about person years of employment per million dollars as

10 the metric.

11   What we typically find for -- for energy

12 efficiency is person years per million dollars in the

13 range of fifteen (15) to upwards of thirty-five (35)

14 job years per million for DSM.

15   That -- you know, that depends on the

16 local economy primarily, and it depends in part on what

17 those -- what those programs look like and what --

18 which resources they're offsetting.

19   But certainly we tend to -- the lowest

20 I've ever seen is in the range of fifteen (15)

21 something and the highest I've ever seen actually is --

22 is a fair bit higher than what I just said, but it's a

23 bit of an outlier. Let's say around thirty-five (35)

24 job years per -- per million dollars.

25   When we look at supply options, I think

8185

1 I mentioned it earlier, the -- you know, in Quebec

2 where we have an industrial structure that is very much

3 built around hydro power and so very much able to be

4 supplying a large share of the -- of the investment

5 there, our large hydro projects get up to about nine

6 (9) job years per million dollars invested.

7   So, certainly looking at considerably

8 more jobs created through conservation and energy

9 efficiency than -- than a new supply.

10   I -- I can say that my firm was hired

11 about two (2) years ago to work on an employment impact

12 study for -- for four (4) Canadian provinces --

13 essentially, the three (3) Maritime Provinces and

14 Quebec. And we completed that work about a year ago,

15 and that's now public.

16   And I can certainly share that with you.

17 That doesn't talk specifically to Manitoba, but it

18 talks specifically to these other provinces. And, you

19 know, we found very high employment creation numbers

20 there from DSM.

21   We have since been -- been hired to work

22 on employment impact study of DSM for the remainder of

23 Canadian provinces, and that's for the Federal

24 Government, and that's using the -- I'm not sure if

25 you're familiar with the REMI model, but that's a

8186

1 pretty sophisticated, very commonly used macroeconomic

2 model. Uses a variety of different approaches,

3 input/output and economic -- econometric and others.

4 And that model was built up specifically for the

5 economic characteristics of each of the provinces,

6 including Manitoba.

7   And so when the -- the results come out

8 I -- I can't -- I can't share them right now because I

9 don't own them, the Federal government does, and I'm

10 hoping that they're going to come out relatively soon,

11 and so certainly when they do I'd be glad to -- to

12 share the results with you. What I certainly can say

13 is that -- is that for Manitoba they were reasonably

14 high given the -- given the structure of the economy

15 here.

16   The DSM scenarios that we -- that we ran

17 provided, again, on the -- I quoted a range before of

18 study results from elsewhere. The values that we found

19 for Manitoba were toward the higher end of the range

20 that I've seen elsewhere. And again, that's just, you

21 know, based on pure macroeconomic modelling.

22   THE CHAIRPERSON: Thank you. And I

23 guess you sort of kind of -- you know, the people that

24 Manitoba Hydro is negotiating with and signing

25 contracts with are, frankly, good operators, tough

8187

1 competitors, smart people, tough regulators in those

2 jurisdictions as well, and so they're reading the same

3 literature that we're exposed to today.

4   I mean, they're seeing grid parity come

5 closer and closer. They're seeing -- you know, they're

6 seeing the industry changing, and yet they're signing

7 long-term contracts with Manitoba Hydro at interesting

8 prices.

9   So, is it entirely a policy construct?

10 I mean, you indicated that -- that it's somewhat

11 related to -- to the fact that, you know, because of

12 policy decisions impacting coal generation, in

13 particular, is that what's going on? Is that...?

14   MR. PHILIPPE DUNSKY: I don't think so.

15 I think that it's a time factor. I think this whole

16 thing is -- is an issue of time. And the discussions

17 happening in the industry now around, you know, what --

18 what's being termed the -- the utility death spiral,

19 right.

20   The question is, you know: Is that --

21 is that something for ten (10) years from now or thirty

22 (30) years from now? If -- I absolutely understand why

23 they would be interested in signing a -- I'll call it a

24 midterm contract. As I understand it, and -- and

25 correct me if I'm wrong, we're talking about something

8188

1 short of ten (10) years. Is that -- is that fair? Ten

2 (10) to fifteen (15) years. Okay. Yeah.

3   So -- so that makes sense insofar as the

4 kinds of changes -- the -- the sorts of changes that

5 we're talking about are not going to dramatically

6 change the -- the picture on the ground when we talk

7 about solar, for example. If we have solar parity in

8 Minnesota today, that doesn't mean that tomorrow

9 morning everyone runs out and puts solar panels on the

10 roofs for the very same reason that energy efficiency

11 is very cheap for people to do today, and they are

12 still not doing it on their own.

13   These things take time. You know,

14 there's -- there's an adoption curve. If you go back

15 to -- to Rogers' curve, you know, you start out with

16 the innovators and onward and onward. So if I'm

17 thinking of -- if I'm Minnesota, I'm thinking, I'm in

18 2014, I've probably got, you know, a good ten (10) or

19 fifteen (15) years before -- before any very

20 significant changes kick in. I'm going to lock in a

21 reliable, clean power source for that period.

22   Now, if they were willing to sign a much

23 longer term contract, that to me would say something

24 different because it's that second period that concerns

25 me much more than the first.

8189

1   THE CHAIRPERSON: I guess, you know,

2 we've -- globally, if you look at the evidence you

3 provided to us and your commentary and so, it provides

4 a pretty rosy picture of DSM generally, you know.

5   So just to make sure the panel has --

6 goes into this with its eyes open, can you -- can you

7 share with us what you perceive to be limitations of

8 DSN?

9   MR. PHILIPPE DUNSKY: Sure. There are

10 many. Ultimately, let me put it this way. I think the

11 limitations of DSM are related to the limitations of

12 the framework that you put in place that -- that in

13 centre require performance. That is the -- the most

14 important risk factor, if you will, of DSM.

15   So giving an example without naming

16 names, I've worked with -- with agencies, you know,

17 government agencies, whose mandate was to put DSM in

18 place. But they were not measured on performance. The

19 success was not measured. The measurement was how much

20 money goes out the door.

21   And I can assure you that in those cases

22 that money was not performing well. And that money was

23 probably not achieving the savings that they were

24 hoping to achieve. There was no reporting. There was

25 -- or scant reporting. There was scant oversight.

8190

 1 There were very unclear targets.

 2   So without the framework I think you're

 3 in an area of very large risk. It goes back to the old

 4 saying of, you know, you -- you -- if you don't know

 5 where you're going, you know, any road will get you

 6 there. You need to have a frame work that is very

 7 clear, that's -- that puts in place very clear targets,

 8 very clear and agreed upon reporting, very clear

 9 oversight, and consequences, understood consequences

10 for achieving or not achieving those targets.

11   To the extent that those are in place, I

12 wouldn't call it a -- a rosy picture, I'd -- I'd call

13 it evidence based. This is what we have seen on a

14 systematic basis from those regions that have those

15 mechanisms in place. They achieve their targets within

16 their budgets systematically. That's the -- that's the

17 area of -- that's the grey zone, if you will.

18   THE CHAIRPERSON: Ms. Boyd, do you have

19 any questions that -- on re-direct?

20   MS. MARLA BOYD: I do have just -- I do

21 have just one (1) area to cover.

22

23 RE-CROSS-EXAMINATION BY MS. MARLA BOYD:

24   MS. MARLA BOYD: Mr. Dunsky, are you

25 aware that Manitoba Hydro uses the resource cost, not

8191

1 the utility cost, in assessing DSM in its integrated

2 resource planning?

3   MR. PHILIPPE DUNSKY: I -- I --

4 generally, yes. And -- and I did become aware very

5 recently that that is what -- what's used in the recent

6 -- here we go, in the recent DSM analysis economic

7 summary tables, yes.

8   MS. MARLA BOYD: And are you aware that

9 they do that because they are -- as a Crown corporation

10 they consider it appropriate to include that resource

11 cost because our customers pay the cost whether it's in

12 a new supply or DSM?

13   MR. PHILIPPE DUNSKY: I'll assume that

14 to be -- to be the case. But I also believe that it's

15 -- that it's a mistake to do so. And if you'd like I

16 can ans -- I can explain why.

17   MS. MARLA BOYD: Sure, go ahead.

18   MR. PHILIPPE DUNSKY: Okay. The -- the

19 total resource cost framework is -- there's absolutely

20 nothing wrong with it. What it's trying to get at is

21 the sum of costs and benefits for both participants and

22 the utility. And to the extent that Manitoba Hydro's a

23 Crown corporation and wants to take into account that

24 larger perspective, I think that's very -- that's very

25 good.

8192

1   The difficulty is this, participants in

2 your programs benefit in multiple ways. And those

3 multiple benefits drive their participation in your

4 programs. So people who prog -- who participate, for

5 example, in your retrofit programs, they do it because

6 they want to save money on their bills and because they

7 want to improve their comfort in their homes.

8   When you try to do a total resource cost

9 assessment where you're including all of the costs, so

10 your cost and their costs, money in, but only looking

11 at their monetary benefit and not the other benefits

12 that they take out of the DSM programs and that are

13 part of their motivating factors, you -- you result in

14 effectively an un -- an unwitting bias to the

15 assessment.

16   So I think I mentioned before, I'm an

17 advisor to the National Energy Efficiency Screening

18 Project and that project is precisely addressing this.

19 And if you want I can -- I can undertake to -- to

20 provide you with -- with the report that was recently

21 provided -- recently published by the -- by that

22 project, because there is an increasing recognition of

23 this bias with the TRC.

24   There are two (2) ways of addressing the

25 bias. You can either undertake to assess those non-

8193

1 energy benefits, and there are a number of regions that

2 do that now. We have -- we have conducted those

3 studies. Some regions do that very systematically now.

4 And when you do that it is absolutely fair to account

5 for customer cost as well. And then you have a

6 holistic picture.

7   But if you're not taking into account

8 those benefits, and you're only taking into account

9 those costs, then you have a problem. And that's where

10 I will argue very strenuously for reverting to a

11 utility cost perspective; not because it's the right

12 perspective, but because it's the only perspective that

13 allows for a fair apples to apples comparison.

14

15   (BRIEF PAUSE)

16

17   MS. MARLA BOYD: Mr. Dunsky, could I

18 ask you to undertake to provide that report? And I'm

19 going to have to ask you to put the name of the report

20 on the record to do so, please.

21   MR. PHILIPPE DUNSKY: Sure. I -- I

22 will provide the -- the recent report of the National

23 Energy Efficiency Screening Project.

24   MS. MARLA BOYD: Thank you.

25

 1 --- UNDERTAKING NO. 122:   Mr. Dunsky to provide the

 2   recent report of the

 3   National energy Efficiency

 4   Screening Project

 5

 6   MS. MARLA BOYD: We have nothing

 7 further. Thank you.

 8   THE CHAIRPERSON: Thank you, Ms. Boyd.

 9 Mr. Hombach, could you give us some closing comments

10 about the schedule tomorrow, and perhaps remind

11 everybody about Saturday morning.

12   MR. BYRON WILLIAMS: Mr. Chair, if --

13 if I might. I just have a couple of clarification

14 questions for Mr. Dunsky.

15

16 RE-DIRECT EXAMINATION BY MR. BYRON WILLIAMS:

17   MR. BYRON WILLIAMS: You recall in your

18 early conversation with My Learned Friend Mr. Hombach

19 that there was some confusion whether you had been

20 working on an integrated resource plan, or -- or some

21 other recent plan.

22   Do you recall that discussion?

23   MR. PHILIPPE DUNSKY: Yes.

24   MR. BYRON WILLIAMS: Would I be correct

25 in suggesting to you that you recently were involved in

 1 the development of a comprehensive three (3) year

 2 integrated demand-side management plan for New

 3 Brunswick Power, Efficiency New Brunswick, and the

 4 Government of New Brunswick and Municipal Utilities?

 5   MR. PHILIPPE DUNSKY: Yes.

 6   MR. BYRON WILLIAMS: And when you spoke

 7 of an integrated plan -- plan this morning that was the

 8 plan you were referring to, sir?

 9   MR. PHILIPPE DUNSKY: It probably was,

10 yes.

11   MR. BYRON WILLIAMS: And in response to

12 a question by the Chair in terms of job opportunities

13 flowing from DSM, you indicated that you couldn't

14 release the Canadian-wide study.

15   Is that right?

16   MR. PHILIPPE DUNSKY: Yes.

17   MR. BYRON WILLIAMS: You did indicate

18 that -- that there's another study for some of the

19 Atlantic provinces that you had undertaken?

20   MR. PHILIPPE DUNSKY: Yes.

21   MR. BYRON WILLIAMS: And is that study

22 in the public domain, sir?

23   MR. PHILIPPE DUNSKY: It is.

24   MR. BYRON WILLIAMS: And so certainly

25 if -- if asked you would be able to produce that

8196

1 report?

2   MR. PHILIPPE DUNSKY: Sure. Yeah.

3   MR. BYRON WILLIAMS: We'll see if

4 you're asked. I don't think I can ask you to do -- can

5 I ask him to do an undertaking? I think they have to.

6 Mr. Hacault says.

7   Also, you'll recall conversations both

8 with the Chair and with My Learned Friend Mr. Orle in

9 terms of challenges in reaching disadvantaged markets

10 or disadvantaged communities --

11   MR. PHILIPPE DUNSKY: Yes.

12   MR. BYRON WILLIAMS: -- and

13 individuals? And you do you recall, I know it's a long

14 time ago, that you testified in 2008 in Manitoba about

15 barriers to DSM programming for low-income persons, as

16 well as some thoughts about overcoming those barriers.

17   Do you recall that?

18   MR. PHILIPPE DUNSKY: Vaguely, yes.

19   MR. BYRON WILLIAMS: Is there anything

20 in the public domain more recent than that, sir, where

21 you've been discussing the -- the numerous market

22 barriers that low income people face in accessing DSM

23 programming?

24   MR. PHILIPPE DUNSKY: We've been

25 working with other clients on -- on that topic, and

8197

1 helping them refine their low-income programs, but

2 nothing that's in the public domain, no.

3   MR. BYRON WILLIAMS: Okay. If asked,

4 you could certainly be prepared to provide an -- an

5 electronic copy of your 2008 report, which was

6 previously provided to the Public Utilities Board?

7   MR. PHILIPPE DUNSKY: Absolutely.

8   MR. BYRON WILLIAMS: Okay. We'll see

9 if they bite.

10   THE CHAIRPERSON: Thank you. I'm

11 looking quick -- doing a quick scan. It doesn't seem

12 that there's anybody else. Mr. Hombach, please?

13   MR. SVEN HOMBACH: Mr. Williams, I will

14 bite. It would be helpful to have your 2008 report

15 filed on the record, so perhaps I'll leave it to -- to

16 you to restate the undertaking since you're likely

17 aware of the name of the report. I am not.

18   MR. BYRON WILLIAMS: I suspect Mr.

19 Dunsky is likely not aware of the name of the report,

20 but what he -- we would undertake would be to file an

21 electronic copy of his written report provided to the

22 Public Utilities Board on low -income programming,

23 along with his supporting PowerPoint, if that is sati -

24 - satisfactory, Mr. Hombach?

25   MR. SVEN HOMBACH: It is. Thank you.

8198

1 --- UNDERTAKING NO. 123:   Mr. Dunsky to provide an

2   electronic copy of his

3   written report provided to

4   the Public Utilities Board

5   on low-income programming,

6   along with his supporting

7   PowerPoint

8

9   MR. SVEN HOMBACH: Mr. Chairman, I'm

10 happy to be able to address scheduling matters

11 tomorrow. Tomorrow's going to be a somewhat ambitious

12 day. The morning session is reserved for a panel of

13 elders, and that session will start nine o'clock.

14 We're budgeting to have that session finished by the

15 lunch break. The afternoon session is reserved for CAC

16 witnesses Simpson, Gotham, and Harper. The panel is

17 prepared to sit until five o'clock tomorrow afternoon.

18   As the parties are likely aware by now,

19 Saturday morning has been reserved as an overflow

20 session if necessary. And at this point, I'm certainly

21 assuming it will be necessary. The panel will regroup

22 at ten o'clock on Saturday morning to continue the

23 evidence of witnesses Simpson, Gotham, and Harper and

24 sit until it is done, likely by the lunch break on

25 Saturday.

8199

 1   THE CHAIRPERSON: Thank you, Mr.

 2 Hombach.   I believe that completes today's proceedings

 3 so, M. Dunsky, merci beaucoup.   Thanks for coming to

 4 Winnipeg.   Thank you for the work you've done so far

 5 and the work you're likely to do after this is over.

 6 And it's always interesting to hear from the second

 7 time now, and just as interesting as the first time, so

 8 congratulations.

 9   So the rest of you, we'll see -- those

10 of you who are here tomorrow morning, we'll see you

11 again tomorrow morning at nine o'clock.   Have a good

12 evening everyone.

13

14   (PANEL STANDS DOWN)

15

16 --- Upon adjourning at 4:52 p.m.

17

18

19 Certified correct,

20

21

22 _____

23 Cheryl Lavigne, Ms.

24

25

$	7928:16	8103:21	16 8081:24	10,000
$1.2 8082:1		8104:18	8091:16	8029:18
$1.3 7942:8		8111:25	8092:6,7,9	8109:15
$1.7 8061:20	0	8113:7	8103:21	**10:30**
$1.71	**0.02** 7986:11	8127:6,12	**1/3** 7932:21	7999:18
7927:23	**0.28** 7991:21	8129:14	8025:16	**10:46**
$10 8061:17	**0.4** 7981:14	8139:6,12		7999:19
$100 7929:3	7983:1	8149:20	**1/4** 7983:12	**100** 7935:8
$110 8055:14	7984:1	8153:24	**1:00** 8042:4	7994:20
$14,000		8158:23	**1:05** 8042:13	8038:14
8018:19,21	1	8162:12,15	**1:30** 7947:23	8070:19
$16,000	**1** 7926:18	8164:16	8042:6	8071:24
8018:17	7927:3	8165:7	**1:38** 8067:25	**104-6** 7950:6
$17.2 7928:8	7932:23	8176:7,8,9	**1:42** 8068:1	**10-foot**
7929:13,19	7934:14	8178:3,16	**10** 7926:12	8123:18
$20 8061:16	7935:19,24	8190:21	7936:3	**11**
$22 8061:15	7941:15	**1,000** 8110:8	7940:13,16	7979:22,24
$3 8028:13	7948:19	8117:20	7946:3	7991:20
$3.3 8061:19	7949:21	8170:16	7970:10	8072:8
$300,000	7964:11	**1,623**	7974:5,12,	**11:45**
7929:5	7965:4,5,8	8047:20	21	7947:21
$4,000,000	7972:25	**1.1**	7987:22,25	8035:17
8061:24	7975:5	7986:2,20	7988:3,5,7	8041:18
$47 8055:2	7977:22	7987:7,24	,13,20	**11:47**
$5 8061:18	7980:19	8082:1	7991:5,17,	8042:12
$6,000	7982:9,10,	**1.3**	20 7994:6	**12** 7948:24
8017:23	13,14	7986:2,15,	7999:16	7981:13
8018:12	7983:12	21	8002:9	7986:14
$600 8023:7	7984:3	7987:6,24	8006:4	8072:7
$62 8061:21	7985:22	7988:2,20	8008:22	8091:17
$70 8146:10	7988:15	7991:18	8011:1	8092:2
$727 8109:18	7991:1,2	**1.5** 7983:19	8013:2	8140:12
8111:10	7992:24	7985:12	8032:24	**120** 7924:3
$75 8059:22	7994:16	7986:2,16	8034:14	7975:14
$8 8028:12	7996:5	7987:5	8036:1	**121** 7924:7
$80 8109:5	8010:22	7988:2,21	8039:19	8108:1
8110:2	8013:6	7997:5	8040:1,3	**122** 7924:14
$80,000	8014:6	8002:10	8074:7,12	8117:17
7930:16	8015:4	8101:3	8078:7	8194:1
$800 8111:9	8018:8	8173:12	8081:23	**123** 7924:17
$900,000	8021:6,17	8174:8	8105:5	8198:1
	8025:18	**1.7** 7983:20	8109:4,8,2	**13** 7987:18
	8031:20	**1/2** 7932:21	4,25	8059:20
	8033:9	7973:18	8111:14,16	8095:1
	8042:23	7982:9,10,	8129:7	**13,000**
	8046:4	13,14	8136:1,9	7929:20
	8072:15	7985:22	8159:6	**137.5**
	8075:6	7991:14	8176:18	
	8084:17	7996:5	8187:21	
	8086:16	8013:13	8188:1,2,1	
	8088:22	8072:7,15,	8	
	8091:6			
	8097:20			

8178:25

14 7948:20
7973:19
7990:21,22
8081:19,20
8082:2
8144:24
8145:1
8173:9

14,000
8018:16

14th 8054:7

15 7924:9
7935:3,6
7941:6,13
7946:3
7972:18
7991:11
7995:6
8002:11
8009:2
8021:13
8028:17
8036:1
8040:1
8060:12
8070:16,17
8107:19
8108:4
8138:15
8144:23
8166:10
8184:13,20
8188:2,19

150 8006:7
8033:13
8131:11,14

153 8177:12

16 7952:2
7992:1

16.5 8052:14

169 8081:19

17 7998:7

18 7926:8
8000:20
8052:10
8078:17
8102:10

19 7930:14

19,200
7928:10,15

191 8179:1

1950s
8054:15

1970 7972:3

1980 7942:1

1990
7972:13,14
8055:6
8183:25

1991 8073:20

1992 8055:1

1996 7972:14
8184:1

1999 8055:13

──────────
──── 2 ────

2 7938:9
7947:17
7948:11,18
,19,20,22
7949:15
7970:25
7971:4
7973:11
7974:5,15
7976:5,8
7977:18
7981:21
7983:7,12
7984:18
7985:12
7988:15,17
,19
7989:19,22
7991:14
7992:13,18
7994:3
7996:5
8000:1,3
8015:3
8018:8
8019:23
8028:21
8030:18
8031:1,2
8040:11,18

8041:9
8042:5,6
8059:15,25
8069:12
8072:16
8076:24
8077:5,13,
19,21,25
8078:16
8079:19,20
8080:3,7
8084:12
8087:20
8092:5,7
8095:14
8111:9,25
8114:1,12,
13,22
8115:18,20
8116:1
8117:6,7
8142:24
8149:14
8150:8,12,
14 8155:20
8156:21
8157:8
8161:4,5,1
8 8164:9
8165:5,6
8166:19
8167:2
8173:17
8178:14
8179:9
8182:17
8183:1,8
8185:11
8192:24

2,600
8167:24
8168:8

2.0 8014:22

2.4 8158:25
8159:13
8160:6

2.5 8095:5
8176:17

2.6 7983:5

2.8 7932:20

2.9 7996:2

2:37 8105:7

2:54 8105:8

20 7930:11
7932:19
8002:11,17
8013:16
8015:2
8023:20,25
8034:22
8035:23
8046:12
8097:6
8136:25
8148:23
8174:1
8177:25
8181:16,20

200 8013:10
8014:22

2001 8047:16

2007 8071:16

2008 8072:8
8196:14
8197:5,14

2009 7932:19
8017:21
8058:10
8059:15
8060:4

201,807
8046:11

2010 8011:3

2011
8046:7,15

2011/2012
8046:12

2012 7923:5
7932:19
7941:13
7960:2
8044:7
8046:7,15
8047:17
8055:13,16
8060:13
8061:3
8105:20

8106:12

2013 7923:8
7981:12
7982:25
7983:19
8058:23
8060:2,6
8072:9
8079:14
8103:8
8150:9,21

2014 7918:24
7923:8,13
7987:16
7990:14
8033:20
8054:8
8150:10,21
8151:2
8166:7
8173:23
8177:16
8178:19
8188:18

2014/'15
8179:1

2014/2017
7934:4

2015 8053:10

2015/'16
8179:1

2016 7939:7
7990:15
7991:14
8029:19
8040:8
8174:1

2016/'17
8179:2

2017 8102:13
8173:22

2018 7937:19
7990:15
7992:10
8031:6
8077:6
8084:13

2019 8174:2

2020 7938:24
  7987:16,17,18
  8011:23

2020s 7981:4
  8033:21

2021 8102:12

2023 8078:7

2025 7937:17
  8078:16
  8079:21
  8080:2

2026 8031:9

20-3 8108:19

2030 7935:24
  8006:2

2030s 7981:4

2031 8182:20

2033 8182:22

2033/2034
  8181:10,13

2034
  7991:8,13
  8032:2
  8080:5,8
  8084:14,19

20s 8180:13
  8182:4

21 8015:2

2-13 7923:12
  8151:2

22 8005:5

23 7954:6
  7957:19
  7995:15
  8093:25

24 7918:24
  8011:7
  8133:19

240,000
  8045:14

244 8044:18

24th 7963:22

25 7972:5

8015:7
8024:7
8029:4
8058:7
8168:15

25th 7950:7

27.5 8051:6
  8052:13

273,937.37
  8045:18

28 8019:13

28th 7949:5

29 8028:20

2nd 7948:14

2s 8077:13

─────────

3

3
  7926:5,10,14
  7935:4,17
  7941:6
  7949:12
  7970:24
  7974:15
  7976:5,9
  7983:9
  7988:17,19
  7989:19
  7990:24
  7993:24
  7994:3
  7996:1,2,3
  7997:23
  8000:24
  8011:6,8
  8019:19
  8020:11
  8021:6
  8024:21,23
  8029:14
  8036:13,21
  8042:18
  8060:4
  8069:9
  8076:24
  8077:5,12,13,18,21
  8078:1,21
  8079:19

8080:4,9
8081:24
8083:13
8087:20
8089:17
8091:4,16
8092:9
8097:10,25
8110:1
8111:9
8114:1,5,8,10,12,13,19,22,25
8115:2,7,13,17
8116:2
8143:25
8161:4,6
8166:9,13
8173:23
8177:25
8178:24
8179:10
8182:21
8183:1,8
8185:13
8195:1

3,535 7928:1

3.8
  8164:9,17

3/4s 7972:7

30 7940:15
  8013:17
  8018:2
  8027:17,18
  8028:20
  8034:15,22
  8035:23
  8046:8,16
  8137:1
  8187:22

300 7929:13
  7930:3
  8006:3

30th 8055:16

32 8006:24

33 7952:24
  8026:7
  8051:4

330 7918:22

335.6 8179:1

34 7942:2
  8027:14

35 7930:11
  7952:25
  8028:3,11
  8041:10
  8164:24
  8165:3
  8184:13,23

350 8094:21

37 7972:2
  8030:7
  8031:1
  8033:25

39 8106:24

─────────

4

4 7949:4
  7963:20
  7966:11
  7967:9
  7968:11
  7972:11
  7973:12
  7985:12
  7996:3
  8000:1
  8005:23
  8016:25
  8028:11
  8029:5
  8107:11
  8132:2
  8143:25
  8161:6
  8164:14
  8182:10
  8185:12

4,000
  8015:20

4,701
  8047:17

4:30 7947:24

4:52 8199:16

40 7929:22
  7931:2

8035:12
8092:24
8137:25

400 7918:22
  8117:18

42 8177:18

43 8039:10

45 7931:2

48 8070:25
  8075:6

49 8075:4

─────────

5

5 7929:2,16
  7933:22
  7940:12,16
  7948:18
  7949:12,19
  7977:2
  7999:24
  8003:8,14,15 8015:1
  8021:23
  8023:7
  8024:9,10
  8028:17
  8029:22,25
  8031:8
  8032:24
  8033:14
  8040:21
  8073:21
  8102:9
  8103:10

5,000
  8029:17
  8033:6

50 7989:23
  8021:22
  8033:11
  8045:14
  8059:22
  8146:10

54 8076:20
  8077:15

540,620.48
  8046:6

55 8077:16

8132:11

56 8078:8,10

57 8079:8,11

58 8080:6

5872066
8058:11

5th 7948:23

———— 6 ————

6 7941:15
7948:22
7949:13,15
7950:5
7952:2
7968:2
8000:1,3
8029:22
8036:20
8040:20
8047:4
8140:12
8159:9
8160:7

6,095,502.81
8046:15

6,324
8047:18

6:48 8024:1

60 8013:18
8018:3
8082:25
8146:10

600 8047:17

61 8100:13

62 7936:14
7970:23

643 8167:17

67 8150:16
8167:7

68 8150:16

69 8158:13

———— 7 ————

7 7952:1
7973:18
8033:19

8045:12
8097:22
8116:8
8144:1
8160:7

7.27 8109:10

7:01 8024:1

7:15 8023:21

70 8047:7
8060:23

70s 8044:12
8047:3
8049:16

720 8111:1

75 7972:3
8063:14

75,000
7929:17

7918 7918:25

7923 7921:3

7924 7921:4

7925 7921:6

7951 7921:10
7923:3

7962 7921:11

7975 7924:6

———— 8 ————

8 7949:19
7971:22
8075:23
8091:3
8097:23
8111:2
8144:1
8159:6,20
8160:8

8:45 7947:11

8:49 7925:1

80 7939:10
7941:16
8011:4,9
8025:6,17
8051:17
8060:24

8043 7921:13

8050 7921:14

8054 7921:15

8068 7921:20

8106 7921:21
7923:5

8108 7924:13

8119 7921:22

8130 7921:23

8133 7921:24

8150
7923:9,13

8151 7921:25

8190 7922:3

8194 7922:4
7924:16

8198 7924:21

8199 7918:25
7922:6

85 7972:15
8063:16
8164:23
8165:4

87 8158:13

89 7935:8

———— 9 ————

9 7952:1
7973:10,13
8091:4
8185:6

9,000
8110:25
8111:3

9:14 7947:1

9:21 7947:2

90 7939:9
7941:15

90s 8030:3

95 8010:15
8182:9
8183:25

96 8183:25

9th 7948:23

———— A ————

a.m 7947:1,2
7999:18,19
8042:12

AANDC
8049:17

aback 8017:5

ability
7979:15
7981:5
8020:3
8032:4
8123:12
8136:5
8137:4

able 7948:13
8013:5
8021:18
8023:12
8028:2
8043:3
8052:19
8096:25
8113:24
8122:17
8129:18
8130:24
8137:4
8171:22
8182:10
8185:3
8195:25
8198:10

Aboriginal
7923:4
8061:20
8105:19
8106:10

abound
8035:3

absence
8000:9

absent
7934:22

absolutely
7963:9

7991:23
7993:4
7994:5
8003:12
8005:24
8009:4
8010:3
8012:5
8019:10
8030:1,6
8031:24
8037:19
8086:6
8091:20
8093:5,21
8113:9
8117:2
8118:6
8120:12
8121:6
8127:6
8128:21
8132:9
8134:2,16
8136:21
8143:11
8160:19
8163:15
8164:1,11
8165:11
8177:7
8187:22
8191:19
8193:4
8197:7

abundance
7941:23

academic
7959:17

accelerate
8153:5

accept
7962:14
8016:3
8085:8
8105:18
8137:24
8138:5,12

access
7940:6
8020:2
8021:19

8025:9
8086:20,21
8087:3

accessing
8085:12
8196:22

according
8055:5,15,
25 8056:17
8057:19
8063:16
8132:3
8144:24

account
7970:13
8033:17
8037:6,10
8038:14
8069:25
8070:2
8071:23
8074:8,14,
24 8081:8
8120:9,18
8121:4
8163:21
8191:23
8193:4,7,8

**accountabili
ty** 8044:16
8053:5,9

accountable
8044:4
8050:5
8052:3
8053:12

accounted
8035:10
8069:8
8163:17,18

accounting
8035:6
8036:12
8070:6
8073:2

accrue
8135:7

accurate
7952:13
8037:13,14

8064:10

accused
7995:7

accustomed
7982:19

ACEEE
8148:20

achievable
8071:6,9
8090:20
8178:15

achieve
7983:5,18
8006:2
8013:8
8096:25
8097:11
8101:3
8143:8
8171:23
8179:9
8189:24
8190:15

achieved
7983:20
8002:23
8149:1

achieves
7998:24

achieving
8096:10
8166:19
8189:23
8190:10

acquire
7931:6

acres
8099:18

across
7925:12
7940:21
7955:23
7956:10
7957:15
7966:1
7967:23
7985:7
8011:12
8014:23

8016:23
8025:7
8036:20
8038:18
8047:8

Act 8058:20

Action
7947:14
7950:19

activated
8168:13

actively
8147:4

activities
8048:13

activity
8168:11

actors
8008:8
8069:18

actual
7987:11
7988:21
7996:21
8070:12
8103:19

actually
7940:16
7944:16
7947:12
7966:25
7967:5
7968:1
7970:21
7973:2
7977:17
7978:3,15
7985:2
7986:20
7989:18
7991:6
7992:3
7993:14,25
7996:12
8003:16
8011:18
8017:21
8021:11,14
,16
8025:14

8030:4
8037:13
8039:16
8040:23,24
8041:11
8071:20
8072:16
8073:3,6,7
,11
8079:4,6
8084:19
8086:25
8087:3
8089:5,22
8090:20
8091:3
8096:9
8098:5
8101:21
8102:21
8110:6,14
8117:6
8121:19
8125:22
8137:3
8147:18
8148:17
8163:24
8165:5
8168:4
8172:14
8175:4
8182:13
8183:23,25
8184:21

adapt
8134:22

adaptations
8006:20

adapted
8016:18
8029:11
8070:1

add 7997:18
8049:12
8089:13
8117:16
8134:17
8149:20

added 8003:1
8083:8

adding
8109:3,8

additional
7932:8
7986:7
8006:8
8014:10
8029:4
8083:6
8085:2
8089:13
8115:12
8117:16
8134:3

address
7924:11
7948:2
7967:2
7968:22
7969:20,24
7970:1,7
7981:6
7984:12
8010:22
8024:13
8035:22
8036:2
8086:17,23
8107:21
8108:6
8111:23,24
8116:24
8125:9
8139:12
8164:22
8198:10

addressed
7967:18
8019:7
8025:25
8036:3
8054:11
8084:24

addressing
7980:24
7981:7
8192:18,24

adds 7978:24

adjourn
8041:17

adjourning

8199:16

adjust
7983:24
8182:6

adjusted
8071:22
8078:1,3
8115:24
8116:1,2
8161:5

adjustment
8073:8

adjustments
8117:14

adjusts
8022:20
8084:13

administered
8061:12

administration 8005:23
8006:5
8007:12
8036:23

administrative 7947:16
7948:1

administrator 7996:7
8157:24

administrators 7979:13

admire
8066:10

admit 7969:5
7970:23
7981:23

ado 8068:5

adopt
8004:22
8005:13
8006:20
8029:13
8083:18

adopted
8004:19
8005:15

8006:1
8007:7,18
8093:19

adopters
8174:15

adopting
8004:25
8007:13
8083:20
8172:24

adoption
8004:8,11
8006:11,25
8008:17
8017:12
8026:25
8031:15,16
8152:21
8153:5,11
8188:14

adopts
8006:18

advance
7981:16
8135:25

advanced
8073:17

advantage
8049:22
8146:6

advantageous
8074:5

advantages
7930:23
7931:10

advent
8013:2
8099:4
8154:18

advice
7954:3

advise
8048:16
8153:2

advised
7947:9,25

advising
7957:10

8118:25
8153:24

advisor
7957:12
8192:17

advisors
8134:20
8167:8

aerogels
7936:1

Affairs
8049:17
8061:19

affect
8010:7
8100:21
8123:12
8136:4

affects
8101:18
8114:12

affirmative
8179:13

Affirmed
7921:9,18
7951:14
8068:11

affirms
7951:11

afraid
8017:1

afternoon
8041:24
8042:1,15
8043:17,18
8054:4
8133:12,13
8150:3,5
8198:15,17

afterwards
7987:10
7992:19

against
7928:22
7929:15
8054:21
8061:2
8128:1

8157:16
8159:17
8160:1,7,17
8161:8,22
8162:8

age 7937:23
7938:1,2,3,7,8

agencies
7955:23
8069:13
8189:16,17

Agency
7938:5,6

aggregate
8169:5,8,13,14
8171:15,16,17,21,22

aggressive
7941:5,7
7942:20
7978:14
7982:6
7983:16
7990:24
7995:8
8031:5
8083:18,21,22
8085:15
8103:17
8104:6
8114:4
8115:6
8127:16,19
8128:16
8143:6
8168:19

aggressively
8087:2
8129:17

aging
8038:23

ago 7937:15
7940:17
7978:2
7980:6
7995:22

8010:12
8011:11
8012:11
8013:2
8020:16
8021:13,23
8024:21
8027:6
8037:4
8049:7
8091:12
8092:15
8122:12
8134:20
8166:14
8185:11,14
8196:14

agreed
7946:24
8041:17
8190:8

agreement
8048:21
8056:4,7
8058:11
8059:21
8061:7,10
8062:10
8063:17

agreements
8057:5
8059:9

ahead
7963:20
8028:24
8031:25
8032:9
8039:22
8043:13
8098:5
8099:9,13
8100:5
8102:21
8129:1
8144:24
8153:9
8178:6
8191:17

aimed
7957:14
8086:9

air
  8013:15,24
  8014:4,11
  8016:4,15
  8018:6

air-
conditione
rs 8007:2

air-source
  7936:8

Alaska
  7945:12,15
  ,17

Alberta
  8048:10
  8056:23

alerts
  8024:15

algorithm
  8020:20

algorithms
  7960:3
  8023:19

aligns
  7946:18

allow
  7934:16
  7946:22
  7964:10
  8000:18
  8022:1
  8024:5,17
  8027:9
  8147:7

allowed
  8129:17

allowing
  8027:23

allows
  8024:11,13
  8141:18
  8193:13

alluding
  8142:2

alone 7980:3
  8028:12,19
  8029:15,19

8033:5
8044:18
8156:4

already
  7939:11
  7946:12
  7986:8,9
  8018:4,11
  8035:4
  8037:6
  8048:2
  8051:14
  8052:10,25
  8099:3
  8103:4
  8168:19
  8179:19

alternative
  7939:21
  7942:19,20

alternativel
y 8157:25
  8162:5

alternatives
  7918:8
  8064:3,12

altogether
  8034:24

am 7925:22
  7957:25
  7962:23
  7976:5
  7979:24
  8003:9
  8022:13
  8035:13
  8045:3
  8050:13
  8138:17
  8144:6
  8156:17
  8197:17

ambitious
  8198:11

America
  7926:22
  7956:16
  7965:4,7
  7973:15
  7983:10

7985:8
7991:16
7994:10
8016:23
8021:9
8027:5
8032:11
8036:6
8073:5,16
8078:4
8092:25
8122:4
8184:5

