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PRESENTATION
Johan Sahlqvist Vattenfall AB - Investor Relations
Good morning and welcome to this audiocast and presentation of Vattenfall's results for First-Half Year 2019.

My name is Johan Sahlqvist and I am Head of Investor Relations.

Today we'll hear from our CEO, Magnus Hall, and our CFO, Anna Borg.

With that said, Magnus, I hand over to you.

Magnus Hall Vattenfall AB - CEO
Thank you very much Johan.

And good morning to everybody on the Web, listening in on this First-Half Year Results for Vattenfall 2019.

And I will switch to the first page here. We have a result which has increased slightly in underlying EBIT from last year to SEK 13.3 billion and that is actually a combination of higher electricity prices where they were also offset by the cost for Storm Alfrida which we have talked quite a lot about in the quarter 1 and, continued weak contribution from the sales business. I will of course return to more details on this.

We have a few highlights we think are important to note, that Ringhals 2 is back in full operation after replacing a generator.
We also have started our construction of Kriegers Flak Wind Farm in Denmark which is the biggest offshore wind farm in Vattenfall and we will continue the work with the storm Alfrida.

We have a significant issue with the allowed return for the Swedish distribution where we can see initially that the WACC is very has reduced from 5.85 to 2.16%; we will also cover this later.

We are continuing to launch smart charging solutions for electrical vehicles in other parts and specifically in Amsterdam. And we are very happy about the strong demand when issuing our first Green Bond in Vattenfall, and you can see it to the right there where we were on Times Square in New York. We’re very proud of that.

After the Q2 timing, we won the bid of Hollandse Kust Zuid 3&4 in the Netherlands, a significant achievement, we believe.

And then we also have an ongoing dispute in Germany when it comes to production rights for nuclear where we have signed an initial deal to transfer 10 terawatt-hour of production rights from our jointly owned nuclear power plants to E.ON.

So with that we go into the third picture, our results. You can see that we show positive development on all figures when it comes to Sales, EBITDA, underlying operating profit but we are still back on return on capital employed for the first-half year, it has not increased since last year, it’s 7.1% versus the same last year.

Customer sales is increasing for electricity but slowing on gas and that's the reason also for a worse result in the sales business. And when it comes to electricity production, that was in total, almost the same as last year. A little bit less nuclear power, a little bit less hydropower but you can see fossil power increasing and mainly that's gas because we can see a significant shift in between coal-based production for electricity and gas-based production for electricity. And here we can also see that the wind power increased.

So our Customers & Solutions business, why the underlying profit is significantly lower than last year? We had in increase in net sales but if you look to the underlying profit, is certainly worse.

And we have a combination of lower gas consumption, we do sell gas and because of the warmer weather we have sold less gas and I just reported in the last picture, and we have high purchasing costs for electricity which we haven’t yet transferred over to our customer, that will happen more in the second-half year.

And then of course we also continue to grow in certain areas here so we have some more expenditures for growth.

If you will look to the Retail sales development, our customer base is increasing up to 5% versus last
year. We grow in Germany. We also acquired a retail business in the Netherlands called "Delta Energie."

And then we are also launching several intelligent public charging networks and we have done so together with the city of Amsterdam which means that -- where you can really regulate the load in between different charging points to help the network cope with more electric vehicles. And you can also see to the right here, the charging points for electrical vehicles is increasing and we see this as a significantly interesting business for the future.

We go to the Power Generation segment, which has contributed strongly in terms of our Swedish power generation; underlying operating profit is clearly increased versus last year based on higher electricity prices and also, we have positive effects from hedges.

You can see to the right what is interesting here is of course you take the two right ones here in the Nordic Hydro Balance and the System Price which are inverted curves and we have a slightly negative Hydro Balance right now in Sweden in the Nordic system. And if you look to the right you can see that electricity future prices on the late part has actually -- after having gone down during the first half-year, they are now pointing slightly upwards.

We did have some lower production in nuclear, mainly because we had the Ringhals 2 operating at half capacity and we have now repaired that generator so that's back on full power.

