

Vattenfall (conversation between Lars G. Nordström, Chairman of the Board, and Magnus Hall, President and CEO)

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Corporate speakers:

- Magnus Hall: Vattenfall, President and CEO
- Lars G. Nordström: Vattenfall, Chairman of the Board
- Karin Lepasoon: Vattenfall, SVP Group Communications
- Anne Gynnerstedt: Vattenfall, SVP General Counsel and Secretary to the Board of Directors

PRESENTATION

Axel Calissendorff: We will move on to point 9. I once again yield to the secretary.

Anne Gynnerstedt: Thank you. The Annual Report for Vattenfall AB including the corporate governance report, the sustainability report, the auditor's report and the Board's proposed distribution of profits along with the annual accounts and auditor's report for the Vattenfall Group are available in electronic form on the company's website. Printed versions have also been kept on hand at the company and are available at the AGM.

Axel Calissendorff: These documents can thus be regarded as duly submitted. We'll move on to point 10. I yield the floor first to Chairman of the Board Lars G. Nordström and CEO Magnus Hall, who have informed that they will jointly report on the past year's work. Vattenfall's SVP Corporate Communications, Karin Lepasoon, will also participate in this discussion as moderator. A report on corporate governance and the duties of the Board's committees is included in the corporate governance report, which is presented on pages 70-84 of the Annual Report and on the company's website. I now yield the floor.

Karin Lepasoon: Thank you very much! Yes, Lars and Magnus, we have talked about this discussion – that it would include a look back on 2018 and also a look ahead at 2019. But I thought I would take this opportunity to begin with something entirely different, in fact, which concerns a bit more about you and your cooperation. How many years have you worked together now?

Magnus Hall: Four and a half.

Karin Lepasoon: Four and a half?

Magnus Hall: Yes.

Karin Lepasoon: You are in agreement about that, in any case.

Magnus Hall: I looked at Lars's fingers.

Lars G. Nordström: Yes, I discretely showed five. Rounded it off to four and a half.

Magnus Hall: Entirely right.

Lars G. Nordström: It's been just over four and a half.

Magnus Hall: In the operations, but we met earlier since ...

Karin Lepasoon: In your recruitment.

Magnus Hall: I was recruited in the beginning so that ...

Karin Lepasoon: And you got a bit of a head start at Almedalen [ed. an annual democratic meeting place in Sweden] before he began.

Magnus Hall: I did. It was fun.

Karin Lepasoon: But how would you describe your cooperation? How does it work?

Magnus Hall: I think it would be best that I listen to what the Chairman has to say first. Kind of a survival strategy, in some way.

Lars G. Nordström: To being with, it is natural that the interaction between a CEO and chairman is always important. But in our firm, I also think that we have a very homogenous and good board that works exceptionally well as a group. Sometimes I listen more to the Board and sometimes less, and what is important is that we have a collective responsibility. There is kind of an idea in Sweden – even though it hasn't taken hold – that you should evaluate the board members individually, that you should even discharge the board members from liability on an individual basis.

I am a strong opponent to this. The board needs to work as a collective body, and I would assert that the Board and management have an excellent cooperation and interaction. We are quite clear about who is to do what and who is not to do certain things. It is a view that I expect the CEO to share.

Magnus Hall: I heard this in some way. Of course I do, and for me and for the entire management team it is very important to have the Board's support and trust. Otherwise we have no mandate to act, and that collaboration – you feel that it always ebbs and flows a bit, but it feels very good.

Naturally, for our cooperation – to be able to discuss any issue whatsoever with the Chairman is entirely necessary because he is my sounding board and my boss, of course. I think it works very well. It is very clear what the division of roles is – but it is also so that Lars has a very keen understanding of what is needed to run such a large company as this along with all of the complexities that actually exist.

Karin Lepasoon: Exactly.

Magnus Hall: I feel very strong support for what we are doing.

Karin Lepasoon: Lars, it's not the intention that we will have a performance review here on the stage, but I know that the Board evaluates management on a regular basis, or at least every year. What is the Board's view of Vattenfall's management today?

