

In the Matter Of:
TransAlta 2019

INVESTOR DAY
September 16, 2019

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 A VERITEXT COMPANY

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RE: TRANSALTA 2019 INVESTOR DAY
DURATION: 2:45:01

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1 ---Upon commencing:

2 CHIARA VALENTINI, Manager of Investor Relations

3 All right. Good morning, everyone and
4 welcome to TransAlta's 2019 Investor Day here in
5 Toronto. We're so happy to be here with you all. My
6 name is Chiara Valentini for those that don't know me,
7 and I am the Manager of Investor Relations for
8 TransAlta. I would like to inform you all that
9 today's presentation will be webcast and recorded. I
10 invite those listening along to view the supporting
11 slides, which are now available on our website. An
12 audio replay of the presentation will be available
13 later, along with a transcript that'll be posted on
14 our website shortly thereafter as well.

15 Before we start the presentation, I
16 would like the audience in the room to take note of
17 the following safety messages. There are two exits to
18 this room, one at the front and one at the back. In
19 the event that there is an emergency, kindly proceed
20 to the exit nearest you and make your way to the
21 corridor next to our meeting room. The emergency exit
22 stairwell is located in this corridor next to the
23 women's washroom. This stairwell will take you down
24 to the ground floor on Pearl Street. From there, make
25 your way to St. Andrew's Church, which is on the

1 southwest corner of King Street and University Avenue.
2 This is the Vantage Building designated muster point.

3 I will now turn to our advisory on
4 forward-looking statements. As we begin our session,
5 I would like you to note that this presentation
6 includes a number of forward-looking statements, which
7 are based on a number of assumptions and subject to a
8 number of risks and uncertainties. Many of which are
9 set forth on this slide behind me. I would encourage
10 you to read it subsequently at your convenience. This
11 presentation contains references to 9 IFRS measures.
12 Such measures may not be comparable to similar
13 measures presented by other entities. Information
14 regarding these 9 IFRS can be found within this
15 presentation and also, within our annual and quarterly
16 MDNA report.

17 And so, without further delay, I would
18 like to introduce Dawn Farrell, President and Chief
19 Executive Officer of TransAlta and welcome her to the
20 podium. She will start us off with panel
21 introductions and kick off our session with an
22 overview of our agenda. Welcome, Dawn.

1 DAWN FARRELL, President and CEO of TransAlta

2 Thanks Chiara and welcome everyone, and
3 thanks for all of you for coming out today. I am
4 going to start with some introductions of the team and
5 I'll walk through the agenda. I am going to do a bit
6 of a brief overview of TransAlta, for those of you
7 that don't us well. So for those of you that do, you
8 know, just bear with me. It won't take that long.
9 And then, I'll get into the meat of what we're here to
10 talk about today, which is our strategy.

11 So today, of course, what we have, John
12 Kousinioris with us, he's our Chief Operating Officer.
13 His primary focus now at the company is to consolidate
14 the business under a single team, as it moves to a
15 supply operation. And of course, you'll hear about
16 that today. Today, he's going to take you through our
17 view of the market fundamentals in Alberta. He'll
18 touch on Ontario and he'll also give you an overview
19 of these existing operation and the work that they're
20 doing there.

21 Many of you know Brett Gellner. He's
22 our Chief Development Officer. He's working on the
23 projects for the future and under his leadership,
24 we've developed our coal to gas conversion strategy
25 and we're pursuing a pipeline -- a solid pipeline of

1 unique investment opportunities. He's joined by Wayne
2 Collins. Wayne is our Executive Vice President of
3 Generation. As some of you know Wayne as the brains
4 behind our stronger performance at our Alberta Coal
5 Fleet, and he recently transitioned the Sundance Units
6 off their PPAs in Alberta there very successfully.

7 Now, together, Brett and Wayne are
8 going to take you through our plans for converting our
9 Alberta Coal Fleet to gas by 2025 -- actually, by the
10 end of 2024 and the very beginning of 2025.

11 Aron Willis is our Senior Vice
12 President of Growth. Some of you have seen him awhile
13 ago, when he was his role as our General Manager of
14 Australia. So he's back now in Canada and he's
15 focused on working with Brett, to prospect, develop,
16 buy, build, and contract New Generation Plants here in
17 Canada, in the United States, and in Australia. He's
18 going to walk you through our development pipeline,
19 our focus for renewables growth, and our plans for
20 delivering some onsite co-generation. And he'll also
21 update you on the construction projects that we
22 currently have underway.

23 And then of course, we have Todd Stack.
24 He was appointed our Chief Financial Officer in May.
25 And he's going to show you how we're going to finance

1 our transition. Now, I've worked with Todd for over
2 25 years now. He has extensive background in the
3 industry, including engineering, development,
4 treasury, and most recently, as our corporate
5 controller. That makes him a fantastic partner, as --
6 for ensuring that we can successfully finance the
7 transition that we'll take you through.

8 We are going to have a short break
9 between Brett and Aron, and we'll have a Q&A at the
10 end of the session. So let's get started.

11 So I want to start with why invest in
12 TransAlta? So we're very, very excited to be here
13 today, to roll out the execution plan that underpins
14 the strategy that we communicated to you in December
15 of 2017. And on this first slide, you'll see that by
16 the end of 2025, TransAlta's fleet will be 100 percent
17 clean energy. You're also going to hear, today, that
18 our execution plan is deep and it's well underway.
19 And this is great news for you, our shareholders.

20 Today, we're outlining our clean energy
21 investment plan that has strong and lasting returns,
22 and it has significant upside potential. Our
23 investment path enables us to continue to be a low-
24 cost and cornerstone player in the Alberta power
25 market. And it, in addition, the way that we've

1 designed this plan, we now have the financial
2 capability to also grow our gas and renewables
3 business. Our plan will be executed while keeping our
4 balance sheets strong. And this is going to be done
5 by using the funds we raised earlier this year, and
6 those that will be generated from the base business.

7 We do have a strong culture, which is
8 focused on execution and today you'll hear that we
9 have all the major building blocks in place to be
10 successful. So the leadership team at TransAlta is
11 passionate about our investment strategy and believe
12 this is a great time to be an equity holder in the
13 business. So just for a few of you that don't know
14 us, let me start by reminding you, just briefly, who
15 we are.

16 We are a leader in clean energy, with a
17 fierce commitment to a sustainable future. Our
18 mission is to provide safe, low-cost, reliable, and
19 clean energy. And most importantly, our employees
20 have embraced innovation, safety, and sustainability
21 and they incorporate these values into all of their
22 decisions and in all of our decisions. Their
23 determination to create a respectful workplace, where
24 personal integrity is the price of entry, helps us to
25 drive results that were both sustainable and lasting.

1 Now, today, we own and operate 71
2 facilities across three countries and five fuel
3 technologies. Our marketing and trading group
4 optimizes cashflows in markets where we have merchant
5 supply. And we generate electricity today, using
6 coal, natural gas, wind, water, and the sun, and of
7 course, by 2025, we will no longer be using coal as a
8 primary feedstock. We do love the diversification of
9 technology markets, customers, and the optionality of
10 selling megawatts from our plants to both markets and
11 customers. And by the end of 2021, our coal fleet
12 will be well on its way to gas, with only 32 percent
13 of the fleet remaining on coal.

14 As we roll off the remaining PPAs in
15 Alberta at the end of 2020, this 62 percent of our
16 megawatts in the Alberta market simply become more
17 valuable.

18 So today. Today, we'll be presenting
19 our company in a very simple way, so you can see where
20 we are driving value. We operate one TransAlta with a
21 single operating model for all our plants, trading,
22 marketing, and our shared services operation. We have
23 a consolidated growth team, with a consistent approach
24 to development, acquisition, and construction. And by
25 focusing on our leadership, our leadership on driving

1 value from each of our assets, in each of our markets,
2 we drive value for TransAlta shareholders.

3 Now, like others, we do have many
4 companies and joint venture relationships underneath
5 the TransAlta banner. The business relationship that
6 gets the most attention is TransAlta Renewables. Most
7 of the projects that are in renewables were originally
8 developed and built in TransAlta. And by selling
9 these assets to renewables, we were able to create
10 significant value for TransAlta shareholders. Having
11 to result to renewables as a financing vehicle for
12 long-term contracted gas and renewable projects,
13 allows us to attract additional sources of low-cost
14 capital.

15 You know and we know that we always
16 have questions from investors about the relationship
17 between TransAlta and TransAlta Renewables, and if
18 there are benefits to having the two companies under a
19 single operating model. And by the time you leave
20 today, you'll be convinced that a single operating
21 model is not only smart, but it's competitive.
22 Moreover, we'll outline our newly announced dividend
23 policy for TransAlta Corporation and we'll presenting
24 information regarding our capital allocation for
25 TransAlta on a de-consolidated basis. And this will

1 help our investors see how the dividends from
2 TransAlta Renewables flow through to the capital
3 allocation decisions at TransAlta.

4 Since we last updated you in 2017, we
5 delivered on many fronts to support the execution of
6 this strategy that we're presenting today. We are
7 proud to say that we generated a record-free cashflow
8 of \$375 Million in 2018 and this was before the
9 additional \$157 Million of PPA termination proceeds
10 that we received from the balancing pool. We also
11 received an additional \$58 Million in funds in August
12 of this year, after winning an arbitration for the
13 recovery of the mining assets under those PPAs. Our
14 Green Light Program has been a keystone of our
15 transformation, driving innovation across the company
16 and adding more than \$70 Million of value to our
17 bottom line.

18 We are here today, to put a final bow
19 on our coal to gas transition. Our gas pipeline is
20 now built and commissioned and is putting us well
21 ahead in that strategy. Today, we're going to show
22 you how we've adapted our plan to take advantage of
23 the decision to continue with an energy-only market in
24 Alberta. We also acquired 100 percent of Keephills 3,
25 so that we now have maximum flexibility for timing our

1 conversions. Today, Brett and Wayne will outline a
2 clear plan and will provide estimates of EBITDA under
3 various prices for our repowering strategy in Alberta.

4 You'll see that we pivoted our strategy
5 towards repowered combined cycle plants to account for
6 the decision to stay within an energy-only market in
7 the Alberta power system. Our clean energy investment
8 plan positions the Alberta business to be very
9 competitive and it is a key driver of the value
10 proposition that we are presenting here today. Now,
11 in terms of our renewables' growth strategy, we have
12 secured three additional wind farms in the US and a
13 new wind farm in Alberta. These projects come with
14 quality counterparties and stable long-term cashflows,
15 and we do expect shortly to announce our first new
16 small, onsite, co-generation project. And Aron will
17 show you how we're developing that business.

18 On the capital front, we've reduced the
19 TransAlta Corporate debt by \$323 Million. We've
20 improved our credit position and balance sheets
21 significantly. In addition, we secured \$750 Million
22 of capital from Brookfield in the form of a strategic
23 relationship that has added expertise to our board and
24 Brookfield, as a cornerstone shareholder. This
25 funding allows us to buy back up to \$250 Million of

1 shares, accelerated our coal to gas transition, and
2 achieve \$1.2 Billion in senior bonds by the end of
3 2020. And these are all extremely important pieces of
4 our execution plan.

5 So today, you're going to see that we
6 are positioned for the energy-only market in Alberta.
7 It's no secret that TransAlta's fleet is significant
8 in the Alberta market. Our generation base is twice
9 the size of the next largest player. The good news
10 is, that our fleet is diversified between thermal and
11 renewables and that it's needed for reliability for
12 the province. It's also no secret that our view was
13 that a capacity market offered strong benefits to
14 customers and the system in a world that increasingly
15 favours renewable generation.

16 A key foundation of our strategy at the
17 company, is to ensure that Alberta power prices remain
18 low and competitive. And this has been a value in the
19 company since 1911 and it's also an important value
20 for us to ensure that our investors achieve returns
21 that match the risk of reinvesting in our fleet, in
22 our home market. The shift back to an energy-only
23 market required us to pivot our strategy and because
24 we now have all the building blocks in place, we were
25 able to do that. A combination of the right carbon

1 policy federally and provincially, our ability to
2 build the Pioneer Pipeline early, our ability to raise
3 cash earlier this year, and frankly, the engineering
4 and operational talent in our team enabled us to pivot
5 our plan to allow us to continue supplying clean and
6 competitive low-cost energy to our home market.

7 A large part of a lift in a value that
8 we expect is because we have a very clear and sensible
9 plan to reinvest in assets in our home market. We
10 have organic growth. Most of the elements of our plan
11 are in our control and will emerge, because we can
12 take the lead. Now, when Aron profiles our growth
13 strategy for new gas and renewables, you should walk
14 away confident in our ability to find great projects
15 with great returns. He'll show you a slide that will
16 convince that our growth plans are backed up by our
17 track record. This slide here is further evidence
18 that we have the track record to achieve our goal, as
19 a leader in clean energy, in both gas and renewables
20 developments by the end of 2025. It shows that since
21 2008, we've more than tripled our EBITDA in
22 renewables.

23 It is very difficult for Canadian
24 investors to buy into a position in the quickly
25 growing renewables market. There aren't a lot of

1 investments here in Canada, because of the high degree
2 of public sector ownership of our utilities. Our
3 ability to grow our portfolio of strong, contracted
4 gas and renewables investments makes us one of the few
5 companies in Canada that can give investors a position
6 in what is becoming a very, very exciting space.

7 Now, there's quite a few of these days
8 over ESG metrics, as investors really try to get under
9 all the disclosure that are necessary to understand
10 the true value and risks of cashflows in companies.
11 Now, sustainable development is not new to us. I've
12 personally been working on this file since 1987. In
13 1990, 30 years ago, we were the first Canadian company
14 to purchase carbon offsets and in 2000, we were an
15 early adopter of wind technology. Today, we've
16 amassed the largest wind fleet in Canada, and we've
17 achieved a lot of that growth over the past 15 years.
18 As electricity technology has moved from hydro, to
19 coal, to gas, to wind, to solar, and it's now on its
20 way to batteries and storage, we've always been there
21 and we've always had an offering to our customers.

22 TransAlta has reported its
23 sustainability measure since the early 90s. And four
24 years ago, we chose to go to integrated reporting well
25 ahead of all of our peers in the market. All of our

1 ESG measures are verified by Ernst & Young and there's
2 an array of measurements we track in our report. Not
3 only do we track greenhouse gases and air emissions,
4 but we also look at things and set goals around water
5 use intensity, waste management, and landfill usage.

6 For today, we've presented just a few
7 key measures, including the diversity of our
8 management team and our board, our greenhouse gas
9 emissions and our safety performance and we pride
10 ourselves in our progressive plans and the results on
11 all these fronts. And we do know from talking to
12 investors, that making progress on all of our goals is
13 important. We also test our practices externally and
14 our reporting against standards that are set by people
15 outside of us. We look to the CDP, the task force on
16 climate-related financial disclosures and the Canadian
17 Council for Aboriginal Business. And I can say, that
18 getting a B score with CDP, with our coal plants,
19 shows you just how much work we've done to create a
20 very credible and strong set of ESG disclosures.

21 The past three years for us, have been
22 about driving financial performance within a very
23 strong ESG framework. Our key financial metric for
24 performance is free cashflow and free cashflow per
25 share, and those of you who know us, know that to be

1 the case. And this is the cash that really, truly is
2 left over to either, repay debt, grow, or return it to
3 you, our shareholders. We've grown our free cashflow
4 over the past three years and the market has rewarded
5 us for that growth, as shown in the chart on the left.
6 Okay. That's it for the overview.

7 So why are we here? For all of you who
8 are going, "Please stop. We know. We know." Today,
9 you are going to hear from the team, that we have a
10 comprehensive plan that allows us to make some great
11 investments, continue to return cash to shareholders,
12 achieve our balance sheet goals, and continue to
13 generate strong cash from our base business. We've
14 pivoted our Alberta investment plans towards repowered
15 combined cycle plants to increase our competitiveness
16 and generate cash in our home market. We have great
17 prospects in gas and renewable space and we're the
18 company to invest in, if you want to be part of a
19 market that is expanding and growing, and our
20 priorities are simple.

21 Our first priority is to invest between
22 \$600 Million and \$1.2 Billion in our Alberta thermal
23 fleet to set it up for the future. The second is to
24 complete over \$800 Million of construction projects
25 that have underway today, on time, and on budget. Our

1 third, is to grow our onsite and co-generation
2 business. Fourth, we have a team focused on building
3 a pipeline of renewables and co-generation projects in
4 the US. Projects that will grow RNW, utilize its debt
5 capacity and deliver further dividends back to
6 TransAlta shareholders. Finally, we will do all of
7 this, while running a strong-based business that
8 generates the cash to find the growth, keep our debt
9 inside of three-times debt to EBITDA ratio and allow
10 us to continue to pay and to start to grow our
11 dividend. Todd is going to show you, in his section,
12 how we can do all of this together in our
13 comprehensive plan.

14 Today, we are announcing that we are
15 ready to deploy between \$1.4 and \$2 Billion over the
16 next five years in gas and renewables. It is the
17 right bet. It's at the right time and it's for the
18 right market. It's the capital that achieves our goal
19 of becoming a competitive gas and renewables company
20 by the end of 2025 and it has strong returns. By the
21 end of 2021, we will have deployed over \$800 Million
22 to contracts with renewables projects and small co-
23 generation projects that we'll announce soon. By the
24 end of 2023, we'll have our simple boiler conversions
25 and one of our repowered combined cycle conversions

1 complete. And by the end of 2024, we'll have second
2 repowered combined cycle unit completed or an
3 additional boiler conversion finished, depending on
4 what we see as are the market conditions.