We did a long-term power purchase agreement with a Dutch wind farm. We do those because we act as an intermediate and buy renewable energy and this is actually the biggest power purchase agreement and the biggest wind farm on shore in the Netherlands.

And we have this sale of the 10-terawatt nuclear production rights that I initially reported on and where we are now in a legal dispute with E.ON subsidiary, PreussenElektra, and we expect the final outcome of this to be reported during Quarter 3 so sometime beginning autumn we will have clearance on that.

Wind, we can see positive contribution here for newly-commissioned wind capacity but we have also suffered from lower prices. To a certain extent, we can see how we have increased production here from 3.8 to 4.5 terawatt hours and that is of course in terms of percentage is a significant increase, in terms of share of the Vattenfall production is still low but we are increasing the capacity and you can see that also quite clearly to the right, where we go, installed wind capacity, first-half year last year versus this year is increased from 2.75 to 3.25 so we are growing significantly here.

As I also reported, our Kriegers Flak offshore wind farm is on its way. We have taken the decisions on solar power where we have a system where we combine solar-power and battery storage with an onshore wind farm, I think that is an interesting combination for us and we are now also doing the solar and battery part of that.

We continue to work together with suppliers to further develop big turbines and we have a cooperation
with General Electric to develop a 12-megawatt turbine for offshore use.

And for the Hollandse Kust 1&2 and then Hollandse Kust 3&4 which we now have won so we will see this project together, we are deploying Siemens Gamesa 10-megawatt turbines which means that we will now also see the next generation, big turbines coming into production. And of course we are very happy about this win.

You can see here from the picture, where we are. We have we have Hollandse Kust 1&2 and then inside we have 3&4, 750 megawatts, respectively, totaling 1.5 gigawatts; it makes the largest offshore wind farm in the world. And of course from our perspective we are now adding the second part which means that we get synergies with the first part and it's a subsidy-free wind farm but certainly a profitable project for us going forward.

The selection criteria here are more quality than price, as you know well, and we are of course happy that we have been selected. You can see to the left the selection criterias are of course how can they be rest assured that this wind farm will be built in the right way, and that the one who builds have good control over their costs so to make this a successful wind farm and of course we see that as a quality stamp on what we do in our Company.

You see the timeline to the right and then you will see the commissioning deadlines, it's actually 2024 so between '23 and '24, you would see these wind farms coming on stream. Those together will supply electricity for between 2 to 3 million Dutch customers depending on their size.

It's also important to note, when you talk about wind power if you're going to be a successful developer as we aim to be in Vattenfall that you have a good pipeline, and therefore also Hollandse Kust 3&4, you can see to the right fits well into the pipeline we have in front of us. We have 1.7 gigawatt under construction right now, onshore and offshore; we also have 5 gigawatts in development too, very big projects in the U.K., 1,800 megawatts each which we are right now developing on the East Coast of the U.K.

And we have a good position, we have access to projects. We have very good access to suppliers. We can see synergies in operations clearly now with Hollandse Kust 3&4 versus 1&2, this is a very valuable part for us as well.

And our organization is maturing and adding experience and expertise to make us a competitive operator in developing wind farms.

So with that I think that we are leaving Wind.

And we go to Heat which is another business. It's consisting of two things: three things you might say, it's the district heating, it's the condensing production of electricity based on coal and gas, and it's also something we call "Energy Solutions" which are Decentral Solutions for housing developers. You can see
we have an increase in sales, and we have a slightly increase in underlying profit versus last year, no big changes there.

But if you take a look to the right of some of the key data, you can see that we are -- the most interesting picture is actually the one to the right where you can see the spreads are going aside, we right now had very low gas prices and a very high and increasingly high now CO2 price which means that the clean dark spreads which are the coals spreads they are going down and the spark spreads, in this case in the Netherlands, are quite strong so we see much more gas production, also in our Company versus coal production for the first-half year.

So that's a change and I think that's clearly also the change we want to see in the climate-change discussion because gas is more CO2 efficient than coal. And we'll of course put pressure on the coal-producing units, that's for sure.

