# Transcript – Audiocast with Annika Viklund – Head of Business Area Distribution

### 00:00:21 Johan Sahlqvist

Welcome everyone, to this audiocast with a deep dive on our Swedish distribution business. I'm Johan Sahlqvist Head of Investor Relations and I'm very pleased to have with us here today Mrs Annika Viklund, head of Business Area Distribution. Warm welcome to you Annika.

00:00:34 Annika Viklund

Thank you Johan.

00:00:36 Johan Sahlqvist

Annika, The other week we arranged a number of roundtable discussions for analysts and investors on this topic, and looking back, what are your key takeaways from the meetings and are you satisfied with the outcome?

#### 00:00:48 Annika Viklund

I'm very satisfied with the outcome in that term that quite a few decided to join our roundtable meetings and it is always very fruitful for us to have these dialogues around the big topics, and, you know, working inside a company, even in an industry and having a lot of dialogues with the colleagues. I think it's still very important to have these questions and dialogues what is really cooking in terms of thinking, are our presentations and reports comprehensive. So yes, I'm really happy to have this possibility to have these dialogues.

#### 00:01:28 Johan Sahlqvist

I fully agree to that. So thank you very much, Annika. So the idea now is that you will guide us through the same presentation materials as we showed in these meetings, and well, I will now simply hand over the word to you.

### 00:01:43 Annika Viklund

Thank you Johan, so, Vattenfall Distribution Business Area in Vattenfall is responsible for the distribution grids in the electricity side. I am really happy to take you through some pages and I would like first to start to say that first of all, it has become very evident in the past years that the electricity distribution grids will play an important part to support electrification, and also to support decarbonization and enable customers and society to move away from fossil based fuel and coal based processes.

That is very clear, and it is also very evident that this change is happening now, not in the future only, but now, and these electrification plans as we call it they are now shared among companies with high ambitions and agendas to be part of this journey to become fossil free and emission free in the coming decades.

These customers are requesting goods and services to be manufactured and to be manufactured fossilfree throughout the whole value chain, including the transport, so that is what we hear from our customers, they would like to become fossil free in order to also deliver to their customers, products and services, manufactured in a new way.

With this said, distribution grids are the enabler of this journey and together with fossil free electricity production, this is something that will keep us all busy, for I would say quite many years ahead.

Let's start to look at the electricity demand in the EU and this is expected to rise significantly until 2030, and with an annual pace of approximately almost 2%.

Also 500 gigawatts renewables will be installed and the we can see that approximately 70% will be connected to the distribution grid, meaning not into the TSO side, but really to the distribution side.

And we also see that the strongest contributions will come from electrification of industry and transport sectors, and I think we should have that in mind, we see maybe a lot of dialogues right now around electrical cars and industrial customers who are thinking about going to another way of producing their goods, but definitely transport is something to keep an eye on in the coming years, definitely, because I will come to the hen and egg dialogue, and that is it should manufactures of heavy vehicles dare to go into production of these vehicles if there are no chargers - on the other hand, would you like to build chargers if there are no one to requesting your services?

So that is quite important, but have in mind not only cars will be there, or larger vehicles, but also boats, vessels and airplanes.

So the role of us, the DSO and the distribution grid is to be the base and enabler for electrification and capacity expansion, and, I think it's interesting to see how much that will be, but we have some ideas and numbers for that.

We also see that the connecting points for renewable energy will be the DSOs, and here we see wind farms coming online, but also larger solar parks, which we will see the coming years.

We are also looking into one particular area and that's the enabler for flexibility and demand management, because we cannot simply build the grids as fast as we would like to do, there are permit processes, and there are actually construction coming in place, so we also need to work with the flexibility in the system and work together with our customers to see - can they help us in terms of flexibility? Can they switch on and off loads in the system, just to make sure that the network will cope with the demand?

And also of course the customer, and I would like to emphasize the key element in enabling customers and have this interest for the society and customers are the smart meter where actually Vattenfall is right now in the second wave of rollout in Sweden.

00:06:07 Johan Sahlqvist

Right, thank you.

00:06:10 Annika Viklund

Let me also share how we see our business in distribution. I think it's it could be worth to note that we have a quite huge distribution operation today. We are the largest operator of regional electricity grids in Sweden and I could also emphasize what is a regional grid, that is the connector in between the

national grid, TSO side, and also the local distribution side, usually municipalities have their grid level, so the regional network is supposed to transport electricity from the TSO as an extension down to the local side.

So we are one of the largest operators and also have this top three position in the local grid side.