5 You'll hear from the team today, that
6 we're ready go to. We have many of the pieces lined
7 up and in place, and ready to deploy. Finally, you'll
8 see that our pivot towards a more competitive strategy
9 in an energy-only market will make us the most
10 competitive generator in Alberta. You'll hear from
11 Todd that our plan is funded. You'll see that a
12 strong balance sheet underpins our plan and we have
13 contingencies built in, in the event that conditions
14 change. Todd will show you that he'll tether the
15 investment strategy to a strong balance sheet and a
16 dividend policy that allows investors to benefit as we
17 move through the plan. And the plan continues to
18 allow us to invest in ourselves, by using up to \$250
19 Million in share repurchase over the next three years.

20 He'll also show you how cash at RNW is
21 being used to increase returns for TransAlta
22 shareholders. Today, the dividend from RNW is being
23 reinvested in Alberta at high returns. Tomorrow, the
24 free cashflow generated from Alberta will support the
25 growth and additional contracted renewables and will

1 potentially grow your dividend. So listen, I wouldn't
2 be a Canadian CEO if I weren't complaining about the
3 value of the company relative to its benefits.

4 However, I am not going to complain. What I'm going
5 to do is tell you that the coal plant transition to
6 gas, as our coal plants transition to gas, the company
7 simply becomes more valuable. Although, Alberta's a
8 merchant market, it is small, it's fairly closed, and
9 we have a key portfolio of assets. The new policies
10 for converted units in Canada allows to extend the
11 lives of those assets. Our Alberta portfolio is
12 diverse, which helps us stabilize cashflows from our
13 Alberta business.

14 And finally, although the PPA's created
15 more stable cashflows, they were set in 2000 based on
16 cost of service models, and they were set at a very
17 low level. As the PPA's roll off post-220, we move to
18 market pricing, which will give us sufficient cash for
19 returns to investors and for reinvestment in reliable
20 supply. And you're going to see today, that the
21 expected pricing in the Alberta market potentially
22 lifts the value of your company. From this chart, you
23 can see the market isn't valuing our cashflows and
24 Todd will take you through this math in his section.

25 As we're on our way to deliver our

1 clean energy investment plan, we think there's an
2 excellent opportunity here for an attractive
3 investment, given our current valuations. So why is
4 that? It's because we have a very competitive Alberta
5 business and we've developed a fantastic reinvestment
6 strategy in Alberta, that will continue to create to
7 create cash for a long time forward. And as you know,
8 everything globally is moving towards electricity and
9 electrification. Electricity is going to supply the
10 energy demands of the world and the requirements for
11 the future.

12 Alberta is one of the only markets in
13 Canada where you can have an investment in
14 electricity. And we're an important player in
15 electricity and power, and we've put together, what I
16 think, is a fantastic reinvestment program for the
17 company. More importantly, we are well ahead in the
18 renewable space. Everything is pointing towards
19 massive investment in renewables globally. Here in
20 Canada, your opportunities are limited. Electricity
21 investment is primarily owned by the Crown
22 corporations. We are going to see a massive shift
23 towards renewables and batteries here in Canada and
24 elsewhere. And if you invest in TransAlta, you'll get
25 to be part of that important shift in how electricity

1 is produced for customers worldwide.

2 Finally, today we announced a very a
3 disciplined capital allocation strategy. You know
4 that over the next three years, we are going to
5 continue to return capital to shareholders through the
6 share buy back of up to \$250 Million, but at the same
7 time, when we look at the ongoing cash that we are
8 going to generate through this investment plan, we can
9 see our way through to both investing in this plan and
10 paying you as we go; which is where our dividend
11 policy comes in today. We are very excited to have
12 been able to land a whole package here today, to talk
13 to you about, so you can see where all the elements of
14 a capital allocation strategy are and how they all fit
15 together.

16 I would say, it's the most disciplined
17 in the industry, because we don't just look at sum
18 ratio; in fact, what we do is we look at the need for
19 cash for debt repayment, for dividends, for preferred
20 share dividends, for sustaining capital, and of
21 course, as well, for the excess cash that we have
22 leftover to reinvest in your company and grow it.

23 So with that, I think just kind of
24 ending up, most of all, you only really invest in a
25 company because you invest in the team. We have over

1 175 years of combined experience and a top team of
2 people who are diverse in their views, believe me,
3 diverse in their capabilities, their skills, and their
4 knowledge. We have created an environment of
5 innovation, where work ethic and creativity stand side
6 by side, so that we can lead into the future. As a
7 team, we have the courage to make the changes that are
8 required, to ensure the company is competitive and
9 we're good at seeking out investments that are
10 profitable for you.

11 We believe we set the trends and we
12 definitely do not follow them. And we've figured out
13 how to beat the disadvantages of hierarchy, by
14 networking the organization around the projects that
15 will matter most to adding value to your holdings. So
16 with that, I'm going to turn the podium over to John,
17 to talk about the Alberta market.

18 JOHN KOUSINIORIS, CEO

19 Thank you, Dawn, and good morning,
20 everyone. My name is John Kousinioris and I'm the
21 Chief Operating Officer of the company. I'm very
22 pleased with to be with you all this morning. I'll be
23 providing you with an overview of key market
24 fundamentals, that impact our business, as well as a
25 general overview of our operations.

1 Market fundamentals, particularly in
2 Alberta, have been in flux for a number of years, but
3 things have fundamentally changed recently, we
4 believe, for the better. We have market structure
5 certainty now. We believe that we're going to have
6 carbon pricing certainty shortly and we believe that
7 supply and demand fundamentals will drive pricing and
8 supply additions in the years to come. We also
9 believe that that evolution of the market is highly
10 constructive for our company, given the scope and
11 scale of our fleet and its competitiveness, in terms
12 of its overall low variable cost and heat rate. The
13 fact that it's needed to meet the load requirements of
14 the province and our ability to repurpose and
15 reposition our coal fired fleet to a gas fired fleet
16 to be even more competitive than it presently is, at a
17 capital cost that's a fraction of new build.

18 In terms of structure, it may have
19 taken us awhile to get here, but we now have certainty
20 of market design with the Government of Alberta's
21 retention of the energy-only construct. And we're
22 happy with the retention of the structure, which is
23 pretty unique. Compared with most power markets, the
24 Alberta market is relatively pure, with relatively
25 light regulatory intervention. Our experience with

1 the market is that outcomes are dependent on demand
2 and supply, with both operating costs and over time, a
3 return of and on capital being bit into and being
4 imbedded in market prices. We expect this to continue
5 and expect the regulatory construct to permit that to
6 be the case, in order to ensure that reliability is
7 maintained in the province.

8 Being a low marginal cost generator is
9 critical today and will continue to be critical in the
10 future to competitiveness, generally; which is
11 something that we're very much focused on. Our fleet
12 is very well positioned to compete in the market, with
13 its blend of zero cost wind and hydro, which as Dawn
14 showed you in one of her earlier slides, are really
15 one of the largest fleets of those types in the
16 province. And with competitive and essential thermal
17 generation, which is shifting to low-cost gas. We
18 also expect that Alberta will continue with a
19 constructive carbon pricing framework, broadly along
20 the lines of what we currently have with,
21 approximately, a \$30.00 per CO2 tonne, price and
22 credits for our existing wind and hydro generation in
23 the province.

24 You will see today, that these changes
25 broadly support our strategy for our Alberta business,

1 which emphasizes coal to gas investments, and the
2 development of boiler conversions and gas repowered
3 combined cycle facilities. Over time, we've had
4 supportive and we believe, appropriate pricing in
5 Alberta, with the average price in that \$57.00 per
6 megawatt hour range over the past 18 years. And that
7 would be a little bit higher, probably closer to the
8 \$60.00 range if you take away 2016 and 2017. Those
9 were unusual years, due to the role that the balancing
10 pool played in the termination of the historic power
11 purchase arrangements and with the short run marginal
12 cost bidding that it was doing during that time
13 period, which is atypical in terms of what we've seen
14 over time.

15 Year to date, the price has been just
16 over \$57.00 per megawatt hour and the balance of the
17 forward price is just a bit over \$60.00 a megawatt
18 hour. You can also see that the forward curves for
19 2020 and 2021 are suggesting prices in the \$56.00 to
20 \$59.00 per megawatt hour range, respectively. The
21 slide also shows EDC Associates' forecast for the
22 province. EDC is based in Alberta, understands the
23 market well, and is generally considered to be the
24 leading independent forecaster in the jurisdiction.
25 It's forecast also suggests supportive prices, being

1 well into the \$60.00 to \$80.00 range, providing strong
2 margins for our Alberta based generating fleet, and
3 supporting our planned investments in our thermal
4 fleet. Brett and Wayne are going to be talking
5 further about this shortly.

6 Underpinning the price forecast has
7 been the historic and expected ongoing load growth in
8 the province, which has averaged about 1.5 percent per
9 year, since 2009 and which is being forecasted to grow
10 by up to 1700 megawatts by 2025. Load growth last
11 year, and I'm talking about growth peak over peak, was
12 approximately, 3.3 percent and we had a further 0.4
13 percent growth quarter over quarter in the first
14 quarter of this year, notwithstanding the relatively
15 weak overall economic picture for Alberta.

16 This too, is lending support to power
17 prices in the province and shows that a level of
18 incremental supply additions should be able to be
19 absorbed by the market. As the largest incumbent
20 player in the province, with the most diversified
21 generating fleet, this is again supportive of our gas
22 conversion and repowering strategy. Although, as
23 you'll see throughout our presentation, our strategy
24 isn't really focused on load growth and doesn't
25 require prices that are significantly higher than the

1 levels that we're accustomed to seeing in the
2 marketplace.

3 Our coal to gas repowering and
4 conversion strategy is very much oriented towards
5 replacing megawatts that we currently have in the
6 market, extending the life of our facilities, and
7 reducing our operating costs even further. And on
8 that last point, we remain driven by our desire to
9 reduce our per megawatt hour cost of generation. And
10 the two largest input costs for that are really carbon
11 emissions and fuel. Brett will be speaking about the
12 CO2 emissions reductions that we're focused on and the
13 impact that carbon price has on that, and the carbon
14 price savings that we're targeting. But as you can
15 see in the slide here, there is a very large supply of
16 natural gas in Alberta, which has resulted in an
17 associated reduction in the price of gas over the last
18 15 years or so. That too, is also highly supportive
19 of our gas focus strategy and will help us be an even
20 lower cost generator in the province.

21 And this is really highlighted in the
22 next slide, where we're showing you what our expected
23 marginal fuel costs and carbon costs will be over
24 time. And this will be critical in the energy-only
25 market, which will be very much focused on marginal

1 cost, in order to be competitive. The blue bar on the
2 left indicates our fleet wide weighted average price
3 of generation, based on the current composition of our
4 fleet, including our wind and hydro assets. As we
5 convert our coal fleet to gas and introduce two gas
6 repowered units, we expect our weighted average
7 marginal costs per megawatt hour to fall by about 35
8 percent, pretty dramatically, to approximately, \$15.00
9 per megawatt hour, which will clearly support our
10 competitiveness in the province.

11 The other point that I'd like you all
12 to take away today, is that our generating fleet is
13 needed in the province is absolutely critical to the
14 province's load being met with a required level of
15 reliability. Using the Alberta Electric System
16 Operator's own long-range adequacy metrics, the slide
17 shows the ongoing importance of existing coal and
18 eventually, gas fired supply in meeting the needs of
19 Alberta. The chart on the left is a little busy, but
20 shows in the blue line, the peak demand expected by
21 the AESO over the next two years. If you remove the
22 dark green -- and I think on one of the slides, it,
23 well, I guess it is pink. I thought it was looking a
24 bit brown yesterday -- at the top of the chart, which
25 represent the capacity available from intermittent

1 wind generation in the intertie, the importance of
2 existing installed coal, gas, and hydro in meeting the
3 needs of the province is pretty clear.

4 The chart on the right, which is also
5 based on the AESO's long-term adequacy metrics, points
6 out that there are currently, very real expectations
7 of tight supply periods in the province in the near
8 term. The supply cushion represented shows the
9 difference between firm supply and by firm, we exclude
10 intermittent or uncertain win in the intertie supply
11 and expected daily peak demand over the course of the
12 next few years. And it highlights the potential for
13 supply deficits for extended periods of time during
14 the forecasted period. In fact, the chart and it's
15 probably a bit hard to see it, actually shows that the
16 supply cushion is actually negative for extended
17 periods of time, which are the lower dips that you see
18 there. When only the most reliable generation
19 available in the province is considered from a supply
20 perspective.

21 The key takeaway, I think, is that our
22 Keephills and Sundance units are required to meet the
23 needs of the province, which, as you all know, is
24 characterized by a very high and consistent industrial
25 load level, with relatively limited fluctuation.

1 That's 24 hours a day, 7 days a week, 365 days a year.
2 In fact, when we've canvassed the variety of
3 jurisdictions in the world, we haven't been able to
4 identify another market that is as dependent on, or
5 from a demand perspective, as focused or comprised of
6 industrial and commercial load as Alberta is. Our
7 retail market is actually relatively small, given our
8 relatively small population base in the province.

9 I also want to highlight the importance
10 of the ancillary services in the context of our fleet.
11 Ancillary services ensure that the interconnect to the
12 electrical system in the province is operated in a
13 matter that gives a satisfactory level of service,
14 with acceptable levels of voltage and frequency.
15 Significant volumes of ancillary services are procured
16 each year by the AESO, and we supply almost 50 percent
17 of this important segment through our hydro fleet and
18 we do it in a manner that permits us to conserve and
19 manage our water position throughout the year. And
20 we're able to achieve pretty good pricing, about 60
21 percent of the flat energy pricing in the province for
22 that service that we provide. I'll be speaking a
23 little bit more to you all about how our hydro fleet
24 generates its cashflow shortly.

25 Finally, if I could just have just a

1 quick word on the situation here in Ontario, where we
2 have a pretty significant fleet. We're a significant
3 generator. We actually have a bit over 1,000
4 megawatts of installed capacity in the jurisdiction.
5 We are expecting the eventual implementation of a
6 capacity market here, and at least some level of
7 carbon pricing in the province, based on the federal
8 government's output-based pricing system. However,
9 given the contracted nature of our assets in the
10 jurisdiction, we're presently largely insulated from
11 any near-term impacts from the changes that might
12 occur in the market. Largely, because of the current
13 contracts, as I mentioned, and the change in law
14 provisions that exist in them.

15 So moving on now to our operations. In
16 terms of an operations overview, the key messages are
17 that our generating fleet is highly diversified, both
18 by fuel type and geography, with considerable
19 contractedness, upside from merchant generation,
20 particularly, in Alberta, and with an ongoing focus on
21 low-cost generation. We've definitely seen an
22 improvement in our fleet's financial and operating
23 performance, encompassing a variety of key aspects,
24 from safety to availability, to the variable cost of
25 production; all of which is something that we're

1 really proud of. We've also unified our entire
2 generating fleet under a single coordinated leadership
3 team, along with our trading, asset optimization,
4 commercial team, and our shared services group.

5 In terms of our operating model, we're
6 really focused on being a leader in safe, low cost
7 generation, with a focus on really four major
8 elements. The first is simplification. And by
9 simplification, we mean, leadership consolidation, a
10 focus on reduced OM&A, particularly, as we continue
11 our journey to converting our coal fired generation to
12 gas fire generation. A focus on the development of a
13 multi-skilled and flexible work force, a focus on
14 centralized and remote operations, which is really one
15 of our core competencies. Our wind and hydro fleets,
16 as well as much of our Australian gas business is all
17 run in a remote and simplified manner. And finally,
18 we have a key focus on the introduction of new
19 acquisitions that we have in an efficient and
20 simplified way.

21 Secondly, we've really concentrated on
22 a fleet-wide approach to acid optimization.
23 Particularly, with a focus on a merchant portfolio in
24 Alberta. And that includes a focus on fuel and carbon
25 cost reductions, the use of data analytics to help us

1 make better decisions in a more predictive way for the
2 business. Those of you, I think, that were able to
3 attend our Investor Day sessions this past July,
4 would've seen firsthand some of the work that the team
5 is doing by leveraging data analytics to make more
6 informed and accurate, and frankly, faster decisions
7 in operating and dispatching for our hydro and our
8 wind assets.

9 Third, we're also focused on the full
10 implementation of our shared services model, which
11 really isn't something we've spent a lot of time
12 talking to you about and which I'm going to spend just
13 a moment on. We're centralizing the provision of all
14 common essential services for our generating business,
15 under a single leadership and one that is coordinated
16 with our generating fleet. And the kinds of services
17 that we're focusing on are things like IT; supply
18 chain; OP services, such as compliance and
19 engineering; and a number of the HR functions that we
20 have. And as I mentioned, it'll be all one leadership
21 team, no duplication and it'll be oriented towards
22 just providing those services that the generating
23 fleet requires.

24 And finally, we're going to continue to
25 focus on the discipline that we've been able to

1 develop by relentlessly focusing on our Project Green
2 Light methodology. And the two key areas that we have
3 for Project Green Light are really focusing on
4 generating that bottom up innovation that our
5 employees are developing and by enhancing our
6 organizational health, which in our mind, is really
7 trying to improve the way that we actually do things.
8 I can't even begin to stress the importance of this
9 transformation on our company. And again, I think
10 that those of you that were able to attend our
11 investor tours in the summer times, and spent time
12 interacting with our employees, would've gotten a
13 firsthand feel for the impact that Project Green Light
14 has had on the company. And the way that it's had an
15 impact on the way that we do things, by empowering
16 individuals to pursue any idea that they have to
17 improve our business in a disciplined way.

18 And I'll give you some examples of that
19 as I talk specifically about our various operations.
20 So one of our greatest assets and strengths is the
21 diversity of our fuel types, geography, and cashflows.
22 Our coal to gas and gas repowering assets in Alberta
23 have provided us with a very attractive investment
24 opportunity, in a healthy market, in which we have a
25 leadership position. And Wayne and Brett will be

1 walking you through that shortly. A wind generation
2 platform, which is the largest in Canada and amongst
3 the largest in North America. I think when you look
4 at the size of the platform from a North American
5 perspective, it's one of the top 15 platforms on the
6 continent. It's a key part of our transition to
7 becoming a leading clean power company. And it's in
8 the process of seeing pretty significant growth, with
9 four projects under construction, which will increase
10 the size of the fleet by about 30 percent.