We are expanding also outside our current markets, being the Netherlands, Sweden, and Germany. We are also looking at projects in the U.K.; we have a preferred bidder status in a district heating project in London and we also have other agreements coming up in Sweden where we both use heating and cooling and cooling becomes a bigger and bigger issue, also for cities to make sure that you can have an efficient cooling system.

And the last point is just to mention that we are looking now -- of course we want to be fossil free within one generation so we make sure that we have other solutions going forward and then storage of heat and electricity will be one big issue. And here we have a heat storage called "SaltX" where we are storing renewable power in salt and we can reuse it into the heat system.

So we are going quite clearly forward also in heat even though the underlying profit is more or less the same as last year.

Distribution, here the big issue is what I just mention at the beginning. If you just take the results, you can see it's lower than last year, 1.2 billion lower for the first-half year, a significant part of that is Alfrida; a small part of that is also the fact that we have lower transited volumes, you can see that in the middle graph to the right. And yes, we will now also increase the investment in this area where we had the big storm.

But the big issue here, coming again is the change of the weighted average-cost of capital that we can use as a basis for our income in Distribution, Sweden.

We as a Company have not yet received from the Inspectorate our framework but we can see the early frameworks that has been delivered, where that WACC has been set to 2.16% whereas it's today 5.85%. And of course I think this significantly will change the possibilities for us to invest. But we are also required to invest to a certain point so we will see how we will have to deal with that but we have to optimize the situation going forward. We are not happy with this and we are of course also discussing
with the authorities, in what way, and how can this be changed or can we have sort of a long-term discussion on this.

And just to show what we're doing, and that's -- the important part is, that there is a need for new investment into the grids. We have a situation in Sweden where we don't have a problem with the supply of electricity but we have a problem to supply it to the right points where it's being used, the big cities like Stockholm and Malmo, now have almost a restriction on new connections and this needs to be solved.

And there are a few big items here: one, is of course that you need to have permission to build long landlines, takes a very long time in Sweden; but the second issue is of course also that you need to invest both in the transmission lines but also in the local networks and distribution networks. So here we need to continue to invest.

You can see that we have invested on this graph, increased our investments also for 2019; we will stay on a high level but going forward with a new regulation of course we will see how the development will be; certainly it will be negative versus what we need.

We are very happy for a collaboration we have with Microsoft in Sweden where we work on sustainable data centers. There will be a big connection up in the -- northern part of -- actually in middle Sweden because Sweden is so big, around Gävle.

And then the last point here is that Stromnetz Berlin of course a big part of our distribution operation, we have now appealed the concession process to court, so we will see how that will develop.

So with that just let me say, finally that I think we are good on our way. We have important progress in achieving our vision for a fossil free-living within one generation. We develop partnerships, I mentioned Microsoft, we have also other partnerships with Boliden and Preem in Sweden for biofuel production and electrification of mines and smelters.

We continue to grow in EV charging solutions and we are investing a lot into renewables, and we also have just successfully reached this Green Bond that we will hear more of so I think with a stable result we are now also on a good way forward in terms of our strategic direction in Vattenfall.

With that I will leave for the Financials, to Anna Borg, our CFO. Please, Anna.

Anna Borg Vattenfall AB - CFO
Thank you, Magnus.

Good morning everyone.

Let's have a deeper look into the financials of the first 6 months.
We have an increased net sales for the first-half year. We have increased it by SEK 9.2 billion so now the net sales is SEK 84.2 billion versus SEK 75 billion, the same period last year. This is mainly due to higher spot prices compared to last year but we also see higher sales in several of our markets.

Our underlying EBIT increased by SEK 200 million, that is mainly due to higher contribution from our Power Generation business, again related to the higher prices in the Nordic market but we also see a positive contribution from our hedging and trading activities.

As Magnus mentioned earlier, we do have the costs this year related to the big storm Alfrida in Sweden in the beginning of the year and we also have a lower contribution from our Customers & Solutions business compared to last year.