We are the owner of the city grid in Berlin, and as previously communicated, we have also offered to share the shares in the grid company Stromnetz Berlin, and of course, it's important for Vattenfall to at all times have a long term perspective over ownership and we have had a dialogue for many years with the city about the concession, but right now we are in this phase that we have offered to sell our shares, so that is nothing we will put any time into this audiocast about, but this is still an ongoing discussion with the State of Berlin.

We have also a business unit for operating and owning new grids in the UK. We established that a few years ago so we are now developing services requested on that market IDNO, which is independent distributor network operators and also powers a service solutions that could be a on the shelf solutions more or less operating behind the meter for larger customers requesting services from us going a little bit far beyond the regulatory task. In all, we have approximately 3.3 million business customers and household customers, and, what is characterizing us is that we have a regulated business, the big portion of that with a quite stable demand, and I think it's well worth to point out also that looking at the underlying EBIT for last year, Johan, then we can see that the Swedish operation is definitely standing for the majority in the range of almost 80% and then looking at the regulatory asset base that is also mirrored quite well that the assets in Sweden are representing more than 50 billion Swedish crowns compared to Germany almost 20.

### 00:09:02 Johan Sahlqvist

Right, and if we look to the Swedish number here on the RAB, can you give us an indication on the split here between the local and regional grids?

#### 00:09:11 Annika Viklund

It's approximately 50-50 in between these two kind of grids, but I think we could have in mind that it is really in the regional network together with the transmission grid owners in the TSO that will be replaced reinforced the coming years and undergo a major change to cope with the growing volume, so we will see a much higher throughput of electricity in our grids.

So I think what we could say is that we can expect the high growth of the RAB in the regional side due to electrification and these assets do also have a slightly higher age than the local grid assets. The regional network assets are reaching in coming decades the regulatory end of life. I can come back to that later.

### 00:10:00 Johan Sahlqvist

And if we look at the market structure here in the relationship between the TSO and the relative distribution of the ownership of the regional grids and local grids, is there anything that stands out here in in terms of the Swedish markets in relation to other European markets, or is that quite the normal structure?

### 00:10:17 Annika Viklund

I think it's worth noting to say that we have one TSO in Sweden, a state owned company, and we have three major region network owners and the regional network owners, sometimes you have the region network located partly on the distribution side and sometimes also on the TSO side.

But we have very clearly segmented the market in the local network, the region network and the National Grid, the TSO, the transmission network. And here it's also good to see that Vattenfall has the majority of assets in the regional network, but this is really one interesting area you're pointing out here, Johan, because this is where we see the growth and I can come back to that a little bit later.

00:11:06 Johan Sahlqvist

Yes

### 00:11:07 Annika Viklund

So let me now also continue to elaborate on how we compare with the players here in the Swedish market, and we have mentioned the larger players that is EON and also Ellevio, used to be Fortum Distribution a few years ago for some of you who recognize that name, and we look at it in terms of the assets we own and also what kind of assessment the regulators doing to compare.

So 50% of the regional network is related to Vattenfall and also Ellevio have approximately 22% and the EON and 20%, and then you can see that we have on the local side, a split between 16% and 20% of each one of these three players, so the market shares of regional grids is slightly leaning towards more of Vattenfall ownership. When it comes to the local grids, you have a quite even split among the three.

We have also in Vattenfall Distribution two distribution areas. In Sweden we look at the northern part of Sweden and then the southern part of Sweden. And it could be good to have in mind that we are actually in distribution, a consolidation of more than 40 smaller grid operators. In 1996, the Swedish electricity market was deregulated so there were quite a few of acquisition activities in those days and that has created this entity we have today in Sweden in Vattenfall for our company. And of course as I mentioned before that the market growth will definitely happen in the regional network predominantly.

### 00:13:00 Johan Sahlqvist

So quite a few smaller players in in the Swedish market. I mean, are we looking into to M&A opportunities in the national market or even abroad potentially as well? Or how do we see that?

### 00:13:15 Annika Viklund

Well, we are always open for reviewing the options we have, but let me also summarize that the recent years and opportunities have been quite few, and I conclude that as the distribution network seems to be quite valuable assets for municipalities, we should have in mind that on the local grid side there are approximately 170 owners of local networks, so for this municipality it is of course also attracting to see how this electrification is happening in their part of Sweden.

So I think it is a little bit about safeguarding also working opportunities in growth or societies so, of course, the uncertainty around the network regulation and ongoing court processes has most likely hampering these discussions as well. But I think we have on the other hand, in Vattenfall, we are quite pleased at what kind of networks we do have. They are very interesting, they are placed in the right area, so to say, where a lot of growth is happening, urbanization, but also electrification.