Lars G. Nordström: There is a standard answer regarding this, you know, and that is that we always have a positive view of management until we say otherwise. Such is the case, of course, if you want to be formal. On this point we can assert that we have both – perhaps I'm being a bit free-spoken here, but I'll take that risk – both management's and the Board's competence have risen successively over the last five years, and this is also the impression, I think, that our owner also shares.

It is the owner who appoints the Board, and regardless of what we think ourselves, in fact it is the owner's opinion that matters. Thus far we have not heard anything to the contrary. But naturally it is also the case that the owner always has confidence in the Board until its states otherwise.

Karin Lepasoon: Of course. Thank you for that brief introduction. If we go back and look at 2018, Magnus, what do you think were the highlights for Vattenfall in 2018?

Magnus Hall: Yes, there were a number of highlights that I think are noteworthy. One was the level of nuclear power generation. We had a record year – for Ringhals it was also a total record of over 30 terawatt-hours, which of course is very exciting since we are moving into the next phase as we shut down parts of Ringhals. We can say that we have been very competitive – proficient – at wind. In fact, we won a beauty contest by being chosen to build the first non-subsidised wind farm in the Netherlands, which I think is great.

We can also see that our earnings from wind are improving. Naturally, this should fit together, and we are making sure that it does. Then we can also see that we have stable growth in customers. We have had very good customer growth especially in Germany. I think it looks good there, and then internally it feels like the level of commitment and engagement is very future-oriented and positive, so I think there is a lot we are taking with us from 2018 into 2019.

Karin Lepasoon: And if you look instead at some smaller problems areas we see in Vattenfall...?

Magnus Hall: Yes, well, what is absolutely the most tragic from last year and difficult is that we have had a very good accident record at Vattenfall, but last year we had two fatalities within the course of one month. It was in our service operations, where we work with high voltages, and naturally power lines under various conditions such as storms and such, and then it happened. Without a doubt it was very tragic, but it has also shaken us

up and forced us to work very much with health and safety, and we will continue with this and we are emphasising this internally, but it has to be mentioned.

Karin Lepasoon: For sure.

Magnus Hall: Then, of course, we are seeing changes in Hamburg. They made a decision last year that they will go their own way with their heat operations. We think this is very unfortunate, since it was something that we wanted to continue developing and working together with the City of Hamburg on. So that was negative, and then we are now also seeing a re-municipalisation – a small tendency toward this in Germany – and now we see that the grid operations have also in a first step said that they want to re-municipalise

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Karin Lepasoon: In Berlin, yes.

Magnus: In Berlin. But for us it is important to say that, regarding our strategy in Germany, we see very many opportunities in Germany, and we will continue to be active there. Our heat operation in Berlin is large, and Berlin is a big city. It will develop very much, and we have very many ideas about what we will do there, too. And then things are strained in the heat operations and were strained last year, and this is because of the high coal prices and high CO₂ prices, and then you can say that, yes, the carbon dioxide price is supposed to be high because the idea is in fact to drive out carbon dioxide, so we must also learn to deal with this in various ways. Then we can see – we are active in England also on the sales side – and there they have changed the conditions a bit, so we are encountering very fierce competition. There are pluses and minuses in this.

Karin Lepasoon: A big company with great complexity.

Magnus Hall: Yes, that's how it is.

Karin Lepasoon: Lars, does the Board share this view of the highlights and problems for Vattenfall?

Lars G. Nordström: Yes, I mean you can say that this work on doing an annual book-closing, of course it is the standard course for reporting on what you've achieved. But if you look at it from a little longer perspective, as far back as 7-8 years ago we noted that there were a dozen or so areas in which we in fact were not good enough.

You could say that actually in all of the areas Magnus touched upon – some of them – things have gotten better during this period, and last year, 2018, sort of confirmed that the improvement is continuing in all of the areas, and I would just say that the financial position has improved. Surely, the income statement and balance sheet were a big problem 7-8 years ago. There is still more to do and more, perhaps, to expect there, but it can be noted that this year we have proposed a dividend to the owner just like last year.

Karin Lepasoon: After five years without a dividend.

Lars G. Nordström: Exactly.