American
  7932:17
  7941:10
  8169:25

among
  8004:25
  8040:12

amongst
  8156:5

amount
  7998:15
  8026:20
  8041:23
  8067:9
  8091:18
  8095:2,6
  8124:5

amounts
  8081:16

analogous
  8116:16

analogy
  8033:2
  8157:23

analyses
  7956:22
  7999:24
  8070:9

analysis
  7927:8
  7948:16,22
  7949:5,14
  7957:7,8
  7960:17
  7985:15
  7995:9
  7999:25

8000:2
8073:24
8074:7
8112:19
8113:2,5,1
0 8135:13
8163:22
8191:6

analytic
  8020:21

analytical
  8167:5

analytics
  8003:24
  8019:16,23
  8021:15
  8025:10
  8085:1,2

analyzed
  8027:3

analyzing
  8112:23

and/or
  8032:20
  8101:14,15

Anderson
  7919:21

anecdotally
  8017:3

angered
  7929:24

animated
  7964:1

announcement
  8128:20

annoyed
  7927:17
  7929:24

annual
  7981:13
  7982:3,10,
  15,23
  7987:16
  8021:5
  8028:16
  8030:21
  8058:23
  8060:1,2,6

8078:13
8102:10

ans 8191:16

answer
  7934:1
  7935:12
  7939:16
  7980:17
  8007:25
  8008:2
  8022:19
  8037:20
  8050:4
  8051:7
  8052:12
  8085:18
  8103:1
  8113:25
  8131:10
  8142:24,25
  8143:1
  8159:23
  8166:23
  8176:19

answered
  7966:17
  8092:20
  8130:20

answering
  8126:9
  8179:13

answers
  7933:25
  8051:25

ante
  8097:9,18

anther
  7957:4

anticipate
  8038:18

anticipated
  7989:23
  7997:22
  8029:15,24
  8040:8
  8141:8
  8176:8

anticipating
  8011:12

Antoine
7919:18
7921:21
7961:8
8106:17,18
8107:13,16
,25
8108:12,13
8109:1,14,
21
8110:5,12,
17,22
8111:6,12
8112:10
8113:3,11,
23 8114:7
8115:3
8116:4
8117:22
8118:17
8119:4,11

anybody
7933:23
8068:7
8197:12

anymore
8175:5

anyone
8048:4,23
8065:21
8088:14
8097:3
8162:20

anyone's
7986:4
8031:15
8090:12
8181:17

anything
8037:8
8043:10
8049:12
8051:3,10
8052:1,21,
24 8053:13
8069:10
8114:24
8123:3
8127:4
8181:12
8196:19

anytime
8035:2

anyway
8151:18

anyways
8139:9

anywhere
7976:19
8073:4,5
8120:19
8139:18

apart 7946:4
8113:14

apologize
7963:21
7968:8
7971:1
7981:15,16
7985:25
7994:17
8043:23
8044:20
8045:22
8050:6
8079:2
8088:22
8153:22

apparently
8057:7

appear
8059:3

APPEARANCES
7919:1
7920:1

appeared
7952:17

appearing
8067:8,17
8105:17

appears
7952:25
8132:5,6,1
3

apples
8193:13

**apples-to-
apples**
8021:1

8134:18
8162:22

appliance
8004:6
8167:24
8168:7
8175:3,4

appliances
7955:18
8086:24

applied
7972:14
8175:23

applies
8050:19
8074:3

apply
8074:7,12
8115:20
8117:11
8154:6
8156:20

appreciate
8008:15
8035:19
8151:21
8167:11

appreciative
7998:10

approach
7995:10
7998:5
8005:20
8037:18
8069:24
8070:2,4
8075:22
8085:15
8112:16
8155:21
8158:8
8163:7,18

approached
8112:19

approaches
7960:5
8002:4
8071:13
8155:21

8156:21
8157:8
8186:2

appropriate
7957:11
7965:15
7999:12
8041:16
8065:11,14
8105:3
8126:25
8129:19
8144:12
8191:10

**appropriatel
y** 8041:24

approval
8166:3

approvals
8062:15,18
8136:3

approve
8048:11

approved
8037:6
8069:8
8138:20

**approximatel
y** 8046:8
8055:2
8059:22
8164:9

**approximatio
n** 8041:22

April
7918:24
7949:5
7963:21,24
7964:8
8054:7

arbiter
7967:15

area 7956:9
8021:20
8084:19,21
8112:14
8113:24
8139:12,13
8141:10,13

8190:3,17,
21

areas
7960:12
7966:5
8025:24
8099:3
8100:21
8119:24
8125:3
8126:23
8127:21
8141:9
8169:11

aren't
7979:22
8119:7

argue 8130:1
8182:2
8193:10

argument
8057:13
8099:12

arises
8144:20

arranged
7964:5

array
7953:14,19
7965:6
8037:16
8155:12

arrow
7992:11

arrows
7992:2

article
8051:19
8055:5
8059:20

articles
7959:24

Asia 7926:23
7936:4

aside
7974:19
8028:8
8030:1

8169:4

aspect
8129:20

aspects
7984:11
8175:25

ass 8074:23

assembly
8062:16

assertion
7975:3

assess
7955:8
8082:16
8156:5
8170:15
8184:3
8192:25

assessed
7927:20
8070:20
8074:3
8084:16
8100:14
8113:8

assesses
8087:8

assessing
8162:14
8191:1

assessment
7927:24
7929:2
7960:16
8070:14
8084:7
8107:10
8115:22
8168:21
8192:9,15

assessments
8023:5
8076:19

assisted
7954:18
8022:9,17
8163:24

assisting

7952:5

associate
8046:13

associated
7945:2,7
8004:1
8073:10
8103:25
8104:8
8117:20
8134:23

Associates
8154:4

Association
7925:10
7947:12,13
7950:19

assume
7998:2
8000:22,25
8038:13
8041:8
8076:13
8077:4,5,7
8084:12
8087:10
8113:20
8122:25
8169:9
8171:12
8174:4,7
8180:6
8183:4
8191:13

assumed
7980:18
8011:23
8030:4
8069:9
8115:5
8141:21

assuming
7948:12
7953:4
7994:14,24
8079:19
8080:25
8082:8
8126:21
8198:21

assumption
7969:22
8031:8
8034:21
8038:4
8080:16
8082:11
8102:9
8110:6
8166:5
8170:10
8172:21
8181:15,18

assumptions
7970:19
7994:13
7998:14
8031:2
8037:19
8038:12
8071:3
8076:18
8109:6
8115:2

assure
8189:21

asterisk
7967:10

Atlantic
8195:19

attempt
7950:10

attempted
8122:19

attend
7946:20
7950:14
8068:6

attendance
8042:24

attended
8062:2

attention
7976:12
7980:13
7986:25
8108:17
8128:11

attractive

7942:22

attributed
8115:13
8132:15
8161:7

audit
7967:21
8023:8
8025:14,16
8045:6
8060:14

auditors
7967:16

audits
7944:24
8121:21

Austin
8033:10,11

authority
8048:15

automatically 8022:20
8101:23
8111:13

automation
8029:5

availability
7947:19
8136:4

available
7975:9
7998:15
8004:13
8008:7
8030:15
8032:25
8041:25
8043:4
8067:9
8090:2
8125:16
8126:4
8131:1
8177:2

Avenue
7918:22

average
7981:13

7983:1
7984:4
7986:3
7987:22,25
7988:3,5,1
3
7991:18,21
7994:6
8077:12,25
8078:1
8092:17
8109:9
8110:12,14
8158:23
8175:9

averages
7987:7
7988:20

aversion
8123:13

avoid 8055:9

avoided
8161:8

avoiding
8034:24

awarded
8059:23

awards
7978:1

aware 7950:4
7997:24
8008:15
8051:1
8067:16
8072:23
8073:5
8137:12
8138:14
8154:2
8164:8
8169:24
8173:16
8178:14
8190:25
8191:4,8
8197:17,19
8198:18

away 7969:5
8053:5
8081:5

8121:25
8181:14

awe 7968:5

awful 8008:6
8010:16
8161:24

B
---

background
7959:18
8023:16
8106:22

backup
8134:24

backyard
8047:3

bad 8019:2
8051:18
8079:7
8082:15
8181:17

balance
8024:12

band 8052:9
8113:10

bandwidth
8112:14,20
8113:1

bar 7982:24
8004:16

barely
8011:9
8028:17

barrel
8094:21

barriers
8008:1
8085:12
8196:15,16
,22

bars 7982:21

base 7989:9
8122:16
8164:10,14
8179:16

baseboard
8012:18,25

8013:25
8018:5

baseboards
8018:11

based
7966:14
7984:16
8023:9
8097:15
8115:8
8124:5
8135:13
8137:14
8140:23
8166:17
8179:22,25
8180:4
8182:1,17
8186:21
8190:13

baseline
8041:3
8170:5,11

basements
7935:13

basic
8036:21

basically
8019:25
8069:9
8072:20
8112:21
8128:16

basing
7999:6

basis
8014:13
8029:20
8041:10
8057:7
8058:19
8059:11
8068:22
8070:1
8073:8
8078:14,21
,22 8084:8
8148:9
8167:10
8176:23

8177:3
8190:14

basket
8159:17
8160:14,16
,22 8177:9
8179:24

baskets
8160:25

bathtubs
7936:7

BC 7928:25
7929:15

BCR 8048:14

beach
8114:16

beaches
8047:4,5

bear 8101:22

beast 8094:5

beat 8100:6

beaucoup
7963:11
8199:3

beautiful
8047:4
8145:21

beautifully
8030:11

become
7939:20
7981:6
8001:14
8004:12
8008:8,15
8032:18
8084:20,22
8142:13
8177:1
8191:4

becomes
7924:5
7975:7,17
8026:2
8040:7
8057:13
8081:3

8098:15
8121:22
8125:21
8144:21
8145:22
8156:9

becoming
7937:7
8002:6
8145:5

Bedford
7919:7

bedroom
8014:6,8

beer 7931:19

beforehand
8167:13

begin
7964:13
7968:11
7970:20
8089:7
8152:7
8167:4

beginning
7980:5

begins
7946:7

begun 7957:4
8128:25
8154:19

behalf
7925:10
7947:11
7950:18
7961:9,13,
18
7962:3,15,
18 8042:17
8119:16
8130:12
8133:2
8162:10

behaviour
8020:7

behind
7946:12
7987:11

7997:21
8028:24
8032:10
8051:12
8102:17
8130:17
8160:11

Bel 7918:16
8066:4
8067:15
8090:4

belief
8115:8

believe
7947:5
7950:14
7951:1
7963:21
7968:17
7979:10
7980:11
7985:2,14,
17 7991:21
7993:11
7996:3
8024:23
8042:16
8046:22
8047:25
8065:21
8068:3
8081:8
8092:6
8097:9
8101:22
8103:11
8127:14
8131:21
8132:4
8152:5
8153:14
8154:8
8158:22
8159:8,20
8170:19,20
,22
8173:25
8181:8
8191:14
8199:2

believed
8030:2

8096:6,10

belittle
8160:10

Bench 8061:3

Benchmark
7929:15

benchmarked
7928:22

bending
8154:25
8155:1

beneficially
8056:11

benefit
8007:17
8008:4
8016:1
8074:9
8140:19
8141:3
8146:11
8162:8,16,
21
8192:2,11

benefited
8044:10

benefiting
8062:5

benefits
7930:21
7931:15
7977:8
8008:25
8009:1
8013:24
8055:13
8056:12
8060:10,20
8063:9
8083:8
8152:17
8161:22,24
8162:17
8191:21
8192:3,11
8193:1,8

bes 8047:11

best 7935:20

7952:11
7956:14
7960:14
7970:5
8027:4
8050:13
8059:2,5
8081:18
8102:15
8113:13
8114:8

**best-
practice**
7956:2

bet 7964:13
8096:8
8100:6,8

better
7931:5
7943:10
7971:13
8009:22
8047:14
8066:13
8077:19,20
8096:19
8100:9
8115:7
8151:20

beware
8034:8

beyond
7931:10
7947:24
8038:13
8081:13
8089:11
8090:16
8103:4
8180:17

bias
8192:14,23
,25

Bible
8073:21

bigger
8177:9

biggest
7973:2
8041:2

8083:14
8094:1

bill 7936:15
7937:5
8061:25
8091:9
8093:5
8108:16
8109:16
8111:1,7,8
8128:4

billed
8045:16

billing
7979:9,16
8057:4

billion
7927:23
7928:8
7929:3,13,
19 7942:8
8057:23
8081:25
8082:1

billions
8065:3

bills
7977:9,17
7979:13
8057:3
8091:7
8128:10
8192:6

bio 7952:24

biomass
8028:25

Bipole
8045:12
8055:20
8058:1

bit 7926:2
7929:6,25
7946:12
7949:10
7950:2
7957:23
7962:20
7963:13
7968:5

7973:6,17
7974:3
7975:22
7978:15,17
7981:15
7986:10
7998:4
8003:7,16
8007:11
8010:18
8016:13,22
8020:14
8025:15
8026:13
8032:15,16
8037:7
8040:21
8068:4
8069:25
8070:4
8073:1
8078:2,10
8080:9
8081:9
8087:1
8091:12
8093:23
8100:15,20
8103:2
8107:5
8118:23
8123:8
8128:23
8129:1
8130:18
8142:5
8144:3
8157:11
8162:18
8163:14
8169:2
8170:23
8175:7
8178:23
8181:11
8184:22,23

bite
8197:9,14

biting
8003:10

blended
8135:15

blessed
8047:4

blew 8065:17

blind
8019:14

blip 7935:5

block
8165:14

blue 7985:19
7987:23
7989:8,10
7992:17
7997:11
8014:19
8076:24

board
7918:3,14,
15,16,17,2
1 7919:2
7924:19
7932:4
7933:18
7950:4,18,
25 7952:18
7953:2
7954:10
7967:23
7975:8,10
8067:15
8071:19
8087:19
8105:18
8132:14
8197:6,22
8198:4

boards
7959:13

Board's
8035:20
8106:1

Bob 7919:2

body 8072:12

bolts
8151:19

Bonjour
7961:8

bonus
8097:11,19

8172:13

bonuses
8149:8

bookended
7969:13

books 7986:9

boom
7996:14,23

boom/bust
7931:1

boots 7968:1

Borden
8056:8

bore
8013:4,5

born 8155:4

bottom
7930:3
7986:14
7992:21
8000:25
8031:3
8074:17,18
,20
8126:14
8165:4

bottom-up
8163:4,22,
25 8171:7

Boyd 7919:6
7921:24
7922:3
7948:1,4,5
7949:25
7950:2,12
7962:3,5
8000:5,8,1
0
8133:8,10,
11,18,21,2
3
8134:4,12,
19
8135:3,10,
16,22
8136:7,17
8137:3,8,1
2,16,20,24

8138:4,14,
18,24
8139:15,20
,23 8140:1
8183:13
8190:18,20
,23,24
8191:8,17
8193:17,24
8194:6,8

brand
8008:21

break
7947:17,20
7949:24
7968:10
7995:4
7999:13
8030:5
8035:16
8041:17
8046:1
8105:3
8108:23
8198:15,24

breaking
8030:6

breakout
8032:7

breaks
8175:4

brief
7933:10
7954:10
7958:20
7962:11
7966:22
8007:24
8008:2
8044:2,23
8090:25
8104:21
8129:5
8151:9
8152:11
8158:16
8165:1
8173:6
8177:14,21
8193:15

briefed

7925:13

briefly
7925:21
8108:23

bring
7965:16,17
7978:5
8025:10
8029:16
8050:17
8096:19,20
8127:8
8155:14

bringing
7981:22
7982:13,14
8026:4
8029:11
8051:15

brings
7977:7

broad
7953:14
7965:6
8037:16
8139:5

broader
7946:6
7961:2

brother
8048:9,14,
20

brought
7960:21
7980:14
8183:17

brown 8047:5

Brunswick
7954:21
8195:3,4

bucks
8024:7,8

budget
7934:19,25
8041:24
8123:3

budgeting
8198:14

budgets
8190:16

build
7996:17
8047:9
8061:25
8104:13
8116:19
8145:20,21
8165:24

builder
8009:25

building
7931:9
7937:20
7939:25
7940:20
7944:2,15,
18,20
7946:2
7971:9
7976:12
8004:5,17,
25 8020:9
8025:1,14
8026:3
8038:21,22
8047:12
8054:19
8081:12
8157:13

buildings
7926:7
7930:15
7931:7
7936:6
7937:16,18
7943:1
7944:14
7955:18
8004:21
8025:4,5,6
,7,18
8118:15

buildup
7997:3

built
7940:18
7972:10
7973:23
7985:14

8038:12
8082:20
8097:12
8107:6
8117:1
8137:18
8143:14
8185:3
8186:4

bulb 8112:6

bulbs
7935:14
8011:15
8086:24

bulk 8036:22
8120:14

bullet
8129:10

bullied
8065:21

bump 7998:13

bumps
7986:10

burden
8064:4

burned
8030:3
8123:18
8128:3

business
7950:14
7965:22
7977:10
8008:9
8047:11
8055:12
8056:12
8058:4
8059:16
8063:25
8068:6

businesses
7931:4
7971:10
7977:11
8008:9
8049:19
8152:22

bust
  7996:15,24

busy 7925:8

button
  8023:2

buy 7937:1
  8009:13,16
  8030:23
  8095:8

buying
  7971:9
  8010:14
  8081:13
  8099:22

buys 8182:4

Byron
  7919:12
  7921:11,20
  7922:4
  7962:25
  7963:1
  7971:19,20
  7979:20,21
  7986:12,19
  7990:18,19
  7992:7,16
  7995:3
  7996:25
  7997:8
  7998:6
  7999:10
  8000:15,16
  8005:4,9
  8015:6,24
  8016:20
  8026:6,11,
  18 8033:23
  8035:15
  8039:8,9
  8068:13,14
  8075:2,3,1
  3,19
  8085:5
  8086:13
  8087:4,23
  8088:21
  8090:1
  8104:17,23
  8105:16
  8106:5
  8107:15,17

8177:23
8178:5,9
8194:12,16
,17,24
8195:6,11,
17,24
8196:3,12,
19
8197:3,8,1
8

─────────
C
─────────
CAC 7919:12
  7952:24,25
  8075:15
  8198:15

CAC/GAC
  7921:8,17
  7951:13
  8068:10

CAC-19
  7951:20

CAC-62
  7923:3
  7951:2,3,5

CAC-63
  7923:4
  8106:3,10

calculat
  8107:21

calculate
  7942:9
  8023:12
  8162:18

calibrated
  7984:18,19

calibration
  7985:5

California
  7939:8
  7957:19
  7958:1,4,6
  8031:18
  8036:16
  8068:17,23
  8069:2,7,1
  3,14,15
  8070:8,22
  8071:11

8075:7,9,1
5,22,24
8076:3
8093:19
8099:17
8100:16

CalISO
  8041:14

Campbell
  8046:9
  8056:10
  8060:7

Canada
  7925:10
  7931:24
  7932:4,5
  7939:1
  7941:3
  7950:19
  7955:23,24
  7956:10
  7972:2,12
  7973:23
  7974:25
  8004:19,25
  8005:12,16
  8006:18,25
  8017:1,5,1
  4 8025:7
  8030:9
  8036:17
  8045:8
  8050:3
  8061:19
  8071:12
  8102:16
  8131:17

Canada's
  7941:3
  7959:8

Canadian
  7930:16
  7974:21,25
  8022:7
  8089:24
  8153:16
  8185:12,23

**Canadian-
wide**
  8195:14

Canadiens

7962:21

cance 8065:7

cancelled
  8065:8
  8138:20

CanmetENERGY
  7926:11

canvass
  7961:5
  8041:22

cap
  8118:18,25
  8119:1

capabilities
  7994:8

capacity
  7936:3
  7940:19
  7980:24
  7981:1,5,6
  8024:14
  8029:18,25
  8033:7
  8059:8
  8084:20,21
  8088:23
  8089:13
  8116:12,23
  ,24
  8117:1,18,
  20
  8118:5,18
  8131:20
  8134:3
  8167:19,23
  8171:25
  8173:1
  8182:20,23

**capacity-
focussed**
  7959:6

capital
  7977:10
  8001:23
  8029:9
  8034:19,21
  8062:19
  8063:8,23
  8064:1
  8086:1

8141:4,12,
19 8144:17

capture
  7973:21
  8104:14

car 7937:1
  8104:14

carbon
  7973:21
  8083:18,21
  8104:11,12

card 8083:15

care 8090:6
  8107:2

career
  7926:13

careful
  8107:5
  8124:19

carefully
  7986:5
  8036:11
  8073:9

cares 7946:4

Carol
  7921:14
  8042:20
  8050:10,11
  ,14

carried
  7960:23

case 7970:6
  7980:1,5,1
  0 7986:4
  7996:1,6
  8003:3,5
  8008:9,24
  8009:24
  8012:7
  8025:2
  8038:22
  8041:13
  8069:7,24
  8071:4
  8087:8
  8094:23
  8099:7
  8103:23

8112:1
8115:25
8117:13
8120:22
8122:4
8125:20,21
8126:16
8129:25
8131:10
8142:14
8159:12
8160:19
8161:9
8162:19,20
8174:5
8179:20
8182:1
8191:14

cases
8018:19
8022:22
8027:22
8040:14
8072:22
8123:14
8128:7,9
8130:1
8149:2,3,2
2 8157:15
8189:21

catchy
7960:2,9

categorized
8039:1

category
7961:3

cause
7936:15
8063:13
8142:18

caused
7984:13
8054:24

cautious
8115:10

caveat
7997:17
8080:22
8164:16

caveats

7984:5
8171:19

Celsius
8015:2

cent
8109:8,24,
25
8160:6,8

centre
7926:11
7943:25
7945:18
7947:14
7950:20
8062:1
8189:13

cents
7932:20
7973:12,19
8033:14,19
8045:18
8046:15
8081:23,25
8091:16,17
8092:6,7,9
8109:4,10
8111:2,14,
16 8143:25
8144:1
8158:25
8159:6,9,1
4,21
8176:17

century
7942:2

CEO 8062:15

certain
8085:12
8088:16,17
8090:7
8118:18
8141:8
8157:17

certainly
7949:25
7952:14
7955:1
7956:25
7963:5
7972:25

7975:1
7976:21
7977:1
7978:4,24
7981:3
7983:3
7984:13
7985:5
7997:20
7998:3
8001:4,21,
22 8003:2
8022:11
8024:24
8031:12,16
8032:3
8035:3
8067:10
8084:25
8086:4
8088:5,19
8089:24
8103:20
8104:9
8105:22
8107:8
8111:17
8113:5
8114:23
8115:25
8120:24
8124:19
8125:25
8126:10
8131:14
8141:2,13
8142:7
8162:22
8166:10
8168:5
8169:9
8184:19
8185:7,16
8186:11,12
8195:24
8197:4
8198:20

certainty
8135:17

Certificate
7922:6

Certified

8199:19

cetera
7955:20
8007:5

chain
7944:12

chair 7929:9
7950:18
7960:10
7961:15,24
7975:5
7999:11
8104:17
8119:19
8130:9,17
8132:25
8194:12
8195:12
8196:8

Chairman
7925:7
7946:21
7947:9
8042:3
8150:3
8151:5,16
8198:9

Chairperson
7918:13
7925:3
7945:1,6
7946:9,24
7947:4
7948:3
7949:23
7950:1,10,
13 7960:18
7961:4,12,
17,22
7962:2,7,1
3 7966:20
7975:11,21
7987:2
7999:14,21
8000:6,12
8041:15
8042:8,15
8043:18
8049:11
8050:7
8053:25
8066:25

8067:3,7,2
1 8068:3
8071:5,8
8075:5,8
8105:2,10
8106:2,7,1
4 8119:14
8130:11
8133:1,6
8140:3,13
8141:21
8142:8,11,
21 8143:18
8145:11,17
8146:15
8149:17
8151:11
8183:12
8186:22
8189:1
8190:18
8194:8
8197:10
8199:1

challenge
7978:24,25
8130:5
8181:25

challenges
8048:4
8196:9

chance
8184:2

change
7937:19
7993:3,8
7994:4
7998:11,21
8003:19
8022:13,15
8032:12
8070:21
8148:14
8170:6
8188:6

changed
7934:16
7968:19
7996:11

changer
8032:17

changers
8035:4

changes
7942:17
7969:6
7993:23
8006:20
8027:1
8094:22
8141:17
8156:1,7,8
8188:4,20

changing
8019:20
8020:7,8
8035:7
8172:23
8187:6

channels
7979:6

character
8097:19

**characterist
ics**
8020:25
8120:21,23
8186:5

chart
7923:6,10
7981:13
7982:3,16,
17,18
7985:14
7987:9
7989:6,16
7990:6
7991:11
7995:21,24
8014:18
8017:20
8027:15,19
8028:10
8030:7
8031:1,4
8032:1
8070:24
8072:5,19
8076:21
8078:6
8148:18,19
8150:11,13

,18,24
8158:19
8167:8
8173:10
8183:1

charts
7990:8
8071:1

chasm 8032:2

cheap
8033:12
8188:11

cheaper
7938:24
8011:9
8030:22
8032:25
8063:4
8092:10
8100:7
8157:22

cheapest
7973:10,24
7977:7

check 8016:3
8075:20
8076:2
8085:9
8092:8
8131:23
8134:16
8138:6

cheese
7978:18

cheques
8065:8

Cheryl
8199:23

chief 8048:9

chillers
8007:2

China
7938:16

chock-full
7981:18

choice
7951:11

8156:12

choices
8021:25

choose
8024:5,17
8156:15

chose 7991:7

Christian
7920:6

Churchill
7945:21

churning
7937:25

**circumstance
s** 7983:24

Citi 7938:6

Citigroup
8028:6

city 8013:20
8027:8,9
8152:9,14,
16,18,20,2
5
8153:3,6,1
2

claim 8055:4
8056:21
8057:11

claims
8048:11,12

**clarificatio
n** 7961:5
7999:23
8151:25
8194:13

clarify
7949:24
7950:11
7976:8
7982:7
7987:3
7992:2
8000:4
8142:2
8174:24

clean
7939:18

7981:17
8046:25
8047:5,23
8137:25
8138:1,9
8188:21

clear
7981:17
7994:22
7998:20
8047:5
8142:16
8147:22,23
8149:16
8156:17
8172:4
8190:7,8

clearly
7963:22
7970:3
8007:17
8019:14
8062:11
8113:7
8120:22

client
7967:16
8103:17
8107:7

clients
7954:4,19
7955:2
7957:10
7960:24
7965:4,6,1
7
7967:12,13
7978:7,10
7979:12
8017:5
8153:25
8162:15
8196:25

climate
7933:4
7936:8
7943:22
7945:15,18
8013:19
8014:14
8016:4,12,
15,18

8025:11

climates
7933:7
8016:14
8017:11

clo 8027:19

close
7992:20
8010:23
8057:22
8065:12
8077:25
8080:2
8148:9

closed
8051:13

closely
7946:19
7956:12,14
7997:20
8096:14

closer
8123:24
8187:5

closing
8194:9

clothes
8007:3

cloudy
7943:18
8133:21

clue 8140:18

CO2 7977:6
8090:6,8

coal 7938:2
7973:20,21
,22
8028:25
8187:12

cod 8055:4

code 8009:24

codes
7926:15
7934:20,24
7986:8,16
7988:1,14
8004:5,17,

20,22
8005:1,2
8010:4
8174:8

coefficient
8014:20

coin 7933:2
7942:23
8068:15

cold 7931:19
7933:3
7936:8
7945:3,18
7964:3
8016:4,11,
14,15,17
8017:10
8068:24

**collaboratio
n** 7942:7

collapse
7992:10

collapsed
7935:8

colleagues
8000:9
8177:24

collecting
8023:8

College
7943:25

colloquial
8039:12

column
7987:17,18
,25

com 8045:23

combination
7971:13
8019:23
8021:14
8096:2

combinations
8155:15

combine
8030:15

combined

7937:11
8019:24

comes
7926:15
7938:5
7989:7
8008:21
8015:11
8033:18
8035:18
8037:24
8049:20
8098:16
8111:20
8143:9
8168:25

comfort
7997:8,9,1
4 8008:16
8192:7

comfortable
8043:9

coming
7946:13
7964:14
7981:10
7985:4
7989:16
8002:7
8004:3
8006:8,22
8007:7,11
8010:5,7
8011:1,21
8023:16
8029:14
8049:22
8068:18
8079:10
8097:2
8102:19
8104:1
8131:21
8199:3

commence
7925:15

commenced
7948:17

commencing
7925:1

commendable
7994:4
7998:11

comment
7945:1
7954:14,15
8183:19

commentary
8189:3

comments
7962:8
8043:2
8194:9

commercial
7937:7
7944:20
7955:18
8004:20
8007:2
8020:8
8025:1,4,5
,6,7
8027:12,25
8086:12
8117:25
8118:4,13,
15 8167:23
8168:6

**commercializ
ed** 7936:5

commercially
8057:8

commission
7940:23
7958:5
8069:14

commissioned
7933:17

Commissioner
8153:8
8154:24
8176:15

commit
8180:21

commitment
8042:25
8043:5

committed

8081:12

committee
8037:14,15

common
7933:25
7934:1
7983:13
8057:16
8088:6

commonly
7982:5
8121:13
8186:1

communicate
8020:4
8022:22

**communicatio
ns** 8019:25
8020:1

communities
7926:8
7931:8,9
7940:5
7943:2,8
7946:2
8049:19
8052:6
8054:16
8057:24
8063:10,24
8196:10

community
8043:22
8044:7,17
8046:19
8047:6
8049:6
8050:19,20
,22,25
8051:2,16,
17 8052:23
8053:19
8060:14,15
8062:5
8065:20
8066:11,19
8131:3

compact
8010:13,14

companies

8055:25
8095:22,23

company
7953:24
7958:10
8056:4
8119:24
8120:5
8124:3

comparator
7974:6

compare
7928:21
7969:2,10
7973:12,15
7983:3
8020:23
8021:3
8132:17
8156:4
8159:25
8160:16
8161:8,21
8162:23
8166:25

compared
7930:25
7974:11
8045:15
8091:17
8099:22
8111:9
8173:14

compares
8163:6
8164:12

comparing
8023:9
8155:21
8157:14,15
8158:1
8160:7
8162:7

comparison
8021:1
8134:18
8162:22
8193:13

comparisons
8020:19

8150:9

compelling
8033:13

compensate
8055:8

compensated
8054:23

compensation
8055:2,18,
22
8065:7,8

competing
8073:13
8104:2
8130:2

competition
8156:10

competitive
7977:11

competitor
8032:20
8033:22

competitors
8057:10
8187:1

complete
8064:10

completed
7929:1
7957:2
7974:20
8015:19
8061:23
8117:4,6
8185:14

completes
8199:2

completing
7957:3,4

complexities
8160:10

complicated
7938:22
7944:14

component
7961:2

8138:16

comprehensive
7954:12,19
7955:2,5
8036:25
8143:1
8195:1

comprised
8139:2

computer
8045:1

computer's
8045:23

computing
8019:24

con 8073:6
8135:6

Conawapa
7928:8
7929:12
7931:3
8055:19
8057:25
8159:3

concept
8020:19

concern
7934:3
7945:10
7981:2
7998:12,20
7999:3
8032:10
8034:20
8052:23
8065:24
8114:18
8145:19
8146:16,18
8155:5
8169:2
8179:23

concerned
8053:17
8090:15
8168:7,14,
18
8169:14,22

8175:18
8179:7

concerns
7962:9
7999:5
8051:13
8062:7
8065:11
8067:16
8088:24
8115:20
8126:11
8146:12
8188:24

conclude
8076:6,11
8084:11

concluded
8069:19
8074:4,22
8076:8,12

concludes
7977:18

conclusion
7926:4
7942:4
8064:21
8069:23
8071:18

conclusions
7924:11
8107:21
8108:7

concrete
8003:15

concur
8073:4

conditioners
8014:5

conditioning
8014:11

conditions
8062:12
8085:20
8086:5

condition's
8051:18

conduct

8052:4
8152:4

conducted
7956:22
7957:1
8071:16,18
8193:2

conducting
8037:13
8121:21

Conference
7932:4

confess
7962:20

confidence
8182:3

confidential
8048:21

confidentiality 8051:8

confirm
7990:21
8107:17
8133:23
8135:4

conflict
8046:21
8059:4

confound
8078:11,23

confused
7927:7
7928:17

confusing
7928:11

confusion
7949:10
7950:3
8194:19

congratulations 8199:8

connected
8098:17

Connecticut
8040:7

connection

8134:12,16

conscious
8126:17

consequences
8048:19
8190:9

conservation
8165:8,12,
16 8166:2
8178:16
8185:8

conservative
7995:10
7998:5
8002:20
8031:8
8102:8

consider
7933:21
8049:4
8080:18
8140:19
8191:10

considerable
8067:11

considerably
8185:7

consideration s 7925:25
7927:3
8120:17
8124:20

considered
7975:6
8116:13
8126:13

considering
8067:10

consisen
7997:4

consist
8055:17

consistent
7991:18
8118:2

consistently
7997:4

8130:15,16
8131:7,12,
16,24
8132:10,24

corner
7986:15
8015:8

corners
8048:2

corollary
8161:12

corporate
8056:10

corporation
8056:19
8191:9,23

correct
7951:3,21
7952:3,9,2
1
7953:3,25
7955:12
7956:3
7957:21
7959:1
7960:6
8060:25
8078:9
8087:21
8108:24
8109:18
8111:10
8122:25
8136:11
8187:25
8194:24
8199:19

correction
7949:21

corrections
7937:4

correctly
8042:21
8091:13
8148:20
8153:14
8171:21

correlation
8095:6

**corresponden
ce** 8056:18

**correspondin
g** 8066:2

cos 8009:17

cost
7927:9,23
7928:7
7932:15
7934:13
7936:9
7939:18
7940:1
7941:23
7942:24
7956:23
7957:11
7960:15
7973:11,16
8004:13
8007:18
8008:25
8009:18
8011:3,23
8012:3
8017:19,24
8018:13,16
,19
8025:16
8027:15,23
8028:12
8029:3
8030:21
8031:5,8
8032:19,20
8033:20
8037:23
8074:7,13
8080:17
8081:22
8091:15,22
8092:9,17
8093:13
8095:3,7
8099:24
8100:1
8102:9,10
8112:9
8114:23
8115:12
8116:3,25
8121:14