00:14:20 Johan Sahlqvist

Right

00:14:22 Annika Viklund

So let us talk a little bit about the growth of the electricity demand as we see it and we have seen a quite big growth of wind power in Sweden lately, and it looks like it's set to also continue now and looking for the demand to grow the coming, maybe not only 10, but 15 years, or even 20 years, the electrification of industry and transport is expected to increase the total demand in Sweden.

And we also see new businesses in addition to the current industrial landscape we have with quite a few industrial customers that are energy intensive. We see this new businesses as data centers and battery factories are likely to have a significant impact. The weather here in Sweden is quite attractive also when it comes to cooling solutions for data centers, most obviously.

And then we see also the efficiency improvements in the residential sector, but as you also can see, it seemed to have quite small mitigating effect on the total demand. We are coming from a background when we did the fuel switch in heating in the 70s from oil coming into electricity, of course we have much more energy efficient solutions, but still Sweden is a cold country and we need to heat our houses during the winter time or even in the early spring, but I think this is the efficiency we will definitely see in the products also Vattenfall has in other areas.

### 00:15:56 Johan Sahlqvist

And if we look at this chart and also take into account that the amount of wind growth in the Swedish market and what would you say are the main implications from a distribution perspective, and how should we look at this development? Is it all positive? Or are there also quite some challenges to this?

#### 00:16:16 Annika Viklund

Well, I think there are interesting challenges in this new market we are entering with a high electricity demand but also this implies that we have also electricity production and these customers coming in, coming online, now and then moving into Sweden and the electrifying their processes, they will also like to see fossil-free and emission-free production coming into their processes. So, we are actually coping with not only this electricity demand, but exactly as you're pointing out, Johan, the wind power growth in Sweden, and I would say that some of the challenges will definitely be to deliver as fast as our customers and the energy producers would like us to deliver. Long permit processes we are working quite a lot with in Vattenfall together with the rest of the industry to see how we can influence that to be shorter.

And then, of course, you don't really know when our customers would like to see this big growth. We see it's happening here and now, but exactly how fast things will come, you know there there's a saying that you are always underestimating the volume, but always overestimating the time, how long time things will take. But I think just to have this sliding scale of 25 to 45, I believe that, I think a lot of this demand increase will come faster and also, as you're pointing out Johan, the wind power. We see a high interest of wind power coming online in Sweden.

So let's just finalize the introduction of the business presentation, the first part here, and that we believe that this energy transition is expected to drive growth in the demand and we are continuously looking into how our assets are built out and we know that we will spend quite a lot of time and efforts to not only building new assets, but also reinforcing aging assets that will come into their technical and regulatory end of life.

And I think it's good to keep in mind here, Johan, that you know the distribution grid was predominantly built out in between 1970s and 1990s, because we had the nuclear that were built out, we did this fuel switch from oil to electricity of heating of the houses etc. And then we also had the past decades, this weather proofing activities of the Swedish network that came in, particular after the bigger storms and the longer outages.

So that means that we are working with that part, but also making reinforcement and new investments to accommodate with this renewable energy wind power coming online, but also to enable electrification.

00:19:07 Johan Sahlqvist

And this fact that we have an aging asset fleet is that's something that our customers take notice of already today and is it impacting the reliance reliability of the network in any way, would you say?

00:19:24 Annika Viklund

Well, I would say that as a network owner and asset owner you always look very carefully to analyze how we can have a high quality network and of course we are maintaining our assets in a very good way. We have a regulator that is continuously is supervising us and looking out for that we deliver the quality of services. But I would say what the customers are noticing that we are rebuilding the networks and making quite a lot of efforts in terms of changing their meters to a new smart meter, enabling them getting access to customer data and insight.

So for sure, you know, in a in a perfect situation, Johan, our customers never notice anything we do, they just have a perfect quality of supply and this is how we would like to be perceived. But of course there is a lot of work going on under the surface, that's for sure.

00:20:22 Johan Sahlqvist

Yes.

00:20:23 Annika Viklund

So in summary, I think looking at Vattenfall Distribution we are well positioned to leverage on this energy transformation and transition we have ahead of us, so I think I could maybe just go into one area where maybe we should look at how it looks in Sweden when it comes to where we have our own industries etc. But maybe Johan you have some thinking here and questions?

00:20:47 Johan Sahlqvist

I thought it would be good to if you could elaborate a bit further on the energy intensive industries here, because we could see on the on the earlier slide of course a big increase in the industrial demand. But

who will really be the driver of this electrification and what is the timeframe that we're looking at here, so to say?