11 The strong contracted cashflows from
12 our diversified gas fleet benefit our business,
13 stabilize our cashflows, while we service the needs of
14 our largely industrial customers, and finally, we have
15 our unique set of irreplaceable hydro assets in
16 Alberta. Some of which continue to operate very, very
17 well and outstanding that they're over 100 years old,
18 and they continue to provide us with a unique
19 competitive advantage in that jurisdiction, which is
20 really difficult for anyone to replicate.

21 The position of our legacy coal assets
22 has changed markedly in the last few years, with the
23 unique gas repowering opportunity that they represent.
24 They represent, approximately, 20 percent of Alberta's
25 generation and we believe they will continue to

1 provide much needed low-cost and reliable capacity for
2 years to come. By the end of 2020, the PPAs governing
3 the fleet will expire, which will finally result in
4 full operating and dispatch control, reverting back to
5 TransAlta for the units. A planned coal to gas
6 repowering investments will dramatically extend the
7 life of the assets, reduce their operating costs, and
8 generate strong cashflows and excellent returns for
9 our shareholders.

10 And I'd like to just give you a sense
11 on just a couple of the initiatives they're working
12 on, from Project Green Light perspective on the fleet.
13 One of them is our Centralia Plant and facilities down
14 in Washington State, where the team there has really
15 been focused on the chemistry of coal blending and has
16 managed through the work that they do, to actually
17 source cheaper supplies, but supplies of coal that
18 they can blend properly to ensure that just the
19 combustion and the fuel that we have in the unit
20 operates as efficiently as it can be, at the lowest
21 possible cost that it can be. That's an ongoing piece
22 of work that they do.

23 And in Alberta, for example, at Alberta
24 Thermal, we've been using artificial intelligence now
25 to actually optimize, as best as we can, the boilers

1 that we have; both in terms of the emissions that they
2 have and the fuel that they generate, again, creating
3 significant cost-savings for the company and improving
4 their reliability on a go-forward basis. Our hydro
5 assets are unique. They're perpetual in nature and
6 they provide a critical advantage for our company. We
7 own and operate over 90 percent of hydro generation in
8 Alberta. We have additional hydro facilities in
9 British Columbia and Ontario. As I mentioned to you
10 earlier, they provide both ancillary services and
11 energy to the market and expect to receive green
12 credits under Alberta's new carbon pricing scheme,
13 which we believe will increase their value further.

14 Most importantly, the hydro PPA that we
15 have with the balancing pool in Alberta will expire at
16 the end of 2020, which we expect will result in a
17 significant increase in our cashflows from those
18 facilities in 2021 and beyond. And again, I just want
19 to give you a Project Green Light example on our hydro
20 fleet. Over the last year or so, the team has been
21 really, really focused hard on developing a water
22 forecasting and weather forecasting tool that they've
23 been able to implement. And some of the people
24 would've seen that in the summer time. This has
25 really improved our ability to actually forecast water

1 flows and more precisely measure our reservoir levels,
2 which we think conservatively, has resulted in our
3 cashflow improving by \$3-4 Million this year alone.
4 So that was a tremendous piece of work that the team
5 did over the course of the last 12 months.

6 Our Alberta Hydro assets are in a
7 pricing premium, broadly in that 20 percent range, as
8 compared to the flat Alberta energy price. As a
9 result of the manner in which we manage the facilities
10 and their water supply, which is a pretty precious
11 resource for us, given that the system doesn't have a
12 lot of storage. We run the facilities at times when
13 prices are higher, due to a tightness in the market.
14 So taking 2018 as an example, while the average price
15 in the market was in that \$50.00 per megawatt hour
16 range, we were able to secure an average price of
17 \$59.00 per megawatt hour for our wind fleet from the
18 energy that we generated there.

19 And as I mentioned earlier, our Alberta
20 Hydro assets also provide about 50 percent of the
21 ancillary services requirements in the provinces.
22 Things like regulating reserves, spinning reserves,
23 supplemental reserves, and standby services. And
24 they're paid about 60 percent of the flat market price
25 in the province for those services, which often don't

1 require the flow at any, or significant water to
2 actually earn them. Sales of ancillary services
3 roughly provide about half of the cashflow that we get
4 from the fleet.

5 Now, some of you may have seen this
6 slide before. It provides a visual illustration of
7 the EBITDA earned by our hydro fleet; both prior to
8 and following the impact of the power purchase
9 arrangement that we have with the balancing pool,
10 which as I said, was going to expire at the end of
11 next year. I'm going to spend a little bit of time on
12 this and before getting into the numbers, I thought
13 what I would do is just give you a brief overview of
14 the mechanics of the arrangement so you can follow
15 along. Now, our hydro fleet generates energy and
16 ancillary services, which are sold at market prices.
17 And our company has full operating and dispatching
18 control over the fleet. In that way, it's very
19 different than our PPAs over our coal fleet.

20 However, the PPA, which impact the bulk
21 of our hydro fleet in Alberta, is settled separately
22 and it's done in a financial manner and there's
23 really, three major flows of cash that exist under
24 that arrangement. The first one is that TransAlta
25 receives an annual capacity payment from the balancing

1 pool and in return, we provide them with two payments.
2 The first one is an annual energy payment that we give
3 them, which is based on a notional quantity, a
4 prescribed notional quantity of annual energy
5 generation. And the second one is an annual ancillary
6 services payment, which we provide, which similarly is
7 based on a prescribed notional quantity of ancillary
8 services that we generate.

9 So turning to the bridge on the chart,
10 which summarizes 2018 actual monetary flows for the
11 hydro fleet, you'll see that we earned about \$90
12 Million from energy sales, a further \$104 Million from
13 ancillary services sales in the year, and we were paid
14 \$56 Million from the balancing pool in terms of the
15 PPA through the capacity payment that they provide.
16 And that payment will disappear at the end of the PPA.
17 But we expect that we're going to be able to make up a
18 bunch of that loss, the cashflow, through increased
19 power prices and also through the carbon credits that
20 we expect to receive for the fleet.

21 Finally, TransAlta earned another \$41
22 Million on its hydro fleet from the non-PPA hydro
23 assets that we have, our transmission, which is part
24 of the segment in the way that we report it, and also
25 from other hydro services that we provide, like water

1 management services and black start capabilities. And
2 that's a pretty stable cashflow year over year. The
3 cost of our hydro operations in 2018 was \$47 Million
4 and when you deduct it from the revenue streams that
5 are outlined on the chart that I just went through,
6 would give you pro forma EBITDA for the hydro business
7 is, roughly, in that \$240-\$244 Million range. Which
8 we believe is within the range of what we would
9 normally expect the business to provide following the
10 expiry of the PPA.

11 And I'll talk a little bit more about
12 that in the next slide. However, in 2018, under the
13 terms of the PPA, we paid the balancing pool \$135
14 Million in the form that of that annual energy and
15 ancillary services payment that I was talking about
16 earlier. And typically, that payment has equaled or
17 broadly approximated 100 percent of the energy revenue
18 that we've received and about 50 percent of the
19 ancillary services revenue that the business would've
20 received. And that would've led to the reported
21 number, which was \$109 Million in a year. That
22 payment, that \$135 Million payment will go, at the of
23 the PPA, ad the end of 2020.

24 In this chart, we presented a range of
25 post-PPA EBITDA outcomes from the hydro fleet after

1 removing all of the impacts of the PPA, and over a
2 range of Alberta flat prices, ranging from \$50.00 to
3 \$70.00. At these prices, we expected our hydro
4 business to generate an EBITDA in the range of \$200
5 Million to about \$250 Million, which roughly translate
6 to an EBITDA lift of about \$18-\$20 Million, for every
7 \$5.00 per megawatt hour increase in the price, is
8 roughly what it translates to.

9 Turning to our wind and solar fleet, we
10 have over 1300 megawatts of capacity. Actually, in 21
11 facilities, the additional facilities actually are
12 solar in Massachusetts and our wind is located in
13 Alberta, Ontario, Quebec, New Brunswick, Wyoming, and
14 Minnesota, and we're currently developing four
15 projects again in a diverse set of locations, which
16 will increase the size of the fleet by almost 400
17 megawatts. The fleet is highly contracted, with an
18 average capacity weighted contracted life of about 11
19 years. And it provides us with predictable ongoing
20 cashflow of around \$250 Million a year.

21 We're the largest wind generator in
22 Canada and have one of the largest platforms in North
23 America. We have extensive in-house experience in
24 wind farm development, which Aron is going to be
25 speaking to you about a bit later. And we have a very

1 strong operating model in our wind operations. Highly
2 developer mode operations and monitoring, very
3 experienced maintenance program and team, and
4 significant data analytics and optimization
5 capabilities. And our wind fleet too is really
6 focused on the Green Light initiative and examples.
7 And these typically come from our employees.

8 One of them that we've been working on
9 is we've developed a new weather forecasting model,
10 which helps us in the way that we operate the wind
11 farms during the winter time. Avoiding icing on the
12 blades and we think that that's going to result in
13 about a million, million and half dollars a year, just
14 to give you a sense of benefit there. The other thing
15 we've been doing is we've working pretty hard with a
16 team from Stanford University, over the course of the
17 last year, to deal with wake effects and yaw at the
18 farms. And we think that the work that we've done
19 there and the analysis that they've helped us with is
20 going to increase the output of our wind farms from,
21 between 1 to 1.5 percent. So we're really excited
22 about the collaboration that we've been doing with
23 them.

24 Turning to our natural gas fleet, we've
25 got about 1300 megawatts of natural gas a generating

1 fleet. It's located in Alberta, Ontario, and Western
2 Australia, where we have focused on meeting the needs
3 of a diverse set of industrial, commercial, and
4 utility customers. This portfolio of assets is highly
5 contracted, with an average capacity weighted contract
6 life of about seven years and provides with a stable
7 set of earnings for our company, largely based on the
8 capacity payments that we have under those
9 arrangements, with very little variability.

10 You'll hear from Aron later in the
11 presentation, that we're now seeing a renewed interest
12 in onsite generation, which we think is going to add
13 to the size of the generating fleet that we have, once
14 our growth team begins working on it and it ramps up
15 there. So we're excited about that. Our gas team
16 also spends a lot of time working on Project Green
17 Light initiatives and I'll just give you one example
18 or a couple of examples, actually. In Australia,
19 we're really focused on centralizing all of our remote
20 operations. We've done it for the southern part of
21 our generation in Western Australia. We're going to
22 be folding in our South Hedland Plant into that and
23 expect that the reductions in labour costs by doing
24 that are going to be, roughly, in that million to
25 million and a half dollars a year. And again, that

1 was an initiative that was developed by our employees .

2 Another example is the work that we've
3 done with our gas turbines at Sarnia, where one of our
4 engineers took it upon himself to see if he could
5 reduce the load point, effectively. Where how fast
6 the generator effectively is running, while meeting
7 all of the needs that we have for the facility, in
8 terms of heat and steam, but also at the same time
9 making sure that we stay within the envelope that we
10 have for emissions, all the while lowering our fuel
11 consumption, because we're just burning less gas to
12 see it through. And that's a significant initiative
13 that will see us saving about \$3 Million, maybe a
14 little bit more a year in that facility. So another
15 great example of the way our employees, through
16 Project Green Light are thinking about helping out
17 business.

18 Just want to touch on re-contracting.
19 We believe you've been very successful in securing
20 extensions for our gas fired facilities. We've got
21 over 65 years of incremental contract life that we've
22 been able to achieve, as indicated on the slide. One
23 of our key focusses right now, is on re-contracting.
24 As I was talking about Sarnia, that 500-megawatt
25 Sarnia Regional Cogeneration Plan, which has contract

1 expiries coming up in the 2022 to 2025 period. With
2 some of the customers that we have there and with the
3 contract we have the AESO. We're actively engaged in
4 discussions with the Government of Ontario, the AESO,
5 and our existing customers, but also prospective
6 customers, to see if we can get extensions there and
7 even new contracts to extend the contracted cashflows
8 of that facility.

9 And overall, I think it's important to
10 note our company is pretty highly contracted. With a
11 weighted average contract life, excluding our coal
12 fired generation of, approximately, 11 years. And
13 upon the expiry of the PPAs at the end of 2020, the
14 thermal PPAs at the end of 2020, the majority of our
15 EBITDA will still remain tied to contracted assets.
16 And the uncontracted portion of the fleet will be
17 located primarily in Alberta, where we think we're
18 going to be able to realize the upside that we expect
19 to get in our hydro cashflows and the benefit of the
20 expectation of some of the higher prices that we
21 expect to see in the province.

22 Finally, I'd like to just touch on our
23 trading and marketing team, which is very, very
24 important to the company and our operations. And
25 generally, it fulfils four basic major functions.

1 First, there's measured proprietary trading for profit
2 that we do in each of the markets in which we operate,
3 and even some that we don't. And part of the benefit
4 from that activity, is just the information flow on
5 price discovery that we have for the company as a
6 whole, which really helps a number of the business
7 units in the company. The second element that we have
8 in our trading group is just market intelligence and
9 forecasting, which is used throughout our business;
10 both from a planning perspective and with Aron and
11 Brett's growth teams.

12 The third element is asset optimization
13 and the hedging of our entire fleet, the merchant
14 component of our business. And finally, we have a
15 pretty robust CNI business, where we try to develop
16 solutions for commercial and industrial customers.
17 Again, primarily in Alberta. Some of those contracts
18 are longer life contracts, some as large as five years
19 in length and we tend to think of that as another way
20 to -- well really two things -- another way to
21 actually hedge our merchant exposure in the province,
22 but also it's actually been a source of leads,
23 essentially, for our growth team, as we stay close to
24 the customers and they identify opportunities that we
25 have to serve them better.

1 unites to burn 100 percent gas, continues to make
2 really strong economic sense. So we've now completed
3 all of the preliminary work that's necessary to allow
4 us to firm up exactly the type of conversions that we
5 want to undertake. And also, the conversion schedule
6 and I'll have a little more on this shortly. Because
7 of the work we've done, we're very confident that the
8 investments that we've made and made to date, and
9 which we will make to convert the Alberta coal plants
10 to burn 100 percent gas over the next few years, will
11 deliver very strong future cashflows and very
12 attractive investment returns.

13 We're also confident, and Brett will
14 show you in section of the presentation that the
15 Alberta portfolio of converted gas power plants that
16 we're creating will be very competitive under the
17 anticipated future market conditions. So turning now
18 to our specific gas conversion plans. The base plan
19 involved three boiler conversions in the period 2020
20 to 2021. In that period, we will convert Sundance 6,
21 Keephills 2 and Keephills 3. And two repowered
22 combined cycle conversions, which will be Sundance 5
23 and Keephills 5, and they'll be straddled,
24 approximately, a year apart. Keephills 1 and Sundance
25 5, the two future repowered combined cycle plants will

1 either co-fire until they're repowered, or
2 potentially, be converted to 100 percent gas fired
3 boiler conversion before then, because as Brett will
4 show you, the carbon savings is significant and the
5 payback times are relatively quick.

6 The options for Sundance 3 and 4 will
7 evaluated over the next year to 18 months, and as
8 we're obligated to do, we'll continue to look at those
9 plants in light of the future long-term market
10 fundamentals.

11 The plan that we're presenting here
12 today assumes also, that there no delays in getting
13 the approvals, the regulatory approvals we need,
14 particularly for the repowered combined cycle plants.
15 And we in securing the additional gas requirements
16 that we need. On this slide here, we're looking to
17 really show you that boiler gas, coal to gas
18 conversion is technically, a fairly straight-forward
19 process. We're essentially replacing the coal burners
20 with gas burners and a new set of gas fuel controls.
21 There's also some changes we'll do to the way the air
22 gets into the boiler. And the plant outage that is
23 required to do this and implement this conversion is
24 relatively quick. It's approximately six weeks in
25 duration.

1 And as you can see from this slide,
2 boiler gas conversion results in a materially simpler
3 production process. It takes away the need for
4 substantial items of the plant and in particular,
5 eliminates the need for the mine. In addition to
6 that, the coal hammering plants are no longer required,
7 coal mills, burners, pulverized fuel piping, a lot of
8 wearing parts, no ash handling equipment, air-quality
9 control systems, whole areas of the plant like
10 precipitators and bag filters are no longer required.

11 So moving onto the repowered combined
12 cycle plant. And on this slide, we illustrate what a
13 repowered combined cycle plant entails. The repowered
14 combined cycle process involves the installation of a
15 new gas turbine and generator. And that generator
16 will be connected to the grid and transmit its power
17 through a new grid connection. We'll use the exhaust
18 gas from the gas turbine and pass it through a heat
19 recovery steam generator to produce steam, and that
20 steam will then be connected into the existing steam
21 turbine, the condensing and feeding equipment, and the
22 existing steam turbine and generator and the existing
23 grid connection will be used to transmit that power to
24 the network.

25 So the repowered combined cycle plant

1 uses a mix of new and existing equipment to produce a
2 plant that has heat rates that are very comparable to
3 those of a brand-new combined cycle gas turbine.
4 However, as it uses a lot of our existing equipment,
5 the capital cost is much, much lower. It's 40 to 50
6 percent lower than that of a new Greenfield combined
7 cycle gas turbine. Now, these repowered combined
8 cycle plants are not a novel concept. They're
9 something that's quite well proven. We're aware of at
10 last eight of these that have been completed in the
11 US. And a number of conversions are also currently in
12 progress. Our team had visited some sites with lots
13 of operating history and on this slide here, we're
14 showing you an XL Energy site, which is located in
15 Minneapolis. This plant had a repowered combined
16 cycle conversion completed in 2009. It's been running
17 for the last ten years very, very reliably at high
18 capacity factors.