8123:4
8125:21
8131:1
8133:24
8134:3,5,2
3 8135:4
8136:21
8141:16
8155:7,16,
23 8156:15
8157:3,4,1
6,17,25
8158:1,2,2
4
8159:18,22
,24
8160:1,15,
16,17,21
8161:10,11
,21
8162:4,8,1
6,23
8190:25
8191:1,11,
19
8192:8,10
8193:5,11

cost-cutting
8057:17

**cost-
effective**
7939:20
7944:19

**cost-
effectiven
ess**
7957:6,7,1
1,15

costing
8081:25

costly
8156:6

costs 8008:4
8009:6,7,1
1 8023:6
8027:20
8028:10
8029:4,6,1
1 8031:3
8055:18,20
,21

8056:17
8057:16,23
8074:8
8083:16
8092:7
8095:15
8099:22
8108:16
8114:19
8115:2
8119:3
8123:6
8133:25
8134:4,5,9
,15,17
8135:6,10
8141:15
8152:17
8158:21
8159:2
8160:2,20
8161:7,8
8191:21
8192:9,10
8193:9

could've
8092:20

council
7932:17
7941:10
8052:17

councilor
8043:21
8044:6
8050:1,2

Council's
8073:20

counsel
7919:2
8046:10
8075:15
8140:4
8182:10

Counsellor
8065:18

counsels
8041:22

count 8079:6
8175:12

counted

8081:14

**counterbalan
ce** 8163:20

**counterintui
tive**
8013:12

counterparts
8069:15

counting
8040:17
8078:5

couple
7956:24
7963:16
7970:22
7995:5
8007:8
8011:11
8021:21
8022:25
8027:5
8030:16
8036:7,17
8085:7
8100:24
8106:20
8114:11
8140:6,25
8148:10
8194:13

coupled
8047:10

courageous
8065:22

course
7943:17
7956:18
7973:16
7977:9
7979:5
8002:4
8013:12
8014:12
8038:5
8048:5
8070:9
8136:22

Court 8061:2

cover 7966:4

7978:9
8007:1
8018:22
8103:12
8121:14
8123:4
8190:21

coverage
7978:9

covered
7938:11
7955:21
7991:12

covering
7955:15

covers
7965:20
8019:4

Craft
8105:17

cranny
8143:15

create
7927:6,12
7928:9
7929:9,12,
16,20
7943:5,6,8
8049:8
8101:7
8141:19

created
7927:10,13
,16
7930:14,24
7944:6,10
7945:18
7974:15
8048:1
8058:10
8059:15
8060:4,9
8185:8

creates
7929:21,22
7944:12
7971:12
7974:2

creating

7996:23

creation
7929:4
8183:20
8185:19

credibility
7964:12
7995:1
7998:16

credible
8166:18

credit
8033:18

Cree 8043:21
8044:7
8055:14,16
,23
8056:15
8057:15,19
8058:5,9,1
4,21
8059:14,24
8060:3

crisp
7981:17

critical
7968:21
7988:6
7991:24
8037:19
8173:3
8177:10

criticism
7985:1

criticisms
7932:23

cross 8085:6
8090:3

**cross-
examinatio
n**
7921:21,22
,23,24,25
7947:22
8106:17
8119:18
8130:15
8133:10

8151:14

**cross-
sectoral**
7965:23

crowd
8063:12

Crown
8191:9,23

crude 8094:2

cub 8119:1

culturally
8126:24

cumulation
8078:17

cumulative
8029:19
8078:14,21
,22 8179:2

cup 8145:14

curious
7933:18

current
8024:23
8030:16
8072:1
8080:9
8099:24

currently
7958:23
7986:7
7997:22
8006:23
8011:25
8027:7
8152:1
8153:15,24
8154:12
8180:12

curriculum
7952:24

cursor
8079:25

cursorily
8177:18

cursory
8166:8,16,

25 8167:4

curtailable
8119:5,10

curve 7941:1
7989:21
8004:10
8082:10
8084:14
8098:5
8155:1,2,3
8174:11
8180:6
8188:14,15

curves
7981:24
8033:21

customer
7953:21
7977:16
8018:3,4
8020:22,23
8030:21
8109:15,17
8110:23
8111:7
8122:16
8144:2
8178:19
8179:16
8193:5

customers
7977:17
7978:25
8008:15
8013:24
8020:24
8021:2,6
8027:10
8029:13
8034:23
8085:16
8086:10,12
,19,21
8087:1
8102:23
8110:18
8111:16,18
8122:20
8130:4
8134:23
8191:11

customer's
8100:7

**customer-
sided**
7953:18
7984:10

customized
8022:21

cut 7937:7
7966:1
7989:24
8048:2
8127:3

cuts 7989:23

cycle 7931:1
8135:7,13

cycles
7996:15

_____
D
_____

Dakota
7924:13
8102:11
8107:22
8108:9

dam 7929:21
7931:9
8044:19

damn 8022:16

dams 7929:9
7930:25
7940:15
7942:24
8047:2,12
8048:2
8049:5

Dangerfield
7932:13

dark 7987:23
8079:18

darling
8020:15

dashboard
7937:2,3

dashboards
7936:24

dashed
  8077:16,17
  8079:18

data 7948:25
  7973:14
  7979:15
  8017:2
  8019:15,22
  8020:3,4,2
  3 8021:15
  8023:9
  8025:4,8,9
  8027:3
  8038:10
  8080:6
  8092:2
  8125:16
  8126:4
  8176:24
  8179:25

data-driven
  8003:23

data's
  8092:3

date 7963:20
  8136:4
  8138:20
  8141:11
  8144:16
  8174:3
  8180:12,16

dated 8054:7
  8055:16

dates 8183:5

dating
  7958:17
  7977:24

day
  7925:8,11
  7931:22
  7943:18
  8014:8
  8096:15
  8099:1
  8125:6
  8133:19
  8198:12

days 7933:6
  7963:20
  8001:22

  8022:25

day-to-day
  8036:22
  8176:23

de 8158:5

deal 7967:16
  7970:12
  8038:9
  8051:14

dealing
  7952:16
  7960:22
  8099:3
  8105:24
  8112:12
  8116:12
  8121:9
  8122:5
  8127:13
  8128:10
  8129:9
  8142:13

death
  8187:18

debate
  8162:12

debt 8063:15
  8123:13,18
  ,20,22

decade
  7926:21
  8011:9
  8012:8
  8078:8

decades
  7926:5,14
  7935:17

decided
  8068:24

decides
  8048:23

decimal
  7928:18
  7988:23

decision
  8057:14
  8064:17
  8066:8

  8068:21
  8070:5
  8181:24,25

**decision-
making**
  8009:11

decisions
  7999:6
  8187:12

deck 7966:7
  7981:16

declare
  8147:15

decline
  7990:25
  8027:16
  8031:5
  8033:21
  8040:10
  8063:5
  8072:9
  8083:16

declines
  8029:3
  8031:9

declining
  8027:19,20
  8030:17
  8031:2
  8040:15,17
  8072:3
  8080:3

decrease
  7971:6
  8062:23

dedicated
  8086:9,14

deep
  8145:3,9

deeper
  8010:25
  8085:21
  8086:3

deepest
  8073:23

deep-rooted
  8054:20

default

  8058:22
  8060:1,6

defer 7981:5
  8141:11
  8181:9
  8182:3

deferral
  8144:17,19
  8145:2,3
  8180:3,9

deferrals
  8141:19

deferred
  8180:17
  8181:2

define
  7953:11
  8144:9

defined
  7943:16

defines
  8162:9

definitely
  7968:7
  7995:14
  8009:5
  8017:2

definition
  8161:14

degree
  7959:19,21
  8024:9

degrees
  8013:16
  8023:20,25

del 8136:7

delay 8136:3

deliberately
  8139:11

deliver
  8136:5
  8137:5,6
  8147:17,24
  ,25

delivered
  8135:24

delivering
  7978:5,24
  8127:10
  8129:12
  8146:24

delivery
  7926:16
  8135:19
  8136:7
  8137:4

Deloitte
  7927:23

demand
  7932:8
  7939:8
  7941:1
  7942:9
  7949:7
  7953:16,19
  ,20 7955:2
  7959:6
  7971:6
  7972:16
  7982:4,8
  8001:25
  8006:5
  8010:8
  8029:16
  8032:7
  8078:18
  8080:8,9
  8081:13
  8082:10
  8084:9,14
  8089:1,5,1
  3,14,19,23
  8101:3
  8103:22
  8116:7,9,1
  8,20
  8117:4,7,9
  ,18
  8118:15
  8155:2
  8156:8,11,
  14 8157:21
  8158:3

demand-side
  7926:1
  7927:18,19
  7930:24
  7931:11

7932:25
7933:15
7934:10
7935:7
7941:5,25
7952:19
7953:8,11,
13 7954:19
7956:20
7959:9,12
7960:12,13
7961:3
7964:24
7965:1,24
7971:3,16
7977:5
8008:14
8019:18
8031:21
8069:20,21
8094:6
8116:23
8118:18
8154:24
8155:9,12
8156:16
8195:2

Department
7926:9
7935:21
7940:21

departure
7988:11

depend
8111:19
8118:8
8131:9

dependable
8039:2
8076:11
8136:8,13
8137:13
8182:19

dependant
8083:12

dependent
8049:16,18

depending
7956:8
7973:17
8013:21

8024:16
8110:19
8124:21
8160:23

depends
8085:17,18
8118:25
8123:9
8125:15
8126:3,9
8140:11
8161:18
8162:13
8165:16,23
8184:15,16

deplete
8010:22
8037:25

depleted
8076:9
8097:4

depleting
8010:23

depletion
8097:3

Deport
8008:12

depr 8081:3

depressed
8081:4
8144:15

derive
7925:22

describe
8026:12
8159:15

described
7946:19
8016:3

describing
8107:2

description
7923:2
7924:2
8165:5

design
7926:16
7943:24

7955:11
7960:14
8119:25
8120:3,20
8124:15
8125:11
8155:6

designated
7948:11

designed
7955:14
8016:14
8017:10
8018:1
8124:9

designing
8120:9,18,
20,25
8121:1,4
8124:11

designs
8029:6
8121:8

desired
8175:13

desperately
8066:11

despite
8019:9
8060:17,20

destroy
8052:6

destroyed
7939:9
8054:17

destroying
8047:25
8049:9

destruction
8054:24
8066:15
8098:12

destrux
8066:14

details
7934:18
8013:4,6
8057:10

8059:12
8060:16
8063:19
8107:9
8119:6,9

determine
7961:6
8064:4

determined
8071:19

determining
7983:9

detriment
7973:7

devastation
8047:1

develop
7967:19

developed
8020:20
8062:22
8171:6,7

developing
7954:19
7955:2
7959:8
8027:7
8089:23

development
7918:10
7925:23
7927:6,10,
16 7930:17
7933:24
7942:5,7,1
3 7943:4
7960:13
7997:25
8046:19
8051:21
8055:18,20
8056:3,6,7
,17 8058:3
8059:21
8061:6,14
8063:3,17
8132:6
8141:25
8195:1

develops
8038:2

device
7936:21

DHP 8015:9

DHPs 8016:22

die 7978:7

difference
7975:23
7990:1
8095:25
8114:15
8142:22
8145:8
8150:14
8154:11,17
8155:9
8156:22
8157:6
8167:1,9

differences
7923:11
7980:7
7992:5
8120:10
8124:25
8150:25

different
7926:19
7930:12
7938:7
7956:25
7958:2,25
7965:16
7988:22,23
7992:3
8001:15
8008:4
8016:7
8018:18,19
8019:7
8022:18
8025:7
8026:21
8069:25
8070:4
8078:10
8089:15
8095:2
8098:3,4
8102:3

8104:5
8117:6,7
8121:23,24
8122:5,19
8123:11,13
8124:25
8125:7
8128:13
8129:18
8139:2,11
8152:19
8155:20
8157:2,12
8158:10,11,22
8160:24
8161:17,18
8165:25
8172:25
8173:1
8175:7,21,22,24
8177:9
8184:4
8186:2
8188:24

differentiating
8118:10

differently
8038:14
8074:24

difficult
8064:4
8066:8
8067:13
8128:12
8162:17

difficulties
7945:2

difficulty
8192:1

diffuse
8176:20,21

dilemma
7970:8
8035:22

diodes
7935:21

dip 7989:18

dire 7950:21

direct
7928:4,11,12,13,14
8020:10
8059:19
8088:10
8089:15
8121:17

directed
8123:1

direction
7927:25
7949:17,22
7982:20
7999:11
8142:15

directionally 8170:20

directions
7981:25

directly
7976:15
8006:12
8155:22

disadvantaged
8196:9,10

disappear
8098:6

disbursed
8061:22

disclose
8051:9
8052:1,16,21

disclosed
8051:11

disclosing
8063:19

discou
8145:4

discount
7984:23

discounted
8145:5

8171:9,11

discounting
8038:16
8169:25
8170:5,9,13

discrepancies 7986:5

discuss
7928:23
8065:11
8183:16

discussed
7997:21
8054:13
8106:23
8119:5

discussing
8196:21

discussion
7928:23
7968:22
8012:10
8075:14
8076:5
8135:17
8179:19
8194:22

discussions
7943:24
7964:2
8187:16

dishwasher
8008:20

dishwashers
8007:3

disincentive
8143:22
8144:4

displacement
8165:8,22,24 8169:1
8173:19
8178:16,20

displaying
8015:25

disposable
7977:9

disruptive
7938:21
8098:3

disservice
8146:25

distance
8024:4

distance-based
8024:3,4

distinction
7975:25
8027:21
8080:23
8132:20

distinguish
7931:17
7958:2

distress
8049:6

distribute
8016:16

distributed
7939:2
8034:4,8

distributing
8056:20

distribution
7931:5
8012:21
8016:17
8018:6

disturbing
8046:18

dive 8073:23

Diversification
8061:17

divide
7928:2

document
8105:13
8108:20,22
8177:18

documents
7931:14

dollar
8091:9
8093:5
8108:16
8128:4

dollars
7928:3,16
7929:5
7930:16
8011:4
8057:23
8060:15,17,20
8061:21,24
8062:13
8064:25
8065:3,6
8082:1
8109:5,17
8110:2
8111:8,10
8146:10
8184:9,12,24 8185:6

domain
7980:22
8195:22
8196:20
8197:2

domestic
7995:1
7998:17
8082:11
8084:9,14
8118:11
8144:2
8181:5,6
8182:3

domestically
8081:14

don 8141:14

done 7926:14
7936:23
7948:17
7949:1
7954:16,21,22
7955:5,22,23
7956:1,19
7957:1,10

7961:1
7963:2
7964:19
7967:24
7974:23
7978:1
7989:2
7991:12
7995:9
8015:13,18
8051:14,24
8064:2
8066:21,23
8073:3
8077:3
8079:8
8092:15
8095:13
8109:12
8124:11
8126:1
8140:23
8141:14
8162:21
8198:24
8199:4

door 8189:20

doors
8051:13

dormant
8168:13

dotted
7985:13
7989:9,11

double
7934:17

doubled
7934:10,15

doubling
8016:25
8029:15
8168:20

doubt
8032:17
8180:14

Douglas
7919:7
8046:9
8048:14

8056:1

downward
8073:8

dozen
7955:25
7958:17
7959:15,16
8071:3

dozens
7955:15
7956:19

Dr
8007:14,24
8008:3,23
8009:14,21
8091:1,21
8092:11
8094:8
8097:20,24
8098:19,22
8100:9
8108:15

draft
8039:17,19

drain
7936:20

dramatic
7980:8
7990:12
7993:4,18
7994:4
7998:11
8011:12
8027:16
8030:1
8087:11,21
8132:13

dramatically
7990:16
7999:4
8141:18
8188:5

draw 8108:17
8143:23

drawdown
8146:4

drawn
7924:12
8107:22

8108:7

dreaded
8048:20

drilling
8001:15

driv 7964:7

drive 7964:6
8003:7,19
8192:3

driven
7964:7
8019:15,23

drives
8001:13

driving
8029:10

drop 7990:16
7993:18
7999:4
8029:4
8077:18,19
8087:11

drop-off
8078:17
8087:21

dropping
7991:9
7996:18
8029:6
8172:24
8183:2

drops
7990:15
7991:20

dry 8019:16

dryers
8007:3

DSM
7921:8,17
7930:3,6
7931:16
7942:20
7944:5,10
7948:11,18
,19,20,22
7949:15
7951:13,19
7953:7

7957:20
7958:24
7959:3,5
7960:14,15
7962:15
7964:3
7967:13
7968:12
7969:9,21,
22
7970:20,23
7976:2
7978:5,24
7979:5,13
7980:4,14,
18 7982:5
7989:9,17
7990:16
7991:9
7992:3,6,1
0,12
7993:12
7994:4,24,
25
7995:8,10,
11,23
7996:7
7998:11,15
7999:9
8000:1,3
8001:5
8004:8
8017:11
8035:2,24,
25
8036:8,12
8037:6,22
8038:12
8039:1
8040:9,14,
18
8041:4,5,9
8068:10,21
8069:25
8070:2,10,
12
8071:6,8,1
7,19
8072:11,14
8073:2,10,
11
8074:8,15,
24,25
8076:8,13,

18
8077:10,21
8080:18
8081:5
8082:10
8085:11,15
,21,23
8087:5,11
8088:5
8091:13,15
8093:1
8094:12
8095:3,6,1
8,21
8099:1
8100:17
8101:18
8103:18
8104:6
8108:16
8109:22
8110:7,13
8111:14
8112:16,19
8113:19
8114:1,4,8
,10,12,25
8115:6,7,1
3,17,18,20
8116:6,8,1
3
8117:23,25
8118:5
8120:4
8124:12
8127:14
8129:9,12
8132:15
8135:20
8137:17
8138:15
8139:1
8140:6,23
8141:2,3,9
,16,19
8142:13,16
,18
8143:6,22
8144:5,14,
15 8145:21
8146:10,24
8147:1,13
8148:3,21
8149:9

8154:6,7
8156:21
8157:3,14,
16
8158:11,20
,24
8160:14
8161:13,14
,21,22
8162:2
8164:9,10,
14
8165:5,7
8166:19
8170:1,15,
16
8171:1,22
8173:12
8177:9
8178:14,15
8180:4,16
8181:16
8182:21
8183:1,5,1
8,20,24
8184:4,14
8185:20,22
8186:16
8189:4,11,
14,17
8191:1,6,1
2 8192:12
8195:13
8196:15,22
 	
DSM's
  7994:14
  8073:7
  8074:4
 	
DSN 8189:8
 	
ductless
  8012:11,13
  ,16,22
  8013:1
  8016:8,18,
  19
  8017:6,8,9
  ,25
  8018:25
  8019:8
 	
ducts
  8012:17
	Due 7947:19
	
	dug 7930:10
	
	dull 8021:24
	
	Duncan
	  7921:15
	  7947:18
	  8042:19
	  8054:1,3,4
	  ,7
	  8067:1,4
	
	Dunsky
	  7921:9,18
	  7923:3
	  7924:3,7,1
	  4,17
	  7925:9
	  7946:17
	  7947:10,23
	  7950:21,23
	  7951:6,10,
	  11,14,17,2
	  2
	  7952:4,10,
	  14,22
	  7953:4,8,1
	  3,23
	  7954:1,6,1
	  3,17
	  7955:7,13
	  7956:4,7,2
	  4 7957:22
	  7958:11,15
	  7959:2,14,
	  20,25
	  7960:7,11,
	  25
	  7962:14,19
	  7963:2,3,9
	  7966:6,10,
	  20 7967:4
	  7971:20,24
	  7975:4,14,
	  20 7976:7
	  7979:23
	  7986:13,18
	  ,22
	  7987:2,8
	  7990:19,22
	  7992:7,15,
	  23
	  7995:3,9,1
	  2
		7997:7,13
		7998:19
		8000:13,17
		,19
		8005:6,7,1
		0 8007:21
		8008:1,5
		8009:3,20
		8010:2
		8015:6,12
		8016:10,21
		8026:8,9,1
		6,19
		8034:1
		8035:21
		8038:25
		8039:3,6,1
		4 8041:16
		8042:5
		8068:8,11,
		15,16
		8071:5,7,1
		0
		8075:4,11,
		18 8076:1
		8085:8,17
		8086:15
		8087:7
		8088:2
		8089:2
		8090:2,4,1
		0
		8091:20,25
		8092:19
		8095:16
		8097:22
		8098:18,21
		,24
		8100:11,23
		8104:19
		8106:20
		8107:4,24
		8108:1,25
		8109:11,19
		8110:4,11,
		15,21
		8111:5,11,
		17 8112:25
		8113:4,16
		8114:6,9
		8115:16
		8116:15
		8118:6,22
		8119:8,13,
			20,21
			8120:6,12,
			19
			8121:6,11
			8122:7
			8123:7
			8124:7,13,
			17 8125:14
			8126:3,8
			8127:5,17,
			22,25
			8128:17,21
			,23
			8129:22
			8130:8,10
			8131:5,8,1
			3,18
			8132:9,22
			8133:12,13
			,17,20,22
			8134:2,9,1
			4
			8135:1,8,1
			2,21
			8136:6,14,
			18
			8137:6,10,
			15,19,23
			8138:3,12,
			17,21,25
			8139:17,21
			,24,25
			8140:3,11,
			24
			8142:4,10,
			20,23
			8144:7
			8145:15
			8146:14,17
			8149:19
			8150:3,5
			8151:16
			8152:2,13
			8153:4,17,
			20,23
			8154:8,15
			8155:25
			8156:24
			8157:9,11
			8158:19
			8159:4,11,
			19 8160:18
			8161:16
			8163:2,5,9
				,13,16
				8164:1,3,7
				,11,15
				8165:11,15
				,20,23
				8166:4,8,1
				5,20
				8167:3,11,
				18
				8168:1,5
				8170:3,7,1
				2
				8171:10,16
				8172:2
				8173:13,18
				,25
				8174:4,12,
				19,23
				8175:6,15
				8177:7,10
				8178:3,7,1
				0,21
				8179:4,11
				8180:7,10,
				22
				8181:4,8
				8182:14,15
				,24
				8183:6,9,2
				2 8187:14
				8189:9
				8190:24
				8191:3,13,
				18
				8193:17,21
				8194:1,14,
				23
				8195:5,9,1
				6,20,23
				8196:2,11,
				18,24
				8197:7,19
				8198:1
				8199:3
				
				Dunsky's
				  7950:22
				  7951:1
				  7986:2,15
				  8104:25
				  8107:19
				
				duplicate
				  7964:18

durable
7945:23

during
7947:17
7954:8
8102:24

duty 8050:1

dwell
8145:25

dying 8048:1

dynamic
8176:6

dynamically
8176:4

———————

E
———————

earlier
7941:9
7947:9
7972:22
7983:4
7991:19
8004:1
8010:10
8084:23
8089:16
8101:2,12
8108:18
8111:21
8153:8
8169:24
8176:16
8178:14
8185:1

earliest
8072:1

early 7981:4
7990:14
8047:3
8049:16
8054:15
8063:3
8084:13
8174:15
8194:18

easier
8029:7,12
8090:20
8092:3

easily
7994:19
8012:22
8038:8
8085:1
8123:23

easy
8094:3,4

Ecobee
8022:6

econometric
8186:3

economic
7927:3
7949:4,6
7977:8
7994:23,25
7998:15
7999:24
8009:7
8051:21
8055:13
8056:12
8060:10,20
8061:17
8081:5
8082:10
8088:4
8154:25
8155:2
8161:13,14
,21 8162:9
8180:16
8186:3,5
8191:6

economically
8062:5
8063:3
8118:21

economics
7950:5
8044:13
8091:7
8095:19,20

economies
7971:7,8
8098:14
8099:13,19
8131:6,15

economist

8091:8

economy
7932:7,18
7941:10
8047:15
8081:25
8082:5
8104:8
8184:16
8186:14

education
7926:17
8051:21
8123:11

effect
7991:25
8007:7
8115:17
8123:5
8157:23
8175:14

effective
7934:13
7940:1
8004:13
8011:24
8012:3
8080:18
8126:6

effectively
8039:3
8069:22
8073:12
8103:22
8156:1
8158:5
8192:14

**effectivenes
s** 7956:23
7957:12
7960:15
8074:7
8141:16

efficiencies
7960:23
8013:9,11
8131:4

efficiency
7924:4,16
7926:24

7930:7,15,
25
7932:3,9,1
2,15
7933:23
7935:11
7936:16
7937:11
7941:12,21
7942:3
7945:25
7953:17
7954:4,22
7955:15
7957:13
7958:12,13
,16
7959:5,12
7960:19
7961:2
7964:24
7970:14,15
7971:7,16
7972:3,7,1
0,17,23
7973:11
7974:2,11,
16,21
7975:16
7977:4,24
7983:14
7996:15,20
8002:2,10,
16 8003:20
8005:1,25
8006:24
8007:9
8011:5,8
8014:21,23
8020:14
8040:12
8041:1
8069:11
8071:3
8072:12
8089:4
8116:20
8117:21
8167:16
8184:12
8185:9
8188:10
8192:17
8193:23

8194:3
8195:3

efficiency's
7972:14

efficient
7945:23
7946:5
7958:11
7971:14
8001:7,8,9
,14

effort
7946:14
7980:4
7999:9
8086:9,14
8087:11
8112:1,3
8114:21
8139:13
8141:9

efforts
7934:10
7935:7
7959:6
8121:23

eggs 8179:24

EICs 7961:25

eight
7932:20
8046:11
8091:3
8097:23
8111:2,8
8144:1
8159:6,20
8160:8
8164:9,17

eighteen
7926:8

eighty
7930:15
8025:6,17
8046:14
8109:4
8110:2

either
7941:14
7956:10

7971:6
7985:11
8002:5
8052:16
8074:22
8079:1
8112:1
8125:18
8126:6
8149:2
8157:7
8192:25

elders
8198:13

elected
8044:6

electric
7923:7
7936:13,14
8012:18
8028:21
8129:10
8150:12,19

Electrical
7939:8

electricity
7932:16
7933:1,3
7938:14,25
7939:12,18
,21
7940:11,25
7978:19,20
7979:3
8006:5
8007:10
8015:4
8030:16,23
8036:20
8165:18

electronic
7924:17
8197:5,21
8198:2

Elenchus
7933:16,25
7934:2
8072:24,25
8075:15
8154:4

8170:21

eleven
7991:20

else 7989:4
8010:24
8049:12
8091:11
8132:21
8197:12

else's
8127:4

elsewhere
7956:11
7967:14
8071:13
8088:6
8132:1
8186:18,20

emanates
8066:16

embarrassed
8142:5

embarrassing
8040:22

emerging
7960:4
7964:25

emissions
7977:6

emphasis
8132:7
8139:13

emphasize
8176:3

employment
7924:3
7925:25
7927:9,19,
25
7928:2,4,5
,17 7929:6
7930:2,4,6
,13,21,23
7931:1,11
7942:9
7943:7
7944:6
7974:3,20

7975:15
8047:13
8051:21
8183:23
8184:4,7,8
,9
8185:11,19
,22

empty
8046:20
8049:6

enabled
7936:24

enables
8021:15

enabling
8020:9

encourage
7931:13
7934:21
7936:23
7938:23
8026:25
8090:7
8169:6

encouraging
8017:12

end-uses
8086:18

ener 8089:3

energies
7960:22

energy
7924:4,15
7926:6,9,1
5,24
7928:21
7930:6,15,
24
7931:14,18
,19,20,25
7932:3,5,9
,15,24
7933:8,19,
22
7935:11,18
,22,23
7936:24
7937:11,20

,25
7938:5,6
7940:21
7941:12,21
7942:24
7943:12,13
,16,17
7944:24
7945:3,23,
25
7946:1,5
7953:17,23
7954:4,5
7955:15
7957:13
7958:10
7959:5,12
7960:19,23
7961:2
7964:24,25
7970:14,15
7971:12,14
,15
7972:3,4,1
4,16,17,22
7973:3,5,7
,10
7974:2,16,
21 7975:16
7977:4,9,2
4 7978:14
7980:23
7983:14
7996:15
8001:14,24
8002:2,16
8005:1,25
8006:12,24
8020:13
8021:18
8023:4
8024:20
8034:25
8039:2
8040:12,25
8041:7
8046:25
8047:24
8049:9
8059:8
8069:10,13
8081:6,16,
20,22
8089:3,4,9

8116:6,16,
18,20
8117:21
8128:10
8136:8,13
8137:13,25
8138:2,10
8167:16
8172:1,22
8182:19,22
8184:11
8185:8
8188:10
8192:17
8193:1,23
8194:3

**Energy-
Efficient**
7932:18
7941:10

energy-only
8172:20

EnerNOC
7933:15,24
7934:1
7984:2,5
7985:1
8011:22
8019:9
8024:22
8162:25
8163:19,20
8178:15

engage
7981:8

engaging
7996:16

engineer
8013:5

engineering
7944:13,16

engineers
8013:7

England
8036:14,15
,18,21
8041:14
8068:20
8069:3,19
8070:22

8071:11
8074:11
8100:15

English
8043:23
8145:12,18

enormous
7942:14
7976:12
7991:8
7995:25
8081:16
8091:25
8093:2
8104:3

ensure
7971:5
8002:8
8036:19
8066:23
8068:25
8112:3
8134:22
8148:12
8153:7

ensuring
7980:13
8021:1
8155:17

entail
7956:6,7

entailed
8152:12

entails
8152:1
8165:5

enter
8105:14

entered
8150:15

entering
7938:7,8
8000:20
8059:9

entire
7978:9
8012:6,21
8018:5
8038:19

entirely
8096:4
8173:21
8179:17
8187:9

entities
8056:10
8058:6
8060:9,16
8150:1

entitled
8183:13

entity
8055:24
8058:20
8097:17

entrance
8021:22

envelope
8023:13

environment
7945:3,8
7967:1
7970:13
8047:2,15,
25 8049:10
8096:23

**environmenta
l** 7926:6
8038:6

environments
8128:8

equal
8030:22
8155:10

equally
8087:18

equation
7953:21
7965:1
7980:23

equipment
7936:6
7944:17
8004:7
8026:2,4
8135:14

equity

8058:7
8085:14
8086:7,11
8111:23,25
8122:14,18
8172:16

equivalent
8036:15
8091:18

ERA 8075:23

Ernie
8046:13
8055:3
8056:4

error
7985:25
8000:7

especially
8030:12
8035:11
8038:9
8099:3

essential
8035:19

essentially
7953:14,20
7965:20
7971:4
7981:13
7985:10,19
7986:23
7988:14
7989:13
8004:8
8014:3
8017:22
8020:19
8030:18
8037:5,18
8038:18
8069:15
8070:1,23
8071:22
8072:7
8074:11
8077:10,22
8079:22,25
8094:10
8096:8
8101:4
8113:1

8121:14
8152:23
8168:10,16
8185:13

established
8056:10
8059:18
8110:18

Establishing
7960:2

estimate
7927:22
7935:22
8081:18

estimated
7930:4,13

estimates
8099:25
8132:4
8170:6

et 7955:19
8007:5

ethics
8052:4

Europe
7926:22
7930:9,11
7956:11,16
8032:11

European
7937:17

evaluate
8124:6
8156:21
8157:3
8159:16

evaluated
8149:21
8154:13

evaluates
8154:12

evaluating
8155:23

evaluation
7957:23
7958:1,4
7960:3
8088:7

8096:12
8124:4,8
8154:7

evaluations
7958:3,7
7960:17
8088:13

evaluator
7957:18,25

evaluators
7957:24
8149:23

evening
8199:12

event
8031:10

eventual
8153:11

eventuality
7943:2

eventually
7942:25
7999:1
8008:16
8010:17
8054:22
8154:22
8160:3

everybody
8194:11

everybody's
7947:5

everyday
8172:10

everyone
8004:15
8112:4,8
8188:9
8199:12

everyone's
8068:4

everything
7926:14
7934:12
7948:13
7953:19
7964:23
7965:2

7967:5
8007:1
8053:10,21
8139:4

evidence
7924:10
7925:9
7946:18
7950:6,20
7969:12
7984:13
7986:24
7988:9
7989:7
7993:15
7994:16
8002:13,17
8016:1
8017:3,22
8018:14,15
8028:4
8031:4
8037:22
8042:5
8069:21
8085:9
8105:1,25
8107:20
8108:5
8113:18
8132:7
8133:24
8134:19
8135:5
8158:20
8164:6,23
8189:2
8190:13
8198:23

evolution
7980:10
8027:15

evolve
7993:14
8077:9
8083:14

evolved
7968:14

evolves
8014:23
8098:23

evolving
8094:17

exactly
7969:3,7
7970:9,16
7977:3
7987:8,9
8023:21
8044:5,17
8087:5
8090:12
8148:10,11
8149:24
8156:25

examination
7922:4
8085:7
8194:16

**Examination-
in-chief**
7921:11,19
7962:25
8068:13

examine
8006:19
8036:10
8037:15
8069:12,16
8074:22
8140:20
8152:14,15
,19 8153:6
8155:15

examined
7984:6
8152:24
8154:19

examining
8112:21

example
7934:19
7936:20
7943:23
7967:16,20
7974:14
7978:11
7982:7
7983:16
7984:8,15,
23 7997:25
8006:17,23

8008:11
8010:20
8011:22
8012:1
8014:17
8015:1
8019:12,15
8020:12
8021:17
8022:22
8025:11
8026:3
8031:18
8033:9
8071:13
8073:15
8081:3
8083:3
8086:2
8088:7
8089:10,17
8093:12,19
8094:19
8109:2,7,2
2 8110:1
8111:9
8112:21
8116:8
8122:11,21
,22
8125:1,8,2
5 8126:15
8128:7
8130:21,23
8141:7
8152:17
8160:4
8167:15
8168:6
8172:12
8188:7
8189:15
8192:5

examples
7935:19,20
7970:5
8003:8,9,1
5 8004:2
8019:19
8020:12
8036:7,13,
17
8098:3,20

exceed
8093:22

exceeded
7941:14
8149:2

exceedingly
8128:12

Excel
8106:21

excellent
7946:14
8012:24

except
8040:14

exception
8137:11

exceptional
8094:23

exceptions
8122:10

Excerpts
8075:11,13

exchange
8108:14

excited
8010:13

exciting
8019:17

excluded
8002:24
8019:9

excluding
7988:15

exclusively
8082:13
8160:20

excuse
7990:3
8041:15
8043:25
8075:5
8124:22

excuses
8044:14

executives

7938:20

exercise
8050:1

exhibit
7923:2
7950:6
7951:5,20
7952:24,25
7994:20
8075:23
8076:2
8106:10
8108:17,19
8150:18,24
8158:13
8164:23
8167:7
8177:12
8182:8,9

exhibits
7921:3
7923:1
8150:8,16

exist 8013:2
8062:1

existed
8055:23
8066:12

existent
8139:19

existing
7926:7
8103:25
8158:24
8169:15
8171:5

exists
8033:18

expand
8054:11,12
8089:24

expanded
8085:22

expect
7948:13,22
7949:2,16,
20 7994:7
8035:18
8085:12

expected
  7986:7
  8002:22,25
  8006:2
  8011:2
  8029:4
  8088:18
  8110:7
  8176:1,2

expecting
  7982:8
  8146:11

expenditure
  8063:8

expenditures
  8063:8,23
  8167:1

expense
  8048:11

expenses
  8044:19
  8048:2

expensive
  7927:12
  7929:4,7
  7939:12
  7943:4,6
  8047:12

experience
  7926:6,20
  7955:11
  7966:24
  8002:1
  8026:13
  8075:16,22
  8081:9
  8090:17
  8095:10
  8118:3
  8124:11
  8179:14
  8183:21

experiencing
  8047:1
  8085:12

expert
  7938:11
  7952:19
  7959:11
  7960:11

7961:15
7962:14
8044:13
8062:23
8066:13
8134:21
8154:5

expertise
  7942:11
  7954:12
  8064:23
  8065:6
  8112:14
  8151:20

experts
  7933:19,22
  7934:8
  8057:17

expiry
  8173:23

explain
  7981:15,20
  7992:4
  7993:25
  8094:5
  8116:11
  8191:16

explains
  7985:6

explanation
  7992:11

exploding
  7938:15

explosion
  8020:5
  8022:3

expo 8062:25

export
  7929:2,21
  7939:15
  8032:21
  8044:13
  8057:4,10
  8062:22,25
  8063:6,18
  8064:24
  8065:5
  8081:3,14,
  15 8082:14