#### 00:21:04 Annika Viklund

Yes, Johan, that all very good questions and I see for sure that energy intensive industries in Sweden, looking at the traditional industries we've had. We have quite a lot of parts in the pulp and paper, we have in steel, we have in cement, we have in these kind of in mining, we have been in heavy industries and I think these customer segments are impressive in their efforts and ambitions now to electrify and quite quickly. So they are located close to our hydropower plants historically, etc. There, I mean that is where you built your paper mills and everything you needed access to water and cooling and you also need ways to transport your goods.

So looking at how we are located in Sweden, the distribution grids, the North and South I mentioned previously, we have quite a big parts of the northern Sweden and then looking at the southern part we are located from Stockholm over to the West Side through the East, and then we do also own a majority owner of subsidiaries in Västerbergslagens around Ludvika and Gotland, the largest island of Sweden.

But the energy intensive industries they are connected as already today quite a lot in the northern Sweden, we see a very interesting development in northern Sweden where very large industries are now looking into to becoming fossil free very urgently and also looking into to hydrogen solutions, etc. So that's interesting.

And then you see datacenters both in a North and South of Sweden, but then also in Sweden on the West side we have a very interesting customer segment of the chemical cluster and refineries and they do also look into their different plans, and then on the island of Gotland connected to our network is also the cement factory, so I would say; definitely that they see the possibilities of access to fossil-free and emission-free production, such as the wind power, the hydropower, and I think that is very interesting - that is why they look into it.

I would like to mention a little bit about the wind power. What we can see right now looking at the permit situation, we see as mentioned before, that quite a lot of new wind power will be connected to the local grid, but also to the regional grid due to the science of turbines etc. And this is really spread all over Sweden, so, I will say for sure that that we need to look into where we need to reestablish new grids, but also that we can connect them quite good into our current grid as well.

## 00:24:07 Johan Sahlqvist

Is it fair to say that all the major industries where we see this electrification trend are actually connected to our regional grid, is that correct?

### 00:24:17 Annika Viklund

I would say a majority is naturally done. It has been there for ages and, really, I think, yes you can say that, and that means that Vattenfall is active in quite a few segments already to understand their requirement, and the sensitivity what they need from us and yes, that is true, and I think that is making life very exciting for us in distribution. But, Johan, what I think could be interesting also to look very briefly also into the regulatory scheme.

I mean, all countries have for the regulated business, some kind of regulatory scheme, and I could just take you very briefly through some of the different components. We do have, like many else, we have controllable costs and non-controllable costs which is actually the cost for net losses and an upstream network. You set aside an efficient requirements and that goes into the operational costs actually.

Then you have the second side, you have all the assets have a value according to a norm price and that is put in a regulatory asset base. Then you have a return on in terms of WACC, you make some adjustments on that and you have of course after depreciation also the cost of capital, so I think these two components, Johan, they are more or less the same or all over Europe at least how regulatory business is viewed.

I could also say that we have had quite a few court processes in the past years and on here in the end of February it was ruled that for the third regulatory period we're in right now we have a WACC that should be recalculated by the regulator. This is something we have appealed because we got a revenue frames also set in a way that we believe that this is something we would like to trial in court.

So we have this February coming from the court also something that the regulator was given that they should use a stable and predictable and forward looking approach, and also to the review the regulatory risk of companies, and also include the interruption costs, which was one part in our in our appeal for the controllable costs for 2014-2017.

I think I would also, it's good to know that the regulator has appealed this this verdict and still the court has not yet decided whether this appeal will be granted or not, but it's worth to note that this has come at least in favor of the network companies.

Looking at the next perspective, the recent development is also that when it comes to the lower side in the regulatory scheme, we have also when you have the operational costs and you have the cost of capital, you also have some adjustments for the previous regulatory periods if you have a under or over charging, and this is one of the areas we have also seen that the government has now submitted a proposal for legislation that will permit these carryover from previous regulatory periods and we believe also that this law will come into force in June.

So this is something we are now during the spring waiting for the decision to be announced.

And then we also have other areas such as co-reporting or joint accounting that we also expect it to be passed this year.

But all in all I think it's good to also to see that beside, this whole model is taking care of that you always need to be very cost efficient and this is what we are in Vattenfall, our regulators making this kind of comparisons on a yearly basis. And you also need to be very, very effective when it comes to investing in new assets, as you have norm prices set and you have to work quite hard and that is what we do also to make efficient procurement.