19 Now, the timeline for this conversion,
20 it's our intention to seek the regulatory approvals
21 for the repowered combined cycle plants, the two of
22 those at the same time. We've got a parallel
23 construction plan in mind, with a slight offset in
24 there which will allow for the site construction team
25 on Sundance 5 repairing to finish that job and the

1 bulk of those people to be able to move on to
2 Keephills Unit 1, once the Sundance 5 is completed.
3 The commercial operation date for Sundance 5 repowering
4 is the end of 2023 and for Keephills 1, it's the end
5 of 2024.

6 Now, moving to, what this program of
7 work will cost. The gas conversion outages have been
8 schedules to align with the normal turnaround
9 maintenance outages for our plants. And it's our
10 intention to complete kind of turnaround work scope
11 and the gas conversion work in parallel. So on this
12 slide, we're really showing you the total capital that
13 we expect to spend on all of the activities, that the
14 Alberta coal plants during the period they're being
15 converted to gas between 2020 and 2024. The total
16 capital expenditure expected for the two repowered
17 combined cycle conversion plant is our base cost and
18 that's approximately, \$1.5 Billion. And that includes
19 the boiler gas conversion capital, the sustaining
20 capital that we have to spend on turnarounds, life
21 extension capital for that period 2020 to 2024.

22 It should be noted that the repowered
23 combined cycle gas conversions are a relatively high
24 cost compared to the boiler gas conversions, however,
25 the repowered plants have 40 to 50 percent lower

1 capital costs and they're very competitive with the
2 Greenfield combined cycle gas turbine heat rates, as I
3 indicated earlier.

4 Now, we haven't been sitting idle.
5 There's a substantial body of work that's complete or
6 well underway and I'm just going to walk through some
7 of that now. So we have received the regulatory
8 approval that we need for the boiler gas conversions,
9 which have already been scheduled. The Pioneer
10 Pipeline, as Dawn mentioned in her opening remarks,
11 was completed last May, about four months ahead of
12 schedule. And we have been taking gas from that
13 pipeline since then. We have an EPC contract selected
14 for the Sundance and Keephills boiler gas conversions.
15 We've issued the full notice to proceed for the boiler
16 conversion at Sundance 6 and we've issued a limited
17 notice to proceed for Keephills Unit 2, boiler gas
18 conversion.

19 Now, Keephills 3 is slightly different
20 technically in the boilers, so we've been out to the
21 market with a separate request for proposal for the
22 boiler gas conversion on K3. We're currently
23 evaluating that, and we expect to make a decision on
24 that late this year or early next year.

25 We also had an owner's engineer onboard

1 to assist with the work we need to do on the combined
2 cycle repowering for Sundance 5 and Keephills 1. And
3 we've also entered into a carbon costs benefit sharing
4 agreement with the balancing pool in Alberta for
5 Keephills 1 and 2. And that will actually allow us to
6 co-fire fairly heavily on those two units and share
7 the benefits between now and when the PPA's finished
8 at the end of 2020.

9 Discussions are also underway for
10 additional power plant and gas supply capacity to
11 improve reliability and Brett will touch on that a bit
12 more later on. So you can see that overall we're well
13 into implementation here. Also, as I indicated in my
14 opening remarks, we believe that there is substantial
15 benefits from conversion to gas. Firstly, it provides
16 attractive investment returns and Brett will give you
17 some more insights into that. Significantly extends
18 the life our fleet and I've got some more detail on
19 that later on. It also substantially lowers our
20 operating capital and our GHD compliance costs. And
21 natural gas is abundant supply and very competitively
22 priced. And you also need to understand that natural
23 gas conversion or gas conversion avoids the need for
24 us to engage in significant expenditures on emissions
25 reductions, so SOx and NOx emissions reductions, which

1 would be required if these plants stayed on coal.

2 Boiler gas conversion is a very light
3 capital and we're very quick to do those conversions
4 in the order of six weeks outage to do that. The
5 repowered combined cycle plants, 40 to 50 percent
6 lower capital costs than Greenfield combined cycle
7 plants. And so in the next few slides, we'll take you
8 through some more detail on some of these benefits.

9 So let's now look at the life extension
10 that this plant delivers. So the dotted line on this
11 slide shows you that the TransAlta coal fleet would
12 all be closed down by 2029 if we did not undertake
13 these conversions. And in fact, some of those
14 closures would've commenced in the mid-2020s. The
15 boiler gas conversions extend the plant lives well
16 into the mid to late 2030s, and the repowered combined
17 cycle conversions extend those plant lives into the
18 late 2040s. And further, it's also possible that we
19 could undertake a repowered combined cycle gas
20 conversion on previously boiler converted units. So
21 for example, a plant like K3 would be an ideal
22 candidate for that.

23 As shown on the earlier slides, the
24 converted gas plants are technically and substantially
25 simple plants than coal fired plants. There's a huge

1 reduction in the volume of equipment in service and
2 that allows for the elimination of the need for a lot
3 of routine operation and maintenance on all of that
4 equipment. Co-firing and gas conversion also allow
5 for significant reduction in the materials that we
6 consume, such as chemicals, and lime, and activated
7 carbon bag replacements on bag filters. And the
8 reduction in equipment and service, and the work
9 associated with the operation and maintenance on that
10 equipment supports significant reductions in the
11 operations and maintenance workforce. It should be
12 noted that the plant changes that we've already
13 implemented and co-firing with gas, have allowed this
14 workforce transition to commence. It actually
15 commenced in 2018. And you're already seeing the
16 benefits of the lower RMNA costs in 2018 and also, in
17 2019.

18 And so really, in terms of our
19 workforce transitions, we are really on the journey to
20 being fully converted to gas and our workforce
21 transition is probably more than 50 percent completed
22 already. This next slide shows you the substantial
23 change in sustaining capital spending that we expect
24 once all of the plants are converted to gas. So the
25 light blue section of this slide of the first bar on

1 this chart, is showing you what our kind of average
2 mine and sustaining capital run rate on the mine has
3 been. It's in that \$30-\$40 Million per annum. Post-
4 gas conversion, the mine moves into reclamation mode
5 and this capital spend is largely eliminated. And
6 because of the reduction in the amount of equipment
7 that's in service, that I've talked about a couple of
8 times earlier, the need for capital replacement or
9 those elements that are no longer operating, is
10 eliminated as well.

11 And finally, the gas combustion is much
12 kinder to our plants. It results in a lot less tube
13 wastage and erosion in our boilers. And so there will
14 be less tube repair and shielding, and those sorts of
15 capital costs associated with those plants. So all
16 up, you can see from this slide, we expect to see a
17 fairly substantial 40-50 percent kind of run rate
18 reduction. There'll be years where it'll go up and
19 down a little bit post-conversion.

20 So in summary, the plan we've laid out
21 today and confirmed today will see us complete a
22 minimum of three boiler gas conversions by the end of
23 2021 and two repowered combined cycle gas conversions
24 by the end of 2024. That will considerably simplify
25 our plant operations with significant reductions in

1 OPEX, CapEx, GHG compliance costs moving forward. And
2 it will substantially extend the life of our existing
3 coal plants. These plants will be very, very
4 competitive in the Alberta market. And I'm now going
5 to pass you over to Brett Gellner, and Brett's going
6 to take you through some more detail on the economics
7 that underpin the plan and the portfolio that we're
8 looking to create here.

9 BRETT GELLNER, Chief Development Officer

10 Okay. Thanks, Wayne. Good morning,
11 everyone. It's great to see you. I'm going to build
12 off what Wayne just talked about and I'm walk you
13 though some of the financial analysis in behind our
14 conversion plans. And what this will show is that the
15 fleet will be very well positioned for an energy-only
16 market going forward. Then I'm going to walk you
17 through the expected EBITDA impact for the Alberta
18 thermal fleet under different energy prices, once
19 we're fully converted to gas. And then I'll conclude
20 my section with an update on our natural gas strategy.

21 So as Dawn indicated, our conversion
22 plans are designed for the energy-only market, but
23 really striking a balance between having low marginal
24 cost units and the amount of capital reinvested in
25 Alberta that can be funded with our near to medium

1 term sources of capital. And Todd's going to take you
2 through that in more detail later.

3 Originally, our initial plans, when the
4 capacity market was going to go ahead, we were
5 thinking about repowering one of the units into
6 combined cycle and then rest through the boiler
7 conversions. Now, with the retention of the energy-
8 only market, we've pivoted those plans to look at
9 repowering two units into combine cycle, as they will
10 have very low operating costs in that market. So now
11 what I'm going to do is walk you through the
12 competitiveness of our plan; both from a marginal
13 costs perspective and from a capital costs
14 perspective.

15 So first, just turning to marginal
16 costs. This chart compares a coal unit, a boiler
17 converted unit and a repowered unit under different
18 natural gas prices. So you can see that the repowered
19 unit is the most competitive because of its low heat
20 rate, and virtually no to very low carbon costs going
21 forward. The boiler conversions are also very
22 competitive, especially when gas is at \$2.50 a GJ or
23 lower. And as John showed earlier, the forward curve
24 going out to 2020, currently, is actually below \$2.00
25 a GJ, so these are very competitive even as boiler

1 converted units. So our conversion plans are very
2 competitive from a capital costs perspective as well.

3 So you can see from this chart, the
4 capital costs per KW of capacity for a boiler
5 converted unit is very low and I'm going to walk you
6 through on the next slide, this capital can be paid
7 for in under 1.5 years, based solely on the carbon and
8 other air emissions savings we'll get from converting
9 from coal to gas. The costs for the repowered
10 combined cycle is also very attractive when you
11 compare it to a Greenfield, brand-new combined cycle
12 or even a brand-new Greenfield cogeneration, as we've
13 seen some announcements. And this is due to, as Wayne
14 said, we're going to be able to use the existing steam
15 turbine and other infrastructure that's already
16 onsite.

17 So as a result of these competitive,
18 marginal, and capital costs, our investments in
19 converting to gas will generate very strong returns
20 even under a low energy price scenario. So let me now
21 take you through the emissions savings. And what this
22 shows is the emissions savings being 100 percent on
23 coal units and then a boiler converted unit. The top
24 chart shows the savings on a per megawatt hour basis.
25 The total reduction is in around \$18.00 a megawatt

1 hour. Most of this is due to carbon, but we also
2 eliminate mercury and we avoid any operating cost to
3 meet NOx and SOx going forward.

4 The bottom chart then converts these
5 savings per megawatt hour into total annual savings.
6 As you see, it ranges from \$25 to \$50 Million per year
7 for a 400-megawatt unit and that depends on the
8 capacity factors that the unit runs at. So given a
9 capital cost to convert a unit, in around the \$30-\$35
10 Million, you can see that the emissions savings alone
11 results in a payback of 1.5 years or less, resulting
12 in these being very low risk investments.

13 Furthermore, this analysis does not factor in the
14 avoidance of about \$40 Million of capital we would
15 have to spend per unit to meet the NOx and SOx, if we
16 stayed on coal. Nor does it factor in the lower future
17 OM&A sustaining and mining costs that Wayne just
18 walked you through.

19 So what I'm going to do now, is take
20 you through the investment metrics of the repowered
21 combined cycle units. So you can see on this chart,
22 depending on energy prices, the investment costs
23 multiples, which as you know, is akin to an enterprise
24 value to EBITDA multiple ranges from only 2.6 times to
25 7.3 times. So very attractive and well below what a

1 new Greenfield project would deliver, because of the
2 higher cost to build the Greenfield. So you can see,
3 as a result of the repowered units will generate very
4 solid returns and cashflows even under low energy
5 prices.

6 So this slide now brings it all
7 together to show what the EBITDA generated under
8 different energy prices from the Alberta fleet will
9 look like, once it is fully converted to gas. The
10 chart on the left has the fleet with one repowered
11 combined cycle and the chart on the right has two
12 repowered combined cycles. So you can see the EBITDAs
13 are very strong under all the energy prices shown
14 here. And under our two repowering, it's
15 significantly higher than a one repowering, clearing,
16 because of the lower cost structure. Just to give you
17 a sense, roughly, every \$5.00 change in energy price
18 equates to about a \$75-\$85 Million change in EBITDA.

19 So also, as a reference point, we show
20 here what we expect our 2019 EBITDA to be. John
21 showed earlier, we expect energy prices to come in
22 just under \$60.00 for this year. So if you pick the
23 \$60.00 point on this chart, you can see if prices are
24 at that and we're fully converted. We're actually
25 going to generate significantly more from this fleet

1 than we do today. It's also a point to remember,
2 converted, these EBITDA's are going to go much longer,
3 because the coal fleet, as Wayne pointed out, has to
4 start to retire at the end of 2026 and completely
5 retire by the end of 2029. Plus, as Wayne pointed,
6 out the maintenance costs going forward will be quite
7 a bit lower with a converted fleet than it will be
8 with a coal fleet.

9 So now, what I want to do is turn to
10 our gas supply. As you know, we invested 50 percent
11 in Pioneer Pipeline, as both Dawn and Wayne mentioned.
12 This came on four months ahead of schedule. It's
13 allowed us to increase our co-firing, which has
14 resulted in lower carbon and fuel costs for those
15 units. Starting November, our firm commitment of 139
16 TJs per day starts and therefore, at that time, we'll
17 start significantly increasing the amount of co-firing
18 we do ahead of even the boiler conversions that will
19 start later next year.

20 In terms of our long-term gas
21 requirements, once we're fully converted, we expect to
22 consume, on average, approximately, 350 to 450 TJs a
23 day. Now, there'll be certain hours and days where
24 it's higher than this or lower than this, but on
25 average this is roughly what we expect. So in

1 addition to the commitments we have with tide water,
2 including the fact that that pipe can handle up to 440
3 TJs, and the commitments we have currently off the
4 NOVA system, we're in active discussions with other
5 third-parties for securing additional gas supplies for
6 the Pioneer Line, as well as potentially adding
7 additional pipeline capacity into the sites. And
8 we'll keep you posted on these developments once
9 they're finalized.

10 So as you can see, our strategy to
11 convert to gas is full steam ahead. As Wayne pointed
12 out, the strategy involves converting two of the units
13 to combined cycle. We are timing these about a year a
14 part and really, this allows us -- it gives us the
15 flexibility to modify some of our plans if market
16 fundamentals do not fully support the investments.
17 But it's also to help optimize the construction of the
18 two units. So by executing these conversions plans,
19 not only will this fleet become an even more
20 competitive source of electricity in Alberta, but
21 it'll also generate solid cashflows even under
22 conservative energy prices and generate attractive
23 returns for shareholders.

24 So with that, I think we're going to
25 take a break and then afterwards, Aron's going to kick

1 us off with going through our growth strategy for
2 onsite generation and renewable energy.

3 BREAK

4 ARON WILLIS, Senior Vice-President of Growth

5 Okay. Good morning, everyone. The
6 doors at the back of the room are closed, so that's my
7 queue to start. Aron Willis is my name and I lead
8 TransAlta's Growth Team and just wanted to say,
9 welcome back. I'm going to speak with you this
10 morning about our growth strategy and program. And I
11 hope that through my part of the discussion, you'll
12 get a good understanding about how we're thinking
13 about growing our company. Not just growing in terms
14 of adding megawatts, but in terms of how we're
15 targeting projects where we can add some value, to
16 ensure the addition of strong contracted cashflows to
17 the bottom line. From my discussion, I want you to
18 take away the fact that we're very focused in our
19 growth ambitions and that we're already having success
20 in the markets that we've targeted. We know what our
21 competitive strengths are and we're leveraging those
22 strengths to add contracted cashflows to the company.

23 I'm also going to touch briefly on each
24 of the growth projects that we currently have
25 underway, as it's a list that demonstrates the

1 progress that we're making in these targeted markets
2 already. Our team's been doing some great work
3 developing a strong pipeline of projects and we're
4 building on an impressive track record of successful
5 growth that goes back decades. That's what makes me
6 confident that we're going to hit our targets here and
7 I hope that you'll share that view with me when I
8 finished today.

9 So I want to start with where we're
10 placing our focus and it's really two areas, or two
11 key segments of the market. First, the onsite and
12 cogeneration business, and second, the corporate
13 contracted renewables market, which today, is
14 primarily wind and it's primarily in the United
15 States. We have 900 megawatts of onsite and
16 cogeneration opportunities in our pipeline today.
17 These projects are on industrial sites, such as
18 natural gas processing facilities, petrochemical
19 plants, mining operations, and oil sands operations.
20 Our experience in this space actually goes back to the
21 1990s and in fact, many of those plants and
22 relationships that we developed in the 90s are still
23 very much an active part of our operating fleet today.
24 There's no doubt that this market is growing again.

25 We're seeing a real resurgence in

1 demand here, driven by a few things: Customers
2 wanting to gain more control over their energy costs,
3 replacing aging or inefficient boiler equipment,
4 reducing their exposure to network costs, and lowering
5 their carbon footprint. Onsite generation delivers
6 benefits in each one of these areas. Additionally,
7 the improvement that we've seen in both cost and
8 efficiency of smaller scale gas turbine and
9 reciprocating engine technology, now allows us to
10 bring this technology to customer sites that were
11 previously too small for the economics to make sense.

12 On the renewables side, we continue to
13 see the corporate PPA market setting records year over
14 year, with very few signs of slowing down.

15 Importantly, this market is also diversifying from
16 what was once the domain of the big tech and telecom
17 giants, to now being a very broad spectrum of buyers
18 across almost all industry sectors. Many of these
19 buyers are also now driving their sustainability
20 objectives down through their supply chains, which is
21 further increasing demand and also, increasing demand
22 or creating demand in other markets around the world.
23 Our focus initially here is on the US, as that's the
24 most active market today. And we currently have about
25 2,000 megawatts of projects and development sites that

1 we have under evaluation today.