8083:4,7,1
7 8084:10
8101:8,9
8103:16,17
,23
8135:23
8144:14
8145:10

exported
  8083:9

exporting
  7943:20
  8103:24

exports
  8109:3

expose
  8066:12
  8132:12

exposed
  8187:3

exposes
  8035:7

express
  8062:7
  8149:12

expressed
  7982:4

expression
  8145:11,13
  ,18

extend
  7991:6
  8077:13
  8078:8,25
  8080:5

extended
  7991:12
  8077:20
  8078:3
  8079:19,21
  8080:7,8,1
  0 8084:13
  8116:1,2
  8161:5,6

extensions
  8087:20

extensive
  8015:21

8162:21

extent
  8083:18
  8086:3,9
  8100:19
  8101:14
  8104:2
  8121:15
  8122:22,23
  8141:6
  8143:22
  8163:9
  8190:11
  8191:22

extra
  8177:24

extraordinar
  ily
  8011:18
  8019:16
  8028:1
  8147:10

extraordinar
  y 8017:6
  8022:8
  8025:20
  8028:18
  8029:9
  8097:1

extreme
  7933:7
  7943:21

extremely
  7968:13,20
  7978:14
  7990:23
  7991:13
  7996:16
  8013:9
  8027:23
  8081:11
  8096:3
  8103:5
  8114:20

eyes 8189:6

───────
     F
───────
face 7979:1
  8104:11
  8196:22

faced 8064:3
  8065:16
  8099:7
  8181:24

facilitate
  8152:21

facilities
  8020:9

facility
  8104:14

facing
  8067:12

fact 7933:8
  7979:8
  7981:18
  8009:18
  8011:17
  8012:5
  8047:24
  8053:8
  8060:23
  8084:20
  8098:14
  8129:15
  8139:4
  8143:21
  8145:20
  8154:3
  8180:5
  8187:11

facto 8158:5

factor
  8009:11
  8090:15
  8173:1
  8187:15
  8189:14

factors
  8064:8
  8083:12
  8085:19
  8101:12
  8118:10
  8121:3
  8125:10
  8128:14
  8161:24
  8192:13

Factory

8058:15

facts 8084:5

Fahrenheit
8015:1

fail 8048:23

failed
8060:1

failure
8058:22
8060:1,6
8147:15

fair 7957:23
7959:10
7973:17
7974:2
8007:11
8010:18
8026:20
8078:2
8087:1
8110:20
8111:12
8115:15
8131:24
8144:8
8159:7
8162:18
8169:2
8177:4
8183:3
8184:22
8188:1
8193:4,13

fairly
7936:21
7977:24
8075:10
8112:12
8117:24
8118:2
8127:15,19
8172:14
8178:25

fairs
8030:10

faith
8065:25

fall 7932:4
7946:4

7983:12
8077:6

falls
8000:25
8102:17

familiar
8008:8
8119:6,9
8159:1
8174:10
8185:25

famous
8104:14

fancy
8174:15

fantastic
7979:14
7980:9
8010:20

**fantasticall
y** 8021:10

farms 8028:1

fascinating
8003:12

fashion
7996:17

fast 8090:12

faster
8035:1
8176:8

Fast-forward
8055:7

favourable
8117:2

fear 8003:24

fears
8032:11

feasible
7934:12
7998:3
8118:21
8179:9

February
7964:6,9
7968:17
8077:1

8079:17

fed 8045:3

federal
8005:15
8006:25
8033:17
8061:9
8185:23
8186:9

Federation
7961:19
8045:9
8130:12

feedback
7936:25
7937:4
8023:17
8088:13

feel 7979:9
7981:8
8043:9
8138:24

feet 8088:15

fell 7929:9

felt 8175:10

fence
8032:15

Fernandes
7919:10

field
7954:3,16
7967:21
8001:17
8026:14

fifteen
7935:3,6
7941:6,13
7946:3
8002:10
8009:2
8021:13
8028:17
8036:1
8040:1
8060:11
8138:15
8144:23
8166:10

8184:13,20
8188:2,19

fifth
7977:14
7985:23
8162:2

fifty
8021:22
8045:14
8094:20

fighting
8044:16
8066:10

figure
7924:9
7935:22
8036:11
8095:1
8107:19
8108:3

figures
7987:3
8045:19

file 7948:13
7968:13
8058:22
8060:1,2,6
8197:20

filed
7948:17,21
,22
7949:5,8
7950:5
7951:25
7952:12,23
7968:16
8107:20
8108:18
8164:13
8166:14
8197:15

filing
7948:15
8027:19
8138:5
8163:1

fill 8032:3

final
7927:23

7937:22
7987:24
8076:16
8087:5

finalize
8039:18

finally
8004:1
8026:10

finance
8027:8
8123:12,16
8153:1

finances
8030:21
8048:18
8049:4

financial
7948:21
7949:14
7999:24,25
8000:2
8044:15
8045:4,11
8048:6
8049:1
8058:18
8059:12
8122:13
8149:7
8153:6

financing
8027:10
8029:8,9,1
0,12
8030:22
8063:15
8152:19

finding
7992:5
8025:22,24
8037:21
8125:5

findings
7975:2

finds 7986:5
8037:18
8077:9

fine 8074:19

8119:9
8122:5
8153:23

fingers
8003:10

finish
8003:20
8043:4
8087:23

finished
8042:7
8198:14

FIPA 8044:18
8045:9

fire 8088:15
8104:9

firm 7952:8
7955:14
7964:21
7966:13,14
8006:16
8020:15
8025:2
8056:8,9
8152:2
8185:10

firms 8098:4

first
7927:21
7930:22
7931:8
7938:1
7943:9
7959:8
7963:16,19
7970:25
7977:5
7982:1
7989:20
7990:24
7994:2,6
7998:13
8010:14
8020:12
8036:21
8047:21
8053:2,9
8054:17,19
,22
8055:8,9,1

1 8058:16
8062:6
8063:23
8065:1,2
8080:21
8089:3
8092:22
8099:20
8105:24
8114:11
8124:12
8126:7
8127:7
8138:1
8139:8
8148:6
8150:11
8152:15
8173:18
8183:14,24
8188:25
8199:7

FirstFuel
8025:3

firsthand
8066:14

five
7929:2,16
7933:22
7940:12,16
7977:2
7985:12
7987:5
7988:2
8003:7,14,
15 8021:23
8023:7
8024:9,10
8028:17
8029:21,25
8032:23
8033:5,14
8040:21
8046:5,14
8051:6
8052:13,14
8073:20
8176:17
8198:17

fixed
8085:10

flag 7984:20

flame
8093:13

flash 8167:7

flashed
8158:14

flat 7989:13
8040:7
8070:23
8080:2
8082:10
8084:14
8103:22
8112:21
8180:6

flattened
7982:11

flattening
8101:4

flawed
7942:6

flaws
8132:13

fleet
8025:8,18

fleets
8025:5

flexibility
8148:12

flickering
8010:15

flip 8074:12

flipped
8068:14

flood 8055:4
8062:9

floored
7927:15

flow 8010:21
8183:18

flower
8016:6

flowing
7976:2
8001:24

8195:13

fluorescent
8010:14

fluorescents
8010:13

fly 8168:22

flying
8017:15

focus
7930:19
7972:24
7980:13,16
7986:25
8037:3
8094:4
8124:21
8142:18
8156:3

focussed
7954:9
7965:6
7976:11
8113:19
8116:5
8172:19
8175:17

focusses
7923:6,10
8150:11,13
,18,24

focussing
7980:23

fold 8028:17
8168:15

folks
7993:10,12
8169:10

follow-up
8156:19

foot 8025:15

footing
8155:10

forcefully
7968:6
7970:3

fore 7991:25

forecast

7932:5
7940:9,10
7982:18
7989:5,8,9
,10,12,14
7992:1,4,5
7995:2
7997:5
7998:17
7999:5
8030:16
8039:16,17
8041:3
8057:4
8070:23
8071:25
8072:2
8078:18
8079:9,10,
12,13,16,2
2 8080:2,5
8087:9,10
8113:21
8154:19,20
8155:24
8179:22

forecasting
8064:24
8154:6

forecasts
8030:17
8035:11
8037:5,13
8038:17
8039:19
8079:19
8080:14

foremost
8065:2

forensic
8060:14

forget
8148:24
8168:8

forgetting
7979:24

form 8178:2

former
8062:15
8149:16

forms 8163:1
  8178:16
forth
  7987:15
  8035:24
  8050:17
  8072:25
  8076:25
  8129:14
  8134:13
forty
  7929:22
  8045:13
forty-eight
  8046:6
forty-two
  8046:5
forum
  8065:11
forward
  7933:13
  7942:17
  7963:22
  7968:23
  7969:11,18
  7997:15,16
  8004:3
  8065:13
  8087:24
  8088:1,3
  8138:16
forward-
  going
  8073:8
forward-
  looking
  8070:1
fossil
  8138:9,10
foundation
  7953:24
fourteen
  7973:19
  8081:19,20
  8082:2
  8144:24
  8145:1
fourth

7969:15
8019:12,15
8076:15
Fox 8058:14
fracking
  7931:23
  7938:3
fraction
  7930:17
  7931:1
  7933:2
  7988:23
frame
  7991:10
  7994:1
  8028:14
  8175:14
  8178:24
  8180:21
  8181:1,10
  8190:6
framework
  8088:6,9,2
  0 8092:17
  8093:12,13
  ,14
  8147:18,20
  ,23 8149:6
  8189:12
  8190:2
  8191:19
frameworks
  7957:12,15
frank
  8090:14
frankly
  7978:6
  7980:9
  7992:25
  7994:7
  8009:12
  8013:4
  8018:20
  8073:15
  8082:5
  8090:14
  8093:24
  8118:8
  8123:13
  8165:25

8175:20
8186:25
free 7981:8
  8055:5
  8138:24
freedom
  8138:11
frees
  7977:10
French
  7963:11,12
  8145:18
fresh
  7993:23
fridge
  7931:19
fridges
  8086:24
friend
  7947:25
  8050:18
  8052:7
  8104:18
  8105:17
  8194:18
  8196:8
front
  7969:23
  8000:24
  8003:4
  8005:18
  8136:10,19
  ,21 8137:8
  8139:5
  8171:6
  8172:10
  8176:10
  8178:18
fuel 7984:9
  8138:9,10,
  16
  8165:8,17
  8178:17
fuels
  8165:19
fulfill
  8042:25
  8043:5

8064:13
fulfilled
  8062:8
full 7978:8
  7979:2
  7991:7
  7993:13
  8061:6
  8064:22
  8070:11,13
  8073:24
  8121:14
  8155:12
  8161:21,22
  8164:18
  8175:8,9,1
  0
fully
  7949:15
  8000:1,2
fun 7995:13
functionalit
  ies 8022:7
fundament
  8155:9
fundamental
  8081:7
  8145:8
  8154:17
  8156:22
  8157:6
  8160:11
  8164:20
fundamentall
  y 8000:21
  8001:5
  8009:8
  8032:12
  8038:7
  8070:4
  8082:19
  8095:24
  8157:15
  8161:17
funded
  8063:15
funds
  8061:7,11
furnace

7936:16
8024:16
8146:3
Furthermore
  8063:10
future
  7926:3
  7932:5,6
  7935:8
  7937:23
  7939:14
  7994:14
  8001:2
  8003:1
  8029:2
  8035:7
  8036:12
  8037:2
  8055:18
  8056:17
  8070:3,24
  8078:5
  8080:19
  8088:24
  8100:22
  8144:16
  8145:4
  8182:2
future-proof
  7939:25
future-
  proofing
  7943:1

―――――――
        G
―――――――
GAC 7919:15
gain 7942:15
gained
  8010:19
  8026:13
gains
  8094:12
game
  8032:13,17
  8035:4,7
  8100:5
  8102:21
  8153:9
gamut

7955:22

Gange
7919:15
7950:16,17
7951:8,17,
23
7952:5,11,
16,23
7953:6,10,
22
7954:2,8,1
4
7955:4,10
7956:1,5,2
1 7957:17
7958:8,13,
22
7959:10,16
,23
7960:1,10,
20 7962:17
7963:2
7975:4
8003:25
8068:8
8104:18

gap 8041:2
8091:23,25

Garson
7921:13
7947:19
8042:19
8043:15,16
,19,20
8044:25
8045:25
8046:2
8049:12,14
8060:21
8065:18
8066:10
8067:19,23

gas
7928:23,24
7932:1
7936:16
7938:3
7973:1,20
7974:8,9,1
1
7978:20,21
7979:3

8001:15
8028:24
8063:4
8083:14
8101:15
8129:10
8130:2
8165:18

gather
8120:3

GDP 7932:8

Gee 8127:25

Geez 8102:7

general
7983:22
8002:12
8052:9
8058:11,21
,23
8059:1,24
8060:5
8061:1,5
8121:8
8122:1,4

**generalizati
on** 8124:18

generalize
8123:24

generally
7953:10
8131:1
8137:18
8189:4
8191:4

generated
7938:14
8140:10

generates
7943:17

generating
8054:15,17
,20,25
8055:12
8058:7
8091:18

generation
7928:24
7940:17

7972:6
7974:3,6
8001:25
8034:9
8109:3
8110:13
8111:16
8130:22
8131:3
8141:3
8159:18
8160:17
8181:2,9
8187:12

geographic
7931:5

geographical
8120:10

geography
8004:18

GEOptimize
8047:9

George
7919:20
7921:22
7961:14
8119:18,19
,22
8120:8,13,
25 8121:7
8122:3,24
8124:2,10,
14 8125:12
8126:2,5,2
0
8127:12,18
,23
8128:15,18
,22
8129:2,7
8130:7

geothermal
8012:20
8019:2,3

Gervais
8056:8

gets 7928:11
7931:21
7932:13
8023:25

getting
7971:13,14
7984:12
8005:18
8019:13
8084:19
8089:9
8094:14
8100:5
8128:11
8141:1
8170:19

gifted
8177:24

gigawatt
7988:21
8110:8
8136:1,9
8170:16
8172:15
8178:25

Gio 8016:2

given 7994:8
7995:24
8013:18
8014:14
8016:9
8067:13
8094:23
8100:18
8103:2
8131:25
8135:22
8148:13
8149:23
8156:2,3
8157:17
8186:14

giving
8124:5
8129:2
8189:15

glad 7964:7
7980:25
7988:10
8186:11

glazing
7937:8

glitch
8040:22

global
7927:1
8030:8

globally
7937:20
7938:15
8189:2

Globe
7932:11

GMT 7939:6

goal 7996:11
8086:6
8142:17
8165:16
8172:18

goals
7978:14,15
7980:8
8143:8

golden
7938:2

golf 7962:22

gone 8033:4
8092:20
8129:14

goodness
7967:22
8007:21
8044:20
8045:22

Google
8022:5

Gosselin
7918:13
7987:15
8066:3

Gosselin's
7964:14

Gotham
8198:16,23

gotten
8091:11
8128:3

gov 8061:9

government
7927:4
7928:25

7937:16
7955:23
7965:22
8004:14
8005:17
8006:25
8015:14
8026:23
8050:5
8053:8,13
8061:9,16
8185:24
8186:9
8189:17
8195:4

governments
7926:23

GPS 8022:24

gradual
7997:2,11
8173:11

Grail
8010:17

grain
8114:16

grammar
8043:25

Grant
7918:17
7928:25
8007:14,24
8008:3,23
8009:14,21
8066:5
8091:1,21
8092:11
8094:8
8097:20,24
8098:19,22
8100:9
8108:15
8132:14
8153:8
8154:24
8176:15

graph
7938:23
7973:13
7982:1
7987:3

7991:12
7992:9
7997:1
8015:8
8028:3

graphs
7981:19,21

grateful
8106:6

great 7979:4
7980:2
7989:2
8038:9
8043:24
8083:6
8107:14

greater
8011:8
8104:10
8122:19
8128:9
8156:16

Green
7947:13
7950:19

grey 8190:17

grid 7924:10
7938:25
7939:21
7943:19
8030:18,20
8031:6,9,1
2,14,24
8098:11,15
,16
8102:3,11,
13,19
8103:4,7,8
,9 8106:23
8107:9,20
8108:5
8131:4
8134:24
8152:16
8187:4

**grid-
supplied**
7953:16

grill

8043:10

grinding
8035:17

grossly
7940:10
7994:13

ground
7967:7
7968:1
8047:9
8093:5
8176:11
8188:6

group 8038:6
8160:25

groups
8121:3,10
8129:18

grow
7971:7,8
7982:8,12
8002:5
8010:6
8181:19

growing
7938:25
7971:11
8024:25
8029:2
8031:21

grows
8004:11

growth
7926:3
7932:7
7936:12,18
7937:23
7939:4,7,9
,14,15
7940:11,13
7941:1
7942:3
7971:13
7972:4,5,1
5,16
7973:4
7981:6
7982:11,21
,24
7984:16,17

7989:5,24,
25
7992:12,21
8016:23
8017:4
8019:24,25
8028:15,18
8038:18
8070:23
8076:19
8080:3,14
8084:10
8104:7
8110:8
8112:17,22
8113:6,21
8141:7
8180:6

guess
7935:10
7976:25
8031:15
8075:6
8090:12
8114:21
8118:22
8124:2
8134:15
8141:21
8142:11
8143:18
8145:7,19
8146:8,12,
16 8183:13
8186:23
8189:1

guessed
7966:15

guidance
7940:4

guide
8105:23

Guidelines
7923:5
8105:19
8106:11

Gull 8057:19

gut 8018:5

guys 8039:21
8049:3

8053:24
8067:20
8083:1

H

Habs 7964:15
7966:15

Hacault
7919:18
7921:21
7961:7,8,1
2
8106:15,17
,18
8107:13,16
,25
8108:12,13
8109:1,14,
21
8110:5,12,
17,22
8111:6,12
8112:10
8113:3,11,
23 8114:7
8115:3
8116:4
8117:22
8118:17
8119:4,11,
14 8196:6

hair 8099:25

half 7928:3
7932:7,8,1
0 7933:2
7935:24
7941:11
7942:3
7955:25
8013:13
8018:9,10
8024:9
8033:7
8072:16
8081:24
8091:16
8092:5,7,8
8100:1,3
8170:18,20

Hampshire
8040:23

hand 7966:5
  7980:1
  7986:15
  8052:20
  8083:25
  8095:2
  8119:2
  8151:6
  8172:19

handed
  8072:11
  8105:13
  8167:12

hands
  7974:24
  8068:7

happen
  7939:17
  7993:2
  7995:14
  7998:24
  7999:8
  8007:20
  8008:22
  8031:5
  8034:14
  8036:1
  8082:9
  8101:1
  8132:1,2
  8147:6
  8176:17

happened
  7949:11
  7995:13
  8149:24

happens
  7953:20
  8006:14
  8034:20
  8063:25
  8149:9
  8182:5

happy
  7971:21
  8198:10

hard
  7963:2,13
  7977:2
  8068:17,24
  8093:1

  8102:6
  8128:6
  8131:10
  8132:23

harder
  8094:5
  8176:11,21
  ,22

harmonizing
  8005:20
  8006:13

Harper
  8198:16,23

hate 8126:8

hates 7990:7

haul 8070:6
  8155:18

haven't
  7960:18,22
  7976:22
  7997:19,20
  8054:9
  8084:4
  8109:12
  8128:25
  8167:12

having
  7936:12
  7963:10,17
  ,23 7965:6
  7993:7,19
  8020:24
  8025:15
  8079:3
  8082:8
  8083:8
  8091:6,12
  8102:23
  8108:23
  8129:20
  8154:23
  8170:24
  8172:7
  8175:13
  8181:25

havoc 8049:5

Hawaii
  7939:7

head

  8094:3,15

heads
  8018:8,9,2
  2 8176:21

hear 7931:23
  8042:4
  8043:8,10
  8062:10
  8199:6

heard
  8020:13
  8051:1
  8060:21
  8062:6
  8085:9
  8129:13
  8134:19
  8145:13,15
  8153:13

hearing
  7924:6
  7928:9
  7929:11,25
  7975:8,18
  7988:16
  7996:9
  8016:1
  8051:2
  8095:9

heart
  7927:18
  7966:18

heartened
  7989:1

heat
  7936:8,10,
  20 8003:23
  8012:9,12,
  13,16,18,2
  2,23,24
  8013:1,14,
  15,17,23
  8014:2,18
  8015:3
  8016:4,8,1
  2,13,16,18
  ,19
  8017:6,8,9
  ,13,19
  8018:1,5,1
  5,24,25

  8019:8
  8023:14,24
  8047:10

heated
  8012:25

heater
  8007:16
  8009:17,19

heaters
  7936:11,19
  8007:4
  8089:17
  8118:12

heating
  7936:12,13
  ,14,15
  8012:20
  8013:18,25
  8018:2,9
  8019:5

heating/
  cooling-
  degree
  7933:6

heavily
  8083:11

heavy
  8035:17

held 7918:20
  8037:15
  8044:4
  8052:3
  8060:13,25
  8069:17

Helga 7919:8

he'll
  8042:25
  8043:2

hello
  8050:12
  8119:20,21

help 7964:20
  7977:16
  8020:6
  8085:15,19
  8102:21
  8130:3
  8156:17

helped
  7926:25
  8125:1,2

helpful
  8156:19
  8182:7
  8197:14

helping
  7977:11
  7996:17
  8197:1

helps
  8086:10

Here's
  8021:3

he's 7925:13
  7947:12
  8042:24
  8043:3

hesitation
  8179:13

Hey 8023:1

Hi 8043:16

hidden
  8130:17

hide 8044:15

high 7936:16
  7937:11
  7983:6
  7997:4
  7998:3
  8013:9
  8017:10,13
  ,16
  8018:20
  8114:20,23
  8117:15
  8125:4
  8159:16
  8179:21
  8185:19
  8186:14

higher
  7931:1
  7982:21
  7984:23
  7987:4
  8009:19

8070:13
8071:23,24
8074:14
8078:2,22
8080:9
8110:14
8127:10
8155:7
8159:13
8179:20
8184:22
8186:19

highest
7930:1
7948:11
7976:17
7983:10
8184:21

**High-performanc
e** 7937:6

Hills
8060:24

hired 7996:6
8026:24,25
8047:19,20
8185:10,21

historic
8041:5

historical
8038:10

history
7937:24
7977:23
7979:5
8035:2
8073:17

hit 7978:16
8082:4
8093:22
8097:15
8101:7
8103:7
8128:1
8143:14
8148:1,11,
15 8149:21
8172:17
8177:2

hits 8004:9

8031:14

hitting
8003:12
8031:17
8104:13

Hobbs
8046:13
8055:3
8056:4

hold 8171:24
8183:7

holding
7985:23
8132:21

holistic
8193:6

Holy 8010:16

Hombach
7919:3
7921:25
7925:5,6
7946:21
7947:7,8
7962:8,9
8041:21
8042:2
8045:25
8066:6
8149:17
8150:2,7
8151:5,14,
15 8152:8
8153:2,13,
19,21
8154:2,10
8155:19
8156:18
8157:1,10
8158:12,18
8159:8,12
8160:13
8161:12
8162:24
8163:3,6,1
1,15,23
8164:2,5,8
,12,21
8165:3,12,
17,21
8166:1,6,1
2,17,24

8167:6,20
8168:2
8169:23
8170:4,8
8171:2,12,
24
8173:8,14,
22
8174:2,6,1
4,20
8175:1,11
8177:4,8,1
1,16,23
8178:2,12,
13,22
8179:5,25
8180:8,20,
25 8181:7
8182:7,16,
25
8183:7,10
8194:9,18
8197:12,13
,24,25
8198:9
8199:2

home 7931:20
7936:22
7939:25
7940:1,3
7964:6,7,1
3 8003:7
8008:12
8009:16
8013:18,22
8017:24
8018:2,10
8022:6
8023:4,8,1
1,14,16,18
,23,25
8024:2
8051:3
8081:10
8089:9
8121:16,20
8122:8
8125:6

homebuilders
7945:12

homeowner
7936:17

homeowners
8152:21

homes 7926:7
7943:1
7955:17
8012:8,17,
25 8020:4
8021:6
8022:11
8192:7

home's
8023:13

hone 7956:17
7960:8

honest
7995:20
8028:5
8032:14
8166:21
8169:15
8173:20
8179:12

honestly
8072:19
8084:4
8132:22

Honeywell
8022:5

hope 7952:14
7965:13
7974:25
8042:20
8147:3,13

hopefully
7944:1
7965:17

hoping
7968:6
8186:10
8189:24

hori 8114:13

horizon
7991:7
8002:24
8029:3
8031:12
8040:4,9
8114:15

horribly
8030:3

host 7979:17

hot 8007:16
8009:19
8109:22

hour 7932:20
7954:11
7973:12,19
7988:21
8033:15,19
8081:23
8091:17
8092:6
8095:3,7
8109:9,25
8111:14
8135:15
8143:25
8158:25
8160:8
8172:15

hours
8006:3,8
8024:10
8072:7,9
8081:20
8110:8,25
8111:3
8133:19
8136:1,9
8170:17
8179:1

house
7936:25
7937:2
7943:16,18
8009:18
8012:6
8018:5,22
8019:3
8050:14

household
7977:8

houses
7937:18
7940:6
7943:12,13
7944:7
7945:23,24
7946:2,3

7971:10

housing
7937:13
7945:18
7946:6
8020:25
8051:18,21

huge 8037:24
8063:7
8091:23
8099:4

hugely
7979:10,11

Hugh 7918:17
8007:14,24
8008:3,23
8009:14,21
8091:1,21
8092:11
8094:8
8097:20,24
8098:19,22
8100:9

Human
8061:14

humility
7997:17

hundred
7928:1,10,
15,16
7929:5,13
7930:3
7989:24
7994:20
8023:7
8045:13,16
,17
8046:5,6,1
0,11,14
8047:17,18
,19,20
8071:8
8091:9
8108:16
8109:17
8111:1,8,1
0 8117:17
8128:4
8131:22
8137:14

8175:22

hundreds
7957:8
8027:3
8175:19

hurt 8085:15

HVAC 8026:4

Hybrid
7936:10

hydro 7918:7
7919:5
7927:22,24
7928:8,12
7929:7,9,1
0,21,25
7930:1
7932:2
7933:13
7934:12
7935:25
7936:11
7940:11,15
,17,23
7948:1
7950:6,7
7955:6
7962:3
7964:2,5
7967:14
7973:1,16
7974:13,16
7976:2,9,1
3,18
7977:23
7978:2,25
7979:4
7980:2
7984:24
7985:4,9
7988:9
7991:15
7992:10
7993:12
7994:9,15,
23,24
7997:10,21
7998:12,24
7999:22
8002:19
8004:23,24
8011:24
8018:14

8028:6
8030:24
8031:22
8032:19,21
8039:24
8044:3,14
8045:6,11
8046:19,21
,24 8047:2
8048:1,3,1
7,21
8049:4,20
8050:4,15
8051:10
8052:2
8053:2
8054:14,21
8055:9,15,
24 8056:14
8057:1,6,8
,14,20,22
8058:4,13,
17,18,20,2
4,25
8059:5,7,9
,10,20
8061:10,15
8062:9,16,
18 8063:17
8064:8,16,
19
8065:2,10,
15,18
8066:16
8074:2
8077:9
8080:16
8084:12
8085:11
8087:20
8088:3,10
8089:12
8094:11
8112:18
8113:25
8114:3
8117:24
8118:18
8129:9
8132:17
8135:20
8138:15
8141:24
8149:15

8151:24
8152:3
8154:12
8158:2,3,1
3 8160:14
8161:4,5
8164:13,23
8166:3
8169:10
8177:12
8180:15
8182:8,9,1
7,18
8185:3,5
8186:24
8187:7
8190:25

**Hydro/CAC/
GAC-1**
7952:1

**hydroelectri
c** 7939:19
7940:19
7941:23

Hydro's
7918:9
7923:8,12
7934:3
7935:7
7936:18
7939:14,24
7942:4
7945:11
7951:19
7955:9
7968:12
7969:9,21
7970:20
7981:12
7984:17
7986:24
7988:9
7989:8,16
7992:6,12
7993:3
7994:3,9
8002:13
8027:19
8028:4
8031:4
8044:10
8045:7

8047:16
8057:18
8064:4
8065:16
8076:24
8077:5,13,
21 8079:12
8113:15
8117:13
8128:25
8132:3
8138:5
8150:9,20
8151:2
8157:4
8158:20
8159:2
8164:6,22
8173:15,17
8180:1
8191:22

hyperbole
8032:16
8034:12

hypothetical
8118:23
8156:14

———————
I
———————
I'd 7955:14
7962:18
7969:11
7996:6
8035:15
8042:17,22
8092:23
8095:9
8100:9
8108:17
8123:24
8140:14
8151:19
8162:1
8169:22
8175:18
8186:11
8190:12

idea
8063:2,4
8115:7

ideally

8143:12	8071:13	7981:21	5 8104:23	8142:17
8147:24	8076:15	7987:9,10,	8106:6,19	**immaterial**
ideas 8129:3	8083:13	17 7988:15	8113:19	8114:17
	8085:8	7990:3,5	8116:6,7,1	
Iderstine	8086:8,22	7993:3,10	2 8117:1	**immediate**
7919:8	8091:4	7995:12,21	8119:8	7981:2
	8102:1	7997:24	8122:25	8038:13
IEC 7920:6	8106:14	8000:6,10,	8126:21	8103:12
ignorance	8107:2	17	8128:23,24	8123:4
8015:25	8119:7,15	8002:3,16	8129:2	**immediately**
	8130:18	8008:20	8130:17,20	8000:23
ignored	8141:2	8009:23	8131:19	8001:17
8036:6	8142:25	8011:6	8134:14	8003:3
	8145:12	8012:6	8140:21,25	8175:14
ignoring	8146:20	8013:4	8141:20	
8036:9	8172:11	8017:1	8142:5	**impact**
III 8045:12	8187:23	8019:13	8143:1,23	7924:4
8055:20	8191:13	8022:10	8145:8	7927:25
8058:1	8197:15	8025:21	8151:17	7929:1
		8027:14	8153:22	7936:17
I'll 7925:21	**ill-informed**	8030:2	8156:24	7958:1,3
7935:19	8009:23	8032:14	8166:13	7964:3
7947:6		8034:15	8168:7,14	7974:20
7964:18	**illustration**	8035:12,13	8170:14	7975:15
7965:18,23	8110:6	8043:12,20	8171:21	7989:4
7966:10		,21,22,24	8173:20	7992:4
7969:9,15	**I'm**	8044:13	8178:3	7993:7
7970:1,5,7	7925:20,24	8045:10,19	8180:13,18	8047:1
,8,20	7926:1	8047:22	,22,25	8063:11
7974:1	7928:17	8049:2	8182:11	8083:17
7977:20	7938:10,11	8050:1,2,1	8185:24	8157:5
7978:11	7939:25	5	8186:9	8175:10
7980:22	7943:23	8051:15,20	8187:25	8179:22
7983:12	7945:3	8053:1	8188:16,17	8183:23
7990:12	7947:25	8060:11	,20	8184:4
7991:2	7948:8,25	8064:2	8192:16	8185:11,22
7997:3	7953:4	8067:3	8193:18	
8003:16,18	7954:23	8070:24	8197:10	**impacting**
,21,22,23,	7957:12	8072:23	8198:9,20	8187:12
25	7958:3	8073:5	**imagery**	**impacts**
8004:1,19,	7960:7,10	8077:1	8025:11	7927:19
23 8010:9	7963:3,4,2	8078:9		7930:4,6,1
8012:11	2	8079:1,3,1	**images**	3 7942:9
8014:18,25	7964:7,19	1,24,25	8025:21	8184:7
8016:2	7966:7,11,	8082:24		
8020:5,11	23	8084:2	**imagine**	**impediment**
8024:7	7968:2,8,1	8088:17	7926:13	8094:1
8028:2	5,22	8090:15	7988:25	**impediments**
8036:16	7971:20	8091:6,12	8036:18	8093:10
8042:22	7973:10	8094:9	8038:5	
8044:1	7975:4,22	8095:5	8099:19	**implement**
8046:3	7976:24	8097:24		7968:1
8050:13	7977:21	8101:23,24	**imagined**	8047:12
8067:19	7979:9	8102:4,5,2	8024:21	8096:9
8068:5	7980:20		**imbedded**	8102:23

8166:2
8171:23

**implementati
  on** 7934:20
7966:22,23
7967:7,8,1
1,19,22
8120:1

implemented
8131:25

implementing
7945:8
7966:25
7967:6,13,
24 8102:22
8131:2

implication
8032:6,18

implications
7969:16
7970:18
8031:19
8033:24,25
8034:3,18
8063:21

implies
8082:12,18

importance
7991:8
8066:1

important
7931:17,25
7941:22
7964:16
7965:5
7968:13
7969:7
7979:11
7980:12
7981:9
7984:4,5
7988:4
7990:20
7996:16
7997:17
8031:11
8080:23
8082:16,23
8084:6
8086:19

8088:24
8094:7
8126:22
8144:9
8164:16
8189:14

importantly
7931:6
8025:17

impose
8009:24
8090:8,21

imposing
8090:19
8091:1

impressed
8182:12

impression
8141:22

impressive
8024:20

improve
7944:18,19
8007:9
8013:24
8096:17
8192:7

improved
7971:7
7972:7,9,1
7

improvement
8169:12

improvements
7970:15
8076:13

improving
7936:10
7957:16
8002:9

imprudent
8076:13

**inadvertentl
  y** 7991:4

in-between
8031:10

Inc 8058:15

8061:13

incentive
8093:14,20
8097:12
8143:12,13
8179:22

incentives
8092:12
8103:3
8149:7

inclining
8165:14

include
7948:18
7953:17,18
7986:6
7989:14
8045:19
8133:25
8134:5,15
8135:5
8191:10

included
8011:22
8056:16
8088:15
8135:11
8165:7

includes
7978:8
8047:21
8138:16
8171:1
8178:15

including
7939:1
7943:9
7955:18
7958:24
7960:1,13
7974:22
7987:25
8022:4
8033:1
8035:3
8036:5
8057:18
8064:25
8065:15,17
8135:19
8149:7