The profit for the period increased by SEK 0.5 billion and is now SEK 7.7 billion for the first 6 months.

Then we also have some improvements in the unrealized changes in the fair value of energy derivatives so those are better than the same period last year.

The return on capital employed remain stable at a level of 7.1%, the same as this period last year. Our FFO over Adjusted net debt decreased slightly to 19.2%, that's mainly a result of an increase adjusted net debt due to IFRS 16 but also mainly due to margin calls; I will come back to that.

Looking at the next page, you can see that when it comes to the development of our underlying EBIT for the period, we see an increase from Power Generation, however offset by a lower contribution from Distribution business and Customers & Solutions. When it comes to our Customers & Solutions business, we have higher costs for our electricity purchases but these will be compensated with tariff increases.

As we mentioned already in the first quarter, we also have a very steep growth in our Sales business in Germany, at the moment. We're taking in a lot of new customer, that means an increased cost in the beginning of the year but it also means an increased profit until the end of the year.

We also see slightly lower gas sales in the Netherlands to B2C customers and that's mainly due to warmer weather there.

In our Power Generation business, it is the spot prices and also the trading results that contribute positively.

In our Wind business we see an increased contribution that -- it's mainly coming from added capacity and in our Heat business we see an increased electricity generation that comes from our condensing power plants in the Netherlands, and is driven by the improved clean sparks spreads that Magnus referred to in his diagram; while we still have challenges in our condensing business in Germany due to low clean dark spreads. And again the Distribution results is mainly lowered due to the costs for the
storm of Alfrida.

Taking a look at our cash flow development, we can see that we have a negative cash flow from operating activities, that is mainly due to working capital where the majority is explained by a decrease in margin calls. This is offsetting the very large inflows of margin calls we had during last year and now we see that they are going back again to more normal levels.

We also see some changes in relation to CO2 emissions allowances, and also the seasonality pattern in net receivables and liabilities, that we see this time of the year, every year in our Customers & Solutions and Heat business.

You can see that we spent SEK 6.3 billion in maintenance investments and that we also spent 6.2 billion in growth investments. Those growth investments are mainly going into our wind operations and I will show you some more specific numbers on the next slide.

Here you can see that for the first 6 months we invested SEK 11.6 billion into our business and the majority, 36%, is going into wind, solar, biomass, and waste and I would also like you to have a look at the graph or on the table at the right-hand side where you can see the increase in our wind, solar, biomass, and waste investments; the increase is 54% compared to the same period last year so again this is mirroring our investments that are going into our wind operations.

On our next slide you can see the overview of our key figures for the first-half year, so again an increase in net sales, EBITDA, also an increase in EBIT, and a slight increase in the underlying EBIT as well. The profit for the period is increasing from SEK 7.1 billion to SEK 7.7 billion, the same period this year.

Then I would like to show you a few facts about our Green Bond that was mentioned also initially in this presentation. This is the first Green Bond that Vattenfall has issued ever and it's also the first corporate bond under the European Medium Term Note framework that's ever been issued under Swedish law and listed in Stockholm. We saw a huge interest in this Green Bond and a few hours after opening the order books, we had not only the EUR 500 million that we were aiming for but we had orders for EUR 3.9 billion so very much interest which made us able to sign these EUR 500 million at very, very good levels. We could see that we ended up at mid swap-rate plus 55 basis points which we consider to be a very good result.

The money from this Green Bond will be invested into four categories of projects: the first category is Renewable Energy and Related Infrastructure, that could for example be offshore wind investments; the second category is Energy Efficiency, and that could for example be energy recovery together with our customers; the -- third category is Electrification of Transport and Heating so that could for example be infrastructure for e-mobility, charging of e-vehicles; and the fourth category is Industry Projects, that could for example be the HYBRIT Project that we are running together with SSAB and LKAB, regarding fossil-free steel.
We are also having a second opinion on our Green Bond framework by Cicero, the world-leading Institute in giving second opinions on Green Bond frameworks and we are very highly rated in relation to their standards.