2 You'll also notice that both of these
3 growth focus areas are customer-based. Now, for me,
4 when I think about value adding growth for the
5 company, this aspect is absolutely key. Deals with
6 customers create benefit in terms of the economics of
7 the specific deal itself, but they also create the
8 opportunity to do more. Many of these customers have
9 multiple sites, or very significant ESG objectives
10 that they're trying to satisfy. And getting into
11 business with them and delivering on our commitments
12 puts us in a really strong position to do more with
13 these same customers. This is particularly true in
14 the onsite and cogeneration market.

15 Now, with those target markets clear, I
16 actually want to take a minute just to look back and
17 show you what our historical performance looks like
18 from a growth perspective. Our growth track record
19 since 1990, actually spans five countries and includes
20 gas, wind, solar, coal, geothermal, and hydro assets.
21 I like this slide because it demonstrates the number
22 and size of projects that our team has developed over
23 the last 30 years. You can also, pretty clearly see a
24 shift from gas in the earlier years, to renewables
25 from the mid-2000s onwards. The bubbles on this chart

1 represent more than 30 projects and across those 30
2 projects, I also want you to notice the relatively
3 steady pace of growth. While there's been a variety
4 of project sizes that might swing one year's total
5 megawatts up or down, the pace in terms of the number
6 of projects, has been relatively consistent.

7 We haven't added a whole bunch of
8 projects in one year and then gone quiet for a few
9 years. Rather, that steady effort and being in the
10 market consistently has allowed us to add assets at a
11 very good pace. I've personally had the chance to be
12 involved in many of our most recent projects, in
13 addition to the gas assets that we developed in
14 Australia since 2012. I'm always impressed with the
15 capability of our team and the expertise that we have,
16 to do this work in-house. Our team manages the entire
17 process, front-end development, permitting,
18 engineering, site acquisition, resource assessment,
19 contract negotiations, and construction.

20 On top of that, we have the capability
21 to analyze and move quickly on attractive acquisition
22 opportunities. This set of skills positions us very
23 well to continue to build on the success that we've
24 seen over the last three decades of growth. The skill
25 set is also the foundation for how we've created some

1 competitive advantages that we can build from. I'm
2 excited about these two growth focus areas and I'm
3 very confident that our team is going to build on our
4 competitive advantages to deliver some excellent
5 projects into the portfolio. I see us having some
6 pretty strong advantages in these markets.

7 First, in the onsite and cogeneration
8 market, you must be able to operate safely and
9 reliably. We've been doing that on customer sites for
10 30 years. Frankly, our operating teams makes this
11 part of my role quite easy. They've got a track
12 record that I'm part to put in front of prospective
13 customers when I go see them. The next thing that I
14 talk about with customers, is how we can design a
15 plant that will fit within their operating
16 requirements and deliver against their objectives. I
17 don't have a cookie-cutter plant design that I'm
18 trying to sell, rather, my team works to understand
19 the customer's site in detail and then designs
20 something that's going to suit their operation and
21 deliver against their objectives at the lowest
22 possible cost.

23 Once that's complete, our team can
24 construct the plant and then hand it over to the
25 operations team. So we really can provide a start to

1 finish solution for these customers. In the wind
2 market, again, it's our track record and our
3 experience that positions us as an expert in this
4 space. We were an early mover in wind, in the early
5 2000s and we have one of the largest fleets in Canada,
6 and we've been operating these types of assets as long
7 as anybody in the game in North America. Again, we
8 know the whole project lifecycle here. From site
9 prospecting and wind resource assessment, through
10 permitting, construction, and operations. We maintain
11 about half of our fleet through our own in-house team
12 and we operate the entire fleet through our remote
13 operations and monitoring centre in Pincher Creek.

14 Our team of experts today is operating
15 one of Canada's oldest wind farms on the Gaspé
16 Peninsula in Québec, and next year, we'll start
17 construction of wind drives, utilizing the very latest
18 technology and what will be the largest wind turbines
19 and use in Canada. Underpinning these areas of
20 strength is our trading and marketing organization. A
21 group that understands the regions and markets that we
22 operate in deeply. Their expertise in energy and
23 transmission markets allows us to deal with things
24 like optimizing excess energy from project, managing
25 basis risk, and dealing with any other aspect of how a

1 plant needs to interact with the local market. Having
2 this expertise in-house allows us to manage these
3 positions with a tremendous level of confidence and
4 really deliver some significant value for customers in
5 this way.

6 So I want to move for a couple of
7 minutes to a few of the trends that we see driving
8 these markets that we're focused on. First of all,
9 notwithstanding the load growth in Alberta that John
10 shared earlier, in many regions we're actually seeing
11 lower, even flat demand for electricity. Even as more
12 of the things that the world relies on are
13 increasingly being powered by electricity, a
14 relentless focus on efficiency is driving many, very
15 successful conservation initiatives and putting
16 downward pressure on demand. At the same time though,
17 power generation is transforming. As the existing
18 fleet ages and retires, it's been replaced by smaller,
19 much more distributed technology and there's no doubt
20 that the drive to de-carbonization is firmly underway.
21 Meaning, a significant portion of fleet replacement
22 will ultimately be through the addition of wind and
23 solar assets.

24 The same focus on efficiency is also
25 driving a high level of direct procurement and an

1 increasing desire by customers to actually choose
2 their supply technology. This is creating a high
3 volume of corporate renewable procurement, that I'll
4 talk about in a moment. And it's also opening
5 opportunity on the onsite and cogeneration space, as
6 customers with the right type of facility see a
7 significant benefit from a dedicated generation source
8 at their facility. And we also see some very
9 interesting processes to procure what we were refer to
10 as, hybrid generating plants. Generally, these are
11 facilities that include a portion of onsite base load
12 generation, supplemented by some renewables, as well
13 as some form of energy storage. This is actually
14 becoming more common as customers want to have a hand
15 in actually deciding the type of generating plant
16 that's going to be based at their facility.

17 Now, you may have seen this graph
18 before or some version of it. It's a fairly highly
19 used piece of data. It's so frequently used, because
20 it's telling a pretty incredible story. The graph
21 shows the continued build out of renewables in the
22 United States, that is directly contracted to
23 corporate off-takers. 2019, again, is on track to be
24 the largest year on record, both from a capacity
25 contracted perspective, as well as based on the number

1 of new agreements. This graph's showing data up to
2 2018, but I can tell you that at the halfway point in
3 2019, there were already 43 new agreements signed
4 accounting for about 4 gigawatts of capacity. As I
5 mentioned earlier, this market's diversifying
6 significantly, and we see activity here now across
7 almost all different industry sectors.

8 It's not a just a US story either, it's
9 important to know. Globally, there were over 8
10 gigawatts of PPAs signed in the first half of 2019,
11 which puts this year again, on pace, ahead of the 13.4
12 gigawatts a contract signed for the full year in 2018.
13 Now, in the US, we know that they upcoming end of the
14 tax incentive is motivating quite a high level of
15 activity at the moment and through 2021. So it's
16 quite likely that we'll see a peak of activity and
17 then a bit of a lower run rate going forward. But
18 it's clear this market is being driven by much more
19 than a tax incentive program. Corporate ESG
20 objectives and commitments are going to continue to
21 drive this market at what will be a pretty exciting
22 pace.

23 Overall, these trends are creating
24 opportunity. I see a tremendous market here for us to
25 apply our experience and our expertise to, to develop

1 some great projects for the TransAlta fleet. And we
2 already are. In this corporate PPA market
3 specifically, we have our Big Level and Antrim
4 Projects that are both contracted to corporate off-
5 takers. Microsoft at Big Level and Partners
6 Healthcare at Antrim. Our competitive advantages
7 really do set us up well to compete in these two
8 markets and I'm under no illusions about the level of
9 competition. There are many others out there, who are
10 focused on these markets and who would like to take
11 their fair share of their market here as well. But
12 I'm confident that we'll succeed, particularly given,
13 that we've already had some great wins.

14 So I want to show you a few of those
15 now. And this next slide is really critical for me,
16 because I think it makes my job here, this morning,
17 quite a bit easier in that I don't have to try and
18 convince you that we're going to maybe grow someday by
19 talking about a big development pipeline. Instead, I
20 can just show you what we're already doing and where
21 we're already having success. This is our list of
22 announced projects today, between \$750-\$800 Million of
23 growth investment. The list is all wind and storage
24 today, but soon, I plan to have a cogeneration project
25 to add to this list. The list totals, roughly, 400

1 megawatts of new wind capacity and as John mentioned
2 earlier, this accounts for a 30 percent increase in
3 the size of the operating wind fleet that we have
4 today.

5 Now, I want to briefly look at the
6 specifics of each one of these projects. We have
7 three wind projects under construction in the US today
8 and two of them are nearing completion. The first is
9 Big Level, a 90-megawatt wind farm in Pennsylvania,
10 with 15 year off-take agreement with Microsoft, as I
11 mentioned earlier. Obviously, we're very pleased to
12 have added Microsoft as a customer and this project
13 will be online later this year. I can tell you that
14 nearly all of the turbine components have been
15 delivered and have been staged at each of the turbine
16 locations. Today, over half of the wind turbine
17 erection work has been completed. And this project is
18 being funded directly by TransAlta Renewables, as is
19 the next project at Antrim. Antrim again, is directly
20 contracted.

21 There's actually two off-takers here;
22 Partners Healthcare and New Hampshire Electric. The
23 project is mechanically complete, so all nine wind
24 turbines are fully assembled, and commissioning is
25 well underway. This 29-megawatt project will be

1 online in Q4 of this year, which will mark the start
2 of its 20-year off-take agreement.

3 And the third US project is called
4 Skookumchuck, which is located in Washington State,
5 not too far from our Centralia facility. This project
6 is under construction today. It's being built by
7 renewable energy systems or RES, and we will purchase
8 a 49 percent interest in the project at COD. Again,
9 the wind farm has a 20-year off-take agreement, this
10 time with Puget Sound Energy.

11 The other market, where we'll soon have
12 wind under construction is back at home in Alberta,
13 where we have the wind drives and wind charger
14 projects with both having equipment orders placed and
15 planned construction start dates next year. Wind
16 charger will be the first utility scale battery
17 installation in Alberta and it'll be located at our
18 existing Summerview 2 wind farm. The project is being
19 supported by Emissions Reduction Alberta and we're
20 very excited to be a first mover in bringing a large-
21 scale battery storage to the province. We're working
22 with Tesla on this project and together with them,
23 we've completed the final design and placed an order
24 that will see the battery delivered early next year.
25 A relatively short construction timeframe means, we'll

1 have the battery up and running by mid-year.

2 And last but not least, Wind Rise. A
3 large 207-megawatt project that we won through the
4 Alberta Government's Renewable Energy Procurement
5 Program in late 2018. I have to tell you our team is
6 really excited to be building wind again at home. In
7 the region where we started our wind business about 20
8 years ago. And not just any wind farm, for us Wind
9 Rise will be the largest wind farm in our fleet and it
10 will utilize some of the biggest wind turbines used in
11 Canada, with Siemens Gamesa 4.8-megawatt machines with
12 a 90-meter hub height. Again, another project with a
13 20-year off-take agreement.

14 So that was a bit of a whirlwind tour.
15 I'd love to spend more time talking about these
16 projects with you this morning and I'm certainly happy
17 to do that if you catch me a little later, once the
18 formal presentations have concluded. It's a great
19 list of projects, because they're a perfect fit within
20 the strategic focus areas that I talked about. That
21 are adding capacity to our fleet with a new suite of
22 customers and in some cases, new partners. And
23 they're doing that, while adding material EBITDA to
24 the business. You can see from this graph how the
25 EBITDA from each of these projects' phases in over

1 time, as each reaches completion. By 2022, this set
2 of projects will be adding, roughly, \$50 Million in
3 EBITDA to the fleet and that's just this list.

4 With our track record for adding growth
5 firmly established and our team already having this
6 kind of success in our defined focus areas, I'm
7 confident that in the near future, we'll have more
8 projects to tell you about that will further add to
9 this result. And I'm really looking forward to adding
10 the first cogeneration to this list and with the
11 progress that we're making in that space, I'm
12 confident that I'll have a project to tell you about
13 there in the not too distant future.

14 And with that, I thank you for your
15 time and attention this morning, and I'll turn the
16 podium over to our CFO, Todd Stack.

17 TODD STACK, Chief Financial Officer

18 Thanks, Aron, and good morning,
19 everyone. Over the past several years, the company
20 has made significant progress in improving its overall
21 financial position. Strengthen our balance sheet and
22 managing cost pressures. In addition to operational
23 improvements, we've executed a number of strategic
24 financings to position us for the future. The result
25 of these actions has been strong cashflows, generated

1 by the business and an overall reduction in net debt.
2 Including, a significant reduction in the amount of
3 senior corporate bonds. These actions put us in a
4 very strong position to execute the repowering
5 strategy that we've been discussing this morning,
6 without accessing the equity markets.

7 This morning, I'm going to be walking
8 through how we're now thinking about capital
9 allocation and funding plans over the next four years.
10 In addition to funding the repowering strategy, we're
11 able to continue our growth in the renewables business
12 and deliver on our plan of returning capital to
13 shareholders through our announced share buy-back
14 program. During this period, we also expect to
15 further strengthen our balance sheet by repaying our
16 2020 bond maturity.

17 As you know, TransAlta Corp. owns 61
18 percent of TransAlta Renewables and as a result, RNWs
19 financials are consolidated within those of TransAlta.
20 This morning, I will show you TransAlta's balance
21 sheet and cashflows on a de-consolidated basis. That
22 is, how it would look if TransAlta Renewables was not
23 consolidated. This de-consolidated view of TransAlta
24 and RNW is one of the ways that we look at our funding
25 plans. In 2013, we spun out a minority interest in

1 TransAlta Renewables to highlight the value of our
2 contracted renewable and gas assets. In addition, the
3 lower cost of capital at RNW improves our ability to
4 compete for new renewables projects in Canada and the
5 US as Aron described earlier.

6 However, we regularly get questions
7 about the cash generated by the remaining portfolio of
8 assets held at the TransAlta Corp. level. The assets
9 under TAC are predominantly merchant or soon to be
10 merchant, and include the Alberta Hydro assets, the
11 coal to gas assets, Centralia, and our 50 percent of
12 the TA Cogen assets, which include our share of the
13 Sheerness facility and several other gas plants. The
14 waterfall chart on slide 84 is based on 2018 reported
15 results and shows the de-consolidation of cashflows.
16 Beginning with the \$770 Million of consolidated funds
17 from operations number, which is reported in our 2018
18 year-end MD&A, we first deduct distributions paid to
19 our 50 percent partner at TransAlta Cogen.

20 To de-consolidate RNW, we deduct 100
21 percent of the FFO reported by TransAlta Renewables,
22 which for 2018 was \$381 Million. Remember that RNW's
23 FFO is used to fund their sustaining capital, make
24 payments on their amortizing debt, and pay dividend to
25 their shareholders, who include both the public

1 shareholders and TransAlta. To include our share of
2 the cash from RNW, we add back the \$151 Million of
3 dividends paid to us. The resulting value of \$454
4 Million is our 2018 de-consolidated FFO. This cash
5 available to fund capital projects, retired debt, and
6 return cash to shareholders at TransAlta. A more
7 detailed description of this reconciliation is
8 included in the forward-looking statements included on
9 slide 2 of the presentation.

10 So let me turn now, to our capital
11 allocation strategy. We start with de-consolidated
12 FFO at the TransAlta level, as the primary source of
13 capital available for allocation. The breakdown at
14 the bottom part of the page, includes the uses that we
15 consider in formulating our capital allocation plans.
16 So with these uses, we've included percentages, which
17 represent our expected range of the allocation over
18 the next few years. I'll start with the common
19 dividend, as this morning we announced that the board
20 has approved a formal dividend policy to allocate 10-
21 15 percent of de-consolidated FFO for dividends to
22 common shareholders. While sending the dividends is
23 the responsibility of the board, we expect that they
24 will be addressing the dividend amount early in 2020.

25 So we're currently paying out about 10-

1 12 percent of de-consolidated FFO to dividends, which
2 is at the low end of our target range and provides the
3 board with some flexibility in the near term, when
4 assessing the dividend.

5 With respect to sustaining and
6 productivity capital, our CapEx spend can be very
7 lumpy depending on the timing of major outages. And
8 because of that, we focus on our average expected
9 spend over the long-term. The percentage allocation
10 shown here represents a long-term average and
11 individual years may fall outside the range. In 2020
12 and 2021, we'll be taking major outages on at least
13 three of our coal units to complete the gas repowering
14 and to set these units up to run into the 2030s.
15 However, as Wayne mentioned earlier, over the long-
16 term, we expect a proportion of FFO allocated to CapEx
17 to decline as the operations become simpler and less
18 capital intensive, once the coal units have been
19 converted or repowered. This trend, to lower CapEx,
20 will allow more capital to be directed to other
21 priorities, including dividends.

22 The largest portion of our allocation
23 represents the cash that's left after funding CapEx,
24 addressing dead amortization at TAC, and paying
25 preferred and common share dividends. This remaining

1 cash is available to fund growth, debt reduction, and
2 share buy-backs. Over the past several years, a large
3 portion of this cash at TransAlta has been focused on
4 debt reduction. As you'll see in the next few slides,
5 we're on track with our debt reduction plans and able
6 to achieve targeted levels. This gives us the
7 confidence to commit a significant portion of our
8 capital to our boiler conversion and repowering
9 projects over the next four years. The coal to gas
10 conversions provide a unique opportunity in our home
11 market and we view these high-returning projects as a
12 high priority in our capital allocation strategy.