8156:7
8159:22
8186:6
8192:9

income
7977:9
8085:10,15
,24
8086:10
8121:3
8123:9,10
8126:7,12,
13
8127:14,20
8128:25
8145:24
8146:2
8152:4
8167:15
8196:22
8197:22

incomplete
8009:15

incorporated
8071:23

increase
7971:6
7980:8,13
7983:9
7985:11
7990:13
7996:12
8003:20
8006:11
8029:24
8062:24
8063:15
8111:8
8167:14,17
,25
8168:25
8178:25

increased
7932:8
8028:16
8143:22

increases
7938:15
7977:8,16
8011:5
8014:12

8168:3

increasing
7980:4
8040:24
8086:7
8155:3
8168:15
8192:22

increasingly
8001:14
8138:11

incremental
7982:3,10,
15,22
8076:22
8077:11
8078:13,24
8173:12
8174:7
8183:4

indeed
8005:8
8026:9
8034:1
8039:14,15
8074:5
8133:20

Indefinitely
8183:6

independent
8033:16
8064:22
8072:12
8088:7
8096:12
8133:3
8134:21
8149:23
8154:5

**independentl
  y** 8149:21

indi 8172:11

Indian
8049:16
8061:18

indicate
8119:24
8121:7
8195:17

indicated
  7947:11
  7948:7
  7949:13
  8016:5
  8071:21
  8140:6,16
  8148:25
  8153:14
  8159:10
  8175:2
  8187:10
  8195:13

indication
  7948:8

indicators
  8143:16
  8172:9

indirect
  7928:11,13
  ,15

individual
  7939:3
  8025:5
  8040:5
  8111:18
  8139:3
  8159:16
  8169:7

individuals
  8042:18
  8048:19
  8125:23
  8196:13

indoor
  8014:4

indulgence
  8035:20
  8078:25

industrial
  7955:19
  7974:17
  7976:12
  8089:20
  8118:1,4,1
  3,14
  8185:2

industrials
  8118:19

industries
  7944:24

industry
  7938:19
  7942:18
  8094:20
  8099:1,2
  8187:6,17

inequalities
  8066:12

in-field
  7967:20

influencing
  7996:22

inform
  7926:25

information
  7924:8
  7938:6
  7951:25
  7952:7
  7975:9,24
  8009:7,15
  8015:11
  8016:9
  8021:2
  8048:7
  8051:9
  8052:19
  8057:8
  8064:17,20
  8066:2
  8106:22
  8107:1,19
  8108:3
  8114:8

informed
  7933:16
  8064:17

informs
  7937:24

infrastructu
  re 8059:23

ingenious
  7936:21

inherent
  8059:3

inherit

  8049:1

initial
  7969:13
  7989:19
  7990:14
  7991:17
  8008:25
  8083:4
  8085:1
  8086:1
  8089:6
  8148:25

initially
  8026:23
  8107:6
  8164:13

initiative
  7927:5
  8061:11
  8067:11
  8153:3

initiatives
  8091:15
  8117:25

injunction
  8061:2

innovation
  7934:21
  7935:1
  7945:11
  7946:7
  8001:6,7,1
  2,13,20
  8002:2
  8003:17,18
  8004:9
  8010:24
  8037:25
  8076:10
  8094:17

innovations
  8001:10,11
  ,24
  8002:3,7
  8004:3,9
  8010:21
  8035:1
  8037:25
  8094:16
  8098:8,10

innovative
  7935:16
  7936:2
  8001:19
  8027:9,10

innovators
  8098:6
  8188:16

input
  8125:12,13

input/output
  8186:3

inputs
  7994:12
  8025:10

in-service
  8136:4
  8174:3

insight
  8075:21
  8095:12

insignifican
  t 8010:6

insofar
  8188:3

install
  7944:17
  8017:24
  8018:20,21
  8029:7

installation
  8029:6
  8099:22
  8121:17

installation
  s 8027:4
  8028:15,16
  8100:3,4
  8103:10

installed
  7936:6
  8015:20
  8022:6
  8027:20
  8028:21
  8029:18,21
  8033:6

installing

  8099:23
  8121:20

instances
  8098:13

instantaneou
  s 7937:4

institution
  8144:5

instructed
  8105:18

insufficient
  8016:9

insulate
  7935:14

insulating
  7936:3
  8089:9

insulation
  7936:1,2
  7944:22
  8112:7
  8167:16

integrate
  7979:8,15

integrated
  7958:24
  7959:3,9
  7960:4
  8129:16
  8153:16,17
  8154:6,13,
  16 8158:8
  8191:1
  8194:20
  8195:2,7

integration
  7959:4
  7979:2
  8129:11
  8134:5,10,
  24

intellect
  8048:24

intended
  8063:1

intensify
  8141:9

intention
8043:9

interest
7937:12
8059:2,4,6
8063:13
8066:2
8089:25
8093:17,18
,22

interested
7956:9
7966:24
8095:9
8161:19,20
8162:14
8181:1
8187:23

interesting
8005:11,22
8013:1
8027:14
8034:2
8095:17
8103:5
8104:15
8118:16
8125:8,9
8187:7
8199:6,7

interests
8046:23

InterGroup
8108:20

interim
8176:12

intermittenc
y 8133:25

intermittent
8133:16

internal
8016:17

internationa
l 7926:20
7931:14
7938:5

internet
7930:8

8047:9

interplay
8090:5

interpretati
on 7976:6

interrupt
7963:5
7971:21
7975:5
7990:20
8007:15

interruptibl
e 8089:19
8116:9
8118:14

interrupting
8061:4

intervene
7967:18

Intervenors
7961:5
8105:4

interviews
7956:15

intimidating
8043:7

introduce
7925:22
7945:2
8150:8
8175:11

introducing
7970:22

introduction
7934:21
7968:11

inverter-
driven
8013:3,8
8014:17

invertor
8135:6

invest
8064:1
8139:21
8144:5
8146:10

invested
8034:21
8060:15,17
8062:13
8065:1
8066:7
8185:6

investigatio
n 8044:9

investing
8100:5

investment
7923:11
7929:14
7999:6
8019:4
8035:8
8058:6,13
8063:13
8082:22
8083:5
8100:14
8143:22
8150:14
8151:1
8185:4

investments
8034:19
8058:15
8082:13
8083:11
8084:15
8141:4,12,
23
8144:16,18

Investors
8034:8

invests
8065:2

invite
7946:16
7963:5

invoices
8057:2,3

invoicing
8056:21

involve
7967:14
8121:2

involved
7943:23
7958:23
8021:11
8031:24
8055:4
8056:5
8057:25
8065:4
8071:14
8084:5
8090:18
8102:22
8114:25
8153:10
8194:25

involvement
7958:9
8066:7

involves
8156:16

IPO
8020:16,17

IRP 8071:17
8072:11
8153:19,24
,25
8154:18
8155:4,9
8156:2
8157:9,18,
24
8158:4,6

Island
8040:13
8080:12

isn't 7939:7
7941:24
7942:24
7943:21
7999:3
8018:5
8058:3
8175:4

ISO
8036:15,16
,18 8037:4
8038:5
8041:13
8068:17,20
,23

8069:2,3,1
6,19
8070:23

isolation
7946:1

ISOs 8176:25

ISO's
8039:18
8069:7
8070:22
8071:12

issue 7940:8
7975:22
7981:7
8037:15
8068:25
8069:12,16
8072:23
8074:4,22
8076:5
8084:20,22
8111:23,24
8113:9
8124:22
8137:2
8146:20
8187:16

issues
7926:2
7952:20
7965:24
7967:15,17
8024:14
8054:11,13
8065:14,23
8096:5
8151:20

item 7948:10
7949:12
8139:6

items
8086:23

it'll
8023:25
8031:10

it's
7928:2,9
7929:4
7931:16
7932:2,12,

13 7938:24
7939:11,16
,17
7941:8,24,
25
7942:5,23
7943:5,19
7944:19,21
7945:25
7959:20
7962:22
7964:13
7972:23
7973:6,9
7974:23,24
7977:2,6
7979:14
7981:18
7982:5,15
7984:20
7986:11
7988:7,23
7989:25
7991:21
7993:22
7995:12
8000:22
8001:14,16
,17,18
8004:7,12,
20 8006:4
8009:4,6
8012:1,3,4
8013:14
8015:3
8016:12,13
8018:20,21
8019:2,24
8020:14
8021:10
8023:15
8028:5,6
8030:8
8031:15
8035:9
8037:7
8038:5
8039:17
8041:16
8043:9
8044:25
8046:2,3,1
8 8047:5
8049:24

8050:21
8051:8,22,
23
8052:2,22
8055:7
8068:16
8069:3
8073:4
8080:22
8081:25
8082:4,5,1
5,16,22
8083:15
8084:3,6
8087:18
8089:20
8090:11,12
,13,20
8091:10
8092:1,3
8093:7,16,
17,21
8094:2,4,5
8095:11
8097:16
8099:4,17
8101:17
8102:6
8103:4,20
8104:25
8105:22,25
8107:18
8108:19
8112:19
8114:16,17
8115:21
8116:16
8117:16
8118:22,23
8121:18,19
,22
8126:21
8127:17
8128:1
8129:13,15
8131:9,20,
25 8133:21
8136:14
8137:13
8138:4
8139:1,2,1
6 8143:6
8146:9
8147:2,3

8148:20
8156:18
8157:11
8159:5,8,9
,24
8160:9,11
8161:4
8164:19
8165:6,13
8167:16
8168:12
8169:13
8175:2
8176:3,4,2
0,21
8177:8
8179:8,11,
17,21
8184:22
8187:10,15
8188:24
8191:11,14
,15,20
8193:11,12
8196:13
8199:6

I've
7926:14,19
,20
7928:18,19
7934:7
7942:21
7955:7,13
7958:16
7966:4
7969:17
7970:23
7977:19
7978:1
7988:18
7991:7,11
7995:15
8019:3
8030:5
8060:18
8077:3
8079:8
8091:1
8093:25
8113:18
8114:24
8146:19
8147:11,12

8149:12
8183:22
8184:2,20,
21 8186:20
8188:18
8189:16

J

Janie
7921:15
7947:18
8042:19
8054:3,4,6
8067:1,4

January
7968:17
8077:1
8079:17

jealousy
7962:20

Jennifer
7919:9

jeopardy
8044:8

Jersey
7939:10
7954:23

Jessica
7920:3

Jets 7962:21

job 7928:4
7929:4,21
7930:16
8106:6
8183:19
8184:14,24
8185:6
8195:12

jobs
7927:5,12,
13,15
7929:10,13
,17,20,22
7930:3,14,
20 7931:5
7943:5,8
7944:6,10,
12,13,23
7974:15

7975:22
7976:1,18
8044:10
8048:8
8049:9
8183:18
8185:8

join
8043:1,4

joined
8054:22

joint
7947:12
8056:3,7
8059:16,18
,20 8061:6
8063:16

jointly
8069:12,16

judicious
8087:19

July 8061:3

jump 8068:17

jurisdiction
s 8118:3
8140:7
8169:24,25
8187:2

justice
8066:23

justified
8064:6,11

K

Kapitany
7918:14
7943:11
7944:4,9,2
5 8038:25
8039:5
8066:4
8100:12

Keeyask
7928:7
7929:12
7931:3
7976:21
8055:12,19

8056:3,6,7,13
8057:25
8058:4,5,13,15,18,23
8059:21
8061:4,6,8,12,25
8062:1
8063:16
8082:12
8084:15
8100:13
8135:24
8136:10,12,19,21,22
8137:5
8159:3
8161:9
8174:3
8180:4

Keeysak
8056:6

Ken 7921:6
7925:11,18,19
7927:11
7933:12
7943:15
7944:8,11
7945:5,9

key 8037:21
8054:11,13
8064:20
8069:18
8096:16
8101:12
8143:16
8172:9,11

kick 8113:17
8139:7
8175:25
8176:1
8188:20

kicking
8145:3

kill 8034:9

kilowatt
7932:20
7973:12,19
8033:15,19

8081:23
8091:16
8092:6
8095:3,7
8103:10
8109:9,25
8111:3,14
8135:15
8143:25
8158:25
8160:8

kilowatts
8109:15
8110:25

kinds
7983:25
8188:4

Kitchen
8167:24
8168:7

Klassen
7921:6
7925:12,16,18,19
7933:12
7943:12,15
7944:8,11
7945:5,9
7968:9
7970:3
7975:24
7976:1,6,23 8003:22
8148:17
8183:17

Klassen's
7968:4
7981:18

knew 8128:1
8142:4

knowledge
7942:13
7952:12
8073:3

known
7932:15
8043:20
8050:14
8157:24,25

Kobliski

7921:14
8042:20
8050:8,10,11,15
8054:1
8060:22

Korea
7937:15,17

Korean
7937:15

KPIs 8148:4

KURT 7951:3
7966:6
8106:3

L

---

lab 7936:4

labelled
8015:8
8077:18

Labrador
8125:1

lack 7985:5
8054:18

lacking
8132:6

Ladner
8056:8

lag
8008:13,14

laggers
8174:17

Lake 8043:20
8055:1,17
8056:2,11,16
8058:12,14
8059:24
8060:10,18,19,24
8061:4,23,25 8062:2

land 8052:6
8053:3
8066:15
8117:25
8162:11

landed
8035:4

landlords
8122:23

lands
8054:18,24

language
8050:12

large 7933:2
7966:7
7973:1
7974:4
7976:14
7983:11
8004:7
8017:23
8019:4
8040:15
8077:23
8086:17,18
8089:20
8094:3
8117:24
8118:7
8120:7,15
8121:2
8122:16
8161:25
8168:25
8175:23
8184:3
8185:4,5
8190:3

largely
8074:2
8114:17
8154:18

larger
8191:24

largest
7931:25
7935:25
7978:13

Larry
7918:15

last
7926:12,21
7932:4,17
7963:12,13,25 7964:5

7970:25
7977:19
8009:14
8028:19,21
8052:10
8060:19
8066:9
8088:23
8097:21
8100:2
8103:11
8174:17

lasting
7946:3

late 7946:13
7964:8
8030:2
8044:12
8068:4
8182:4

lately
8051:2
8091:2

latent
8013:14

later
7938:23
7939:17
7949:2,3
7974:1
8067:20
8138:20
8146:1

latest
8039:15,18
8144:25

latter
7981:4
8149:16

Lavigne
8199:23

law
8056:8,9,23,24

lawsuits
8048:22
8065:22

lawyer
8048:10,13

8056:22

lawyers
8044:9
8045:16,20
8046:20
8051:7
8054:5

laying
8128:4

layman's
8069:5

lead 7957:25
7992:20
7995:24
8005:17
8006:12
8031:6,9
8038:4
8039:24
8040:2
8109:16

leader
8041:5

leaders
8004:25
8040:12
8044:17
8050:23
8051:6,10,
22 8053:6

leading
7933:22
7934:8
7958:3
8025:23
8036:5,8

leads
7937:22
8009:25
8020:5
8040:15
8110:14
8111:15
8125:6

learn
7965:10
8022:19

learned
8073:21

8105:16
8145:19
8194:18
8196:8

learns
7998:25

least
7958:17
7968:21
7980:9
8016:5
8066:9
8083:4
8084:6
8101:3,9
8117:2
8132:15
8166:25
8169:16
8181:9,10
8182:4

leave 7987:9
8039:10
8093:4
8095:19
8107:2
8197:15

led 7935:20
7984:21
8003:21
8010:9,11,
20
8011:1,21
8054:20
8058:2
8155:6

LEDs
8011:13,22
,25 8012:6

leftover
8123:3

legal 8057:3

legislative
8062:16

legislature
8096:7
8097:8

Lemoine
8066:6

lengthy
7956:15

less 7929:6
7932:25
7941:16
7964:16
7969:22
7970:2,3
8025:15
8046:8
8047:12
8074:1
8110:15
8125:9
8156:6,7
8177:5,8
8179:6

lesser
8079:23

lessons
7965:15

lest 7995:7

let's 7927:2
7929:18
7930:21
7931:16
7982:9
7985:11
8008:12
8014:5
8018:9,21
8032:23
8040:1
8077:4
8090:22
8102:7
8105:4
8130:1
8158:2,6,1
2
8161:2,3,6
8164:22
8170:16,18
8172:20
8175:9
8176:18,22
8177:11,18
8184:23

letter
8043:23
8044:2

8049:10
8055:16
8067:20

letters
8065:9

level 7930:1
7948:18,19
7985:24
7987:19
7988:15,17
7989:22
7994:12
7997:4,9
7998:4,25
7999:1,2,4
8002:2
8015:2
8032:5
8041:8
8065:5
8071:23,24
8076:24
8077:13,18
,19,21,25
8078:1,16,
21 8079:20
8080:3,4,7
,9 8084:12
8087:20
8088:18
8097:13
8101:17
8114:13,19
,22,25
8115:2,17,
18,20
8116:1,2
8117:15
8125:19,22
8127:11
8131:3
8137:14
8159:16
8160:5,11
8161:4,5,1
0,11
8164:9
8165:5,6,7
8166:9,16,
19,22,25
8167:4,5
8173:12
8174:8

8178:14,16
8179:9,21
8182:17,21
8183:1,4,8

levelized
7942:23
8158:21,24
8159:1,18
8160:15,17

levelled
7996:4,12

levelling
7996:13

levels
7937:11
7988:19
7989:19
7990:10
7992:3
7994:3
8061:8
8077:5
8078:3
8079:19
8115:24
8123:11,13
8158:11
8160:24
8169:20

levers
8139:3,11
8176:2,5

liability
8179:20

licence
8143:8

licensed
8056:22,23

life 8007:22
8054:18
8135:7,12,
13,14
8175:9

lifetime
7939:22
8009:10

light
7935:14
8011:4,15

8021:13
8057:4
8082:16,17
,18
8086:24
8112:6

lightbulb
8009:13

**light-
emitting**
7935:21

lighting
7935:20,23
,24
7971:10
8003:21
8010:10,12
,16,20
8011:1,17,
19,21

lights
7971:5
8037:1
8039:13
8069:6
8155:17

likeliest
8080:19
8113:6

likelihood
7970:13
8007:11

likely
7998:17
7999:7,8
8197:16,19
8198:18,24
8199:5

limit
8059:25
8091:4

limitations
8113:17
8163:19,22
8171:20
8189:7,11

limited
7984:7
7985:6

8058:3,4,9
,10,12,14,
16,19,21,2
4
8059:2,8,1
2,14,25
8060:3,5,1
1 8061:1
8067:9
8085:23
8101:10
8122:22,23

limiting
8003:10

line
7989:9,10
8007:4
8031:3
8038:24
8074:18,20
8078:19
8094:10
8104:1
8114:24

lines
7949:19
7982:22
7985:14,19
7989:12
8031:1
8033:3
8076:23,24
8077:16,17
8079:16

link 8140:22

lips 8145:14

list
7921:3,4
7923:1
7924:1
7948:6
7962:15
8007:1
8169:6
8171:5,13
8172:14

listed
8167:21

listening
7968:4

lists 8152:9

lit 8012:6

literacy
8124:22

literally
8017:15

literature
8187:3

Litigation
7923:4
8105:19
8106:10

little
7926:2
7929:24
7935:4
7942:15
7946:12
7962:20
7963:13
7967:10
7968:5
7972:20
7975:22
7978:17
7981:15
7986:10
7995:23
7998:4
8003:7,16
8016:13,22
8020:5,14
8023:1
8026:12
8028:5
8030:7
8032:15
8034:16
8037:7
8040:21,25
8068:4
8069:10,24
8070:3
8078:10
8080:9,22
8081:9
8084:17
8088:25
8089:1
8106:20
8107:5

8118:23,24
8121:25
8123:8
8128:23
8129:1
8142:5
8149:20
8151:25
8157:11
8163:14
8168:11
8175:7
8180:14
8181:11

live 7933:6

lived
8066:14

lives
8066:17

living
8060:18
8062:12
8063:24

livingroom
8014:7

LNG
7929:2,16,
19,21

load 7926:3
7936:18
7937:23
7939:4,7,9
,14,15
7940:9,13
7942:3
7948:19,20
,21
7982:11,16
,18,24
7984:16,17
7989:5,8,1
2,14,23
7991:25
7992:1,4,5
,12 7995:2
7997:5
7998:17
7999:5
8038:17,18
8040:7,10
8041:3

8070:23
8071:24
8072:2,3,7
8076:18
8079:9,10,
12,13,18,2
1,22
8080:3,14,
19 8084:9
8087:9
8089:15
8101:4
8104:7
8112:17,22
8113:21
8123:5
8135:25
8141:7,13
8154:6,19
8155:24
8156:2,3
8165:8,22,
24 8169:1
8173:19
8178:16,20
8180:6
8181:5,6,1
8,19,21
8182:18,21

loads
7935:25
7936:13,14
7937:8
8014:13
8040:15,17
,24

loan 8123:1

local 7931:4
7933:19,22
7934:8
7956:18
7983:24
8184:16

location
8120:10
8125:15

locations
8121:24

lock 8188:20

locked

8156:12

London
7959:19,22

long 7954:2
7977:24
7980:21
7995:16,17
8004:24
8009:22
8023:23
8028:23
8030:4
8035:7
8039:24
8040:2
8041:6,7,11,12
8046:7
8047:13
8069:6
8070:6
8087:2
8092:15
8114:16
8118:20
8122:12
8125:6
8135:1
8140:8,10
8155:18
8172:14
8177:6
8181:13
8196:13

longer
7935:2
7968:20,21
7994:1
8157:20
8176:7,9
8188:23

longest
8046:16
8073:17

long-range
7993:19
8038:12

long-run
7980:15,19
7996:11
8032:17

8037:5
8070:2
8071:17
8082:10

longshot
7973:9

long-term
7940:10
7942:20
7991:24
7993:8
7994:11
8035:11
8037:18
8068:22
8073:25
8087:24
8115:21
8135:23
8144:10,11,22
8170:14
8179:6
8181:22
8187:7

Lor 8056:22

lose 7998:8
8111:20

losers
8112:2

loss 8023:14

losses
8054:24
8082:2

lost 7931:21
7981:23
7994:21
8066:17
8074:17
8109:3

lot
7926:20,22,23
7928:23
7929:10,18
7930:9,10
7931:10
7933:7
7935:6
7936:11

7938:19
7940:7
7942:11
7943:6
7944:15,17
7945:13
7957:10
7965:8,10,23 7976:1
7978:10
7981:19
7984:14
7985:7
8006:16
8008:6,18
8012:14
8015:18
8032:10,13
8034:3
8035:17
8050:16
8051:2
8080:11
8085:11
8089:14
8098:10
8121:11
8122:18
8125:5
8126:13,22
8127:1
8139:11
8141:18
8160:10
8165:25
8179:23

lots 8094:22

low 7932:25
7933:8
7939:18
7941:23
7974:10
7983:3
8013:9
8032:19,20
8063:1,18
8076:11
8085:10,15
8086:10
8121:2
8123:9,10
8126:7,12,13

8127:14,20
8128:25
8145:24
8146:2
8148:13
8152:4
8169:17
8196:22
8197:22

lower
7973:25
7982:23
7984:17
7985:7
8014:9
8019:1
8023:2
8024:8
8070:13
8073:11
8074:5,25
8085:24
8109:22
8116:25
8130:25
8156:15
8159:9
8167:15

lowering
7936:9

lowest
7932:15
8113:21
8137:14
8155:16
8184:19

low-income
7924:20
8086:15,17,19,21
8087:1
8121:9
8122:6,16,20
8123:2,17,25 8196:15
8197:1
8198:5

lump 7972:25

lunch
7947:17

8198:15,24

lurking
8178:1

─────────
M
─────────

mackenzie
8048:14
8056:1,9

Mackenzie
8046:9

macroeconomic
8186:1,21

Mail 7932:12

main 7938:9

Maine
7954:22
8040:13
8080:12

mainly
8116:6

maintain
7987:19
7998:25
7999:1
8032:4
8082:9
8088:4
8095:14
8096:25

maintaining
8072:17

maintains
7994:15,24

maintenance
8135:5

major
8066:22

majority
7925:8
7961:1
7972:15
7973:4
8007:8
8012:7
8149:1

man 8005:9

8022:6

manage
8133:25
8172:18
8176:4

managed
8173:4
8177:2
8183:24

management
7926:2
7927:18,19
7930:24
7931:11
7932:25
7933:15
7934:10
7935:7
7941:5,25
7942:10
7952:20
7953:9,11,
14 7954:20
7955:3
7956:20
7959:9,12
7960:13,14
7961:3
7964:24
7971:4,16
7977:5
8019:18
8036:24
8069:20,21
8116:23
8176:6
8195:2

manager
8026:3
8171:22
8172:8

managerial
8095:20

managers
7956:16
8148:3
8179:15

manages
8049:4

mandate

8036:19
8084:3
8140:9,17
8189:17

Manitoba
7918:3,7,9
,23 7919:5
7923:7,12
7924:13
7926:9
7927:21,24
7928:8
7929:10,25
7932:24
7933:3,13
7934:3,11
7935:7,25
7936:11,18
,22
7939:14,24
7940:11,17
,19,23
7941:24
7942:4,23
7943:9,20
7945:4,11,
19 7948:1
7950:6
7951:19,25
7952:18
7955:6,8
7961:18
7962:3
7964:2,3,4
7967:14
7968:12
7974:22
7976:21
7977:22,23
7981:11
7985:4,18
7994:8,9,1
5 7999:22
8002:19
8004:23,24
8011:24
8012:14,18
8013:18
8014:14
8027:19
8030:10,15
,23
8031:4,6,1

9,22
8032:21
8033:1,25
8043:20
8044:3,5,1
0,14
8045:7,11
8046:24
8047:13,22
8048:3
8049:4,9
8050:4,15
8051:10
8054:14,21
8055:9,15,
24,25
8056:14,24
8057:1,2,6
,8,14,18,2
0,22
8058:12,17
,25
8059:4,7,9
,10,19
8061:15,16
8062:2,9,1
5,18
8063:17,21
8064:4,15,
19
8065:2,9,1
5,18
8066:16
8076:24
8077:5,9
8080:20
8084:12
8087:19
8094:11
8102:16
8107:12,23
8108:10
8112:18
8113:15,25
8114:3
8117:13,14
,24
8118:17
8119:10
8120:14
8124:1
8129:8
8130:12
8132:1,2,3

,17,21
8135:25
8138:5,15
8141:24
8143:23
8150:9,20
8151:1,24
8152:3
8154:12
8157:4
8158:12,20
8159:2
8160:14
8164:6,13,
22,23
8166:3
8169:10
8173:15,17
8177:11
8180:1,15
8182:8,9,1
7,18,20
8185:17
8186:6,13,
19,24
8187:7
8190:25
8191:22
8196:14

Manitobans
7931:17
8138:7

Manitoba's
7994:9
8013:19
8137:25
8138:1

manner
8112:24

manufacturer
8022:7

**manufacturer
s** 7976:14

**manufacturin
g** 8029:24

March 7950:7

marginal
8007:17,18
8091:15
8095:15

margins
8149:5

Marilyn
7918:14
7943:11
7944:4,9,2
5 8038:25
8039:5
8100:12

Maritime
8185:13

marked
7951:2,20

market
7934:8
7956:23
7960:15
7979:6
7984:2,5
7996:16,22
,23
8002:5,6
8003:12
8004:10,11
8008:1,7,8
,21
8010:18
8016:25
8017:2,7
8019:6,10
8028:20
8029:10,11
8035:4
8036:24
8037:16
8038:1,2,1
5 8069:18
8081:3
8086:22
8090:6
8096:19,20
8100:19
8103:3
8129:17
8130:2
8149:24
8175:24
8176:7
8196:21

marketing
8128:16

marketplace
  7977:12
  7996:19
  8022:4
  8143:24

markets
  7939:1,11,
  15
  8017:4,14
  8031:17
  8032:21
  8062:22,25
  8063:18
  8081:14,15
  8144:14
  8196:9

Marla 7919:6
  7921:24
  7922:3
  7948:5
  7949:25
  7950:2,12
  7962:5
  8000:5,10
  8133:10,11
  ,18,21,23
  8134:4,12,
  19
  8135:3,10,
  16,22
  8136:7,17
  8137:3,8,1
  2,16,20,24
  8138:4,14,
  18,24
  8139:15,20
  ,23 8140:1
  8190:20,23
  ,24
  8191:8,17
  8193:17,24
  8194:6

Marr 8046:9
  8056:10
  8060:7

Massachusett
  s 7939:10
  7957:5
  7978:11,23
  7983:4
  7991:16
  8040:9

  8080:12

massive
  7938:15

master
  8014:6,8

master's
  7959:18

material
  7952:12
  7953:1
  8104:24
  8113:15

materials
  7936:2
  7949:3,6

math 7928:2
  7929:3
  8109:13,15

mathematical
  ly 8109:7

matter
  7947:16
  7948:2
  7956:19
  7966:19
  8001:6
  8066:1
  8095:4
  8158:10

matters
  7950:14
  8198:10

maximize
  7940:6
  8112:3

may 7927:2
  7943:18,20
  7944:17
  7945:20
  7948:14,23
  7952:25
  7966:15
  7967:14,17
  7995:4
  7997:23,24
  7999:12
  8018:9
  8020:12
  8021:25

  8024:24
  8032:9,24
  8043:4
  8048:24
  8055:16
  8057:3
  8063:2,15
  8070:15
  8082:21,22
  ,25
  8084:12
  8088:24
  8093:17
  8094:22
  8097:20
  8098:14
  8126:25
  8129:20
  8144:4
  8145:20,21
  8146:20
  8172:23,24
  ,25 8179:9
  8182:7

maybe
  7928:6,18
  7943:22
  7968:24
  7977:2
  7989:3
  8003:7
  8007:24
  8010:22
  8022:2
  8023:2
  8053:18
  8070:17
  8092:24
  8094:10
  8122:14
  8146:22
  8161:4
  8180:22
  8181:11

mean 7943:13
  7944:11,13
  7949:16
  7957:7
  7964:22
  7966:23
  7972:24
  7975:25
  7984:25

  7997:13
  7998:19
  8009:4
  8014:1
  8021:25
  8039:1
  8080:21
  8082:14
  8086:14
  8088:3
  8089:14,15
  ,16,18
  8096:14
  8097:5
  8098:11
  8099:17
  8100:24
  8101:7
  8113:1,5
  8121:12
  8122:8,9
  8134:11
  8140:9
  8156:19,25
  8159:24
  8160:9
  8165:25
  8171:11
  8175:8,20
  8180:11
  8187:4,10
  8188:8

meaning
  7965:24
  7987:18
  8008:3,5

means 7971:8
  7972:9
  7982:11
  8003:8
  8013:12
  8019:3
  8050:11
  8076:17
  8082:15
  8085:21
  8101:4,5,8
  8125:7
  8139:5
  8155:11
  8165:6,18
  8166:19

measure
  8009:10
  8031:23
  8135:7
  8156:21
  8157:5
  8167:10,16
  8172:24
  8175:13
  8178:18
  8179:8

measure-by
  8167:9

measured
  8189:18,19

measurement
  8189:19

measures
  7945:8
  7957:9
  7966:25
  7967:22
  8038:1,2
  8057:17
  8077:8
  8086:18
  8121:15,20
  8125:8
  8158:22,24
  8159:16,17
  8160:15
  8165:7
  8167:1,14
  8169:8
  8170:1
  8171:8,13,
  14
  8175:9,23
  8177:9

measuring
  8148:8

mechanism
  8088:8
  8089:18
  8093:20
  8097:12
  8123:16

mechanisms
  8087:25
  8089:12
  8152:20

8190:15

meet 7941:16
7971:12
8084:9
8103:24
8116:19
8141:12
8154:20
8156:14
8171:4,15
8179:9

meeting
7995:8
8052:9
8181:5,6

meets
8107:12

megaproject
7928:21

megaprojects
7928:22

megawatt
8131:11,14
8172:15
8173:2

megawatts
8029:17,18
,21
8033:6,11,
14 8089:7
8117:18,20
8131:22
8172:21,22

Meghan
7919:13

member
7918:14,15
,16,17
7947:19
8067:15
8132:14

members
7925:7
7950:18
8042:23
8044:10
8052:17
8054:5
8056:9

8060:13,25
8061:2

memory
8079:6

mention
7966:22
7977:22
7979:25
7988:5
8011:6
8017:8
8053:1
8072:21
8084:18
8086:8
8116:7

mentioned
7944:6
7960:19
7962:16
7964:22
7965:20
7983:2,4
8003:22
8010:10
8016:24
8018:2
8026:22
8033:5
8034:2
8084:23
8098:7
8101:2
8140:15
8143:19
8171:2
8180:11
8185:1
8192:16

mentioning
8001:4

Menzies
7919:13

merchant
8082:19,20
8083:11
8084:16
8100:14

merci
7961:12
7963:11

8106:18
8119:14
8199:3

mercury
8048:1

merits
8073:7

mess 8049:2

message
8023:1

met 7932:9
7937:15
7941:14,16
7942:3
7972:17,18
8149:2,3,4
8168:4

meter 8025:4

meters
7979:16

methodology
7984:11

Metis
7961:18
8130:12

metric
7982:5
8162:3
8184:10

MH
8077:18,19
8078:16

M-hm 8178:21

Michael
7919:21
7920:7
7961:24
8133:4

microphone
7947:6
7950:15
8068:5
8105:4
8106:15
8119:15
8140:4
8151:17

microwaves
8007:3

mid 8070:19
8071:2
8180:13
8182:4

mid-'60s
7976:11

mid-demand
8071:2

mid-DSM
8070:10

midst 7964:1

midterm
8187:24

Miller
7919:16

million
7928:3
8044:18
8045:12
8046:13
8052:10
8055:2,14
8059:22
8061:15,16
,17,18,19,
20,21,24
8146:10
8184:9,12,
14,24
8185:6

millions
8060:15,17
,20
8061:21
8062:13
8064:25
8065:6

mind 7983:25
8034:12
8094:4
8159:21
8179:5
8180:14
8182:25

mine 7968:7

minimal

8145:6

minimize
8112:1

mining
8001:15

Minnesota
7924:12
7983:17,18
8032:22
8100:25
8101:1,2,9
8103:7,23
8107:22
8108:8
8188:8,17

minor
7964:11
8006:20

minus
8013:15
8015:1,2

minute
7946:22
8046:1
8094:9
8151:6
8174:18

minutes
7930:8
7999:16
8060:12
8105:5

MIPUG
7919:18
7961:9
8108:19

**MIPUG/CAC/
GAC-1**
7952:1

misaligned
8092:12

**Misconstruct
ion**
8059:18,23

misheard
8153:21

misinterpret

ed 7928:19

**mismanagemen
t** 8065:13

MISO 8036:16
8069:3
8100:19

misreading
8144:6

miss 8172:22

missing
8126:18
8177:5

misspoke
7947:10

mistake
7928:7,18
8191:15

mistaken
8180:13

mistakes
7965:11
8043:25
8055:9

mistrust
8054:21

**misunderstan
ding**
8180:23

mitigation
8055:21
8057:24

mix 8157:19

mixture
8163:18

MKO 7919:20
7961:13
8119:16

MMF 7920:3
7961:20

**MMF/CAC/
GAC-1**
7952:2

model
8004:20,21
8024:16
8094:12

8102:3
8107:6
8185:25
8186:2,4

modelling
8013:19
8070:2
8186:21

models
8013:3,8
8092:18
8153:6

moderate
7992:18

modified
8157:4

modify
7947:20
8008:9

modules
8027:16
8029:3

moment
7995:6
7997:1
8091:8
8104:18
8158:13
8167:7

moments
7995:5

monetary
8143:13
8192:11

money
7929:18
7945:17
8044:5,17
8065:3
8189:20,22
8192:6,10

monies
8061:10

monitor
7938:18

monitors
7936:24

Monnin

7920:6

month
7932:17
7937:5,15
7941:9
8045:19
8148:13,14

monthly
8148:7

months
7980:3
8091:11
8140:12

Montreal
7966:14

moot 8057:13

morning
7925:3,7,1
6,19
7931:12
7947:4
7948:3,6,9
7950:1,16
7951:18
7972:22
7976:23,24
8003:22
8010:11
8023:21
8084:23
8148:18
8151:23
8153:14
8161:14
8173:9,11
8175:2
8183:17
8188:9
8194:11
8195:7
8198:12,19
,22
8199:10,11

morning's
7947:6

Morningstar
8034:6

Moroz 7919:9

Morrison

8134:20

mortgage
7940:2

motivated
8096:3,10
8130:3

motivating
8192:13

motivation
8096:2,13
8129:24
8132:16,19
8143:9
8147:17

mouldy
7946:4

move 8008:17
8027:24
8035:18
8076:15
8130:18
8138:8

moved 8047:3
8079:9

movement
8029:9

moving
7979:21,23
8035:1
8072:7
8079:8
8081:4
8132:10

multiple
8088:9
8192:2,3

multiples
8092:10

multiplying
8111:2

Municipal
8195:4

murky 8047:5

music
8024:18

mys 7955:13

myself
7955:14
7963:20
7964:2,20
7968:9
7969:5
7989:2
7991:23
8060:18
8065:17
8075:14
8078:9
8088:14
8091:2,4
8097:25

N

NAFTA 8049:3

nail
7969:3,7

naive
8007:15

narrower
8162:5

nasty
8100:10

Nation
8043:21
8044:7
8055:15,17
,23
8056:15
8057:15,20
8058:5,9,1
5,16,21
8059:14,24
8060:3