We are very much looking forward to put this money into use and to continue to invest in order to make sure that we enable a fossil-free living within one generation.

And with that I would like to close the Financial presentation, and move on to the Q&A section.

QUESTIONS AND ANSWERS
Markus Friberg Vattenfall AB - Communications
Thank you, Anna.

And now we open up for questions from both telephone participants and via the webcast and I will ask you as well, if you post questions via telephone to please state your name and the company you work for.

We start with a question from the webcast, from Richard Petit in Schroders, in London.

Richard Petit Schroders - Analyst
Good morning. Can you please provide an update on Swedish regulation? I understand that the E.U. indicated that the Swedish regulators proposed determination contravenes with E.U. rules. What is the next step and any color on timing would be appreciated? Thank you.

Magnus Hall Vattenfall AB - CEO
That is true, that the E.U. has written a letter to the Swedish government to explain why they have done it in this way and that is not according to the rules of the E.U. We also know without knowing the details that Sweden has answered and that they refer to another process that's right now ongoing with Germany, I think. So the outcome of this will also be determined a little bit about what's happening in Germany.

It's very difficult to say when the outcome of this will be any clearer to be honest so we only know it’s going on. We know that the European Union is very concerned about this. And we do agree with that because we want to have an appealable process and -- yes, that's where we stand right now.

Markus Friberg Vattenfall AB - Communications
Okay.

We have another question on Distribution from Andrew Moulder at CreditSights.
Andrew Moulder CreditSights - Analyst
What are the allowed returns on equity and debt in the lower distribution WACC? Broadly speaking what impact do you expect the reduction in WACC to have on your annual distribution EBITDA or EBIT, all else being equal?

Anna Borg Vattenfall AB - CFO
Well we are looking into that because we will of course have to adjust also the investment levels when we see these new prerequisites so that analysis is still very much ongoing. Long-term of course this would imply a lower return in the Distribution business.

I would also like to highlight that since the deregulation of the energy market in the Nordics in '96 we had six different Regulation models for the Distribution business, that is worrying as such in a business which needs long-term prerequisites but we have also through all these regulations manage to keep a good return on the Distribution business by adjusting accordingly and that's what we will have to aim for this time as well.

Markus Friberg Vattenfall AB - Communications
Thank you.

And then we have a question from Julia Demirdag at Montel in Frankfurt.

Julia Demirdag Montel
Could you comment a bit on the massive jump in the trading result? It is up more than fourfold in the first half. Also could you say something on the compensation sum from PreussenElektra? In court the sum of EUR 278 million was mentioned. Do you see the price paid as a good basis for a compensation for the remainder of the power volumes? Thank you.

Anna Borg Vattenfall AB - CFO
Maybe shortly on the trading results. It's true that we have a good year in our trading operations and I think we reported on that already in Q1. Normally the trading results are quite volatile by nature so they will go up and down. At this time we see a good result in basically all of the trading portfolios at the same time, and this is why the increase is quite big.

Magnus Hall Vattenfall AB - CEO
And on the second question when it comes to the legal process, we don't want to comment on any content in terms of value or money or anything until we have the final conclusion from the court so we don't give any comments on that.

Markus Friberg Vattenfall AB - Communications
Thank you.
Another question from Andrew Moulder at CreditSights.

Andrew Moulder CreditSights - Analyst
Given your growing Renewables business, do you expect all future issuance to be Green Bonds? You achieved very favorable pricing on your first Green Bond, do you believe the market is now prepared to pay more for Green Bonds than non-Green Bonds?

Anna Borg Vattenfall AB - CFO
I agree that the market for Green Bonds seems to be very strong and I wouldn't be surprised if we, not far from now see a premium on bonds that are not Green. If and when we have a need for additional financing, we will go to the market again and most likely it will be a Green Bond also the next time.

Markus Friberg Vattenfall AB - Communications
Okay.

We continue with questions from the Web as there are no from the telephone.

Miguel Medina, JB Capital.