13 Before I leave this slide, I just
14 wanted to touch on our share buy-backs. Earlier this
15 year, we committed to repurchase up to \$250 Million of
16 shares over the next three years. This repurchase
17 program is being funded with a portion of the
18 Brookfield investment arranged earlier in the year,
19 and therefore, doesn't take away from other potential
20 uses of FFO.

21 Next, I'll address the balance sheet
22 progress I referred to earlier. As you can see from
23 the chart, we've had considerable success over the
24 past five years in repositioning the balance sheet.
25 We expect to achieve our goal of reducing our senior

1 bonds to the \$1.2 Billion level by the end of 2020.
2 Cash on hand, free cashflow, and other sources of
3 liquidity are sufficient to repay our \$400 Million
4 bond maturity in 2020 without accessing the capital
5 markets. We monitor a range of credit metrics to
6 assess our financial position and our practice has
7 been to disclose our targets and performance on a
8 consolidated basis, in order to align with rating
9 agency treatment and presentation of our audited
10 financials.

11 However, internally, we also look at
12 our credit metrics on a de-consolidated basis. In
13 this slide, we look at our debt to EBITDA level on a
14 de-consolidated basis, both today and on a pro-forma
15 basis, after the PPAs expire. And we're able to
16 realize the full revenue from the hydro assets. When
17 we think about debt levels on a de-consolidated basis
18 for TransAlta, we balance the predictability of our
19 cashflows from our TransAlta Renewables dividend, the
20 strong cashflows from our hydro business, against the
21 relative volatility of our merchant assets. Based on
22 the makeup of our EBITDA, we believe that a target
23 debt to EBITDA metric of below three times is
24 appropriate.

25 One item to point on this slide, is the

1 inclusion of the Brookfield investment in the build-
2 up. Under accounting rules, the Brookfield investment
3 will be considered as debt until it converts.
4 Internally, our assessment is that the conversion is
5 highly probable, and we currently plan for it to
6 convert post-2024. As you can see in the post-PPA
7 build-up, with the repayment of our 2020 bond next
8 year and full revenues from the hydro assets in 2021,
9 we're on track to meet our de-consolidated debt to
10 EBITDA ratio of three times. Let me turn now to our
11 funding plans.

12 As mentioned earlier, our base plan
13 includes boiler conversions of three units in 2020 and
14 2021, and the repowering of two units as combined
15 cycle plants, scheduled to be in service in 2023 and
16 2024. So if I continue to look at TAC in a de-
17 consolidated basis, roughly, 65 percent of our plan
18 over the next four years is funded by internally
19 generated cashflows. Our dividends from RNW and cash
20 on hand. The second tranche of Brookfield investment
21 is expected in 2020 and will provide an additional
22 \$400 Million of funds. This will further support the
23 funding of the conversion program and our share buy-
24 back program. This means that about 80 percent of our
25 funding plan is known and not dependent on the capital

1 markets.

2 We are, however, expecting to access
3 the debt markets in order to refinance our 2022 bond.
4 This refinancing will keep our senior bonds at or
5 below the \$1.2 Billion level, our base capital program
6 will result in a minimal draw on our credit facility
7 over the next four years and is expected to be quickly
8 repaid once the first repowered units come online.
9 One other point to highlight on these funding slides
10 is that the de-consolidated growth capital does not
11 include Wind Rise or Skookumchuck projects. These
12 wind projects have long-term contracts and are ideally
13 suited for dropping down into TransAlta Renewables at
14 some point in the future.

15 Let me turn now to our funding plan for
16 TransAlta Renewables. Funding at RNW for the Big
17 Level and Antrim projects is relatively straight-
18 forward. These projects are expected to be completed
19 by the end of this year and have been funded with free
20 cashflow, proceeds from the dividend reinvestment
21 program at RNW and draws on RNW's credit facility. We
22 expect to close a tax equity financing by the end of
23 the year, to repay the credit facility borrowings.
24 Looking forward, I'd mentioned that the Wind Rise and
25 Skookumchuck projects are good fits for dropping into

1 the RNW portfolio. We expect to finance these assets
2 with asset-level financing, in the form of project
3 debt at Wind Rise and tax equity at Skookumchuck. The
4 relatively small and manageable equity portion of
5 these projects will be funded using the balance sheet
6 and repaid with operating cashflows and proceeds from
7 the RNW drip program.

8 RNW has significant balance sheet
9 capacity to finance its current build program, in
10 addition to these potential drop downs. In addition,
11 RNW has access to additional sources of capital to
12 fund incremental growth projects, including the
13 potential to raise between \$4 and \$600 Million of
14 project debt on currently unencumbered assets.

15 The final message I want to share with
16 you today is views on the valuation of our shares. EV
17 to EBITDA multiples are a common way to quickly
18 compare and value assets in our industry. Starting on
19 the left, the enterprise value of TransAlta can be
20 calculated based on the market value of our shares.
21 Similarly, we can value and back out the enterprise
22 value for TransAlta Renewables, based on their trading
23 press.

24 This leaves with us with the implied
25 value for the remaining TransAlta assets. Within

1 these assets, one of the key assets in the Alberta
2 Hydro facility, which we believe is valued at about
3 \$2.5 Billion. When we subtract the hydro value out,
4 the EBITDA from the remaining assets, which includes
5 the Alberta thermal fleet is only being valued at
6 about three times. From our view, it's clear that the
7 market is not recognizing the full value of the
8 conversion plan. The incremental value could add
9 \$4.00 to \$7.00 to the share price. I'll now turn the
10 podium over to Dawn for some final comments.

11 DAWN FARREL, President and CEO of TransAlta

12 Thanks, Todd, and thanks everyone.

13 Really great set of presentations and I think a lot of
14 detail that will really help you assess the value of
15 the plan that we're putting forward here today. Now,
16 I know that everyone's chomping at the bit to get
17 their questions out. So I'm just going to quickly
18 summarize what we want you to take away.

19 So first, we believe we are in a very
20 attractive entry point, as a company in Canada, who
21 has a really great future ahead of us. We are ready
22 to invest up to \$2 Billion in a clean energy plan that
23 is exciting, it's competitive, and it has strong
24 returns. We are the company to invest in, if you want
25 to a position in the Alberta market, as it responds to

1 carbon pricing and final changes to an energy-only
2 power market. We have created a plan that gives us
3 longer term and sustainable competitive advantage in a
4 market where we've a cornerstone generator since 1911.

5 We're also the company to invest in if
6 you want to participate in the increasing
7 electrification of energy and if you want to get into
8 the growing renewables and ESG space. The plan is
9 comprehensive, it's funded, and it's very, very
10 transparent. We are backing our confidence in our
11 plan, by continuing to buy our own stock, as we
12 believe it's a great entry point and our investments
13 are strong enough to maintain a strong balance sheet
14 and contemplate dividend increases along the path.
15 There are definite advantages to running one company
16 with one team and you now have the information to see
17 how the dividends from RNW benefit you as a TransAlta
18 shareholder.

19 So it's pretty exciting to be standing
20 here today, sharing all of this with you and we are
21 ready to take your questions. For the Q&A, please
22 limit yourself to one question, so that we can allow
23 everyone the opportunity. If you have more than one
24 question, just take some turns. I'm going to
25 facilitate the Q&A session and I'll direct it to the

1 people that I think can do the best to answer the
2 questions for you. Could you please just let
3 everybody know who you are and who you represent, as
4 we begin the Q&A session here today. So, who would
5 like to be first?

6 Q&A

7 ANDREW KUSKE, Credit Suisse:

8 Q. I think one of the comments that
9 was made earlier was your business plan isn't really
10 dependent on pricing in the marketplace, and you've
11 laid out a pretty compelling cost reduction story for
12 yourselves. And then some of the consultancy slides
13 that you've showed, actually had increasing pricing.
14 What dynamics are driving the increasing pricing, if
15 some of the major incumbent players actually have
16 decreasing cost profiles?

17 MS. FARRELL: John, do you want to take
18 that?

19 MR. KOUSINIORIS:

20 A. Sure. So in terms of increasing
21 prices in the marketplace, I mean, I think there's --
22 you know, when we look at the prices, I think one of
23 the key factors that has occurred in the market is the
24 way it's actually bid. It's a closed market
25 effectively. We've got five major competitors. They

1 compete very strongly against each other. They all
2 have a mind to bidding, not just their marginal costs,
3 but also looking at getting a return of a non-capital
4 in the market. I think that's a key factor. I think
5 we are seeing some load growth in the market. I think
6 there's also been some reductions in the number of
7 supply in the market. I mean, we've had a couple of
8 units actually leave our Sundance 1 and 2 unit -- are
9 gone. I think we're looking at potentially Battle
10 River 3 also leaving the market. I think when you
11 look at that, that's another 700-750 megawatts, I
12 think, of generation that's leaving.

13 The market is very much an event driven
14 market. I think it's tight and very often, you see
15 sort of prices spike up. And the other thing I think
16 that is notable in our market, is we do have
17 renewables, but I don't think we're expecting to see,
18 you know, given the nature of the marketplace, the
19 kind of impact or penetration of renewables that
20 you've seen in maybe some other markets which act as a
21 reduction on pricing. And I think as prices come
22 down, in terms of some of the variable costs come
23 down, I think the margins will continue to be pretty
24 good, even though, you know, we might get some
25 variability on pricing.

1 Q. Maybe just as a follow-up, do you
2 see a rise of peakers being introduced into the market
3 in the future, just given the volatility of energy-
4 only nature?

5 A. You know, we may do. Right now,
6 you know, we don't see a significant kind of movement
7 that way, but it is possible, given how some of the,
8 you know, reductions in the cost of getting peakers
9 and the technologies that come down. It is a
10 possibility.

11 MS. FARRELL: Yeah, let me just add
12 something on that. I think if you look at the simple
13 boiler conversions, those are peakers. And they're,
14 you know, \$30-\$50 Million to make a peaker compared to
15 a couple of hundred million to make a brand-new
16 peaker. So you know, if I was looking at the market,
17 I would be looking at the potential for the existing
18 stock to create pretty good peakers at pretty good
19 heat rates.

20 JULIEN DUMOULIN-SMITH, Bank of America

21 Q. Great follow-up actually on that.
22 Can you comment a little bit more on the market
23 dynamics? What are you seeing in terms of
24 retirements, especially given your own considerations
25 to converter units out there? How do you think about,

1 sort of, the pluses and minuses, load growth,
2 retirements of coal potentially elsewhere? But then
3 also, on the other side of the ledger, if you will,
4 how do you think about your peers? Because you just
5 presented, for instance, some pretty attractive
6 multiples of your own conversions and even Greenfield
7 combined cycles. The multiples for EBITDA at current
8 -- I think, roughly, current power prices. So
9 perhaps, a little bit more of a deeper dive on a
10 ledger.

11 And if I will, I'll just ask a second
12 follow-up for the sake of getting it all out there.
13 Just talk a little bit about the Alberta market, given
14 the new government and potential, I suppose,
15 consolidation of different regulatory regimes and
16 under what house. I'm thinking MSA here and what
17 could happen, and how you think about any, you know,
18 future iterations or changes in rules? I leave it
19 broad.

20 MS. FARRELL: Okay. So Brett, I'll get
21 you to take the first question and John, the second,
22 and I'll do clean-up.

23 Q. Sorry.

24 A. MR. GELLNER: Yeah, so pluses or
25 minuses, sorry, you certainly -- the Suncor announced

1 a cogen, which is planning to come in, they say, in
2 2023. That's been on our radar for some time and we
3 factor that into our models. John showed a chart from
4 EDC that has pretty well less growth going out, but
5 even if you look at, you know, more conservative
6 growth in that one percent per year, which you know,
7 is being a bit conservative based on history, there's
8 a need for new generation coming into the market.
9 There are other units as John said, coal units,
10 smaller coal units. We'll see -- they're not ours,
11 but you know, may have to come out of the market soon
12 and what they do with those.

13 So you know, there's a few pluses and
14 minuses that we see when we run our models that
15 balance out. And with the positive economics that
16 we've showed you, even if our generation is slightly
17 lower, we're getting much higher margins out of it.
18 And you actually see that when you compare our 2018 to
19 2019, how we've been able to -- all the work Wayne's
20 been doing and this is just on co-firing. So we see
21 our margins improving over time. Longer term, as our
22 chart shows, eventually, and maybe this wasn't clear,
23 the boiler conversions have a hard date to them, okay.
24 They can only run a certain amount of years post-their
25 coal life and it depends on their emission test. So

1 eventually, long-term, those units have to come out;
2 whether they're ours or somebody else's. So new
3 capacity will have to come into the market.

4 The final point I'll make is, if you
5 look at a brand-new combined cycle trying to come into
6 this market, clearly, it's dependent on gas prices.
7 You know, generally, you're going to need in,
8 probably, that \$55.00 to \$65.00 per megawatt hour
9 price over time to get a good return on and of your
10 capital and pay for your costs.

11 A. MR. KOUSINIORIS: Julien, I think
12 our second question was just about some of the
13 additional changes that were happening in the market
14 and what the impacts might be, based on what the new
15 government is looking at doing. I think there's
16 really four things that they're looking at down. Net-
17 net we candidly don't think is going to change our
18 investment thesis in terms of what it is that we're
19 doing, but they are just very quickly -- one of them
20 is just getting certainty on the carbon pricing, we're
21 expecting that in about a month or so.

22 The second thing that we're looking at
23 doing is the AESOs been tasked with, at looking at the
24 price ceiling, price floor and trying to make sure
25 that we've got a workable regime as it relates to

1 shortage pricing in the marketplace. That
2 consultation hasn't really begun. They've been tasked
3 with providing an update to the government, I think,
4 in February of 2020, with landing any of the changes
5 that we have to those rules, kind of in the summer
6 time next year, sort of, July of 2020. So that is an
7 ongoing piece of work. And in general, I think the
8 concern there is just making sure that there's enough
9 signals to ensure there was appropriate build and to
10 ensure that reliability is appropriate for the
11 province.

12 The third thing is, again and the
13 AESO's been tasked with this, is looking at market
14 power and looking at whether or not there's any
15 mitigation that required. I think that's scheduled to
16 be completed just before Christmas, late November.
17 There hasn't been, at least to my knowledge, any sort
18 of consultation that's really been initiated. We've
19 had some discussions around that. I can tell our
20 view, as a company is that, you know, everybody in the
21 market should be treated in an equivalent way and
22 frankly, the focus should be more on time periods
23 when, you know, there isn't tightness in the market in
24 terms of bidding behavior rather than those time
25 periods when there is tightness in the market, where

1 you actually want people to be dynamic in their
2 bidding.

3 And then the last point, which you
4 alluded to, was the whole notion of just you know, all
5 the various energies that we have that oversee the
6 marketplace. So all of the agencies are being
7 reviewed, the Department of Energy has been tasked
8 with looking at that. I don't recall that there's a
9 specific timeline for that and it is, as you alluded
10 to, the AESO, the MSA. Our, sort of, internal view is
11 that that is oriented more towards the red-tape
12 cutting efficiency drive that the government has, more
13 than a wholesale kind of change in dynamics or the
14 approach that those agencies are going to be taking in
15 overseeing the market.

16 MS. FARRELL: Okay.

17 Q. If I could clarify, just quickly.
18 Net-net, it doesn't sound like borrowing, obviously,
19 resolution on some of the carbon details material
20 changes with respect to markets. Obviously,
21 logistical organizational changes.

22 A. MR. KOUSINIORIS: I think that's
23 fair. In fact, if you were to look at, you know, the
24 key piece of legislation or regulation that kind of
25 governs behavior, it's literally, like ten sections --

1 it's, you know, a ten-page kind of document. It is,
2 as I mentioned, a relatively pure market and
3 regulatory-like. We expect that to continue.

4 MS. FARRELL: Great. Next question?

5 ROB HOPE, Scotiabank

6 Q. Actually, maybe just a follow-up on
7 terms of the carbon. You know, that it seems that the
8 plan's based on \$30.00 carbon. You know, do you see
9 that progressing up to \$50.00? Is that included in
10 the plan and can you just talk about some of the
11 flexibility in your coal to gas conversion plan,
12 depending on where carbon goes?

13 MS. FARRELL: Go ahead. I would get on
14 a soapbox and talk for an hour, so you can just
15 answer.

16 A. MR. KOUSINIORIS: So look, it's a
17 great question. So we model it out when we look at
18 our investments in a variety of ways. I think our
19 base case is basically, a \$30.00 case. Our sense of
20 it is, that that is where, you know, broadly the
21 Government of Alberta is right now. I think from a
22 longer-term trend perspective, when you look at where
23 the federal government is going, we have elections
24 there in place. We'll see what ends up happening,
25 depending on who wins the election and whether or not

1 the approach of the federal government has on, you
2 know, trying to impose ever-increasing carbon prices
3 among the jurisdictions.

4 You know, I think the trend is for
5 higher carbon, generally, across the jurisdiction. I
6 think even in Alberta, the government has a pretty
7 good understanding that we have an excess supply of
8 gas in the jurisdiction, frankly, when it comes to our
9 sector. Having a pretty good, a pretty robust carbon
10 price actually increases the consumption of gas in the
11 province, net-net. Actually, helps the dynamic for
12 the gas industry in the province, so you know,
13 hopefully that gives you a bit of a sense of what
14 where we're going there.

15 MS. FARRELL: I mean, I would just be
16 crystal clear. The current federal government has
17 definitive rules that require the provinces to ramp up
18 to the \$50.00 to be equivalent and if you don't do
19 that, they'll put a backstop in place, and they did do
20 that in Ontario. So depending on what happens in the
21 election, if it is ---

22 MR. KOUSINIORIS: And the courts are
23 holding them up. Sorry to cut you off.

24 MS. FARRELL: Yeah, if it is a liberal
25 majority, that is the current legislation federally

1 and if Alberta wants to do something differently, for
2 example, if Alberta wanted to negotiate a longer-term
3 \$30.00 framework for some reason, Alberta has to work
4 proactively with the federal government to get that
5 deal. So we model \$30.00 that we don't model down
6 from there.