National
7924:15
7957:13
8192:17
8193:22
8194:3

Nations
7930:22
7931:8
7943:9
8047:21
8053:2,9
8054:17,19

,22
8055:8,11
8062:6
8063:23
8065:1
8124:12
8126:7
8127:7

Native
8125:2

natural
7928:22,24
7932:1
7938:3
7973:19
7974:8,9,2
5 7979:3
8006:17
8063:4
8083:14

naturally
8181:19

nature
8169:2
8176:13

NB 7954:21

nearly
7955:24
7981:17

necessarily
8091:22
8098:11
8155:6
8172:3
8175:13

necessary
7947:24
7948:25
8155:7
8171:3
8198:20,21

necessity
8039:23
8085:21

needle
8148:11,13

negative
8063:11

neglecting
8093:8

negotiated
8059:19

negotiating
8135:23
8186:24

negotiation
8044:19
8055:21
8057:16,23

negotiations
8049:15
8058:2
8062:13

negotiators
8048:13
8055:3

neighbour
8020:19
8021:3

neighbouring
8107:11

neighbours
8082:6
8103:2,13

Nelson
8050:13
8060:24

nervous
7938:19
7996:14
8128:24

Nest 8022:5

net
7937:12,17
,18
7943:12,15
,21,22
7944:2,3
8038:18

neutral
8129:20

newer 7985:4

news 7932:12
8051:1,3

next-

generation
7960:16

NFAT 7925:5
7970:19
7980:1
8163:1

nice 8011:13
8013:1
8018:24
8085:20
8145:20
8148:16

nicer 7968:7

niche
8027:24

night
7943:18

nine 7928:16
8045:17
8091:3
8185:5
8198:13
8199:11

nineteen
7928:10,15
7930:14

ninety-five
8046:14

**Nisichawayas
ihk**
8050:14

nobody
8051:25
8052:12

Nobody's
7934:6
8051:3

no-brainer
8092:14

non 8139:18
8192:25

non-band
8044:10

none 7978:22

non-energy
8162:21

nonetheless
8014:13
8136:24
8138:7

non-existent
8139:16

non-IRP
8157:9

**non-
participan
ts** 8111:20

**non-
participat
ing** 8111:7

nook 8143:15

noon 7954:11

noone 8073:6

normally
8123:2

north
7924:12
7926:22
7943:10
7945:25
7956:16
7965:4,7
7973:15
7983:10
7985:7
7991:16
7994:10
8016:23
8021:9
8027:5
8032:11
8036:5
8061:18
8073:5,16
8078:4
8092:25
8099:25
8102:11
8107:22
8108:8
8120:16
8122:4
8131:21
8169:25
8184:5

Northeast
7978:12

northern
7930:22
7931:8
7945:4,15
7946:2
8054:16
8057:24
8059:17
8061:18
8062:9
8063:9
8120:23

Northwest
7941:20,21
8015:17
8073:14,16
,20 8074:3

Norway
8021:12

Notably
8083:12

note 7949:11
8004:19,23
8011:24
8014:25
8017:25
8019:8
8071:12
8074:16
8084:17
8086:17
8152:8
8182:10

noted 8073:2

notes 8016:5

nothing
8002:14
8037:7
8053:20
8072:14
8168:16
8191:20
8194:6
8197:2

notice
7963:18
8021:7

8022:23,24

noticed
7940:12
7960:18
7963:18
7966:21
8011:21
8105:12

notion
8038:16

**notwithstand
ing** 8122:1

Nova
7995:21,22
8071:14,16
8072:12
8100:16
8122:11

nowhere
8164:19

np
7919:2,7,8
,9,10,13,2
1 7920:3,6

NRCan
8006:18

NSPI 8072:2

nuance
8138:23
8139:1
8163:13

nuclear
7940:20,22
,24 7973:1

nudges
8022:21

numerous
7930:23
7956:22
7959:13
8196:21

nuts 8151:18

_____
O
_____

Obama
8005:23
8007:12

objection
7961:14,21
,25 7962:5

objections
7961:9

obligation
8059:1,5

obstacles
8066:22

obtain
8062:17

obtained
8111:2

obvious
8004:18

obviously
7972:8
7974:7,22
7980:2,6
7982:19
7983:22
7984:1
7988:22
7989:13
7990:11
7997:14
8010:7
8029:1
8069:2
8086:10,16
8101:7

occasions
7959:13
7982:18
7995:13

occurred
7933:20
7934:6

occurring
8108:15
8115:8

o'clock
7947:21
8198:13,17
,22
8199:11

October
7923:5

8105:19
8106:12

odd 7930:5
8027:18
8148:24

oddly 8094:1

Odette
7919:10

offer 8022:8
8024:3,4,2
0
8027:9,10
8085:22
8088:25
8118:15
8140:22

offering
8086:4
8121:19

offers
7930:1
8024:15

office
8013:7
8055:25
8060:7
8105:23

officials
7937:16

offset
7935:15

offsets
7933:7
8141:2
8169:1

offsetting
8141:4
8184:18

oftentimes
7973:6
8122:10
8147:14
8149:6
8179:14

oh 7958:17
8007:21
8074:18
8118:6

8137:6
8140:13
8149:19
8170:7
8180:22

oil 7931:23
7932:1
7938:2
8001:15,18
,19
8094:20

okay 7933:12
7941:2
7944:4
7950:10
7961:4
8000:3,12
8044:2
8045:1
8046:3,4
8052:15
8067:5,21
8074:18
8087:4
8089:2
8094:8
8095:8
8102:8,12
8103:7
8111:6
8113:23
8119:13
8122:13,24
8124:10,14
8125:12
8126:2
8127:12,23
8130:7
8131:12
8132:24
8136:15
8137:15,16
8138:4,25
8140:13,24
8146:14
8159:11
8167:6
8178:6,7,8
8179:4
8183:10
8188:2
8191:18

8197:3,8

old
8038:3,23
8079:15
8083:23
8190:3

**old-
fashioned**
8009:17

OLED 7935:20

ombudsman
8045:8

One-half
7932:20

one-off
8099:23

ones 8022:4
8038:3
8097:7
8156:5,6
8157:19

one's 7934:7
8023:16
8122:25

one-third
7932:21
8025:15

ongoing
8183:4

Ontario
7924:12
8072:20
8103:6,16
8107:22
8108:8
8131:19

on-the
7967:6

onto 7964:16
8138:10

onward
8011:3
8188:16

OPA 8103:2

open 8041:25
8083:24
8090:14

8189:6

operate
8147:22
8149:9

operated
8020:9

operating
8021:8
8026:3

operation
7930:2
8036:22
8050:22
8135:5

operational
8026:1

operations
8061:4

operators
8186:25

opinion
7942:5

opinions
8067:15
8124:4

Opower
8020:13
8021:17

**opportunitie
s**
7935:11,18
7960:17
7969:23
7970:14
7984:9
7993:13
8002:21
8020:6
8025:23
8035:3,7
8038:3
8056:13
8070:3,17,
18 8077:10
8080:18
8082:14
8083:7,24
8085:22
8101:8,9

8117:9
8118:16
8155:13,14
8160:22
8195:12

opportunity
7925:20
7955:8
7998:1
8010:22
8012:5,25
8021:18
8025:20
8031:21
8054:6,8
8058:6
8086:4
8093:3,9
8096:18,19
8097:4
8100:8
8103:24
8104:10
8138:8
8152:15
8156:15
8166:7,25
8167:12
8170:15,16
8177:17
8182:13

opposed
8026:1
8101:16
8102:10
8129:19

opposite
7947:25
7981:24

optimal
8009:25
8092:13

optimistic
8028:7
8168:3

option
8032:19,23
8121:19
8135:19
8156:13
8157:16,22

8160:6,8

options
7932:10,22
7971:4
8073:12,24
8074:13
8098:9
8116:14,24
8117:3
8121:12
8139:5
8154:19
8155:10,11
,17
8156:4,10,
11,14,16
8157:22
8158:2,3
8184:25

oral 8170:22

orange
7989:11
8031:1

order 8006:3
8011:3,5
8021:6
8023:7
8064:17,20
8091:16
8127:20
8136:1

organic
7935:21

organization
8049:3
8096:6,24
8142:17,18
8143:15
8148:1,5,2
1

**organization
s** 7930:12
8143:16
8147:12,16
,22
8149:5,14

oriented
7940:6

original
7977:20

7989:7,10
8077:24
8079:12,14
8105:1
8159:22
8162:25
8163:1

originally
7997:2
8170:21

origination
8143:2

Orle 7919:20
7921:22
7961:13,14
,17
8119:15,18
,19,22
8120:8,13,
25 8121:7
8122:3,24
8124:2,10,
14 8125:12
8126:2,5,2
0
8127:12,18
,23
8128:15,18
,22
8129:2,7
8130:7,11
8196:8

ostracized
8065:19

others
7953:19
7965:12
7979:17
7984:22
7985:7
8003:11
8017:11
8036:3
8048:17
8066:18
8078:4
8079:5
8092:20
8099:10
8103:16
8172:16

8186:3

otherwise
8022:15
8026:15
8087:21
8109:12
8130:4
8180:19

Ottawa
7926:11

ought 8008:7
8081:8
8160:12

ours 7989:17

ourselves
8032:9
8147:1

ousted
8048:9

outbreak
8101:19

outcome
8009:25
8155:20

outdated
8079:15

outdoor
8014:3
8023:9

outlier
8184:23

outlined
8056:25

out-of
8022:24

out-of-town
8023:1

output
8011:5
8149:10

outset
8155:11

outside
8013:15
8020:4
8158:5

outso
8013:15

outward
8080:7

outweighed
8007:18

overall
7926:4
8014:13
8112:7,8
8177:4

overcome
8066:22

overcoming
8196:16

overestimate
d 7940:10

overflow
8198:19

overhaul
8005:25

overlook
8047:23

overlooked
7973:6

overly
8028:7

overnight
7993:2

oversight
8036:23
8087:25
8088:8
8096:12
8147:20,22
8189:25
8190:9

overstated
7993:5
7998:18

overstatemen
t 7968:25

overview
8152:11

owe 8045:5

owned 8022:5

8056:11
8058:24

———————
P
p.m 7925:1
8042:13
8067:25
8068:1
8105:7,8
8199:16

pace 7992:19
8097:1

Pacific
7941:19,20

pacing
8155:10

package
7948:18

page 7921:2
7922:2
7923:2
7924:2
7949:12
7966:8
8005:5
8106:24
8116:8
8137:25
8158:13,23
8164:24
8165:3,4
8177:18
8178:3,23

Pages
7918:25

paid 7940:15
8057:3

pamphlet
8128:19

pan 8122:11

panel
7921:8,17
7925:7
7938:10
7946:10
7947:19,23
7951:13
7962:13,18
7963:6

7995:4
7999:12
8034:24
8035:16
8041:19
8042:4,10,
17,19,23
8054:5
8062:11
8064:3,19
8068:10
8075:20
8085:6
8090:3
8099:23,24
8154:4
8159:15
8189:5
8198:12,16
,21
8199:14

panels
7938:17
8099:18,21
8152:10
8188:9

panel's
7999:24
8000:1

paper
7931:22
8051:19
8123:16
8151:6
8178:2

parallel
8010:23
8143:23
8144:3

pardon
8041:18
8055:24

parity
7924:10
8030:19,20
8031:6,9,1
2,14
8102:3,11,
13,19
8103:4,7,8
,9 8106:23

8107:9,20
8108:6
8132:1
8152:16
8187:4
8188:7

Park 7938:17
8134:20

partial
8119:25

partic
7984:23

partici
8077:6

participants
8111:19
8126:7
8191:21
8192:1

participate
8085:22
8086:5
8087:1
8110:19
8192:4

participated
8056:2

participates
8086:25
8110:23

participatin
g 8085:25
8110:20
8111:19
8112:8

participatio
n
8057:15,20
8121:2
8127:9
8192:3

particular
7960:8
8012:15
8015:17
8026:17
8075:21
8096:23
8110:23

8112:13
8120:17
8125:2
8127:8
8132:11
8141:10,13
8142:19
8180:5
8187:13

particularly
7925:25
7945:4
7966:24

parties
7946:22
8042:4
8056:21
8064:24
8065:14
8088:9
8198:18

partly
7948:17
7988:10
8008:23
8012:10,13
,14
8102:14

partner
8050:15
8053:20
8058:11,21
,23
8059:1,24
8060:5
8061:1,5

partners
8045:5
8051:11
8055:11,15
,17,23
8056:16
8057:15
8058:5,9,1
3,21
8059:14,25
8060:3
8061:20

partnership
8051:5
8058:3,5,1

0,11,14,16,19,22,24
8059:3,8,13,15,16,25
8060:4,5
8061:1
8063:25

party
7957:24

Pas 7945:21

pass 8084:21

passed
8160:2

past 7932:6
7973:15
7980:3
7998:12
8001:23
8005:21,23
8006:1
8011:10
8021:7,21
8022:25
8027:17
8028:11,17
8033:5
8045:20
8055:10
8070:18
8092:1
8103:8
8123:19
8126:1
8148:24,25

path 7943:10
8156:15

patience
8091:2

patterns
8022:20,21
8098:23
8125:7

Patti 7919:5

pause
7933:10
7958:20
7962:11
7984:14
8044:23

8090:25
8094:9
8104:21
8129:5
8151:9
8158:16
8165:1
8173:6
8177:14,21
8193:15

pavement
8147:5

pay 7940:2
8024:7
8045:13
8134:23
8191:11

payable
8056:18

payback
7936:22
8123:4

payment
8065:8,9

payments
8056:18,20
8097:15

PDF 8164:24

PDP 8132:5

PDP's
8132:14

peak 7996:2
8024:14
8089:10
8116:13

peaks
8173:17

peaky 8169:2

pegged
7984:3

penalties
8149:7

pending
8151:23

penetrate
8126:23

penetration
8010:19

peop 8146:5

people
7927:2,11
7930:22
7934:7
7937:3,9
7938:2,11
7942:12,16
7943:9
7944:16,21
7952:8
7971:9
8047:25
8049:21,24
8053:3,13
8062:6
8065:13
8066:11
8069:4
8074:21
8085:24
8091:2
8096:16
8097:14
8105:10,24
8125:5,19
8126:13
8127:14
8128:2,6,7
8146:5
8147:3,13
8154:22
8174:16,22
8186:23
8187:1
8188:11
8192:4
8196:22

peoples
7930:22

per 7927:9
7928:3,16,17 7929:5
7930:16
7932:20
7982:9
7983:1,5,7,9,19
7984:3
7985:1,22

8002:10
8006:3
8017:2
8031:8
8041:9
8072:15
8082:1
8095:3,7
8109:9,25
8110:25
8111:3,14
8157:20
8158:25
8184:9,12,14,24
8185:6

perceive
8189:7

percent
7931:2
7935:8
7936:14
7939:9,10
7941:15,17
7972:4,5,16,18
7981:14
7982:4,9,10,13,15
7983:1,5,7,9,12,19,20 7984:1,3
7985:22
7986:3,11,15,17
7988:21
7989:23,25
7991:14,18,21
7996:2,5
7997:5
8002:10
8006:4
8011:4,9
8013:10,18
8014:22
8018:3
8021:6
8028:20
8029:4
8031:8
8038:15
8041:9

8047:7
8051:5,17
8058:7
8060:23,24
8063:14,16
8070:19
8071:8,24
8072:15
8074:8,12
8078:17
8092:24
8095:5,14
8097:10
8101:3
8102:9,10
8103:21
8167:17,24
8168:8
8173:12
8174:8

percentages
8169:22

percolate
7993:18

percolated
7993:9

perfect
8107:24
8123:16

perfectly
8032:14
8101:25
8166:20
8169:15

perform
7949:14
7999:25
8000:2
8059:19
8088:16

performance
7926:7
7936:10
7944:18,20
8014:17,21
8017:10,13,16
8023:13,17
8027:2
8147:24
8149:8

8189:13,18	**persons**	7925:9	8090:10	8142:4,10,
performing	8123:2	7947:10	8091:20,25	20,23
7937:1	8196:15	7950:20	8092:19	8144:7
8088:17		7951:5,14,	8095:16	8145:15
8189:22	**perspective**	22	8097:22	8146:14,17
	7925:22	7952:4,10,	8098:18,21	8149:19
performs	7927:1	14,22	,24	8150:5
8023:23	7980:15	7953:4,8,1	8100:11,23	8152:2,13
	7991:10,24	3	8107:4,24	8153:4,17,
perhaps	8007:19	7954:1,6,1	8108:25	20,23
7926:19	8070:5	3,17	8109:11,19	8154:8,15
7931:6	8073:15,25	7955:7,13	8110:4,11,	8155:25
7969:5	8082:19,23	7956:4,7,2	15,21	8156:24
8168:11,12	8084:8	4 7957:22	8111:5,11,	8157:9,11
8170:23	8085:14	7958:11,15	17 8112:25	8159:4,11,
8194:10	8092:14	7959:2,14,	8113:4,16	19 8160:18
8197:15	8101:13	20,25	8114:6,9	8161:16
	8115:4,22	7960:7,25	8115:16	8163:2,5,9
period	8136:8,20	7963:9	8116:15	,13,16
7934:14	8144:10,12	7966:10	8118:6,22	8164:1,3,7
7972:12	8154:7	7967:4	8119:8,13,	,11,15
7991:17	8155:24	7971:24	21	8165:11,15
8006:10	8161:19,20	7975:20	8120:6,12,	,20,23
8071:15	8162:6,14,	7976:7	19	8166:4,8,1
8092:5	16 8183:17	7979:23	8121:6,11	5,20
8102:24	8191:24	7986:18,22	8122:7	8167:3,18
8114:14	8193:11,12	7987:8	8123:7	8168:1,5
8141:5		7990:22	8124:7,13,	8170:3,7,1
8164:18	**perspectives**	7992:15,23	17 8125:14	2
8180:18	8043:11	7995:12	8126:3,8	8171:10,16
8188:21,24	8140:22	7997:7,13	8127:5,17,	8172:2
		7998:19	22,25	8173:13,18
permanent	**persuaded**	8000:19	8128:17,21	,25
7927:15	8094:9	8005:7,10	,23	8174:4,12,
7929:10,13		8007:21	8129:22	19,23
,17,20	**pertaining**	8008:1,5	8130:10	8175:6,15
7943:7	8055:19	8009:3,20	8131:5,8,1	8177:7,10
		8010:2	3,18	8178:7,10,
permeant	**pertinent**	8015:12	8132:9,22	21
7930:3	8147:11	8016:10,21	8133:13,17	8179:4,11
		8026:9,16,	,20,22	8180:7,10,
person	**perversely**	19 8034:1	8134:2,9,1	22
7927:9	8092:12	8035:21	4	8181:4,8
7928:1,4,5		8039:3,6,1	8135:1,8,1	8182:15,24
,10,17	**Peter**	4	2,21	8183:6,9,2
7929:6	7919:16	8068:11,16	8136:6,14,	2 8187:14
7990:4		8071:7,10	18	8189:9
8184:8,9,1	**Peters**	8075:11,18	8137:6,10,	8191:3,13,
2	7919:2	8076:1	15,19,23	18 8193:21
	8066:5	8085:17	8138:3,12,	8194:23
personal		8086:15	17,21,25	8195:5,9,1
8067:13	**phase**	8087:7	8139:17,21	6,20,23
8073:15	8089:17	8088:2	,25	8196:2,11,
8097:13		8089:2	8140:11,24	18,24
	phased			
personality	8169:7			
8096:5				
	Philippe			
	7921:9,18			
	7923:3			

8197:7

phone
8022:23
8125:24
8126:6,15,
16,19

phonetic
8059:17

photograph
8067:2,5

photographs
8062:3,4
8067:6

photos
8024:17

photovoltaic
7938:14
8090:6
8152:10

**photovoltaic
s** 8004:2
8026:10

pick 7965:15
8091:10

picture
7969:3
8009:5
8044:15
8188:6
8189:4
8190:12
8193:6

pie 7995:19

piece
7950:11
7971:17
8005:3

pieces
7965:15
7994:16
8139:2,3
8140:25

pike
7970:10,11

piled
8048:22

pillar

8130:17

pilot
8015:18,19
8168:12

pipeline
7948:16,19
,20
8182:18,21

pissed
8051:23

pitched
7945:16

places
8026:21
8039:22
8040:25
8100:25
8102:4
8122:18
8125:3

plait 7961:7
8106:15

plan 7918:10
7925:23
7927:7,10,
16 7930:17
7933:14,16
,24
7934:4,5,1
3,14,15,24
7935:6
7941:6,7
7942:5,7,1
3 7943:4
7948:11,18
,19,20,22,
24,25
7949:4,15
7950:5
7955:9
7959:9
7980:4,5
7981:12
7982:6,25
7985:11
7988:12
7989:11
7990:14
7993:3,24
7995:8
7996:8

7997:10,12
,15,23
8000:1,3,2
4 8002:20
8024:23
8035:23,25
8064:5,11
8065:16
8073:21,22
8079:14
8082:25
8089:23
8103:18
8124:16
8127:2,4
8132:6
8138:15,20
8141:25
8142:17
8150:10
8153:16,18
8154:7,14
8157:14
8166:7,10,
11,13
8169:16
8170:25
8171:6
8173:23
8177:17
8178:1,19
8194:20,21
8195:2,7,8

planned
7923:11
8041:4
8141:23
8150:14,25
8179:19

planners
8040:16
8076:7

planner's
7970:8

planning
7940:4
7951:19
7958:24
7959:3
7969:21
7970:12
7980:15,19

7991:7,9,1
0,24
7993:19
7994:5,11
7998:11
8002:23
8031:12
8036:12,25
8037:14,19
8038:20
8040:4,9,1
7
8041:7,11,
12
8056:2,5
8068:22,25
8070:8,22
8072:4
8073:18,20
,24,25
8076:14
8078:4
8084:11
8114:13,15
,17
8119:25
8120:3,8
8121:9
8124:12
8144:13
8154:16
8155:6
8161:1
8164:18
8170:13,15
8180:17
8191:2

plans
7923:9,13
7933:13
7945:11
7954:12,20
7955:3,5
7960:14
7969:1
7986:24
8003:1,3
8035:8
8037:6
8038:13
8069:9
8100:15
8124:4,6

8127:19
8143:12
8150:13,15
,22 8151:3
8167:2

plant
7929:19
7973:1,20,
22
7974:6,8,1
1 8039:24
8082:19
8149:9,10

plants
7929:2,16
7934:19
7938:16
7940:20,24
7972:11
7974:4
8028:24,25
8038:23
8082:20
8083:23
8084:16
8099:16
8101:6,10,
14,15
8104:1,13

play
7980:14,18
8017:12
8084:10
8118:4,7

playing
7962:22

playoffs
7962:21

plays
8094:6,7

please
7925:5
7947:7
7961:13,23
7962:4
7967:3
7981:8
8000:10
8041:21
8043:7,8,2
5 8054:1,9

8068:8
8130:13
8133:3,8
8149:18
8158:13
8173:9
8177:19
8193:20
8197:12

pleasure
8100:11
8139:25

plethora
8089:11

plot 7990:9

plus 8025:17
8093:13

plus-plus
7987:18

point
7928:19
7932:20
7964:6,14
7967:6
7968:15
7972:21
7973:5
7985:11
7986:14,20
7987:4,6,7
,23,24
7988:1,2
7992:3
7995:16
7998:8
8004:12
8006:9
8009:14
8014:22
8019:1
8024:19
8030:20
8033:14
8037:24
8044:3
8046:6,14
8051:5
8052:13,14
8078:19,20
8087:24
8094:14,25

8097:21
8098:7
8109:9
8124:3
8126:20
8127:13
8139:10
8140:9,10
8153:8,9
8158:25
8159:13
8160:6
8164:9,17,
22 8166:12
8168:9,10
8170:1
8175:24
8176:17
8198:20

points
8017:22
8106:20

poisoning
8048:1

pole 8123:18

policy
7926:15,24
7994:15,23
,25
8005:20
8006:13
8056:15
8080:17,25
8081:5
8082:9
8088:4
8170:17
8180:15
8187:9,12

political
8090:17

Polo 7938:17

pool 8007:4

poor 7963:18

poorly
8095:24
8096:1

population
7933:5

8120:14,15
,23 8122:6
8123:17,25
8126:19

populations
8125:3,17,
19 8126:15
8127:7

Portage
7918:22

portfolio
7966:1
8139:1,5
8160:5

portion
8045:7
8120:15

portray
7992:9

position
7925:4
7946:23
7947:5
7948:9
7949:1
8044:8
8055:8
8057:9
8064:15
8068:4
8105:11
8154:11
8180:3
8183:20

positive
7936:17

**possibilitie
s** 8112:23

possible
8017:18
8069:1
8106:25
8174:18
8179:12,17

possibly
7968:6
7970:2

post 7990:25

post-2018
7990:25

postgraduate
7959:21

posting
8016:22

potential
7927:19
7932:24
7933:15
7944:6
7956:23
7957:1
7960:15
7964:4
7984:3,6
8024:22
8030:9,12
8033:22,25
8037:22
8057:19
8064:12
8069:21
8070:2,11,
13,20
8071:6,18,
19,20
8076:3,9
8103:16
8117:5,7,1
0 8138:19
8140:7
8171:18,19
,21 8181:1

potentially
8083:4,8

potentials
8117:5

pound 8147:5

poverty
8060:18
8062:12
8063:24

power
7923:8,13
7933:14,16
,24 7934:4
7940:20,23
,24
7941:23

7943:19,20
7953:16
7954:21
7955:9
7972:6,11,
18 7973:16
7974:13,16
7976:9,13
7981:12
7986:14
7989:10
8003:1
8019:24
8026:21
8027:11,13
8028:15,16
,21,24
8030:2
8031:20,24
,25
8032:19,20
,25
8033:12,16
,19,20
8036:22,25
8038:23
8039:24
8040:16
8057:5
8058:4,14,
19,24
8071:16
8073:17,20
8074:2
8079:13,14
8083:9
8091:19
8098:17
8099:16
8100:18,22
8101:16
8102:16
8103:5
8104:1
8107:9
8109:8
8130:25
8131:3
8132:19
8133:15
8135:19,24
8136:5
8137:5,7,1
3 8143:24

8144:2
8149:9,10
8150:10,21
8151:2
8166:7
8169:15
8171:6
8173:23
8177:17
8178:1,19
8185:3
8188:21
8195:3

powerful
8021:16

powerlines
8047:13

PowerPoint
7924:21
7963:4
8079:4
8197:23
8198:7

practical
7943:21
8028:10
8155:20

practically
8047:2

practice
7923:4
7960:14
8052:3
8105:19,23
8106:11
8148:17

practices
7956:8,13,
14 8027:4

practise
8056:23,24

practised
8073:4

prairieHOUSE
8016:2

pre 8054:12
8107:19

precipitous

8077:6

precise
8122:9
8160:23

precisely
8078:19
8192:18

precision
8023:13

predict
8182:11

predicting
7940:13

prediction
8080:22,24

predictive
8023:18

prefer
7927:10
7998:4
8028:8
8115:17
8159:17

preferable
8115:18

preference
8087:14

preferential
8008:10
8083:1

preferred
7918:10
7925:23
7927:6,10,
16 7930:17
7942:5
7943:4
8076:17
8082:25
8132:6
8141:25
8156:13

pre-filed
7924:9
8108:4

premiere
8148:21

premier's
8055:8

premise
8146:20,21

premium
8074:13

prepa
8163:11

preparation
7952:6
8153:15
8163:24

prepared
7947:23
8048:14
8064:24
8108:20
8117:23
8162:24
8163:24
8167:8
8180:21
8197:4
8198:17

preparing
8127:1
8163:7

pre-rinse
8007:4

present
7925:20
7992:17
8019:10
8101:25
8136:24

presentation
7921:6,13,
14,15
7923:3
7925:11,15
,18,21
7946:14,18
7950:24
7951:1,5
7961:10
7963:4,19
7968:3,4,1
0
7969:12,13
,15

7970:25
7974:2
7980:16,17
7981:8
7982:2
7989:16
8000:21
8043:15
8047:10
8050:10
8054:3,6,1
0,12
8057:1
8065:25
8076:16
8084:24
8130:19
8173:9

**presentation
s**
7947:17,18
,22 8042:5

presented
7997:2
8114:2
8132:7

presenter
7925:13

presenters
7926:19
8042:6

presenting
7926:3
7950:20
8042:18

President
7953:23
7961:9
8106:19

press 8023:2
8055:5

pretty
7926:14
7955:15
7964:23
7966:3
7967:23
7976:16
7994:22
8010:19

8020:20
8021:24
8051:23
8053:2
8072:8
8077:25
8078:5
8080:2
8083:22
8093:1
8094:7
8101:1
8103:17
8109:20
8113:19
8114:16
8117:16
8123:22
8132:13
8145:5
8146:23
8148:9
8158:9
8161:25
8177:3
8186:1
8189:4

prevalence
8017:6

prevalent
8004:12

preventing
8092:16

previous
7935:5
7940:9
7977:25
7985:3
7988:11,12
7994:12
7998:14
8025:24
8037:23
8155:5
8169:16

previously
7921:18
7954:22
7969:2,11
8004:21
8021:19
8028:4

8068:11,19
8069:8
8076:21
8197:6

price 8019:1
8033:14
8145:10

priced
8009:19

prices
7933:1,8
8030:16,17
8033:12
8044:14
8064:25
8083:14,17
8187:8

pricing
8057:5,10
8065:5
8090:8
8092:18
8099:21

primarily
7926:1
7955:22
7965:1
7977:6
7981:24
7988:17
8026:1
8036:14
8082:13
8084:16
8096:24
8100:14
8137:10
8165:15
8173:19
8184:16

primary
7977:13
7980:12
7981:21

principle
8002:13

print
8106:25
8119:9

printed

8074:19

prior 7924:5
7975:7,17
7986:23
8054:19
8154:17,18

priorities
7948:6
7999:23

priority
7948:11,12
7977:5
7999:25
8000:2
8142:13

private
7926:12
8008:4
8033:19
8063:12

pro 7957:19
7963:12

prob 7939:19

probability
7939:20

probably
7955:24
7959:3
7968:20
7970:4
7980:21
7993:9
8031:10
8041:16
8042:25
8051:16,20
8071:20
8073:16,23
8077:19
8092:24
8105:2
8118:24
8132:8
8134:20
8162:1
8181:17
8183:15
8188:18
8189:23
8195:9

problem
7945:24
7969:21
7984:21
8000:22
8037:12
8090:11
8129:15
8144:20
8193:9

problems
7936:12,18
7972:22
8123:19
8128:9
8129:14

Procedures
7960:3

proceed
8062:18
8109:6

proceeding
8062:21
8108:18

proceedings
7925:4
7947:6
8041:20
8042:17
8105:12
8114:4
8151:12
8199:2

process
7929:12
7942:6
7951:20
7957:3
7958:7
7959:7
7983:8
7993:22
8009:12
8027:2
8036:25
8043:7
8055:21
8057:23
8154:16
8158:6
8170:13

processes
8096:17

produce
7974:9
8017:10
8098:15
8130:24
8149:10,11
8195:25

produced
7987:13

producer
8033:16

produces
8089:5

producing
8010:15
8015:3
8021:5
8092:4

product
7926:15
7942:6
8095:21
8147:6

production
7935:3
8143:21

productive
7977:10

products
7936:4,5
7937:7
7955:18
8008:6,19
8029:12
8095:23,24

profile
8073:11
8074:4,25

profound
7937:19
7942:16

prog 8192:4

program
7926:16
7955:11
7956:15

7957:23,24
7960:4,14,
17 7965:25
7986:6
8007:13
8022:2,14
8026:24
8027:1,8,9
8109:23,24
,25
8110:7,23,
24 8111:15
8119:6
8120:9,18,
20
8121:1,5,2
2 8124:8
8125:11
8127:9,10
8128:25
8129:19,20
8145:22
8146:2,3,7
8149:22
8152:4
8157:24
8167:16,24
8168:7
8169:1
8172:8
8179:15

programmable
8022:11

programmed
8014:9

programming
7924:20
7979:17
8022:9,18
8085:11,13
8196:15,23
8197:22
8198:5

programs
7930:25
7935:9
7955:15,17
,19
7957:9,20
7958:1
7967:13,25
7978:24

7987:23
8002:21,25
8011:25
8017:12
8025:25
8086:16,17
,22,23
8087:2
8088:7
8110:19,20
8116:9
8117:21
8118:5,19,
21 8119:5
8120:4
8121:1
8122:8
8123:1
8124:8,12
8127:14
8129:9
8138:19
8148:3
8149:25
8154:12,13
8167:21
8168:18
8171:4,5
8184:17
8192:2,4,5
,12 8197:1

progress
7936:9

project
7924:16
7929:16
7957:13,14
7973:1
7976:3,10
8015:18,20
8053:16
8056:6,13
8057:25
8061:22
8063:15
8064:1
8066:8
8094:3,4
8130:23
8131:11,14
,19 8152:9
8192:18,22
8193:23

8194:4

projected
7923:6
7939:3
8137:22
8150:12,19
8167:1,9
8171:25
8173:17
8174:3
8178:24,25

projecting
8159:2
8168:19
8171:14
8182:18

projection
7939:6
8080:24
8144:25

projections
7935:3
7938:4
7984:16,17
8132:12
8137:11
8171:15
8173:17
8180:2

projects
7957:24
7958:24
7972:6
7973:14
7976:14,16
,18 8033:8
8055:20
8058:1
8060:11
8061:8
8062:22
8063:8
8072:2
8131:17
8167:24
8179:18
8185:5

promise
7963:12

promises
8044:11

8046:20
8049:6,20
8052:7
8062:8

promote
8077:10
8152:20

promotes
8011:25

promoting
7926:6
8031:25
8127:19

pronounced
8042:20

proper
7970:19
7980:19

properly
8045:1
8171:18

proportion
8122:16

proposal
8057:20
8073:1

propose
8150:15

proposed
8006:24
8057:16
8171:5

proposes
8171:8

proposing
8118:18

prorate
7929:18

prospects
8180:3,9

prosperity
8044:11

protect
8054:22

protected
8107:7

protecting
8046:23

protest
8060:13,25
8061:3

proud 7965:3

prov 8064:9

provide
7924:3,7,1
4,17
7967:7,12,
23
7975:8,14
8014:1
8020:18
8022:17,21
8023:17
8057:1
8058:17
8059:12
8064:9,19
8085:2
8107:8,18
8108:1
8120:2
8122:18
8124:3
8140:18
8151:25
8152:11
8183:21
8192:20
8193:18,22
8194:1
8197:4
8198:1

provided
7924:18
7927:24
7950:25
7953:2
8000:16
8061:8,25
8064:16
8114:3
8133:24
8135:4
8186:17
8189:3
8192:21
8197:6,21

8198:3

provider
7995:11

provides
7931:19
8014:11,14
8093:14
8189:3

providing
7954:3
8011:18
8013:14
8021:2
8025:21

province
7926:9
7931:2,3
7942:12
7955:24
7965:9
7974:8,14
7976:10,15
,17
7978:6,9
7979:3
7981:2
8030:12
8072:3
8081:11
8120:13,22
8154:1

provinces
7974:21
8004:22
8005:13
8021:9
8107:11
8162:2
8185:12,13
,18,23
8186:5
8195:19

provincial
7976:17
7986:8
8047:15
8061:10

provisions
8059:20

prudency

8116:2

prudent
8069:1
8082:11
8084:12
8087:9
8180:6

PUB 8087:6,8
8150:15
8151:22
8166:3
8167:7,8

**PUB/CAC/
GAC-1**
7952:2

PUB-67
7923:6
8150:18

PUB-68
7923:10
8150:24

public
7918:3,21
7924:5,19
7933:17
7952:17
7958:4
7975:7,17
8044:4
8057:7
8063:20
8065:24
8066:1
8069:14
8093:16,18
8185:15
8195:22
8196:20
8197:2,6,2
2 8198:4

publicly
7974:24

published
7959:24
8092:3
8192:21

pull 8085:1

pulled
8052:10

pump 7936:10
8012:22
8014:18
8016:4,19
8047:10

pumping
8023:24

pumps 7936:8
8003:23
8012:9,12,
13,16,24
8013:1,17,
23 8014:2
8016:8,12,
14,16,18
8017:7,9,1
3,19
8018:1,15,
24,25
8019:9

purchase
8008:25
8009:22

pure 8186:21

purely
8179:21

purpose
7966:9
8054:10
8153:3,5

purposes
8068:22
8076:14
8084:11
8114:17
8161:1

pursuant
8058:10

pursue
8080:17
8180:15

pursuing
8018:15
8080:17
8081:5
8088:4
8093:7,11
8180:16

pursuit

7994:23,24
8066:23

push
8046:19,24
8053:7,15
8141:10
8176:10
8183:5

pushes
7982:24

pushing
8051:25
8053:8,11
8144:16

puts 7994:6
8094:10
8188:9
8190:7

putting
7940:22,24
7944:21
7946:13
8012:21
8034:5
8115:1
8121:18
8128:19
8139:12,13
8179:23

puzzle
7971:17

PV
7938:10,13
,14,17,18,
24
7939:2,9,1
3,20
7940:1,3
7942:24
8026:25
8027:15,20
8028:19
8030:17
8031:2
8083:16
8090:11
8102:9
8106:23
8131:3
8152:16,21
8153:1,5,1