Karin Lepasoon: Yes, OK, let's accept that as a look back and now look forward instead. But looking first at the market, if we look at Sweden and the transition that is taking place in Sweden, in 20-30 years we will have phased out nuclear power. We will phase out fossil fuels, plus, there is quite a lot of renewable energy that must be replaced at the end of its useful life. What does Sweden's position look like here now in the energy shift, in your opinion?

Magnus Hall: Well, Sweden has an enormously advantageous starting point inasmuch as we are more fossil-free with respect to the electricity system and much of the heat system also, so we have very good prospects. And these have been strengthened by the energy agreement we reached in Sweden, where we have been given clear and distinct instructions about what will apply 20 years ahead with respect to taxes and looking at the energy system.

I think it's great. But then there are challenges in Sweden, since we know that our goal, our mission in Sweden, is to electrify. To solve the climate issue we need to electrify various transports. We need to electrify industries, and we also need to build out the grid to achieve this electrification and also make sure that the cities grow. Our challenge now, it is above all in the networks. And a discussion is being held there about how this will be achieved that is a bit tough right now. But Sweden has enormously good prospects to participate in the climate debate and operations going forward.

Karin Lepasoon: How important is the energy agreement?

Magnus Hall: I think it is very important precisely because it spans over blocs so that it does not entail that in budget periods – so that you go in and make various adjustments, because it's the worst we know that these long-term conditions that then change, cause us to not dare to invest long-term. For this reason I think it is very important.

Karin Lepasoon: And this debate that is going on right now?

Magnus Hall: Yes, well, I mean it is there if you look first at what has been agreed upon, so above all nuclear power is highlighted a little more, and it is built in to this agreement, of course. On the one hand, there is no end date for nuclear power, on the other 100% renewable by 2040. I think that issue is so far ahead. For us what's most important is what we do now. Which brings me back to this grid issue. If we were to inject any issue into the energy commission's discussion, it would be the grids, I think, and also perhaps the concession issues surrounding the grids, because there are many permitting issues which make this not go sufficiently fast. But for our part, I think it is – it's probably good that there will be some discussions about nuclear power, but I don't see that it changes anything right now.

For us, of course, the fact is that we will be closing Ringhals 1 and Ringhals 2. There is, of course, a discussion “shouldn’t we continue operating?”, and in this respect one should know that of course we have revisited this issue, and five years ago we made the decision that we will not continue operating them in part because it was conceived that they would only operate until 2025, and the conditions with respect to taxes and prices weren’t there, and therefore we did not make a number of decisions. Plus, Ringhals 2 has no licence to continue operating, because there we have a material defect in part of the reactor that we have received a dispensation for now. That means that there is no calculation for us to continue operating them until 2025. So that discussion is over. But on the other hand, we are now investing everything in ensuring that [ed. Ringhals] reactors 3 and 4, and 1, 2 and 3 at Forsmark will continue to operate and that they are truly upgraded. And we are investing in independent core cooling and making sure that they have the conditions to generate all the way until 2040. So that we will have a stable base there, for Sweden and for Vattenfall.

Karin Lepasoon: Then in the media it is stated sometimes that there is a shortage of electricity, and then to understand the difference between available electricity and transmission of electricity.

Magnus Hall: Yes, shortages of electricity arise mainly locally. This means that you cannot connect industries and build out new housing areas before you know that you can actually get enough electricity. This can be solved by building new networks, but it can also be solved a little smartly by finding new ways to deal with bottlenecks locally, and of course we are working with this, too. We are involved in a project called CoordiNet, which we are conducting together with E.ON. The EU is involved and funding it, and the Swedish Energy Agency, naturally, is also involved. And we are looking at how we can solve these local issues – so one has to work on a number of different points.

Karin Lepasoon: Is there anything you would like to add regarding Sweden’s energy shift?

Lars G. Nordström: Of course it is always said in business and in industry that we want clear game rules and that they should be long-term and predictable and so on. And this is a good ambition both from industry and from the authorities and politicians. At the same time, I have said in other contexts that you must be prepared for changes in the political climate – that agreements are reached sometimes in December and sometimes in January, but these types of agreements can infringe upon these long-term game rules.