Miguel Medina JB Capital - Analyst
Good morning. Why have you opted for the 10-megawatt turbine for the Dutch offshore project instead of the more tested 8-megawatt version? What is the penalty if project is not delivered before the 2024 deadline? And what is the size of your future capex that can qualify for Green Bond funding? Thanks.

Markus Friberg Vattenfall AB - Communications
There are three questions in there.

Magnus Hall Vattenfall AB - CEO
Yes. I mean, if I take the 10 megawatt, I think this is -- of course, I mean we cooperate very, very closely with the manufacturers of turbines and the delivery chain of delivering and building a wind farm so of course when we take our next step into 10 megawatts we have assurances of that, enough to take the decision to go for 10 megawatts and we will see this development, continuing. As I mentioned we have General Electric looking at 12, and we also have other discussions with others so we feel comfortable that will be a safe delivery of the 10-megawatt turbines.

Then I think the question is perhaps--

Anna Borg Vattenfall AB - CFO
Yes. Regarding the investments related to the Green Bond, I mean the investments related to the Green Bond we issued now is the EUR 500 million but of course we are investing much more into Green and Renewable projects, that is our main business strategy and also our main investment strategy.
And again maybe I can encourage you to look at page 16 where we show you that we invested SEK 11.6 billion over the first 6 months, only and a lot of that as you can see in this table is going into renewable or non-fossil investments in one way or another so the majority of our investments will definitely be non-fossil and the amount that will be directly connected to this Green Bond is the full EUR 500 million.

Magnus Hall Vattenfall AB - CEO
When it comes to the penalty, I think it's not a clear penalty on this unsubsidized wind farm but I think, yes, we can come back to that, perhaps find out if there is an official part and report on that.

Markus Friberg Vattenfall AB - Communications
Yes.

Magnus Hall Vattenfall AB - CEO
Yes.

Markus Friberg Vattenfall AB - Communications
Also there was another question from Andrew Moulder on turbines.

Andrew Moulder CreditSights - Analyst
I thought GE was already developing a 12-megawatt turbine, the Haliade-X 12. What is your role in the cooperation with the GE, will that give you any preferred access to these turbines or preferred price? When do you expect this turbine to be available and do you expect to use it for any of the tenders you have won so far?

Magnus Hall Vattenfall AB - CEO
Yes. I mean I don't know exact timing of it. Of course we cooperate with them by discussing on various parts of the development and performance expectations of the wind and they are also setting up I believe one test turbine where we will be participating in testing so we will be very close to this issue.

Exactly when the timing of this will be, it's difficult to say because of course we want to be -- as the question inferred earlier, we want to be safe when we go for the next generation turbines but we see this as a very clear commitment from General Electric and it's important that we have strong suppliers and we have Vestas, we have Siemens Gamesa, and we have now also General Electric for offshore wind turbines and so this is of course very good and something which we -- but cooperate with all different in order to create the best possible way forward.

Markus Friberg Vattenfall AB - Communications
Good.

And then we have a question from Petra Sorge in Dow Jones Newswires in Berlin.
**Petra Sorge Dow Jones Newswires**
How has the lawsuit in Berlin, where the Senate wants to give the concession to a state-owned competitor of Stromnetz, affected your financials? What is the exact one-off effect of the tax refund in Germany?

**Markus Friberg Vattenfall AB - Communications**
So two questions again.

**Anna Borg Vattenfall AB - CFO**
Maybe we start with the last one then, the tax effect in Germany. I assume the question is referring to the effect that we see now in Q2, where the local tax authority in Cottbus in Germany did not approve a tax deduction related to impairments we did in 2013 to ‘16. That decision will of course be appealed so it has a P&L effect of SEK 600 million now. The cash effect will come next year but the decision will definitely be appealed so we have not seen the end of that topic yet.

**Magnus Hall Vattenfall AB - CEO**
And the concession discussion in Berlin will have no financial effects on us, currently.

**Markus Friberg Vattenfall AB - Communications**
Okay. Thank you.

And then we have a question on the telephone.