1

———————
Q
———————

Qual
7921:9,18
7951:14
8068:11

**qualificatio
n** 7921:10
7951:16
7961:15,21

**qualificatio
ns** 7950:22
7951:10
7952:17
7961:10,25
7964:19
7966:16

qualified
7952:19
7959:11
7960:11

qualify
7961:11

quality
7930:20
8010:16
8013:25

quantity
7930:20

quarter
8057:22

Quebec
7965:9
7974:14,17
,18
7976:10,11
7977:1
8081:11
8083:3
8143:20
8144:22
8185:1,14

Queen's
8061:3

question
7935:10
7939:13,16
7941:4

7944:5
7980:18
7987:14
8006:17
8007:15
8022:19
8034:13
8035:22
8047:24
8052:12
8062:20
8064:18
8075:5,8
8087:5
8088:23
8090:14
8097:3
8098:25
8099:4
8101:19,20
8103:1
8108:13
8111:21
8131:2
8136:16,18
,24
8142:12
8143:2
8145:22
8146:8
8147:10
8155:8
8156:20
8159:23
8166:23
8176:15
8180:23,24
8187:20
8195:12

questioning
8048:12

questions
7946:10
7963:6
7966:17
7998:8
8048:4
8050:2
8085:6,7
8090:2
8091:4
8119:12,23
8130:8,19

8132:25
8133:5,14
8140:2,5
8151:18
8152:16
8183:11,13
,14,15
8190:19
8194:14

quick
7936:22
7963:16
7970:22
7977:22
7998:13
8033:2
8034:6
8197:11

quickly
7935:19
7964:17,21
7968:12,14
,24 7971:3
7994:12
7998:22,23
8003:21
8004:4
8006:15,19
8010:9
8031:15
8035:18
8048:4
8071:12
8072:8,14
8081:4
8083:15
8101:13
8102:20
8114:19
8122:15
8169:19
8177:1

quite 7929:6
7934:9
7946:20
7983:8
7989:21
7990:16
7998:18
8030:10
8070:16
8076:9

8100:15
8104:9
8156:18
8165:25

quote 8034:6
8064:5

quoted
8044:18
8045:7
8048:5
8186:17

───────
R
───────
R&D 7934:25

radiation
8030:8,12,
14

radically
7934:16

rainfall
8136:25
8137:11

raised
8004:16
8072:24

raises
7935:10
7941:4

Ramage
7919:5

ramp 7985:22
7990:24
7998:22
8023:11
8027:2
8031:16
8148:15
8173:11

ramped
8072:14
8169:19

ramping
8023:22

ramp-up
7985:21
7991:14
7992:18
7997:22

7998:3

ran 8186:16

range
7973:11,17
,18 7974:4
7977:2
7983:13,21
7985:22
8013:21
8018:16
8073:24
8081:23
8092:8
8103:21
8159:6
8184:13,20
8186:17,19

ranges
8014:24,25

rapid
7990:25
7991:13
7997:22
8017:4
8027:23
8028:15
8031:16

rapidly
8029:1

Rapids
8057:19

rate 7981:14
7982:10
7984:23
8051:17
8072:17
8077:11
8101:10
8109:9
8110:13,14
8134:22
8157:5
8165:14

ratepayer
8047:14

ratepayers
8057:2
8059:6,11
8063:7,22
8065:3

8131:4
8160:3
8162:10

rates
8062:24
8063:1,10,
13,18
8089:18,19
8102:19
8116:10
8118:14
8119:5,10
8165:8,13
8166:2
8178:17

rather
7941:5
7964:8
7980:7
7984:7
7986:2
8003:17
8073:10
8076:8
8077:5
8087:11
8116:1
8143:5

ratings
7978:1

rationally
8008:24

RCMP 8065:15

Re 7918:7

reach 8128:7
8129:18

reached
8051:4

reaching
8085:23
8174:6
8196:9

reading
8075:9,17
8106:1
8187:2

ready 7940:3
7942:25
7943:22

7944:3
8016:6
8042:16
8101:25
8151:11

reaffirmed
7932:17

real 7973:14
7981:7
7998:20
7999:8
8008:13
8028:10
8033:1,22
8034:12,13
8035:10
8051:18
8082:6
8083:24
8084:1
8085:18
8093:10
8113:9
8144:17,19
8146:12,25
8181:20
8182:5

realistic
8115:21

reality
8138:11

realization
8093:7

realize
7938:20
8037:11

realized
7991:1,3
8063:9
8137:22
8154:22

really
7927:18
7930:5
7931:17
7938:24
7943:7
7963:16
7964:6
7969:25

7972:24	**reasonably**	8015:19	**recollection**	**n** 7922:3
7978:16	7983:16	8017:20,22	7957:18	8190:23
7979:7	7985:20	8033:9		
7984:18	8002:22	8035:2	**recommences**	**red** 7943:25
7988:4,5	8117:15	8072:2	8041:20	7984:20
7990:16	8186:13	8075:24		7985:13
8001:14		8191:5,6	**recommend**	7997:10
8005:3	**reasoning**	8193:22	8027:1	8071:1
8010:3	8132:14	8194:2,21	8088:1	8076:23
8012:4,25		8196:20	8106:1	8077:16,17
8017:12	**reasons**		8115:25	8079:18
8019:22	7965:5	**recently**	8160:19	
8025:25	7977:14	7929:1		**redirect**
8030:3	8004:18	7957:2	**recommendati**	8183:14
8031:20	8016:24	7958:5	**on** 8087:7	
8035:7,10	8092:22	7974:20	8112:18	**re-direct**
8074:21	8114:11	7994:16		7922:4
8080:23		8004:19	**recommendati**	8190:19
8081:8	**rebuttal**	8015:19	**ons** 8154:3	8194:16
8083:12	7986:24	8033:4	8174:7	
8087:8	7988:9	8036:6,9		**reduce**
8090:14	8002:13,17	8097:7	**recommended**	7935:23
8095:23	8018:15	8117:4	7996:8	7936:13
8101:8	8164:6,23	8191:5	8152:25	7953:15
8111:18,25		8192:20,21		7977:17
8113:22	**recall**	8194:25	**recommending**	7996:9
8125:14	7963:13,25		7996:10	8031:23
8126:4	8075:14,17	**recess**	8087:6	8123:6
8129:23	8076:23	8041:18	8118:20	
8130:5	8077:2			**reduced**
8131:10,22	8142:9	**recessing**	**recommission**	8110:24
8149:13	8184:1	7947:1	7944:18	8139:14
8157:20	8194:17,22	7999:18		
8158:7,10	8196:7,13,	8042:12	**record**	**reducing**
8169:6	17	8067:25	7940:13	7937:20
		8105:7	7950:8	7977:6,9
realtime	**receive**		7964:14	8089:10
8025:4,9	8021:7	**reck** 8049:5	7986:13	
8148:9	8055:13		8042:3	**reduction**
	8056:12	**recognition**	8047:16	8011:3
reason	8060:10	7993:15	8104:25	8074:8
7977:14	8066:2	8002:14	8105:14,15	8083:19,21
8012:12		8070:12	,21	8090:7
8096:24	**received**	8192:22	8113:14	8112:8
8109:12	7950:5		8114:2	8155:23
8188:10	7977:25	**recognize**	8193:20	
	8046:5,13	7943:3	8197:15	**reductions**
reasonable	8055:1	8040:20		7935:9
7980:22	8154:4		**recording**	8027:23
7984:19		**recognized**	8043:2	8089:5
7985:18	**receiving**	8040:11		8102:9,10
8023:12	8060:19	8093:2	**records**	
8064:10	8134:23		8045:4,11	**re-evaluated**
8087:16	8136:3	**recognizes**	8048:6	8170:25
8115:9		8002:19		
	recent		**recovery**	**reference**
	7924:14	**recognizing**	7936:21	7966:8
	8003:19	7997:9		8000:17
			Re-cross-	8140:14
			examinatio	

8142:3

referred
7953:7
8107:1

referring
7959:4
7967:9
8130:6
8141:23
8195:8

refers
7953:7
7994:19
8182:17

refine
8197:1

reflected
8063:5

refused
8057:1
8058:17

refusing
8059:11
8064:19

reg 8062:17

regained
8066:19

regard
7941:21

regarding
7954:4
7961:6
8045:6
8133:14

regards
8050:17
8051:20
8113:24

region
7941:22
7965:9
8020:24
8036:20
8038:19
8073:16
8074:2
8118:9
8140:12

8152:22

regional
8036:23

regionally
8037:16

regions
7965:16
7983:4,11,
14 7998:21
8036:5,8
8039:25
8072:22
8092:25
8117:8
8141:14,16
8143:5
8162:1
8169:19
8190:14
8193:1,3

Regis
7918:13

registered
8060:7

regroup
7947:21
8042:4
8198:21

regularly
8075:10

regulations
8104:12

regulator
8143:4,6

regulators
7958:25
8090:8,18
8093:15
8187:1

regulatory
7959:13
8001:12
8003:18
8062:14,17
8071:19
8092:17
8093:11,12
8136:3

reimburse
8057:15

reimbursed
8055:14
8057:22

**reimbursemen
t**
8056:14,15
,21

reinforcing
7972:21

relate
8117:25
8119:23

related
7933:3
7954:24
7960:12
7964:23
7965:24
8136:2
8149:25
8152:25
8178:19
8181:21
8187:11
8189:11

relates
8108:14
8112:13

relating
7924:10
8107:20
8108:5
8151:20
8152:10

relation
8141:24

**relationship
s** 7979:6

relative
8078:18

relatively
7939:18
8179:8
8186:10

relaxed
8043:7

release
8044:17
8195:14

released
7932:18
7974:23
7975:1
7980:6

relevant
7931:7
7938:10
7945:15
7968:21
8064:16

reli 8063:17

reliability
7940:9
8038:7
8039:11
8069:5
8083:8

reliable
8036:19
8188:21

relied
8136:13
8174:8

relying
8063:18
8064:8
8179:8

remain
7931:3
7980:11
7994:25
8074:1
8110:8
8160:12

remainder
8185:22

remaining
7969:20
7972:18

remains
7931:2
7980:12
8062:20
8080:25

8096:22

remarkable
8028:22

remarkably
7942:22

remember
7971:1
8010:14
8022:15
8033:4
8073:19
8094:20
8131:20
8148:19
8159:20

remembers
8000:17

REMI 8185:25

remind
8042:3
8194:10

reminded
7995:21

**renegotiatin
g** 8050:24
8052:21

**renegotiatio
n** 8051:13

renewable
7954:4
7964:25
8046:25
8047:24

renewables
7926:2
7937:23
7938:8,9
7953:18
7984:10

renews
8076:9

repeat
7942:18
7965:2
7991:22

repeating
7968:9,16

repercussions 8065:16

replace
7935:14
8008:20
8011:16
8024:15
8038:3,23
8101:15
8175:3

replaced
7938:1

replacement
8135:6
8146:3

replacements
8008:19

replacing
8026:2

replenishes
8037:22
8069:22

report
7924:15,18
7934:23
7935:6
7940:21
7950:23
7951:18
7952:6
7960:2
7975:7,9
8034:6
8053:10
8095:1
8106:24
8116:7,8
8140:10,15
,16
8142:3,6
8147:19
8148:20
8151:19
8162:25
8163:8,16
8192:20
8193:18,19
,22 8194:2
8196:1
8197:5,14,
17,19,21

8198:3

reporting
8087:25
8088:11,12
8147:18,23
8149:6
8189:24,25
8190:8

reports
7931:13
8117:23

represent
7994:4
7999:7
8062:4
8144:4

represented
8055:18,21
8056:1

represents
7942:14
8070:11
8071:2
8143:21
8166:18

request
8105:18

requested
8105:20

requesting
8060:14

Requests
7951:25
7952:8

require
7943:19
7949:17
8012:17,20
8121:2
8189:13

required
7983:5
8121:9
8133:25
8182:19

requirement
8109:4
8110:1

8135:25
8143:7

requirements
8083:19,21
8088:11
8124:15
8147:23,24
8149:6

research
7926:16
7936:4
7938:6
7939:7
7945:18
7946:8
8020:21
8154:4

resemble
8015:15

resentment
8054:21

reserve
8047:7

reserved
7925:9
7947:9
8198:12,15
,19

residential
7955:17
7965:22
7972:13
8020:8
8027:12,25
8103:9

resounding
7935:12

resource
7941:13,22
7951:19
7973:3,7,2
5 7974:1
7980:19
8001:5,6
8028:21
8029:2
8076:11
8090:22
8091:22
8092:9

8094:23
8095:19
8102:16,18
8104:8
8116:14
8133:16
8134:1,7
8135:19
8136:25
8144:13
8153:16,18
8154:7,14,
16
8157:3,4
8158:21
8160:16,21
8161:1,11
8170:14
8175:17
8176:4,6,1
4 8190:25
8191:2,10,
19 8192:8
8194:20

resources
7974:25
8006:17
8040:3
8061:14
8154:24
8157:19
8175:19,21
8176:10
8184:18

respect
7932:13
7948:10,24
7949:4
7950:3,21
7952:7,19
7955:5
7957:20
7985:1
8112:16
8117:1
8135:18
8137:16
8143:20
8180:18
8183:18

respective
8129:24

respond
7948:6

responded
8152:3

response
7953:19
7959:6
8089:1,14,
19,21,23
8116:9
8117:5,7,9
,19
8118:15
8132:14
8195:11

responses
7951:24
7952:7

responsible
7951:18,24
7967:13
8038:7
8039:11,13
8056:20
8069:4

rest 8199:9

restate
8180:24
8197:16

restricted
7946:11

result
8030:24
8037:14
8038:17
8040:9,18
8041:4
8070:21
8072:2
8073:14
8074:6
8076:12
8141:10
8156:12
8192:13

resulting
8079:18

results
7967:21

7984:19
8015:15,16
8077:23
8087:12
8111:15
8115:14
8147:19
8163:19
8186:7,12,
18

resume
7925:4
8105:11
8151:12

resuming
7947:2
7999:19
8042:13
8068:1
8105:8

retained
7958:5
7978:3
8152:4
8154:5

retainer
8151:24
8152:12

retention
8130:4

retire
8101:14

retired
8101:15

retirement
8083:23
8101:10

RETIRES
8042:10

retiring
8101:6

retrofit
7944:14,15
7955:17,19
8122:8
8192:5

retrofits
8121:16

retrofitting
7930:14
7931:7
7944:7

return
8058:23
8060:2,6

revenue
8109:4
8110:1,16
8136:22

revenues
8062:23
8063:6,22

reversion
7998:13

revert
7994:12

reverting
8193:10

review
7918:9
7933:17
7955:8
7960:15
7970:19
8054:9
8064:23
8152:3
8166:7,18,
22 8167:13
8177:18
8184:3

reviewed
8108:22
8162:25
8164:6
8180:1

reviewing
7957:14,15

reviews
7956:2

revised
7927:22

RFP 8033:11
8152:3

Rhode
8040:13

8080:12

rice 7936:6

Richard
7918:16
8090:4

rift 8164:20

right-hand
7992:21
8015:8

rights
8054:23

RIM 8157:5

ripe 7997:25

rise
8063:2,11

rises
8116:18

rising
7989:21

risk 7941:7
7964:12
7973:25
8015:25
8035:8,9,1
0 8065:14
8072:23
8073:7,10,
11,23
8074:4,8,1
3,14,22,23
,25
8076:11
8081:1,7
8082:7
8083:12
8084:1
8090:15
8101:12
8103:14
8136:9,19,
21,22,24,2
5 8137:4
8139:4,6,8
,9,12,14,1
8 8146:24
8155:17
8175:12
8177:5
8179:6,7

8189:14
8190:3

risks
7942:15
8073:2

River
7943:25

road 8083:7
8190:5

Robert
8046:4
8048:10
8056:5,19

Robson
8016:2

Roddick
8046:5

Roderick
8048:10
8055:3
8056:5,19,
22

Rodney
7932:13

Rogers
8174:10
8188:15

Rogers's
8004:10

role 7951:18
7967:10
7980:18
8094:7
8118:4,7

rolling
8077:12

roof 8034:24
8099:24
8103:5

roofs 7939:3
8027:11
8188:10

rooftop
8100:1
8103:9

rooftops

8027:25

room 8007:2
8011:17
8018:22
8091:2
8169:11

rooted
8070:4
8084:7

rosy 8189:4
8190:12

roughly
7983:7
7984:3
7989:23,24
8006:7
8015:2
8037:23
8072:8,15
8092:1
8117:19
8162:1

route 8049:2

routes
8111:25

row 8088:22

rule 7983:22
8122:1,10

rules
7983:23,25
8053:15

run 7935:19
7957:7
7995:17,18
7996:11
8041:7,11,
12 8115:23

running
7935:11

runs 7992:11
8069:6
8188:9

S
---
sacrifices
8062:7
8066:18

safe 8117:16

sake 7988:6
  8116:3

sale
  8136:5,8

sales 8147:6
  8148:15

salvageable
  8175:5

sand 8114:16

sands
  7931:23

Saskatchewan
  7924:13
  8026:22,24
  8030:11
  8100:19
  8102:15
  8104:4,5
  8107:23
  8108:9

Saskatoon
  8026:14
  8027:8
  8152:9,14

SaskPower
  8102:13

satellite
  8025:11

sati 8197:23

satisfaction
  7977:16

satisfactory
  7963:8
  8197:24

Saturday
  8194:11
  8198:19,22
  ,25

Saunders
  7920:3

sav 8048:25

save 8192:6

saving
  7932:24
  7935:18

8081:6
8095:14
8098:17

savings
  7923:7
  7945:3
  7960:3
  7978:14
  7980:8
  7981:14
  7982:4,10,
  15,23
  7983:1,5
  7984:6,22
  7986:6,7
  7987:19
  7990:13,16
  7998:1
  8000:23
  8001:1
  8002:8
  8006:2,13
  8009:9
  8011:12
  8014:10,15
  8020:7
  8021:5,18
  8024:20,24
  8025:22,24
  8026:1,5
  8031:22
  8032:5
  8038:2,15,
  16
  8070:3,6
  8071:3
  8076:22
  8077:7,11
  8078:13,18
  8089:10,13
  8092:4
  8101:3
  8115:22
  8117:8,18,
  20 8119:2
  8137:17,21
  8149:23,25
  8150:12,19
  8167:9
  8169:16,20
  8171:14,25
  8172:1
  8189:23

savvy
  8048:25

saw 7978:4
  7980:4
  7989:15
  8028:4
  8047:10
  8076:21
  8081:18
  8142:9

scale
  8027:24,25
  8028:1
  8032:19,20
  ,23
  8085:25
  8098:8,14
  8099:13,15
  ,20
  8131:6,9,1
  5,17
  8134:15
  8148:7

scaling
  8025:19

scan 8197:11

scant
  8189:25

scattered
  8120:16

scenario
  7986:15
  7987:13
  7992:10,13
  8070:10,19
  8071:2
  8078:20
  8079:23
  8080:3
  8102:11
  8113:1,6,7
  ,12 8114:1
  8115:6,13
  8173:11

scenarios
  7968:12
  7969:10,14
  7970:21
  7985:17,18
  7986:2

7987:21
7988:15
7989:12,14
,17,24
7991:9
7992:18,20
7997:2
8030:18
8076:22,25
8077:24
8078:1,2
8079:10
8080:19
8087:15,16
,17,20
8089:7
8113:8
8114:2
8152:24
8161:2,7
8186:16

schedule
  7925:8
  7946:12
  7947:20
  8083:23
  8194:10

scheduled
  7947:17

scheduling
  8198:10

science
  8020:21

scope 7984:6
  7985:6
  8171:20

scoping
  8171:20

Scotia
  7995:21,22
  8071:14,16
  8072:12
  8100:16
  8122:12

screen
  8024:18
  8079:5
  8106:21
  8158:14
  8167:7

8178:4
8182:8

screening
  7924:16
  7957:11,13
  8192:17
  8193:23
  8194:4

screens
  8079:24

scroll
  8167:21
  8178:23

se 7985:2
  8017:2
  8157:20

second
  7969:19
  7970:2
  7971:17
  7981:15
  7985:25
  7987:9
  7991:2
  8000:20
  8015:7
  8032:6
  8034:25
  8036:23
  8075:4
  8099:21
  8129:10
  8150:13
  8173:20
  8188:24
  8199:6

secondary
  8125:16,18

secrecy
  8066:15

secret
  8053:21
  8057:6

section
  7934:23
  7937:22
  7969:15,19
  7970:2,7
  7994:3
  8000:20

8034:25
8076:7,16

sections
7968:11

sector
7937:21
7955:16
7972:13
8020:8
8117:24

sectors
7965:20,22
8011:12
8118:4

secure
8004:8
8083:5

secured
8001:1

seeing
7936:9
7975:22
7982:19
7987:4
7993:3,10,
18 8001:22
8002:3
8031:16
8076:9
8102:5
8110:6
8187:4,5,6

seek 7980:17
8001:8

seeks
8006:19

seem 8095:4
8132:12
8146:15
8197:11

seems 7976:4
8109:13
8144:2

seen 7935:17
7937:25
7938:15
7946:1
7971:1
7976:24

7988:18
8002:2
8114:24
8158:19
8184:20,21
8186:20
8190:13

sees 8091:9

segments
8123:17,21
8175:24

self 7943:13

**self-
government**
8053:7

sell
8095:22,24
8096:1
8100:18
8123:22
8147:4,7,1
7

selling
8008:10
8059:7
8081:16,23
8100:22
8143:24

semantics
8016:13

send 8048:11

seniors
8122:17

sense
7966:13
7975:25
7982:6
8001:16
8009:16
8040:6
8081:18
8107:8
8109:13
8121:8
8139:14
8188:3

sensitive
8057:8

8156:7

sensitivity
8070:9

sent 8022:25

separate
8135:15

separation
8129:16

series
7962:23
8156:13

serious
7996:19
7998:1
8065:16
8074:21

seriously
7983:15

serve
7978:19,21
,22
8012:15
8082:14

service
7944:23
7966:5
7978:17
8034:22
8116:21
8119:24
8121:19
8126:16
8136:12,15

services
7931:19
7932:1,9,1
6 7944:16
7967:11
7971:12
7972:5,17
7973:4
7976:15
7979:9
8011:19
8020:21
8120:1

session
8198:12,13
,14,15,20

setting
7994:5
8023:18
8169:4

settlement
8055:4

setup
8035:19

seven 7972:2
8033:18
8046:11
8097:22
8109:9,17
8111:1,9
8144:1
8160:7

**seven-and-a-
half**
7973:18

seven-o-one
8047:17

seventy
8045:16

seventy-five
7929:17
8063:14

several
7973:14,15
7978:1,2
7980:3,6
7982:18
7984:4
7995:13,22
8005:21
8006:1
8010:12
8017:4,14
8020:15
8021:7
8141:14
8157:2
8161:2

sewer
8061:22

sexy 8094:2

shape
7926:25

share

8016:25
8019:5
8028:20
8053:23
8102:1
8130:2
8145:12
8185:4,16
8186:8,12
8189:7

sharing
8067:14

sharp 8168:3

shed 8057:3

Shefman
7920:4
7921:23
7961:20
8130:13,15
,16
8131:7,12,
16,24
8132:10,24
8133:2

shelf
8008:11

shelves
8017:15

She's
8105:20

shine
8133:18

shining
8076:8

ships 7993:1

shooting
7964:12

short 7935:4
7967:5
7996:11
8052:14
8069:6
8094:13
8112:11
8114:14
8164:18
8175:14
8177:6

8188:1

shortest
8076:16

shortly
7975:1
7978:3
8043:1
8152:7

short-run
7980:8,14

short-term
7993:3,8,2
3 8069:8
8144:10
8145:10
8146:11
8179:7,8

should've
8092:14

showed
7940:22
7981:13
8095:1
8114:5

showerhead
8109:22
8112:4,6

showing
8027:15

shown 8045:6
8106:20

shows
8045:10
8080:8
8109:8
8158:21,23
8167:8
8173:11
8183:1

shrinking
7939:8

sic 7939:6
8042:20
8046:10
8049:3

sick 8053:2

sides

8019:13

sideswiped
8034:23

sidewalk
8091:7,9
8108:16
8128:4

sign 8045:12
8051:8
8188:22

signed
8048:20
8050:21
8052:25
8152:6

significant
7958:9
7972:8
7980:7
7988:11
7992:12
8006:11
8025:22,23
8034:17
8035:8
8037:12
8065:24
8083:15
8090:9
8102:14
8104:7
8117:8
8126:14
8130:24
8132:20
8144:18
8167:14
8178:25
8188:20

**significantl
y** 7949:3
7974:7
7998:15
8073:11
8078:21
8083:17
8130:25
8159:13
8162:3

signing
8186:24

8187:6,23

Signuset
8059:17

s'il 7961:7
8106:15

silence
8048:4

similar
7941:3
7988:24
8015:22
8020:23,25
8025:2
8040:14
8068:23
8069:3,23
8071:13
8077:23
8131:4,6

similarly
8068:24
8069:19
8070:22
8103:17

Simonsen
7951:3,9,1
0 7966:6
7971:21
8066:5
8106:3,6

simple
7928:2
7936:21
8020:18,22
8021:4,10
8124:25
8160:12

simpler
8162:6

simplicity
7988:6

simplify
7991:5

simply
7968:15
8004:23
8005:17
8076:20
8124:24

8141:15
8166:22
8179:14

Simpson
8198:16,23

**simultaneous
ly** 8172:3

Singh 8066:5

single
7935:25
7941:22
7973:7
8018:22
8102:15
8175:17
8179:24

single-most
7931:25

singularly
8113:19

sir
7951:21,23
7952:3,13
7953:1,7,2
3
7954:9,16
7956:3,22
7957:17
7958:23
7959:11,17
,24
7960:6,23
7986:17
7992:14,22
7997:9
7998:10
8015:11
8016:7
8026:11,12
8033:24
8039:9
8075:10,17
,25
8107:1,25
8108:14,21
8109:1
8111:4,13
8112:18
8114:5
8116:4,11
8117:23

8195:8,22
8196:20

sit 7947:24
8053:18
8198:17,24

site 7973:17
8178:19

sitting
7925:12
8052:13,20

situation
8039:21
8040:14
8049:23
8068:23
8081:2,10,
12 8092:23
8097:16,17
8099:7
8143:19
8144:4,6,2
2 8160:24

situations
7996:24
8067:13

six 7941:15
8023:7
8029:22
8036:20
8040:20
8046:6,13
8047:4,17,
18,19
8140:12
8159:9
8160:7

sixteen
8052:14

sixth
7985:23

sixty-two
7970:23

size 7938:17
8013:21

skew 8115:13

skews
8162:18

skill

7943:24
8096:2

skills
7931:6
8047:13
8061:14

skip 7966:16
8158:22

sky 7995:19

sli 8082:24

slice 8019:6

slide
7963:19
7966:3,4,7
,11,12
7967:9
7968:2
7971:22
7973:10,13
7977:21
7979:22,24
7981:13,16
7986:14
7987:18
7990:20,21
,22
7991:3,11
7992:1,8
7993:16
7995:6
7998:7
8000:17,20
8002:17
8005:5
8011:7
8015:7
8019:13
8026:7
8027:14
8028:3,10
8030:7
8031:1
8033:24,25
8035:12
8039:10
8070:25
8074:17
8075:4,6
8076:20
8077:15
8078:8,10

8079:5,8,1
1 8080:6
8082:25
8095:11
8100:12
8129:7
8132:11
8173:8
8182:8,10,
11,14

slides
7968:7
7970:22,23
7977:19

slight
8027:21
8040:10
8072:9
8087:14

slightly
7947:20
7987:4
7988:22
8014:12

slip 8145:14

slipped
7928:18

slogan
8047:23

slow 7985:21

slowing
7939:7

slum 8047:7

small
8086:11
8149:4

smaller
8086:22
8136:23
8137:2

smart
7923:8,13
7933:14,16
,24 7934:4
7936:24
7955:9
7981:12
7989:10

8003:1
8021:20,22
8022:23
8079:13,14
8132:19
8150:10,21
8151:3
8166:7
8169:15
8171:6
8173:23
8177:17
8178:1,19
8187:1

smarter
8022:13

soar 8063:13

social
7927:2
8001:11
8007:19
8008:4
8020:21
8162:14

socially
8092:13
8126:25

societal
8161:20,21
,22,24
8162:3,16,
17

sociodemogra
phics
8123:25
8124:23

socioeconomi
c 7925:25

Solange
7921:13
7947:18
8042:19
8043:15,16
,19
8044:25
8046:2
8049:14
8050:18
8060:21
8066:9

8067:19,23

solar 7932:2
7940:6
8004:2
8026:10,12
,16,20,25
8027:4,7,1
1,13,23
8028:1,7,1
0,15,16,19
,23
8029:10
8030:2,8,9
,11,14
8031:2,20,
25
8033:6,12,
20 8034:4
8083:16
8090:11,22
8099:4,14,
15,25
8100:3,4,7
8101:16,19
8102:15,23
8103:5
8107:9
8130:22,24
8131:3
8132:7
8133:14,15
,24 8134:6
8135:4
8152:10,16
,21
8153:1,5,1
1 8188:7,9

sold 8017:17

Soldier
7918:15
8066:4

solely
7965:8
7980:23

solid
8076:23,24
8147:18

solid-state
7935:20

solution

8090:23

solutions
8155:7

solve
7936:17

somebody
8091:11
8127:4
8175:3

somehow
7964:4
8074:17
8098:4

someone
7965:7
8010:24
8030:2

someone's
8112:5,6,7

somewhat
8070:12,13
8075:18
8079:23
8187:10
8198:11

somewhere
7983:12
8103:20
8104:25
8117:17
8159:5
8180:12

sophisticate
d 8186:1

sore 8050:12

sorry 7966:6
7977:21
7991:2
8000:6,11
8004:24
8050:6
8066:3
8067:3
8077:1,16
8078:9
8088:21
8095:5
8101:23,24
8102:5

8104:23
8113:20
8122:9
8127:16
8130:17
8132:2
8149:16,19
8155:1
8158:23
8165:3
8180:25

sort 7944:22
8007:16
8009:15
8095:13
8098:2
8127:4
8168:21
8186:23

sorts 8004:3
8121:8
8176:19
8188:4

sought
7990:2
8031:7
8061:1
8085:3

sound 8063:4
8064:6

sounding
8003:25

sounds
8013:11
8019:16
8021:4
8148:16

source
7931:25
7932:16
7973:10
8012:10
8016:4,15
8089:16
8137:13
8188:21

sources
7937:25
8032:25

south

7983:16
8007:12
8082:6
8120:15

southern
7945:14
8030:13,15

space
8008:11
8021:24
8094:15

span 7942:8
8072:15

spanning
7926:13

speak 7945:7
7947:16
7948:9
8050:8
8067:12
8113:22
8154:5,11
8180:3

speaking
7953:11
7993:11
8065:20,23
8081:9
8130:21

speaks
7947:11
7987:14

specific
7956:9
7965:25
7976:9,21
7987:16
8003:8
8004:18
8013:19
8037:9
8103:10
8113:24
8119:10
8121:3
8124:15,20
8142:6
8147:19
8171:8,13,
14 8172:14

8175:12
8178:3
8179:18

specifically
8007:10
8012:11
8016:14
8087:13
8116:24
8120:21
8140:6
8149:25
8185:17,18
8186:4

specifics
8118:8
8122:2
8170:19

spectrum
7983:6

speculate
8132:23

spend
7929:19
7984:11
8110:13
8111:14

spending
7929:18
8044:5
8063:12
8111:16

spent
7926:8,20
7930:8
7965:7

spike
7995:25

spiral
8187:18

SPLASH
7948:25

Split
8043:20
8055:1
8059:24
8060:18,19
,24
8061:4,22,

25 8062:2

spoke 7950:7
7969:2
8151:23
8161:13
8174:9
8180:5
8195:6

SPOKEN
7963:11

spot 8019:14
8126:21

spray 8007:4

spreadsheet
8109:2

spreadsheets
8106:21

spring
7963:22

squares
8071:1

staff
7967:21

stage 8152:6

stages
8063:3

stakeholders
7933:20
8037:17
8069:18

stance
8065:23

stances
8067:13

stand
7946:22
8045:4
8151:6

standard
7941:13
8004:15
8006:18
8009:24
8086:22
8174:21,25
8175:2,8

standards
7926:16
7934:20,24
7986:8,16
7988:1,14
8003:20
8004:5,6
8005:3,11,
12,13,15,1
8,25
8006:11,21
,22,24
8007:6,9,1
3 8010:4
8174:9

standpoint
8086:11
8090:17

STANDS
8199:14

start 7927:2
7943:1
7947:5
7963:15,18
7966:21
7981:11
7999:21
8001:3
8003:14,16
,25 8004:4
8008:10
8022:8
8023:18,21
8024:1
8043:12
8076:20
8077:4
8081:4
8084:8,19
8091:5
8094:16
8096:20
8100:25
8104:13
8105:11
8125:15
8130:21
8133:14
8188:15
8198:13

started
7927:8

7938:1
7946:12
7947:15
7948:2
7982:25
8020:15
8073:19
8146:18
8150:8

starting
7925:11
7970:25
7979:18
8036:14
8077:12
8080:11,13
8168:9,10

starts
7989:21
8023:24
8145:5

state
7941:15
7945:17
7954:23,24
7978:23
8036:20
8041:8
8069:13
8074:10

stated
7994:15
8062:11
8080:25

statement
7994:22

statements
8058:18

states
7932:19
7935:24
7939:6
7941:11,12
,14,20
7945:14
7955:25
7956:11
7971:25
8021:8
8040:6,11,
18,20

8041:5
8062:17
8063:5
8074:11
8091:18
8095:2
8107:11
8148:24
8162:2
8176:18

state-wide
8069:17

static
7969:22
8091:5
8094:11
8176:3

statically
8012:2

station
8055:12
8057:19
8058:8

stations
8054:15,17
,20,25

statistics
8025:12

status
8152:1

stay 7946:16
7997:1
8037:1
8040:8
8043:7
8098:17

stayed
7997:3

steady
7936:9
7985:24
7992:19

**steady-as-
she-goes**
7998:5

stems
8183:20

stenography

7963:14

step 7980:12
8066:20
8093:16

steps
7980:12
8004:14

stickiness
7945:7

sticking
8034:23

stimulates
7931:4

stole
7970:24

stolen
7977:19

stop 7981:14
7986:12
8001:20
8100:9

storage
7973:22
8104:14
8134:5,9,1
1,17

story
8027:14
8091:8
8104:5

straight
7966:18

**straightforw
ard**
8109:20
8159:25

strat
8126:11

strata
8126:14

stratas
8126:18

strategic
8142:14,17
8143:12

strategies

7942:21
7953:15
7960:16
8096:18
8152:25

strategy
7946:7
8137:25
8138:2

stratify
8123:8
8126:11

stream
8009:1

street
8091:9

strength
7979:4,18
8083:6
8129:12

strengthen
7943:7
8001:21

strengths
7978:5,6
8129:8

strenuously
8193:10

stress
7985:9,10,
13 8164:13

stretched
8009:1

stricken
8062:12

strictly
8001:6
8156:10

strides
7980:3

stringent
8004:20

stripped
8048:15

strive
7944:1

strong
7939:19
7977:23,25
8003:19
8006:12
8016:23
8017:3
8019:11
8020:20
8030:11
8093:20
8095:6
8099:12
8124:3

strongly
7993:6,17
7996:8
8096:7,10

struck
7930:5
8037:14

structure
7974:17
7976:13
8059:4
8134:22
8145:20
8172:14
8185:2
8186:14

studies
7930:6,10,
11 7957:1
7960:22,24
8015:16,23
8117:7,10
8140:7
8162:21
8163:25
8183:24
8184:4
8193:3

studying
8146:1

stuff
7931:24
7995:18
8035:18
8098:11

stumbled

7940:21

stunned
7927:7

subject
7999:11
8016:3
8058:20
8075:20
8076:1
8085:9
8092:7
8112:11
8131:22
8138:6

submission
8054:7

submitted
8140:15

submitting
8051:20
8067:19

subqualifica tions
7962:16

subsidies
7939:21

subsidizing
8063:7

subsidy
7938:25
8082:5

substantial
7990:1,12
7991:23
8014:15

substantiall y 7989:22

succeed
8132:16

succeeded
8122:21

success
8121:25
8127:11
8132:15
8143:17
8189:19

successes
7965:11

successful
7995:18
8020:17
8100:21

successfully
8180:17

sucked
8013:14

sudden
7995:23
8006:10
8052:11

suddenly
7934:14

sue 8048:23

suffering
8048:19

sufficient
7943:14
8037:22
8069:20
8182:2

suggest
7925:14
7976:4
7992:19
7997:3
8003:4
8035:15
8111:13

suggested
7995:10
8006:5
8100:13

suggesting
8113:25
8114:10
8160:13
8194:25

suggestions
8181:3,5
8183:4

suggests
8084:15
8132:8

sum 8034:25

8191:21

summarize
7994:2

summary
7949:6
7954:10
8089:21
8115:15
8191:7

summer
8014:12

sun 8133:18

superior
8064:12

suppled
7972:3

supplement
8012:22,23

supplemental
7935:6

supplied
7972:6
8018:10
8031:24
8033:15

supplier
8033:19

supplies
7972:19
7973:3

supply
7941:24
7949:7
7971:6
7976:15
8013:17
8018:2,9
8032:19,20
8036:19
8073:12
8074:6,13,
14 8082:13
8084:15
8092:10
8094:4
8100:13
8116:21
8154:25