What we do from a rather naïve starting point is that we look after what is best for the company and try to manoeuvre accordingly. And we cannot see that it is particularly good for the company to extend and operate nuclear power the way things look now. If there will be other political agreements, you have to adapt then, if they come. I have actually heard a very prominent European politician say to me in the presence of witnesses, when we discussed a certain political development, that if I were you, I would not put too much trust in politicians, but would work according to the commercial

conditions. And you know it feels a bit like that sometimes when answering the type of questions you are asking. Was that clear enough? In such case it wasn't the intention.

Magnus Hall: I still think it is good that this agreement has been made across party lines. Because this is in fact an issue that swings back and forth. Now I think it has good prospects to actually be stable, and I don't think that this discussion that is now coming will tear it up, but rather we're talking about nuances about this, and that you can always do. So I think it has the prospects to be stable.

Lars G. Nordström: Whatever you call this, it is a type of political risk that you always run. And we have said it previously from this podium, that before, political risk was when a dictator in some country in Africa confiscated our property. Now, political risk is, for example, that a so-called Western democracy, under the rule of law, makes a decision to shut down nuclear power like they did in Germany – that is a political risk – and it materialised for sure for our part. So sometimes things can change overnight.

Karin Lepasoon: Absolutely.

Magnus Hall: A political risk is when you significantly change the conditions for investing in the electricity grid.

Lars G. Nordström: That is absolutely the case. It is materialising more closely to home than in Germany.

Karin Lepasoon: A good bridge to Germany. Indeed, it is another important country for Vattenfall, as you just mentioned, Magnus. If we look at the energy shift in Germany, how does that situation compare with the Swedish one? What is the situation in Germany?

Magnus Hall: Yes, well, there's no comparison. There are two entirely different sets of conditions. Germany has in part chosen a path where they want to shut down first and foremost nuclear power, then comes coal and in the next phase gas. But they have at the same time invested heavily in building out renewables. They have 40% renewable energy in Germany today.

So they are driving these issues in the right direction. And now they have reached an agreement on the so-called coal commission – that they will have a discontinuation plan for coal. And that is of course the first important thing. Then they will replace this partly with gas. So it feels like Germany is now on the right path, and my general impression of Germany is that they are always a bit late at the start, and then they get going with full strength. So I think we will see quite a strong development here in a few years regarding the change in Germany.

But there are a lot of things that we have views on there, because if you want to electrify, for example, you should know that a consumer in Germany today pays about SEK 3 per

kilowatt-hour, and that is very expensive. Electricity should be cheaper if you also want to use it as part of the transition.

Karin Lepasoon: Exactly. And the flexibility challenges in Germany.

Magnus Hall: Yes, we are looking very much at this ourselves. We have, of course, our heat operation, and it is exactly such a thing that we are also looking at – the opportunity to be able to use it when there is a lot of wind and sun, and electricity is cheap. For example, we are building power-to-heat – a large heat container, you could say, which can be heated up with electricity. So we heat it up when electricity is cheap and in that way we are balancing the system. And then we can push that heat into the system when electricity begins to be more expensive. And this type of flexibility we will need in many places. And then of course in pace with more electric cars, we will have more batteries out at various areas. Then you should also be aware that – it's not always that everyone knows this – that Vattenfall is probably the operator with the greatest flexibility specifically in Germany since we own 3,000 megawatts of pumped storage power, that is, we pump water when electricity is cheap and we make electricity when it is expensive. So we are involved in influencing here. In a positive way.

Karin Lepasoon: But is this phase-out of fossil-based power and nuclear power a costly problem for the public at large, or does it entail opportunities when we replace it with renewables and more decentralised production, as it is called?

Magnus Hall: Well, generally speaking, I think that many believe that this is a major expense that we must now take. But at the same time I see with a starting point in our strategy that we have growth opportunities here. And to be sure, this is how we have defined it, that we will enable a fossil-free life within one generation, and so we will find solutions that take us forward to the end position. And there we see a huge amount of business opportunities, so I am not so afraid of this. But on the other hand, it is clear that this will require investing a lot in new fossil-free power generation, and it is not just Vattenfall and the others that are today doing this. I believe that many more need to get involved. What we can see, and which is a bit interesting, is that for example Shell and the others are coming out and saying suddenly that they will become electricity producers. So the landscape is changing at the same time, but I also believe that this is needed in order for us ensure that we have enough electricity.