**Operator**
The first question on the phone comes from Kathrine Deronde with Emergeia. Please go ahead.

**Kathrine Deronde Emergeia**
My question refers to the growth activities mentioned in the report in the Netherlands. It says that there are costs attached to these growth activities. I was wondering what -- in the Customers & Solutions business, I was wondering what specific things that refers to? Is that the acquiring of DELTA Energie?

**Magnus Hall Vattenfall AB - CEO**
No. It's not the DELTA Energie. The Delta Energie is a capex post. It's e-mobility and I mean there are also other activities that we are delivering more solar power -- solar solutions; we are also working on something called "Powerpeers" where we are spending still some growth money on that so the combination of those three.

**Kathrine Deronde Emergeia**
Okay. Thank you.

**Markus Friberg Vattenfall AB - Communications**
And we have another one on the telephone as well.

Operator
The next question comes from Deepa Venkateswaran in Bernstein. Please go ahead

Deepa Venkateswaran Bernstein - Analyst
Thank you so much for taking my question. I have two. One is on the Swedish distribution return. If nothing emerges out of the E.U. Commission process then is it fair to say that you would be stuck with this 2.16 return? And a second question is could you talk a bit more about your U.K. offshore wind pipeline? I understand that you've got some recent approvals and so on so maybe you could just quantify what is your U.K. pipeline? Thank you.

Magnus Hall Vattenfall AB - CEO
Yes. I mean the first question is, the 2.16 and I think what we should be aware of is that they have set more of a variable return so right now interest rates, short-term interest rates are low and so it will depend also how the interest rates will develop going forward. Of course if interest rate starts going up the WACC will also start going up accordingly so that's the change.

I think there will be you know, a continuous discussion with the government because we all want investments to take place and we all know that electrification of our society is the solution to climate change and necessarily then you also need more network so I'm sure we will over time find a more balanced discussion on the WACC and the possibilities to invest in this but right now we are where we are, I can't really see that to be the long-term solution.

When it comes to U.K. offshore, yes, we have as you know, two very big projects there. The Norfolk Vanguard and Norfolk Boreas. They are 1,800 megawatts each and then we have -- and something called "Thanet Extension" which is an extension to a wind farm which we already have. And we are in the early planning you can say, we have applied for -- I don't know exactly what you call it but we are progressing on all those different offshore projects in the U.K. and as you know, we have significant investment already done in the U.K. We have invested GBP 31/2 billion since 2008 so we are really there for the future and we look forward to be participating in developing those projects so we are well on line I should say -- well in line.

Deepa Venkateswaran Bernstein - Analyst
All right. Thank you.

Markus Friberg Vattenfall AB - Communications
Okay.

And we have a question from [Archie Mercy] at Natixis in Paris. "Hello. Could you tell us if the free-subsidy construction of Hollandse Kust Zuid 3&4 takes account of the cost of grid connection, please?"
Magnus Hall  Vattenfall AB - CEO
Yes. There is a grid connection dealt with by the transmission operators so we don't pay for that.

Markus Friberg  Vattenfall AB - Communications
Yes.

And then final question, from Matthieu Durandeau, LFDE.

Matthieu Durandeau  LFDE - Analyst
Good morning. Moody's assigned a negative outlook based on their reassessment of your business profile, notably based on Vattenfall’s dependence on coal and conventional energies. Do you see any chance of the Agency to change its view if Vattenfall were to invest more in the conversion of coal plants into biomass or other Green Technology? Thank you.

Anna Borg  Vattenfall AB - CFO
Well I wouldn't want to comment on what Moody's would do or not. But we clearly see that we have large amounts of investments, and increasing investments into becoming fossil free. One important part of this is to convert our assets especially in Germany from fossil fuel to non-fossil fuel.

And we are continuing to implement our strategy to enable fossil-free living within a generation in all parts of our business. But to what extent that would encompass any change from Moody's are not, I wouldn't want to speculate in.

Markus Friberg  Vattenfall AB - Communications
Okay. Thank you.

Thank you everyone who listened or attended the webcast. And thank you Magnus and Anna. And by that we conclude today's call. And we wish you all a nice summer.