The final thing maybe to say also what we believe on the development, also a little bit going further, that is the regulator has also proposed a legislative amendment to extend this application of efficiency requirement on more on a Totex model, which is both capex, capital expenditure and opex side, operational costs. And this is something we see also happening in the other parts of Europe where this

to Totex model, that all costs are subject to efficiency requirements, and I think this is something that we can expect going forward.

So, all in all, regulatory models are never easy to understand in general, but I think we have also been successful in carrying out our perspective on what is needed in order to, also, uh, be a part of this electrification and have a supportive but still very strict and demanding regulation in place.

### 00:29:21 Johan Sahlqvist

That's a good condensed overview and should we also elaborate a bit further on the sort of dynamics of the regulatory situation here - to what extent is the energy market inspectorate impacted by politics? Which are the driving forces? I think that is the type of questions that we typically get here.

## 00:29:42 Speaker 1

That's very valid questions Johan and you can say that of course the inspectorate is always self-sufficient, they as a national regulatory authority are standing free in their judgment how to review also the legislation around it, but of course they have a role to also enable the energy market to make sure it works well, but also that the consumer perspective is taking greatly into account, and they also have to interpret what is coming from the European Union at large.

And as we all know that, the European Union announced this clean energy package which we can have an own audiocast about. Very interesting indeed, but it has actually especially large effect on grid companies and what we see is that more system responsibility is now given to us the DSO and we need to collaborate with the TSO, the transmission operator, to also solve issues when it comes to efficient grid use and also when it comes to the quality.

This new system, exactly what we talked about, more energy production coming online, but also more consumption in the grids also calls for flexibility and handling the grid in a stable way and also new skills and business models have to be developed.

I would like to mention that the government has in Sweden, they have initiated first an electrification commission put together among authorities and companies also to have this dialogue with the government in the industry side, research and society and this is headed by the Infrastructure minister, Mr Eneroth.

And there is also this electrification strategy, which is a government initiative that comes from Mr Ygeman, the Minister for Energy and digital development, and this is made to push the effort of electrification in Sweden at large, so these two ministers are really, you know, eager and keen to make this happen and then we also see other initiatives such as the electricity grid dialogue and everything.

So, I think it's really interesting to see throughout the whole political landscape that we need to have the right governance in place in order to make this happen. So, we are also as Vattenfall taking a strong part of both the electrification strategy and also the Commission work.

So maybe, Johan, it's time to sum up a little bit, looking what we have ahead of us, trying to explain and present how we view it from a distribution side - and from distribution side we have a very exciting future ahead of us, but please also let me emphasize that the future is already here and today we have these dialogues with our customers, we have these dialogues with politicians and stakeholders, and it's

happening really now, so we also see that what we expect is that the gross capex side will increase towards up to approximately 7 billion SEK per annum - to compare to what we also announced for last year approximately 5. So, I think that is interesting to see that that our network will become larger, but also reinforced, and that is really our contribution from our side.

### 00:33:34 Johan Sahlqvist

And what's the distribution of this capex here, if you look at the split of in investments?

#### 00:33:43 Annika Viklund

Yes, what will be and what you also will see when you are out in the field side - these are overhead lines, these are cables, these are larger substation, but also smart meters as we also got a new regulation, so we are actually in the second wave of rolling out smart meters in Sweden being ahead of many other European countries.

So this is primarily where the capex will be, so we invest in assets that will increase the capacity in the network and it will also be to grow the cities, and also to cope with the demand from transport, charging cars and also of course new housing, but not the least wind power production and new industries and also reinforcement of the current industries.

### 00:34:37 Johan Sahlqvist

And if we look at this figure, because it's quite a significant increase of course, how will this be actually financed? Is it on the customer side by connection fees, or how should we look at this going forward?

#### 00:34:51 Annika Viklund

In general as you know Johan, the distribution network is always financed by its customers connected to it, but when you get new customers, totally new customers, the customers is paying their part of their entrance tickets, sometimes you can say, into the network so we will see the connection fees will be quite extensive to finance also this build out in particular in the industrial side. So the ground rule is that we socialize reinforcements of centric grids whilst also reinforcement the connection to individual customers will be paid over connection fees or investment grants also when you need to move assets like that.

So it depends a bit, but I will say that the net effect is maybe not that big of change, but definitely the gross side will be. But yeah, I think we should have in mind that Vattenfall regulatory asset base in the distribution side will grow, and again I think we this will also show that we will be an extremely valued part in the energy system and also in the Vattenfall portfolio.

### 00:36:08 Johan Sahlqvist

Ok, then Annika, I think this concludes our presentation here today and thank you so much for your participation. Thank you everyone for listening in and we hope that this has provided you with a good overview of the situation for our Swedish distribution. Thank you very much.