Karin Lepasoon: And how does Vattenfall find its way in this energy landscape that is currently emerging?

Magnus Hall: Yes, I mean who knows exactly what things will look like in 20 years? I think it is important for us to bet on odds like these that we think are important. That we are involved in building out renewables – we can do this. We know the electricity market, we know power generation, we know how it works. We already have substantial generation today, and I believe that also in the future, Vattenfall will be big in Sweden. And that, of course, will be the next question when we enter the '20s and '30s. Will we replace nuclear power? What will this look like?

And then, of course, a decentralisation is taking place in electricity consumption and electricity use. Customers are becoming much more involved. What roles will we be able to take in this? One such matter, naturally, entails building infrastructure for all of the electric cars that will be built, and being part of that. Exactly what these business models will look like in 10 years and where you make money – I don't think it's possible to answer this today.

But we will also know that there is a new market emerging there, and we can see many opportunities. So I think that when you look at all of this, it is rather a question for us to limit ourselves to what we should do – that we are good at in Vattenfall, and to let go of the things that we will not reasonably be as good at as others. That will be a dynamic part of our development that we must take seriously, and it will surely mean that we will stop doing certain things while we push forward with others in our development going forward.

Karin Lepasoon: There is very much talk about how electrification is a large part of the solution to the climate issue, and Vattenfall has expressed its ambitions there. Can you tell us a little more about this work, Magnus?

Magnus Hall: What is so exciting, naturally, is the role that electrification is playing in the climate shift, where we see that it's possible to replace very many application areas where we today use fossil fuels, with electricity. We are talking about three large areas where we want to be involved.

One is transports – it's pretty obvious now, there are a few different solutions for this. It can entail batteries in ordinary cars, it can be hydrogen gas that is produced with electricity for trucks and such and buses. Then we are talking about heat, and this perhaps is not a large problem in Sweden, but above all it is a big problem on the Continent, where virtually all heat comes from gas or oil and coal when it comes to district heating systems. There we will be able to replace this with heat pumps, and in the area of district heating it will also be possible to find other solutions. And then the third, which I feel is especially interesting for us, is to work together with industry and replace various processes – typically what we are currently working with now on developing carbon-free steel, but there will also be masses of other things that we are now starting to discuss with various industries where we can use electricity – fossil-free electricity – to replace fossil fuels. So I think that – looking at business opportunities once again – we see how things are broadening and we will need to make choices. Hopefully we will make good choices there and find our way, and can build a lot of ... new business.

This entails, actually, that we solve not only the climate issue through our own emissions, which we must achieve, but also look at our opportunities to influence all of society in various partnerships and build new business. So it is a broadening of what we do, and I think that Vattenfall's role in this electrification arena – we fit in extremely well in fact.

Karin Lepasoon: Lars, Magnus touched a little upon the fact that you must choose where to work with strategy, to exclude and to choose what to work with. What is the Board's view of this? Is there something that the Board generally thinks that Vattenfall should focus more on? Are there areas that the Board feels are risks that Vattenfall should not take?

Lars G. Nordström: I think we are in quite a good position. Magnus has exemplified quite a few of the areas we are investing in, but that old watchword focus comes into the picture here. Focus means that you concentrate on doing things that you are good at and continuing with them and doing them even better. But we often speak less about the other side of the coin, and that entails that you must also have the courage to refrain from selling off and shutting down – quite simply ignoring certain things. It is always a problem in the type of market and technological development that we work with, that things are always emerging that are interesting and exciting.

In such cases first management and ultimately the Board must say “no, that is something that we will not get involved in” – because we don't make enough money because it is too capital-intensive, because it takes our attention in various ways. It's a lot about that – especially in this development phase that we are in right now. If the company is not doing as well, if we are not making enough money, if we have a weak balance sheet, then you can't do it. But if things begin to go a little better, naturally there is a large risk that we say “then let's give it a try”, and then it's important to refrain from going overboard in it.