7 MR. KOUSINIORIS: Yeah.

8 MS. FARELL: So we don't see our --

9 MR. KOUSINIORIS: We don't think it's
10 going down.

11 MS. FARRELL: -- case where it's less
12 than \$30.00 and you know, we will model the \$40.00,
13 \$50.00 to test our assumptions, but we model an upward
14 increase in carbon tax, rather than downward.

15 MR. GELLNER: In terms of our plans,
16 you can imagine if it goes to \$30.00, the gap between
17 coal and even the boiler conversions even gets wider,
18 and then even the combined cycle. So our plans
19 actually fit nicely as prices go up and you got to
20 remember, even a gas peaker in the market today,
21 probably has a range of heat rates not dramatically
22 different than some of these coal units. So they're
23 going to also -- part of that increasing carbon cost
24 could get reflected in the energy price, because of
25 the higher cost in the market.

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BEN PHAM, BMO Capital Markets

Q. You had that slide highlighting in expense of valuations just breaking up the net asset value. On the hydro side, I'm curious, the \$2.5 Billion, how are you getting that, because it seems quite conservative when you use kind of multiples that Brookfield's paying for an asset. And another thing, I think you mentioned a few years, issues around dropping down an asset to renewables. Is that still the case? You're adding what the drop-down potential of a hydro asset.

A. MR. STACK: Yes. So let me start on the valuation side. So the valuation is relatively straight-forward. It is looking at, you know, similarly like John spoke in his slide about \$200 Million plus of EBITDA long-term once the PPA expires. And we're using, generally, the multiple that we negotiated with Brookfield of the 13 times of the valuation. That kind of sets up that \$2-2.5 Billion range. As far as drop downs, so at this point, we're not really thinking about the hydro assets as a potential drop-down into renewables. I think that was the question. Simply because they are merchant-based and it really doesn't fit the risk profile of TransAlta Renewables.

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LEE MATHESON, Ewing Morris

Q. Further to Ben's question, now that you have Brookfield as a financial partner, have you contemplated using backstop PPA, using Brookfield's balance sheet on the hydro assets to then make them more appealing to be able to do a drop-down into RNW? Similar to what Brookfield had done with Great Lakes Hydro on, you know, going back against 15 years. Again, in essence, if the market's never going to give you credit for what it is, can you not manufacture that financially?

MS. FARRELL: Go ahead, Brett. You want to take that?

A. MR. STELLNER: Yeah, I mean we've always thought about the hydro assets even before the Brookfield deal and whether there's an opportunity there. But you know, again, when we look at the Alberta opportunity that we're going into here and as it comes off the PPAs, we see quite a bit of value there. So you know, at this stage, I would say, no, those were not -- we're not considering this. You know, we'll -- who knows over time, but certainly, we're less about, are we getting credit for their hydro. I think our view is, we're probably not getting credit for the thermal, is our general view.

1 And now, as we've laid this plan out and that we've
2 life extended these assets showed you they're going to
3 generate very good cashflows going forward. That's
4 where we think the value gap is probably at.

5 Now, is there always upside in, you
6 know, the other assets, sure. But you know, so no,
7 the answer -- the short answer is no, we're not
8 evaluating that right now and you know, we're more
9 focused on other contracted assets that could go into
10 RNW.

11 Q. And this here is just a follow-up
12 on, in terms of some of the -- like the TA Cogen
13 assets, there's been a change of control at Sheerness
14 with the ECP. Like can you just walk through what
15 your thoughts are on that those assets? They seem
16 sort of like, I mean, I don't think they really got a
17 slide in the 85-page deck. So you know, what is that
18 -- what can we imply from that?

19 A. MR. KOUSINIORIS: So it's a
20 important asset in the TA Cogen part. I mean, we
21 have, effective net to our company, a 25 percent
22 interest in Sheerness. I mean, they are moving
23 forward to convert that plant. I don't actually think
24 the transaction is actually closed yet. I think it's
25 still conditional and they're working it through.

1 Right now, from our perspective on that, it's just the
2 steady as she goes. We haven't -- we're just viewing
3 as being one of the key assets that's in that
4 partnership arrangement we have with our partners and
5 there's no suggestion that we do anything with that
6 asset at this point.

7 MS. FARRELL: Yeah. I think they're
8 currently do a dual fuel?

9 MR. KOUSINIORIS: Yeah.

10 MS. FARRELL: So they'll be able to run
11 on coal and gas.

12 MR. KOUSINIORIS: Coal and gas.

13 MS. FARRELL: And then we expect them,
14 as they move through the mid-25s to turn that to gas.

15 MR. KOUSINIORIS: They've been working
16 to get gas supply sorted out and we've been supporting
17 them in that process.

18 MS. FARRELL: Okay. Who do we...

19 ROBERT KOERNER (phonetic), B.C.

20 Q. If I can just ask about capital
21 allocation and first on the dividend, just wondering
22 what the thought process was around payout ratio
23 policy around FFO versus free cashflow. And then as
24 you're in this capital build, do you cheat to the
25 lower end until your exiting the coal conversions?

1 A. MS. FARRELL: Yeah, I mean -- so
2 first of all, we wanted today to really set a very
3 comprehensive frame-up for how we're thinking about
4 everything, because we didn't walk away today and then
5 somebody said, 'Well, you didn't tell us about what
6 you're thinking about the dividends.' So we spent a
7 lot of time looking at, you know, free cashflow,
8 looking at ways that other people do their dividends.
9 We like the -- when it all settled down, it was clear
10 to us that investors are having trouble seeing how the
11 two companies fit together. They were having trouble
12 seeing how the dividend from RNW is actually
13 supporting the reinvestment in Alberta right now and
14 then that kind of changes over time. And it's really
15 been hard to drive home the discussion around, how the
16 sustaining capital changes dramatically as you go to
17 gas.

18 So remember, we've been in coal since
19 the 50s. We built most of our units in the 70s. We
20 built additional units in the 00s. And the company
21 has had a run rate of capital for a long time, based
22 on capital in coal plants, which is significantly
23 different than gas. So when we put all of that
24 together and then of course, looked at what where
25 current dividend lies, we wanted to be able to

1 indicate how you would guide the board to think about
2 it. And what Todd said, is where in that kind of 10
3 to 12 percent right now and I think we do
4 fundamentally, as a team, believe that you have to
5 tether your growth strategy to something and it can't
6 be just, we'll grow it -- we just want to add more and
7 more projects. So what is going to frame and tether
8 and pull all this together.

9 So there are two tether points; one was
10 the debt and that's the three times that Todd did a
11 really great job of laying out, because we believe
12 fundamentally that makes sense for the mix of assets
13 that we'll have that are contracted and emergent.
14 It's a lot lower than you would see in a utility and
15 it's about in the range that I think IPPs are thinking
16 about. And so, then it just came back to the
17 dividend, so at this point, you know, as we look at
18 it, we like that range of 10 to 15.

19 We do want our board to have a
20 discussion about it annually, look at the in-year
21 cashflows and also look prospectively at the
22 cashflows. And we just think it's an important
23 principle for the company to have, that you have
24 confidence that as you're going, you're achieving the
25 cashflows and that you're sharing some of that with

1 the shareholders. So does that makes sense? And
2 really, it's the way we want you to start -- that's
3 how we're actually thinking about it behind the
4 scenes, so we wanted to make that very transparent.

5 Q. Got it, but if I could just finish
6 with a second part on capital allocation. You show
7 the chart with your stock at 2.9 times EBITDA, you're
8 allocating to new growth circa ten-ish times EBITDA,
9 at least with the renewables. With the gap that wide,
10 what's kind of the thought process of continuing to
11 allocate capital to projects like that, versus just
12 giving that lift that you see just buying back stock.

13 A. MS. FARRELL: So and I'll try this
14 and then Brett will make it right. So no, I won't,
15 Brett will make it right and then I'll say, yeah,
16 Brett made it right. Go ahead, Brett.

17 A. MR. STELLNER: Yeah, I think you
18 got to -- the way we look at it is, we're investing in
19 those combined cycles at extremely good projects. The
20 renewables, which is more the RNW type multiples,
21 which is akin to what we're investing at. So again,
22 remember, most of the contracted stuff is well-suited
23 for RNW at some point, if it's not there already. And
24 so, we're investing that kind of capital in what we
25 see is extremely good returning projects in Alberta,

1 because of the high returns we can get off those
2 combined cycle or boiler conversions. So I would look
3 more at the three times multiple against that, and
4 then the renewables against more of the RNW side,
5 because we stripped it out.

6 But at the same time, we still have the
7 commitment to buy up to \$25 Million of shares over the
8 next three years and that was part of the Brookfield
9 transaction that we did. So it's a balanced capital
10 allocation approach and investing also, to extend
11 those assets over the long term.

12 Q. Got it. So when you're doing the
13 renewables, you're really thinking about it as
14 developing and effectively warehousing it for RNW's
15 purposes?

16 A. MS. FARELL: That's correct. And I
17 was -- we really need to break the back of that
18 assessment, so you know, when we look at TransAlta as
19 a whole and I thought we did a really great job of
20 showing that de-consolidated slide there, what we see
21 is, you know, there was ten times really going into
22 renewables and there's cash building up in renewables
23 and in speed, they reinvested our -- they need to
24 increase their dividend. And you know, we make sure
25 that we're getting valuable investments into

1 renewables, which was what Aron's session was all
2 about. So we see the ten times renewable investments
3 being in the renewables entity. We see the coal to
4 gas and the hydro being inside TransAlta. Of course,
5 the cashflow comes back in from renewables and I think
6 that's exactly the point. The exact point is if we
7 start something in TransAlta, there tends to be a lift
8 for TransAlta shareholders, as we move it into a lower
9 cost of capital entity and that's the benefit.

10 So the TransAlta shareholders get two
11 benefits, one is that lift and the second one is they
12 get to reinvest that cash, or take it back.

13 Q. Thank you.

14 MARK DARBY, CIBC

15 Q. I just wanted to delve into some of
16 the commentary and details around the coal to gas
17 conversion strategy and a couple different items here.
18 One would be, a little vague on what the plans for Sun
19 3 and 4, whether or not you guys would actually just,
20 maybe, completely shut those down. Do you guys factor
21 in ancillary revenues coming into the repowering
22 assets. And then, what would tip you to go to three
23 units repowered?

24 A. MR. GELLNER: As you know, there's
25 two units mothballed today and so as we -- and they're

1 mothballed until November 21st. As we kind of get
2 through next year and into 2021, we'll look at, you
3 know, just the market fundamentals. And it's a matter
4 of, do we just bring them back as coal units and just
5 coal fire them, because you know, to be honest,
6 they're not going to likely run -- remember our coal
7 units coal fired a 400-megawatt unit can burn about 30
8 percent gas with no modification and the rest coal.
9 But if that unit only runs 30 percent, it's burning
10 100 percent gas. So we, you know, pull back on the
11 coal.

12 So those units could come in about
13 market just simply as is, and we could coal fire them
14 if we think the market needs them. Or because the
15 payback is so high on that capital investment, we
16 could convert them -- through a boiler conversion and
17 then decide if we do another combined cycle on them.
18 So you know, we'll get through as we start to kind of
19 make our way, see what some of the market changes are.
20 See what the fundamentals look like, that's when we'll
21 assess those units and make our decision.

22 In terms of a third, as I said in my
23 section, we're really trying to balance how much we
24 can fund through our funds flows and also have a low-
25 cost set of assets. So that's where we landed on

1 being able to do the two combined cycle units. That's
2 not to say and I just want to make sure it's clear,
3 when Wayne showed those units coming off, those were
4 those boiler units coming off, converted units,
5 because they have a hard date. We can then repower
6 some of those and Wayne mentioned this, on Keephills
7 3, for example into combined cycle units, because now
8 the boiler we don't need, but if the steam turbine is
9 still in good shape and some of the other
10 infrastructure there, then we can put another gas
11 turbine on that unit and basically, now run it for
12 another 20-25 years.

13 So you know, there's the opportunity
14 later on to do more combined cycle repowering. Right
15 now, we're just kind of balancing between the capital,
16 the market dynamics, and that's why this plan to us,
17 made a lot of sense.

18 MS. FARRELL: So just another way to
19 think about it, depending on how demand and supply are
20 in the province, if you do some of the math behind our
21 plan, there is capacity that starts to free up by 2025
22 to finance a third conversion. And you know, the team
23 in 2023 or 2024 could actually look at either doing a
24 combined cycle plant on one of the units that's
25 already been converted to gas, or they'll have the

1 other ones. In the Alberta market, however, if the
2 conditions change and those units that are mothballed
3 become profitable, Wayne would have to bring them back
4 into the marketplace. So he has to attest that, you
5 know, the amount of megawatt hours that he sells out
6 of the units times the price doesn't cover their
7 avoidable costs. And so as long as they're still in
8 our fleet, if market conditions do change, they do
9 have to come back into the system.

10 Q. And then just on the revenue
11 streams between market and ancillary revenues, just
12 any assumptions around that for the conversions and
13 the repowering?

14 A. MR. GELLNER: You mean for the
15 thermal side or the hydro?

16 A. MS. FARRELL: Yeah, how much...

17 A. MR. GELLNER: Yeah, I mean, if you
18 look and this is -- if you just go on the AESO
19 website, you'll see we sell and ancillary off of the
20 two Sundance units today, generally, it's in around
21 the 80-megawatts. Now, it's not always 80 every day.
22 You know, we can probably anticipate that kind of
23 level going forward. But you know, it'll vary between
24 you know 0 and 160 if you will. But they're available
25 to participate. Our hydro is the main participant, as

1 you know. And the PPA units, that's not ours. It's
2 still the balancing pool's, so you know, if anybody's
3 going to bid ancillary, they get to until we get off
4 those PPAs in 2021.

5 JULIEN, BMO

6 Q. I just wanted to follow-up on a
7 couple of the conversations that are just happening,
8 just to clarify some of the financial points you made.
9 With respect to the capital allocation though '23, if
10 I'm reading it correctly right, you have the step-down
11 in leverage metric, simply because of, (a) The
12 conversion of Brookfield, which I think you mentioned
13 in your remarks. Separately, you've got the step-up
14 in cashflows from the conversions, right, I think
15 which come in after '23 and then thirdly, you have a
16 run rate of cashflow from the renewables assets that
17 you're investing in growth.

18 So I suppose, first off, how do you
19 think about just kind of the step-up, even beyond that
20 '23. And I know, we're a little early, but I'm sort
21 of curious. And then, coming back to that prior
22 comment in the capital allocation piece of CapEx, you
23 talked at length in various points about cogen
24 investments. You showed, again, the multiples of
25 investing. And again, to go back to this point of a

1 third combined cycle, it would seem, at least on paper
2 today, that the multiple is reasonably interactive. I
3 don't want to put words in your mouth. How do you
4 think about, you know, your disclosure where I believe
5 you're not assuming RNW drops, you have a placeholder
6 for buy backs? How do you think about eventually
7 making this decision about, to make the RNW drop and
8 then subsequently, these CapEx opportunities? And
9 just like, even from a timeline perspective?

10 MS. FARRELL: Yeah. And so, Todd, do
11 you want to take that?

12 A. MR. STACK: Maybe I can just start
13 with the leverage graph that you were talking about,
14 it was on slide 87, that shows that, sort of, where
15 we're at today, is where we're at. I think we called
16 it post-hydro PPA. That's not looking really at the
17 '23-'24 period. That's looking really right after the
18 PPAs expire at the end of 2020. And so what you're
19 seeing there is the repayment of that additional bond
20 coming up next year in our leverage, as well as the
21 step up in EBITDA from the hydro assets once we get
22 the full revenue from it. So it's not out as far as
23 you are thinking. It's more near-term. And then, do
24 you want...

25 A. MS. FARRELL: Julien, I think what

1 you're asking is: How would you think about doing a
2 contracted cogeneration with a 20-year contract
3 compared to third combined cycle. Is that -- if I was
4 to simplify?

5 Q. Yeah. And just the timeline of
6 that versus just simply announcing the drops to create
7 the headroom in your capital plan too.

8 A. MS. FARRELL: Right. So for...

9 Q. MR. STACK: So the drops, we've
10 done a lot of drops and they just -- it's a process.
11 It's -- you go -- it's related party, so we have go
12 through all that process. So that's just a matter of
13 timing. And you know, quite often, we'll acquire some
14 of those assets earlier staged, get them up and
15 running and then drop them in. Sometimes we'll drop
16 them in earlier. So, you know, there's no magic, if
17 you will. But once they're suited, then it makes
18 sense to get them over there if that makes sense to
19 both parties.

20 You got to remember, on the boiler
21 conversion, first of all, the payback is huge out of
22 the gate with the carbon savings. And the outage
23 time, as Wayne says, those units are only out, you
24 know, six weeks, maybe eight weeks for the actual
25 work. The combined cycle isn't a full permitting

1 process. We got to go through -- it's a longer
2 timeframe and so getting some of these boiler
3 conversions done and just getting that savings as soon
4 as we can, and being positioned when gas is cheap, as
5 I mentioned to earliest. Some days we saw, you know,
6 negative gas in the last couple months. You know, we
7 just want to be positioned to capture as much of that
8 as we can.

9 And so, that's again, we're back to
10 this balance that we strike when run all our models,
11 you know, between putting a ton of capital in the
12 length to convert, versus building a combined cycle.
13 Our plan kind of looked as we described here. That's
14 not to say we don't, kind of, modify it as we go
15 forward. And like I say, you know, do more combined
16 cycles down the road when the opportunities are --
17 does that kind of capture it?