8155:1,3,1
1,22
8156:3,4,1
0,11,13
8157:22
8158:2
8184:25
8185:9
8191:12

supplying
7971:15
8185:4

supply-side
7932:10,21
8155:14

support
7934:19,20
7945:11,17
7946:7
7967:8,10,
11,12,23
7975:2
8063:22
8066:20
8081:13
8134:6,24

supporting
7924:7,21
7944:23
7949:6
8107:18
8108:2
8197:23
8198:6

supposed
8046:22

supposedly
8045:5

suppression
8032:7

sure 7954:17
7958:15
7960:7
7967:4
7976:24
7992:8
7995:12
8015:12
8017:16
8022:10

8026:4,19
8034:15
8036:25
8043:12
8045:10
8067:15
8076:3
8079:24
8089:2
8093:21
8098:21,24
8100:23
8104:24
8107:4
8110:15
8116:15
8124:17
8136:6,17
8140:25
8141:20
8142:1
8143:1
8144:7
8147:5
8148:14
8149:15
8152:2,13
8153:4,10
8154:15
8156:24
8159:19
8170:7
8173:2,21
8180:18
8183:22
8185:24
8189:5,9
8191:17
8193:21
8196:2

surplus
7943:20
8081:2,7,1
6,20,22
8083:9
8104:3
8143:20
8144:21,22
,24
8145:1,9

surprised
7934:9
7989:15

8018:17
8047:22

surprising
7984:2

surprisingly
8002:15

surveys
8125:25
8126:16,19

suspect
7964:4
7993:6,17
7998:23
8018:18
8032:15
8162:19
8197:18

sustain
8063:24
8077:11

sustainable
8070:6
8087:10

sustained
7996:17
7997:11
7999:9
8002:8
8032:5
8041:10
8077:7
8173:12
8174:7

Sven 7919:3
7921:25
7925:6
7946:21
7947:8
7962:9
8042:2
8045:25
8150:2,7
8151:5,14,
15 8152:8
8153:2,13,
19,21
8154:2,10
8155:19
8156:18
8157:1,10

8158:12,18
8159:8,12
8160:13
8161:12
8162:24
8163:3,6,1
1,15,23
8164:2,5,8
,12,21
8165:3,12,
17,21
8166:1,6,1
2,17,24
8167:6,20
8168:2
8169:23
8170:4,8
8171:2,12,
24
8173:8,14,
22
8174:2,6,1
4,20
8175:1,11
8177:4,8,1
1,16
8178:2,12,
13,22
8179:5,25
8180:8,20,
25 8181:7
8182:7,16,
25
8183:7,10
8197:13,25
8198:9

swallowed
8099:11

swears
7951:10

sweat
8122:14,18

Swiss
7978:18

switch
7937:8
8019:12
8147:21

switching
7984:9
8138:16

8165:9,17,
18 8178:17

sworn
7925:14

system
8012:21
8018:7
8024:19
8030:21
8036:22
8038:7
8039:11
8069:5
8072:4
8076:7
8106:23
8110:9
8134:5,10,
13,16

systematic
8170:13,17
8177:3
8190:14

**systematical
ly** 7973:24
8021:5
8076:10
8092:5
8097:1
8128:2
8147:25
8190:16
8193:3

systems
8016:17
8027:20
8047:10
8103:10

T

T5s 8011:16

T8s 8011:16

table 7921:1
7922:1
7987:15
7988:10
7990:6
7991:19
8051:15
8052:20

8072:6

tables
7924:8
7928:19
7949:6,7
8107:18
8108:2
8191:7

tail 8165:14

taking
7937:10
7950:23
7956:10
7983:14
7985:21
8033:13
8035:9
8049:22
8065:22
8090:6,22
8146:6
8154:1
8178:3
8193:7,8

talk 7925:24
7926:1
7928:12
7931:12,16
7933:23
7938:12
7940:8
7943:12
7959:3
7964:17,20
7969:16
7980:25
7982:9
8003:7,9,2
1,22,23
8004:1
8005:3
8010:9
8012:9,11,
12,14
8028:2
8032:13
8034:3
8036:16
8084:18
8095:9
8099:14
8100:20,24

8103:15
8116:9
8129:8
8184:7,8
8185:17
8188:6

talked
7936:11
7944:5
7976:23
8068:19
8089:16
8100:15
8101:11
8127:13
8157:13

talking
7926:23
7969:4
7974:7,9,1
0,13
7988:17
8005:2
8008:19
8009:7
8018:18
8031:13
8071:6
8076:2
8099:15,16
8121:15
8123:1
8128:16
8129:1,23
8136:20
8137:4
8158:5
8166:9
8170:21
8172:12
8174:24,25
8175:22
8181:13
8187:25
8188:5

talks
7928:12
7934:23
8185:18

Tansi
8050:11

tantalizing

8140:18

tapering
8114:5,11
8115:11,20

target
7941:7,16,
17 7994:5
8148:25
8172:20,23
8173:2,15
8177:3,5

targeting
7948:14

targets
7934:15,17
7941:14
7995:24
8002:20
8093:22
8097:15,18
8143:14
8148:2,15
8149:2,21
8171:4,23
8172:5,9,1
5,16
8190:1,7,1
0,15

tasked
8076:7

tasks
8036:21

Tataskweyak
8043:21
8044:7

tax 8033:17

Taxpay
8045:8

Taxpayer
8045:9

taxpayers
8044:5

TC 8056:11

TCN
8045:13,16
8046:8,10,
12,16,21
8047:3,4

8048:13,22
8049:1
8055:17
8056:1,16
8058:12
8060:9,13,
25 8061:2

TCN's 8044:9

teaser
8088:23,25

technical
7944:22
7967:17
8040:22

techniques
7945:13

**technologica
l** 8001:10
8094:22

technologies
7934:22
7935:16
7937:10
7960:4
7964:25
8002:4
8034:4
8098:3,23

technology
7926:11
7938:21
7943:25
8003:17
8007:16
8009:9
8016:4,6,7
8174:9,21,
24 8175:13

temper
8115:19
8118:12

temperature
8014:9,24,
25
8023:3,9,1
1,18,20,22
,25 8024:9

temperatures
8013:10

tempered
8096:11

ten 7926:12
7936:2
7940:13,16
7946:3
7970:10
7974:5,12,
21
7987:22,25
7988:2,5,7
,13,20
7991:5,17,
20 7994:6
7999:16
8002:9
8008:22
8011:1
8013:2
8032:24
8034:14
8036:1
8039:19
8040:1,3
8078:6
8081:23
8105:4
8109:3,8,2
4,25
8111:14,16
8136:1,9
8159:6
8176:18
8187:21
8188:1,18
8198:22

tenacity
8066:10

tend 7976:16
7977:13,15
7998:4,14,
16,22
8004:17
8005:17
8086:17
8090:18
8121:16
8147:16,17
,20 8156:2
8184:19

tends
7973:11,25

7983:13
8001:20
8022:12
8127:10

tens 8029:20

terawatt
8006:3,8
8072:7,8
8081:20

term 7935:3
7953:6
7994:3
8009:22
8035:8
8047:14
8077:20
8094:13
8098:8
8135:2
8164:18
8174:10
8177:6
8188:23

termed
8187:18

terminal
7929:22

terminated
8048:7

terms
7933:13,14
7949:18
7957:6
7964:19
7967:24
7969:1
7980:3
7982:22
7988:13,19
7997:5
8004:17
8009:7
8011:4
8017:19
8019:20
8032:21
8033:24
8035:11
8068:21
8069:5,10,
25 8073:23

8080:1,13,
19 8084:6
8087:5
8094:2
8099:20,21
8100:17
8101:18
8103:14
8105:25
8113:9
8115:20
8119:2
8122:8
8124:15
8144:13
8153:24
8181:5,6
8195:12
8196:9

terrible
8049:24

territorial
7978:8

territories
7978:21,22
8124:12

territory
7971:11
7978:17
8015:14
8053:4
8120:11
8124:22

test 7985:10
8031:7
8096:18
8156:20
8157:3,5,2
0,21,23,25
8158:1,9
8159:24
8162:4
8164:13

testified
7928:9
7930:1
7940:12
7996:9
8151:21
8169:23
8196:14

testify
  7942:16
  7964:5

testimony
  7942:21
  7947:10
  7968:16
  7983:2
  7985:17
  8062:6
  8072:24,25
  8077:1
  8079:17
  8089:6
  8116:5
  8127:13
  8129:13
  8161:13
  8170:22,23

testing
  8015:21
  8158:10

tests
  7985:9,10,
  13 8156:23
  8157:2,7,1
  2,14,15

Texas
  8033:10
  8130:24

thank
  7925:6,20
  7943:10
  7944:4,25
  7946:9,13,
  20 7947:8
  7948:5
  7950:9,17
  7951:8
  7953:22
  7954:8
  7955:10
  7958:14
  7959:17,23
  7961:4,16,
  17,22
  7962:1,2,6
  ,7
  7963:10,17
  ,23
  7964:15

  7966:11
  7971:24
  7975:11
  7979:25
  7990:23
  7999:10,14
  ,16
  8000:5,7,1
  9 8016:20
  8039:5
  8042:8
  8044:1
  8049:10,11
  8050:7
  8053:24,25
  8054:5
  8066:6,24,
  25
  8067:7,14,
  17,21,23
  8068:16
  8085:4
  8090:1
  8106:5,7
  8107:16,25
  8112:10
  8115:3
  8116:4
  8119:11,19
  8130:7,8,1
  0,11,16
  8132:10,25
  8133:1,5,6
  ,7,11
  8135:16
  8139:20,23
  8150:2,6
  8151:16
  8178:9
  8183:10
  8186:22
  8193:24
  8194:7,8
  8197:10,25
  8199:1,4

thankfully
  7979:1

Thanks
  7943:11
  7950:12
  8100:10
  8149:17

  8199:3

that'll
  8008:22
  8106:3
  8114:21
  8118:12

that's
  7926:18
  7930:24
  7935:15
  7944:1
  7945:24
  7946:10
  7950:7
  7958:1
  7960:9
  7965:17
  7966:3
  7970:1,6
  7971:6
  7972:8,20
  7974:5
  7978:25
  7981:2,9
  7982:4,24
  7983:6,21
  7986:22,23
  7988:2
  7990:3
  7991:18
  7993:24
  7994:14
  7997:15,22
  8001:2,21
  8002:12
  8003:24
  8005:2,20
  8008:2
  8009:4
  8010:3
  8018:11,12
  ,23
  8019:4,13,
  17,20
  8021:8
  8022:2,14
  8027:8,17
  8028:18
  8034:19
  8035:8
  8037:2,24
  8038:20
  8039:22

  8041:13,25
  8049:10,15
  8050:5
  8051:18
  8053:23
  8071:11
  8073:3
  8074:18,19
  8078:22
  8079:1
  8080:11,15
  8082:2
  8083:6
  8084:24
  8085:2,3
  8086:18
  8089:8,25
  8090:13,14
  8091:21
  8094:11
  8097:19
  8098:25
  8100:2,8
  8101:11,17
  ,18,20
  8102:14,20
  8103:14
  8104:8
  8105:13,22
  8107:24
  8113:14
  8114:7
  8115:12
  8121:25
  8127:22
  8130:2
  8132:21,22
  8137:1
  8138:13
  8140:13
  8141:14,20
  8143:9,19
  8144:8
  8145:18
  8146:7,8,2
  4 8148:2
  8149:5
  8153:23,25
  8154:1
  8155:4
  8156:20
  8158:4,19,
  20
  8162:19,20

  8164:19
  8165:10,13
  8167:8
  8168:12,20
  8172:4
  8173:10
  8174:5,14
  8175:7
  8176:13
  8178:6,7,8
  8181:21
  8182:21
  8185:15,23
  ,24,25
  8186:20
  8190:7,16,
  17 8191:24
  8193:9
  8197:2

theme
  8132:12

themes
  8112:12

themselves
  8036:10
  8099:11
  8156:5

theoretical
  8073:1

theory
  8148:16

thereafter
  7949:8
  7987:20
  7988:8
  7998:23
  8037:7,9
  8072:10

there'd
  8137:20

therefore
  8074:5
  8113:11

thereof
  8075:11
  8152:17

there's
  7928:23
  7930:5,23,

25 7931:10 7934:18,22 7935:13 7937:3,12 7938:19 7939:19 7940:3,6 7942:15 7943:10 7944:13,15 ,16,17,22 7949:10 7950:14 7969:25 7971:8 7977:14 7984:4 7985:5,25 7993:14 7997:16,17 8001:23 8003:11 8005:24 8008:13,14 8009:3 8010:18 8017:21 8027:20 8029:8 8032:10,13 ,16,17 8034:3,16 8035:9,17 8038:15 8039:20 8043:25 8048:25 8050:16 8051:16 8053:5,20 8060:23 8068:6 8069:20 8070:16 8074:16 8080:23 8081:1 8082:6 8084:1 8088:5,19 8091:23 8093:22 8094:12,15 ,22	8098:20 8099:12 8105:12 8113:9 8114:14,20 8117:24 8123:9,10, 12 8125:4 8127:1 8131:19 8134:3 8135:18 8138:19 8143:2 8144:3 8145:11,13 ,14,18 8157:2,3,4 ,5 8165:4 8167:14 8168:11 8170:12 8178:24 8188:14 8191:19 8195:18 8197:12 **thermo** 8021:22 **thermostat** 8022:1,16 8023:3,8 8024:12 **thermostats** 7936:24 8007:5 8021:21,23 8022:4,11 8024:20 **they'll** 8022:25 8100:10 8146:22 **they're** 7929:17 7934:22 7936:5,12 7938:7 7946:4,5 7979:18 7983:8 7984:19	8003:12 8005:14,15 8006:7,23 8009:12 8011:13,14 ,17 8016:14 8017:14 8018:25 8026:4 8038:20 8039:12 8040:2,24 8044:5 8046:22 8047:24 8053:11 8072:4 8074:6 8081:15 8087:15 8092:4,21 8097:13 8102:19 8103:3 8123:1 8128:9 8135:14 8142:24 8148:1 8184:18 8186:10 8187:2,4,5 ,6 **they've** 7928:9 7934:10 7942:2 8015:18 8034:21 8072:17 8076:12 8092:4 8093:6 8097:5 8123:18 **thick** 7940:22 7989:8 **thing's** 7927:11 **third**	7927:17 7942:2 7957:23 7970:7 7977:21 8032:18 8036:24 8076:6 8092:24 **third-party** 7979:13 8088:13 **thirteen** 7929:20 **thirty** 7940:15 7972:1 8027:17,18 8034:15,22 8035:23 8046:8,16 8137:1 8187:21 **thirty-five** 7927:25 7928:1 7930:11 8041:10 8184:13,23 **thirty-four** 7942:2 **thirty-seven** 8045:17,18 **thirty-two** 8006:24 **Thompson** 7945:21 **thorough** 8130:20 **thoroughly** 8064:6 **Thorton** 7928:25 **thoughts** 8196:16 **thousand** 7928:10,15 ,16	7929:5,17, 20 7930:16 7973:14 8015:20 8033:6 8045:14,17 8046:5,11, 14 8047:17,18 ,19 8136:1,9 **thousands** 7957:8 8029:20 8175:21 **threat** 8032:8 8033:1 **threatened** 8065:22 **threefold** 8029:24 8031:20 **three- quarters** 7972:7 **threw** 8072:19 **thrilled** 8094:19 **throat** 8050:12 **throughout** 7943:8 7956:16 7957:9 7965:4,6,1 4 7982:2 8014:8 8021:9 8027:5 8032:11 8040:8 8071:15 8074:11 8078:4 8099:1 8120:16 8122:4

8184:5

throw
8003:16
8083:13

throwing
7990:5

thumb
7983:25

ticket
8086:23

tidal
7937:12

tied 8149:8

time-to-time
8172:13

tired
8053:2,22

title 7960:2
8003:25

titles
7960:9

today 7925:7
7935:18
7940:1
7946:10,17
,18,19,20
7947:9,16,
20 7949:1
7950:18
7951:1
7965:18
7969:4,8,1
4 7970:24
7972:3
7973:23
7981:10
7984:12
7999:6
8002:3
8003:13
8005:16
8008:21
8011:6,10
8012:3,4
8016:23
8019:10,18
8021:13,16
8023:6
8029:10

8032:23
8034:10,14
,19,20
8035:1
8037:1
8042:19
8053:24
8054:10,13
8055:7
8062:10,20
,21 8063:4
8064:3,18,
19 8065:19
8067:10
8072:4
8073:23
8092:23
8096:22
8099:8
8102:16
8103:3
8135:23
8144:14,16
8182:1
8187:3
8188:8,11

today's
8042:16
8199:2

tomorrow
8105:17
8188:8
8194:10
8198:11,17
8199:10,11

Tomorrow's
8198:11

tonnes
7930:5

tool 7979:14
8130:4

tools
7967:19,20

top 7941:24
7989:6,8
7991:15
7992:9,17
8008:18
8014:20
8027:18
8079:12

8104:6
8117:19
8163:20

top-down
8163:7,18

topic
8196:25

toss 7942:23

total 7982:4
8006:4
8048:18
8055:14
8061:21
8079:21,22
8091:21
8092:9
8109:4
8112:9
8157:3,4
8160:15,16
,21
8161:10
8191:19
8192:8

touch
8123:17

touched
8112:11

touchless
8023:4
8025:14

tough
8186:25
8187:1

toward
7981:3
8001:24
8014:19
8029:9
8186:19

towards
8123:2

town 8022:25

track
7940:13
7967:21
8047:16

tracking

7967:20

trades
7943:24

traditional
7959:5
7974:3
8025:16
8089:4

training
7926:17
8061:7,11,
13,20
8064:23

trajectory
7941:2,3

transaction
8009:6

transcript
7922:6
7949:11,12
7966:9
8043:3
8075:10

transcripts
7988:18

transformed
8010:17

transition
7996:13

translates
8009:10

transmission
8140:16,20
,22
8141:8,12,
17,23
8142:3

transmittal
8065:9

**transparenci
es** 8044:16

transparent
8059:10
8064:23

TRC 8160:21
8192:23

treat

8068:21
8074:23

treats
8053:2

tremendous
8031:21
8093:9

triangles
8014:19

tribe 8061:9

trickles
8006:14

tried
8046:24
8122:12
8131:17

triple
8169:21

tripling
8168:20

trouble
7996:19

true 8044:15
8045:10
8088:14
8091:10
8116:22
8127:6,22
8128:5
8135:9
8171:24
8183:8

trust
7954:22
8054:8
8056:19
8176:22

truth
7931:24
7933:1
7935:13
8036:4

try 7956:17
7964:18
7966:10
7970:1
8048:6
8049:18

8052:18	8046:6,12	8140:12	8170:10	8190:9
8112:3	8047:20	8143:3		
8121:24	8097:6	8161:1	**undermine**	**undertake**
8122:19	8111:1	8184:6,11	7995:1	7975:8
8125:10	8136:25		7998:16	8192:19,25
8126:21	8148:23	───────		8193:18
8127:8	8177:25	U	**underneath**	8197:20
8142:25	8181:16,20	**ubiquitous**	8001:17	
8166:22		8011:14		**undertaken**
8192:8	**twenty-five**		**understand**	7956:13
	8024:7	**ugly** 8047:5	7934:16	8095:3
trying	8168:15	8097:25	7942:10	8116:25
7945:2			7956:21	8184:5
8053:6	**twenty-four**	**ultimate**	7957:17	8195:19
8095:4	8047:18	7998:8	7958:8	
8097:24	8133:19		7959:18	**undertaking**
8131:20		**ultimately**	7990:2	7975:14
8143:23	**twenty-seven**	7988:13	7991:25	8095:7
8145:8	8051:5	7995:14	7993:12	8107:3,18
8191:20	8052:13	7996:20	7998:9	8108:1
	8109:17	8001:12	8008:16	8194:1
turn 7925:14	8111:10	8037:17	8009:8	8196:5
7947:6		8069:18	8014:1	8197:16
7950:15	**twenty-three**	8076:18	8072:25	8198:1
7993:11	7954:6	8080:15	8091:12	
7995:6	7957:19	8082:12,18	8094:21	**Undertakings**
8013:6	7995:15	8084:2	8112:17	7921:4
8015:25	8093:25	8085:19	8129:23	7924:1
8068:5,15		8095:21	8168:24	
8084:14	**twenty-two**	8104:11	8169:11	**undertook**
8085:6	8117:17	8152:24	8172:8	8069:11
8105:3		8153:9	8173:19	
8106:14	**twice**	8156:9	8187:22,24	**unemployed**
8119:15	7949:17,20	8158:9		8047:7
8140:4	7952:18	8162:11	**understandab**	
		8175:8	**le** 8037:8	**unemployment**
turning	**two-seven**	8189:10		7929:1
7938:17	8109:9		**understandin**	8051:17
7993:1		**un** 8192:14	**g** 7981:1	8060:23
8135:16	**type** 7973:22		8075:25	8125:4,5
	8098:11	**unbelievably**	8151:21	
turnkey	8116:8,13	7943:4,6	8159:5	**unfortunate**
8121:22	8124:6		8165:6,10,	8081:12
		uncertainty	22 8166:2	
tweaks	**types** 7958:3	7942:17	8180:11	**unfortunatel**
8122:19	8022:7	8135:17,18		**y** 7946:11
	8147:11	8136:2	**understate**	7974:23
twelve		8137:21	7994:13	8048:20
8091:17	**typical**	8181:20,21	7998:14	8067:8
8092:1	8004:10			8072:5
8140:12	8014:17	**unclear**	**understated**	8121:13
	8017:24	8190:1	7979:7	8123:22
twenty	8018:3,12			8168:20
7930:11		**underestimat**	**understateme**	
7932:19	**typically**	**e** 7984:21	**nt** 7978:15	**Union**
8002:11	7973:9		7994:25	7937:17
8034:22	7977:4	**undergo**		
8035:23	7998:21	8062:14	**understood**	**unique**
	8005:12,14			8039:21
	8124:8	**underlying**		8120:23

8129:8
8181:23

unit 8014:3
8015:4

United
7935:23
7939:6
7941:11,12
,20
7945:14
7956:10
7971:25
8062:16
8063:5

units 8014:4
8015:3,20,
21

unity
8054:22

university
7959:21
8048:24

unless
8068:6
8129:23
8176:23

unlike
8117:9

**unprecedente
d** 7935:15
8001:23
8005:24

unusual
8097:16
8103:2

unwitting
8192:14

updated
7949:2,15
8000:1,3

updating
7999:23

upfront
8083:5

upgrade
8174:22

upgrades

8141:12

upon 7925:1
7947:1,2
7999:5,18,
19 8036:10
8042:12,13
8064:8
8067:25
8068:1
8105:7,8
8112:11
8124:5
8136:13
8190:8
8199:16

upstairs
7950:3

uptake
8090:5

upwards
8184:13

urban 8128:8

urge 8014:19
8148:18
8162:15

usage
7935:23
7937:20
8020:23
8109:23
8110:24
8125:7

US-based
7957:14

users 8118:1

US's 8005:17

usually
8157:12

utilities
7918:3,21
7924:19
7952:18
7955:22
7957:19
7958:5,6,2
5
7977:15,16
7978:12,13

7983:18
8024:5
8032:11,13
8033:3
8034:5,9,2
0 8057:5
8069:14
8093:15,20
8099:8
8100:4
8101:2
8129:24,25
8142:13
8143:11
8154:18
8195:4
8197:6,22
8198:4

utility
7933:17
7937:5
7938:18,19
7942:18
7979:12
8020:10
8024:4,6
8028:1
8032:19,20
,23
8033:10
8034:18,19
8089:24
8091:22
8092:7
8098:8,12,
14
8099:2,14
8130:1,2
8134:15,22
8152:19
8157:25
8158:24
8159:2,18,
24
8160:1,15,
17,20
8161:8,10
8162:6,8,9
,23
8187:18
8191:1,22
8193:11

Utility's

8169:15

**utility-
scale**
8099:14,25
8100:4
8130:22

**utility-
scaled**
8033:8

V

Vacuum
7936:1

vague 8159:5

Vaguely
8196:18

valuable
7979:11

value
7951:19
8012:16
8081:6
8083:11
8088:5,19
8118:12
8144:18,19
8145:1,3,5
8157:17

values
7987:16
7988:14
8186:18

valves
8007:4

Van 7919:8

variability
8134:6

variation
7930:12

varies
7974:7

variety
8026:21
8152:19
8175:24
8186:2

various

7960:24
8060:11
8112:13
8116:7
8124:6

vast 7960:25
7972:15
7973:3
8007:8
8012:7
8149:1

venture
8059:16,18

verify
8149:24

Vermont
7954:24
7958:10,12
,13,16
7983:7
7991:16
8040:19
8041:2
8074:10
8080:12
8095:10,16
8096:3,5
8122:21
8132:19
8172:12,13

Vermont's
8095:13
8132:15

version
7973:20
7974:12
8016:19

versions
8017:13,17
8077:21

versus
8074:14,15
8176:17,18

video 8179:3

view 7938:23
7969:17
7972:2
7991:6
7993:8

7995:17
8001:4
8078:7,11,25
8082:16,23
8088:10
8112:19
8113:13
8116:13
8162:6
8166:18
8180:8
8181:1
8183:8

views 7961:6
8116:11

visible
7972:23

vision
8091:5

visited
8099:17

visual
7990:4

visuals
7990:5

vitae
7952:24

voice
8022:18

voided
8157:16,17

voir 7950:21

vois 8106:15

voltage
8007:4

voluntarily
8007:20
8024:11

voluntary
8004:11

vous 7961:7

―――――
W
―――――

wager 8012:7

wagon

8000:18

wait 7949:22
8146:22
8174:17

waiting
8005:19
8152:6

wake 8023:20

waking
8096:16

walk 7966:8
8148:5

walked
8170:23
8173:10

walking
8091:8

War 8055:17
8056:2,11,
16 8058:12
8060:10

warm 7931:20

warned
8048:7

warning
7963:4

warranted
8064:7

wary 8114:10
8115:1

washed
8047:6

wasn't
7942:7
8018:15
8051:1
8094:19
8095:5
8126:20
8140:17
8142:1

watch
7932:12
8182:5

water
7936:10,12

,13,14,18,
20 8007:16
8009:17,19
8047:5
8061:22
8089:17
8109:23
8118:11
8137:14

watt
8028:12,13

wave 7937:12

Waverley
7940:5

waving
7966:5

ways 7944:19
8001:19
8009:23
8022:18
8049:8
8098:4
8139:10
8142:24
8161:17,18
8181:13
8192:2,24

weather
7964:3
8025:12

web 7936:23

website
7939:24
8047:11
8152:9

we'd 7940:19
8041:18
8097:8
8105:25
8110:1,25

weeds
7979:10

week
7948:14,23
7949:5,9
8051:20
8052:10
8134:20

weeks 7980:6
8148:10

Weinstein
7920:7
7961:23,24
7962:3
8133:2,4,7

welcome
7946:20
7962:19
7994:22
8042:18,22
8150:3

we'll 7944:3
7947:19,20
,21,22
7948:13
7949:21,24
7961:5
7963:5
8032:7
8039:16
8041:18
8052:18,19
8067:9
8105:11
8125:15,17
,24 8161:1
8178:8
8196:3
8197:8
8199:9,10

we're
7925:11
7934:12
7936:9
7938:2,7,8
7939:23
7940:4
7941:2
7944:1,2
7946:2,11
7948:14
7950:20
7954:20
7956:9
7957:1,2
7959:2,7
7965:3,5
7969:4
7971:22
7974:7

7979:21
7982:8,12,
14 7986:13
7987:4
7988:16,23
7989:2
7990:23
7993:19
8001:21
8002:9
8005:5
8006:9
8008:19
8009:7
8012:4
8017:4
8018:18
8022:3
8027:22
8028:14
8029:15,20
,23
8031:11,13
,16
8033:21
8036:8
8041:12
8042:16
8049:18
8051:9,11
8052:14,20
,21,24
8053:14,16
,21 8068:4
8079:10,21
8080:1,7
8081:17,23
8089:22
8092:23
8099:8,9,1
6
8102:5,20
8109:3
8110:6
8112:21
8115:5
8120:19,20
8121:15
8125:5
8128:15
8131:13
8138:22
8144:9,23
8146:9,24,

25
8148:8,14
8151:11
8152:5
8153:24
8164:3
8168:18
8181:13
8187:3,25
8188:5
8198:14

West 7940:5

Western
8061:17

we've
7932:14
7934:11
7937:25
7938:15
7949:19
7954:17,21
,22
7955:1,21,
22,23
7956:19,25
7957:4,7,1
0 7958:16
7978:2
8005:19
8026:20
8041:5
8051:4,6,2
4 8072:13
8108:18
8110:7,18
8119:5
8124:9
8125:25
8129:13
8152:23
8189:2
8196:24

whatever
7930:23
7967:24
7982:12
7994:20
8024:1
8044:14
8049:17
8053:4
8123:5

8125:16
8158:7

whenever
8143:4

whereas
7989:24
8155:22

wherein
8081:12

where's
7935:2

whether
7950:3
7983:9
8006:19
8026:14
8064:4,11
8083:17
8097:15
8137:21
8191:11
8194:19

whistle
8065:18

whole
7944:12
7966:1,12
8009:5
8018:6
8093:8
8096:20
8101:20
8175:23
8187:15

wholesale
8036:24

wholly
8058:24

whom 8072:13

who's
7934:1,2
8043:12
8066:4
8111:19

whose
8189:17

who've
8076:7

wide 7930:12
8005:13
8112:14,20
,24

wife 7990:7
8022:12

wild 8083:15

William
7919:15
7950:17
7951:8,17,
23
7952:5,11,
16,23
7953:6,10,
22
7954:2,8,1
4
7955:4,10
7956:1,5,2
1 7957:17
7958:8,13,
22
7959:10,16
,23
7960:1,10,
20 7975:4

Williams
7919:12
7921:11,20
7922:4
7950:22
7962:23,25
7963:1
7971:19,20
7979:20,21
7986:12,19
7990:18,19
7992:7,16
7994:19
7995:3
7996:25
7997:8
7998:6
7999:10,15
8000:13,15
,16
8005:4,9
8015:6,24
8016:20
8026:6,11,
18 8033:23

8035:15
8039:8,9
8068:6,7,1
3,14
8075:2,3,1
3,19
8085:5
8086:13
8087:4,23
8088:21
8090:1
8104:17,23
8105:12,16
8106:2,4,5
,8
8107:15,17
8111:22
8177:23
8178:5,9
8194:12,16
,17,24
8195:6,11,
17,21,24
8196:3,12,
19
8197:3,8,1
3,18

willing
8162:13
8188:22

win 8111:19

wind 7932:2
7938:10,11
,12
7942:22
7973:19
8028:24

window
7991:5

windows
7937:6

winners
8112:2

Winnipeg
7918:23
7945:20
7962:19
7989:3
8013:20
8055:5
8150:4

8199:4

winter
8013:25

wintertime
7931:20

wireless
8020:1

wisdom
7999:11

wise 8125:21

wish 7979:14
8127:25
8142:4

withstanding
7956:18

witness
7921:10
7925:14
7946:17
7947:13
7951:16
7961:6,11,
15,21
7962:1,15
8133:5

witnessed
8048:17
8066:14

witnesses
7962:14
8112:13
8198:16,23

wonder
7995:5
8047:21
8050:8

wondering
7966:7
8098:9
8151:24

wood 7938:1

wor 8077:19

work
7926:21,22
,23 7930:9
7945:20
7954:9

7956:18
7957:10,23
7958:6
7961:1
7963:2
7965:13,14
,19,23,24
7966:23
7967:1
7974:20,22
7978:1,3,1
0,11
7985:3
7995:21
7996:22
8006:16
8007:22
8011:15
8022:14
8026:14,20
8045:21
8052:5
8053:19
8059:23
8097:14
8121:21
8124:11
8125:1
8126:24
8127:1
8140:23
8147:25
8152:5,7,1
8
8185:11,14
,21 8190:6
8199:4,5

worked
7940:20
7955:1
7958:16
8026:22,23
8046:7,12,
16 8069:16
8096:14
8110:7
8147:11,12
8169:18
8183:23
8189:16

working
7926:10
7952:7

7965:8
8010:24
8017:4
8041:6
8045:1,24
8072:13
8102:20,22
8153:15
8194:20
8196:25

works
7945:20
7956:17
8019:19

world 7933:7
7938:20
7982:6,8
7999:8
8020:13
8028:10
8034:18
8092:11
8095:19,20
8098:10
8101:6
8138:22,23
8182:6

worldwide
8029:23

worry
8106:19

worse
7980:21

worst
8125:20,21

worth 8034:5
8035:9

would've
8092:20

wow 7928:6

wrap 8094:3
8176:21

wrapping
7941:18

wreaking
8049:5

writ 8004:7

writeoffs

8159:22

written
7924:9,18
7968:16
7969:11
7983:2
7984:13
7985:17
8054:7,12
8076:25
8107:20
8108:4
8170:21
8197:21
8198:3

wrong 7976:6
8024:24
8045:23
8048:5
8070:15
8122:25
8187:25
8191:20

Wus 8061:7

Wuskwatim
7927:23
8050:21,23
8053:16
8055:19
8057:25
8061:7,12

—————————
Y
—————————

yay 7940:22

year-by-year
8137:18

year-round
8014:13

yellow
8079:16

Yep 8110:11
8178:10

yes/no
8138:22

yesterday
7948:7
8016:1
8052:17
8085:9

8097:25

yet 7942:25
7974:23
8010:18
8046:7
8051:9
8052:7,24
8062:15,23
8129:1
8187:6

York 8058:15

you'll
7963:17,18
7964:10
7967:9
7981:12
7982:16
7985:13
7987:17,22
7988:1
7989:11
7990:3,4,2
1 8014:1
8030:25
8033:4
8040:6
8051:19
8070:10,25
8072:6
8075:14,19
8077:15,16
8088:17
8104:1
8196:7

yours
8093:17
8113:14

yourself
8064:18
8108:15
8147:8
8180:2,21

you've
7952:18
7954:15
7955:5,10
7956:1,22
7958:9
7959:11,23
7960:23
7971:1

7995:15
8022:23,24
8026:13
8049:13
8054:8
8060:21
8067:10,11
,13 8075:9
8095:10
8112:11
8124:6
8140:23
8145:4
8151:21
8158:19
8164:5
8174:16,17
8177:17
8180:1
8196:21
8199:4

Yukon
8015:9,14

—————————
Z
—————————

zero
7937:12,17
,19
7943:12,15
,21,22
7944:2,3
7992:21
8014:22
8037:20
8038:18
8113:6

zonal 8014:2

zone 8190:17