Karin Lepasoon: What do you feel this balance looks like in Vattenfall?

Lars G. Nordström: I think it looks quite good, and the day we think it does not look so good, we will speak up. But there is another one of those watchwords, and that is optionality. That is, the Board must make sure that the company has opportunities to manoeuvre and options, and in such case on the other hand you can't be too rigid and shut down and stop interesting development areas of the operations, so it entails striking a balance.

Karin Lepasoon: Constantly striking a balance.

Lars G. Nordström: Then, there is yet another thing that is important for the Board to control, and that is risks. And here I'm not thinking so much about operational risks, for it is the operational parts of the company that take care of this – but the more existential risks. That is, what are the major threats that could possibly show up? Naturally, this is a matter for the Board to keep an eye on.

Karin Lepasoon: I just thought about that – we talked a little about risks. When we sold the lignite operations a couple years ago, we were clear about – in part it was a natural progression of Vattenfall's strategy, but it was also a way to reduce risk for the company since we sold a large, fossil fuel-heavy part of operations, and with that we eliminated a bit of a political and a climate risk and financial risk for Vattenfall. What is the Board's view of these climate-related risks for Vattenfall?

Lars G. Nordström: Well, climate-related risks are a type of risk that is growing very much in importance, and many say this is the case – even central banks, in fact, say that it is very possible that the next financial crisis will begin with investors, lenders, stakeholders in general who want to withdraw from businesses that rely heavily on fossil fuels, for example.

If everyone begins doing this roughly at the same time and quite suddenly, then it could in fact lead to financial crises. And this means, of course, that assets in operations of the type that we conduct may suddenly be worth very much less. So that is a threat with many dimensions, and I would say, perhaps an underestimated threat.

I saw a newspaper article – I don't know if it is true – but the European auto industry is expected to lose about 75 billion kronor in the years immediately ahead due to the energy shift. Maybe this is true, maybe not, but as I said, investors, pension funds, capital in general and lenders could suddenly be gripped by fear and want to back out of these kinds of assets, and that could not only deal a severe blow to our industry, but also to the financial system...

Karin Lepasoon: ... on the whole. Yes, this was the last question I had about 2018 and 2019 and this look forward, but I'd like to give you both the opportunity perhaps to send a final message to Vattenfall's employees or others if you wish. Can we start with you, Magnus?

Magnus Hall: Yes, absolutely. Vattenfall is on the right path, I think. And I think there are many proof points, as they are called, that show where we are headed. On this point specifically perhaps one should also focus a little on the fact that we must make our choices going forward, but we see at the same time also the broad opportunity that we have to choose new business opportunities and also build upon the ones we already have. We have an enormously strong position, and I believe that Vattenfall as a company, with the strategy we have, we have a very easy time right now finding partners and choosing partners. I think we will also have external competence and others who look at Vattenfall, who want to come to us. So I believe we have a very good position now to go forward. And now it's a matter of making sure that we also show that what we have chosen is right and that we can make good money going forward.

Karin Lepasoon: Great, thanks! And Lars, anything you want to add?

Lars G. Nordström: Yes, I can't help being reminded about what Curt Nicolin once said. There aren't many here in this auditorium who know who Curt Nicolin was, but he said that when you do what is expected, then soon you are expected to do a little more. Now, he was not the cheeriest fellow, but such was the case that on everything he worked with, the bar was raised all the time and the companies he worked with had quite some success.

As for our company, Vattenfall, the fact is that this company is much better off now than it was 7-8 years ago. And to be sure, this hasn't just happened in all haste by chance, but

is the result of the hard, insightful work that the management and employees have conducted. And I want to eagerly say that on behalf of the Board, this is naturally appreciated – not only by the Board, but overall we can say that the picture of Vattenfall is much better on good grounds. So I can only say, just like Nicolin said, that now that we have come this far, we can only continue – but do things even a little better. And with these cheerful words I can conclude my part.

Karin Lepasoon: I think that is an excellent conclusion. Thank you so very much, both of you!