18 MS. FARRELL: Yeah.

19 A. MR. STACK: I mean, from a balance
20 sheet perspective, I'm talking about this, I mean he
21 showed, you know, we only have \$1.2 Billion of bonds
22 at the end of 2020 at the TA level. Remember, that's
23 being supported by these hydro assets, which have a
24 ton of value and all this converted. So balance
25 sheet-wise, in very good shape from that perspective

1 over the long term.

2 JOHN MOULD, TD Securities

3 Q. I'd like to ask about new markets
4 and you're thinking about those. A number of your
5 Canadian peers have, I guess, looked for growth all
6 over the world. Maybe putting Australia aside for a
7 second, because that's a bit of a one-off for you as a
8 company, how do you think about potentially looking at
9 other markets beyond Canada, the United States? And
10 what would it take for you to make that decision?

11 A. MS. FARRELL: Well, I mean, I think
12 that's -- I would say that, you know, when I -- when
13 we look at the US market right now, there's quite a
14 demand for what Aron talked about, in terms of these
15 corporate customers that are looking for some sort of
16 product for their own ESG goals. And that has changed
17 significantly, so there's a pretty big market there.
18 And it's surprising to me how underdeveloped the
19 market is for the actual developers that provide those
20 projects. So there's -- it's still kind of more of a
21 cottage industry. I mean, except for -- I mean,
22 NextEra's a big player and there's a few big players,
23 but there isn't really as many people as you would
24 expect to see, given the amount of demand.

25 So I think part of our work in the next

1 year, which Aron's team is doing, is to really say,
2 'Okay. How much can you get there and are the returns
3 too low?' Now, we've seen that the returns currently
4 are definitely too low on solar. Like they're just --
5 they're just not worth looking at, but there are
6 people who buy them. I don't understand it, but they
7 do. But still in the wind space, if you look at our
8 Skookumchuck project and I was just there probably,
9 two weeks ago, you know, climbing all over a mountain
10 looking at cranes, and planes, and automobiles to try
11 to put all these things up and it's still a fairly
12 complex build, because you're putting up 90-meter
13 towers and you know, they're big, big -- it's a big
14 operation to get that thing built.

15 So you can the returns out of doing
16 that still in the US. We are seeing in our Australian
17 operation -- of course, Australia is 100 percent
18 focused on Asia. Like Australians focus on Asia and
19 Canada focuses on the United States, and of course,
20 there's a lot of work going on in Asia with the
21 Canadian Government, with TPP and things like that.
22 So we are seeing, for example, in parts of Asia, where
23 coal plants are being cancelled daily. Like
24 literally, 20 coal plants have been cancelled. I
25 think it's in Indonesia. Either just will not allow

1 them. They have uprisings against them. They do not
2 want them. And there's just a ton of solar being
3 built there and it's -- these are brand new markets
4 with long, long timeframes. Again, which goes back to
5 what I was saying earlier, I think you're going to see
6 over the long-term, quite a build out of renewables
7 globally.

8 You know, so we'll -- the way we tend
9 to do things is, you know, we'll start a desktop
10 study. We'll start to think about what that looks
11 like. We have lots of contacts and lots of ways to do
12 different partnerships to start to assess that. You
13 wouldn't see that from us, though, in the next couple
14 years. We've got this plan to deliver. We've got
15 good profitability in this plan. The cogeneration
16 space is a nice little space and again, it's not an
17 easy space for a lot of competitors to come into,
18 because it takes complex engineering, process
19 engineering, and marketing, and training to be able to
20 put all those together. So we're focused there. But
21 that's not to say that the team three or four years
22 from now won't have started to think about what's
23 going on in other parts of the globe.

24 JEREMY ROSENFELD, Industrial Alliance

25 Q. So just a couple of questions to

1 clean up on. First, in terms of the outlook for gas
2 supply via second pipeline, I believe -- I'm just
3 wondering if you can sort of update us on that and
4 does that have to be in service by 2024 for the two
5 repowerings? So just clarify that.

6 A. MR. GELLNER: So we actually have
7 two already. So pioneer is one and it can go up to,
8 you know, 440 at full capacity. There's actually an
9 existing pipe into the sites. It was built when the
10 plant started for start-up gas. So that's what we've
11 been using up until now for even co-firing. It's a
12 small pipe. It's only 12 inch going up to Keephills
13 and 8 there. So there's limitations to it. So we are
14 looking at potentially a third into the site, just to
15 have that reliability. Even though Pioneer can handle
16 a lot, we just want to have the flexibility. Yes, we
17 would look to probably have that third pipe available
18 in that kind of '23-'24 for the repowered combined
19 cycles and then, you know, manage what we've got today
20 to manage our co-firing and the boiler conversions up
21 until then.

22 Q. And then I had a question on
23 hedging, just looking forward. When you think about
24 the power trading operations in the Alberta market.

25 MS. FARRELL: We didn't hear you. Will

1 repeat the question.

2 Q. So when you look to 2020 with the
3 changing of the structure of the Alberta Hydro assets
4 and you think about how you're going to hedge in 2020
5 and how you're already positioned. And then just
6 longer-term, if there's a broader change in the
7 strategy around trading in the Alberta power market
8 and hedging your open positions going forward?

9 A. MR. KOUSINIORIS: The question was,
10 I don't know if people heard him, just wanting -- I
11 mean, if I can sort of synthesize it, basically, a bit
12 of an overview on where we are from a hedging
13 perspective in 2020-2021, given sort of the market
14 dynamics that are there. I think when we look at
15 2020, it's more a normal year, if I can say that,
16 because a lot of the PPAs, in terms of the structure
17 of the market, is more of a continuation of what we
18 have today. So the team is looking at layering in
19 appropriate hedges for the 2020 period. And we've
20 started doing that and expect it to be by and large,
21 kind of a normal year for us, in terms of where we go
22 from a hedging perspective.

23 When you look at 2021, we will be more
24 emergent in Alberta and we are evaluating kind of what
25 would be an appropriate level of hedging in terms of

1 2021. You have to remember that in Alberta, it's not
2 like you've got multiple years of liquidity in terms
3 of being able to hedge. It's more of a 2020, a bit of
4 2021. So we're looking at that, assessing what the
5 levels of hedging should be, remember, we typically
6 only hedge the thermal component of our portfolio, not
7 the wind or the hydro. So that's in full flight and
8 we're considering that with a view to what we're going
9 to do in our C&I business. In terms of that also,
10 providing a bit of a hedge.

11 I think overall, our general sense is
12 kind of keeping our hedge levels broadly where
13 they've, you know, traditionally been is about where
14 were are. So at least when I think of it, that's kind
15 of in that 70 percent range in terms of being targeted
16 at an appropriate time. So hopefully that gives you a
17 bit of a flavour.

18 Q. If I can, just one more question:
19 Aron, you mentioned ---

20 MS. FARRELL: My one question rule is
21 not working today. Okay. The new rule is: One
22 question and one follow-up. This is your second
23 follow-up, Jeremy.

24 Q. I leave it here after this one.
25 Okay, so just in terms of onsite renewables and

1 cogeneration opportunities, Aron, you mentioned
2 before, just, do you have sort of a ballpark in terms
3 of total investment opportunity as to what that market
4 might look like, or what it might become in Alberta
5 going forward, just to give everybody, I think, as
6 sense as to how big the opportunity is?

7 A. MR. WILLIS: I mean, it's hard to
8 ballpark, because each of these plants is bespoke,
9 right. There's not a -- like I said in my remarks,
10 there's not a cookie cutter solution that we're
11 putting in, so it's not a \$100 Million solution and
12 you multiply that by five. One might be a hundred,
13 one might be double that. You know, but based on
14 where our pipelines at, we would like to see ourselves
15 at -- just internally, we've kind of fed ourselves a
16 target of, you know, one to two of these things every
17 year. You know, I would say, the range of investments
18 you'd be looking at would be 100 the low end, to maybe
19 250, 300 for something that I would say would be much
20 larger, probably at the top end.

21 A. MR. GELLNER: And Aron, I think
22 it's fair to say, that Alberta, obviously, there's a
23 key market there, but it's not just Alberta. We are
24 seeing opportunities. And onsite is not just cogen,
25 it could be just behind the fence, simple cycle or

1 combined cycle units as well.

2 ROBERT BEUTEL, Oakwest Corporation

3 Q. Quick question really on growth and
4 things that you used to talk a little bit more about,
5 which were storage and batteries, and pump storage,
6 Brazeau. Where does that factor -- what kind of
7 dollars? Are they bite-sized amounts? Are they
8 massive amounts, which are pipe dreams at some future
9 date?

10 A. MS. FARRELL: Yeah, so if you look
11 at Brazeau, I mean, we still have that project. We
12 still have it on our shelf as something that could be
13 developed in somewhere round the mid-20s, '25, '30.
14 There's a discussion of a third combined cycle. And I
15 think the reason people are -- I mean, they're looking
16 at these repowered combined cycles. They're fantastic
17 investments. But we also have a carbon policy regime
18 here in Canada. It's sitting at \$30.00. I could go
19 to \$50.00. There are people who talk about it even
20 going higher than that in the post-2030 period. I
21 think I can tell you: No amount of Tesla batteries
22 will power Alberta. Not going to happen.

23 I've been making, sort of, one of the
24 things that I do at the company, to go and visit these
25 guys that are building these flow batteries, there's

1 some really, really interesting flow battery guys out
2 there. They're way more advanced than I expected them
3 to be. That I shouldn't have thought that way,
4 because when I think about how quickly solar has
5 advanced and you know, I'm not surprised by the way in
6 which people are starting to advance these flow
7 batteries. Again, Alberta's not going to run on a
8 warehouse full of flow batteries that are the size of
9 refrigerators, that are all tied together, it's just,
10 you know -- with four hours of storage.

11 And I think the way to think about that
12 is, when you have an 80 percent system load factor, 18
13 percent of the time the system itself doesn't need
14 somebody to be running. But the 50 percent of the
15 loads need you to run 100 percent of the time. So you
16 know, if you decide to run 12 hours on solar and 12
17 hours on flow batteries, the capital requirement for
18 that solar and flow batteries is too much, right. So
19 you have to have something. And that's where
20 something like Brazeau comes in.

21 So I think what -- the team can develop
22 Brazeau as three 300-megawatt units, rather than one
23 900. So we have work to do to, sort of, continue to
24 look at that. I think it is the competitor to the
25 potential third combined cycle in the mid-2025s. And

1 us figuring out how to do that in a bit size is
2 important. We can't do the big project, it's too much
3 capital. You can't put \$3 Billion in a merchant
4 market. But is there a way to look at doing one of
5 those units, one at a time and seeing how they would
6 fit. Because again, they're 100-year units, right.
7 They're not 30-year. They're not affected by carbon
8 tax. So it's still on our radar, but it's definitely
9 not part of the plan in the next five years. So we're
10 allocating -- we've given you a very clear picture of
11 the next five years and all the questions are about
12 the five years after that. But we need to get these
13 five years in, so. Sorry, and your other question
14 was?

15 Q. No. It just really is a follow up.
16 If you could just compare for a second, the cost on a
17 pump storage versus a flow, since you touched on it?
18 Is flow something that you really can look at yet, or
19 is it still too far away?

20 A. MS. FARRELL: Yeah. No, it's not.
21 I was surprised, actually and we've got a young
22 smarty-pants guy that, you know, probably will be a
23 future CEO sometime in his life, working on batteries.
24 And you know, I was very, very surprised. I think
25 they're starting to come into that through \$2,000.00-

1 kilowatt range. They're competitive. And it's
2 exactly the same formula as the solar guys did. You
3 know, you invent the technology and then you get the
4 guys in who can take the engineering and the
5 procurement costs down, and then you've got to just
6 keep getting money from places. And there's a lot of
7 money for this. There's tons of money for these kinds
8 of investments. So we have -- we've looked at one
9 company extensively. We're going to look at three or
10 four more. And I expect to be surprised. I think it
11 is a market that's emerging.

12 RUPERT MERER, National Bank

13 Q. I thought I'd throw in an Ontario
14 RNW focused question here. John, you mentioned you're
15 looking to recontract the Sarnia gas plant, the
16 contract is expiring starting in the next couple
17 years, I believe. Can you give us your view on the
18 Ontario market and the opportunity to recontract
19 Sarnia, but also, the opportunity to maintain the
20 cashflows where they have been over the last few
21 years?

22 A. MR. KOUSINIORIS: Yeah. Not. It's
23 a good question. And actually, I'm glad you kind of
24 asked the question the way you did, because that's
25 actually the way we tend to look at it, is we tend to

1 kind of look at it from the perspective of, you know,
2 what are the cashflows of the facility and what do we
3 need to do to layer on various levels of opportunity
4 that we have to actually maintain it there. You know,
5 as I mentioned, I think we do think that we're going
6 to see a capacity market here in the province. It's
7 an interesting market from our perspective, because
8 you've got a whole bunch of stuff that's contracted.
9 You've got a relatively small piece that might become
10 a capacity market. And then, you've got basically,
11 the nucs and a bit hydro, which are, you know, quasi-
12 government owned. The place that an IPP like us can
13 play is a more compressed, if I can put it that way,
14 place.

15 But when it comes to Sarnia, in
16 particular, we've already initiated discussions about
17 what it is that we can do to actually kick out the
18 time period for the contracts. I think when it comes
19 to the customers that we have in the region that we're
20 currently supplying, whether it's power, or heat, or
21 steam too, it's a very competitive facility. I think
22 it would be -- they would be hard pressed to find a
23 better alternative than us providing and meeting their
24 needs on a go-forward basis. We've initiated
25 discussions with the government and the AESO about,

1 you know, what we can do from a contract perspective.
2 We're assessing what the capacity market, if it came
3 to that, would be able to provide us. But we're also
4 spending a lot of time, and frankly, the team is
5 spending as much time on this, is trying to actually
6 get other contracts.

7 We are looking at the capacity we've
8 got there. We've got quite a bit of land that's
9 there. We're developing the Blue Water Energy Park,
10 so it's everything from, you know, chemical processing
11 plants, to actually, you know, Bitcoin type companies
12 that have high power needs that we're actively trying
13 to create, sort of, additional cashflow streams for
14 the facility. So we're working hard to keep it flat,
15 frankly, as we look at the -- or do better than that,
16 as we look at the 2022 to 2025 time period. And we've
17 been at it for, probably, a couple years already, in
18 terms of trying to move that forward.

19 MS. FARRELL: The greatest thing about
20 Sarnia is it's in a nice sort of location.

21 MR. KOUSINIORIS: It's needed, right.

22 MS. FARRELL: It's needed in that part
23 of the grid and the customers rely on it for steam.
24 And you know, I don't think there's a need to build a
25 couple more cogeneration projects there, because you

1 can't get a long-term contract for Sarnia. So I think
2 it's got all the right attributes that you need for
3 re-contracting. But these things take a long time.
4 You got to -- there's a lot of customers to work with
5 and the AESO here in Ontario. So you know, it'll muck
6 along for a while and you know, maybe we can advance
7 it. But it could take right in until the end of 2025
8 to get it done.

9 MR. KOUSINIORIS: And recently, I mean,
10 the changes here have occurred. I think our customers
11 are not getting the global adjustment charge
12 effectively levied against them now. It's one of the
13 things that we've been able to achieve there. So it's
14 a pretty competitive power solution for them
15 regionally, in terms of where we are.

16 Q. In Ontario, we have seen some gas
17 plants get mothballed into the contract, but that's
18 not in the scenarios that you're looking at. You
19 don't think the worst case could be that bad.

20 A. MR. KOUSINIORIS: We're not -- I
21 mean our Mississauga plant was shut down. And to
22 Dawn's point, it was located at an area where, you
23 know, candidly the power wasn't required there, once
24 its contractual life was over. But when we look at
25 Sarnia, we think of just that industrial base in the

1 valley there, effectively, and we think that it's got
2 a good potential to continue to operate.

3 MS. FARRELL: Yeah, I think gas plants
4 that are just supplying power to the grid --

5 MR. KOUSINIORIS: To the grid
6 generally.

7 MS. FARRELL: -- most of them don't run
8 that much. That's not helpful. But Sarnia's a big
9 thermal producer, so it's a true cogeneration. It
10 supplies steam to the customers. So it's a huge
11 sustainability part of the Ontario grid and it does
12 help in that part of the grid, so it's got a different
13 set of attributes. So we have time for maybe one last
14 question. Is there anyone who hasn't had an
15 opportunity to ask a question that would like to ask
16 one? If not, we'll turn it over to someone that
17 already has. No, okay. Here you go, Robert.

18 ROB HOPE, Scotiabank.

19 Q. Getting a little bit of granular
20 and I guess, maybe front running your 2020 guidance,
21 which I would assume you'll expect in December. Just
22 want to clarify the comments you were making on the
23 increase in maintenance over the next couple of years.
24 Just given the outages that you're seeing there, is
25 that relative to the future run rate, or is that

1 relative to, you know, what we're seeing in 2019? And
2 then, all else being equal, and let's assume power
3 prices are relatively similar, kind of, where do you
4 see cashflow shaking out in 2020?

5 A. MS. FARRELL: Okay. So we're not
6 going to do 2020 guidance today and I think that
7 really, if you think about, we're doing an additional
8 -- we're doing a coal to gas outage, so we've given
9 you \$30-\$50 Million as the cost of what you need to do
10 to do one of those outages. So you've got that to
11 think about. And at the end of the day, we'll give
12 you the guidance in December or January. But a great
13 question to end on. I was surprised you didn't start
14 there, actually.

15 And so with that, listen everybody, we
16 really appreciate you taking your morning with us. I
17 think we've given you lots of data and lots of
18 granularity, in terms of how we're thinking about our
19 plan. I think it's comprehensive. We really would
20 love to have time to discuss this with you over lunch,
21 so if you can stay and have a sandwich with us, or
22 whatever it is we're providing, we'd love to do that.
23 And yeah, I don't know what you're getting. And thank
24 you very much.

25 ---Whereupon audio concludes.

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