

Re-Scandinavia: The Nordic PPA conference

On 17 June 2021, the Swedish- and Danish wind power associations once again hosted the annual Scandinavian PPA conference. I had the great honour to moderate the event from a studio in Copenhagen, and the 125 online participants meant an audience record. Congratulations to the organisers!

This year's event dealt with various trends and a changing PPA market with Power-to-X, opportunities for public organizations to source local wind power, and PPAs for offshore wind farms, etc.

Nine speakers contributed with interesting presentations, input, and discussions; Henrik Müller, Aarhus Municipality, Ulrich Bang, the Danish Chamber of Commerce, Ainhoa Anda, Google, Thomas Nilsson, Liquid Wind, Maria Röske, WPD Scandinavia, Mikael Kowal, MAQS Advokatbyrå, Sten Lillienau, Centrica Energy Trading, Hannah Hunt, RE-Source, and Alana Kühne, Ørsted.



In my summary from the first Re-Scandinavia conference in August 2018, the topics were mainly general trends in Europe, that companies had begun to take climate responsibility seriously, the start of the RE-100 initiative, and data centres entering into Nordic PPAs. Already back then, criteria to ensure corporate sustainability and green power sourcing were discussed. “Additionality” had been coined, and future potential for 24/7 matching was mentioned. The seminar generally reflected the interest from sellers/producers with details on risk management, market vs. PPA pricing, types of PPAs, regulatory challenges etc.

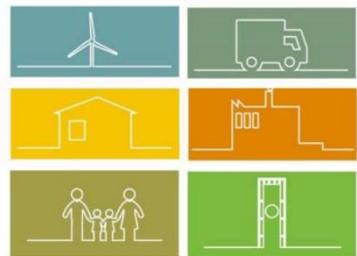
A major difference this year was that off-takers took significantly more space and that discussions and presentations were more concrete and including actual examples and practical experiences. It is also clear that we have taken further steps in terms of legislation, sustainability criteria, and future requirements. “Additionality” is getting old and obvious; now we are talking 24/7 matching. There is also strong focus and progress on offshore wind, industry electrification, and Power-to-X.

Session 1: The mindset of potential buyers

First out in this session was Henrik Müller from **Aarhus Municipality**. He coordinates the city's work to achieve halved emissions and CO₂ neutrality by 2030. It involves more than 100 initiatives within the framework of energy, transport, buildings, and industry.

Aarhus has not yet entered into PPAs with wind or solar parks, but, according to Henrik, this is an essential piece of the puzzle. In addition to the green value, it also contributes to partnerships with local corporates and value for the local community. Within PPAs, the municipality needs to ensure “real additional effect,” visibility, reasonable price, and flexibility, i.e., PPAs with renewable power production must lead to real and visible climate impact at a competitive price.

Climate action plan
100+ initiatives



"Will a PPA today cover sustainability criteria in ten years?"

Henrik points out a couple of essential aspects, which are also mentioned later in the day; the "timing" and the risk that what is considered proper and enough today will be insufficient in ten years. If a municipality signs a 10-year PPA with a wind farm today, will this agreement be enough to ensure green and sustainable electricity sourcing also in five or ten years? Will future criteria be met?

In summary, Henrik views PPAs from renewable sources as one of several vital pieces of the puzzle to achieve municipalities' and cities' sustainability targets. He also believes that this could make it easier for local companies and others to follow (something that Maria Röske also follows up on in the panel debate later).

After gaining insights into the public sector's view on sustainability and PPAs, we moved over to the private sector, starting with Ulrich Bang on the **Danish Chamber of Commerce**.

Ulrich clarified that there is a difference between just purchasing electricity with standard GoOs from existing plants (or included in support schemes) and engaging in PPAs from new unsubsidized renewable production. With the latter alternative, corporates contribute to a real climate effect and new renewable power production. He identifies trends around increased sustainability marketing where more companies review how to reduce their own and supply chain carbon footprint. Visibility and concrete reporting on measures is becoming increasingly important and part of marketing, especially within consumer-oriented industries. Ulrich also comments on the trends from global to local and from large to small and medium-sized companies, where also the latter are now reviewing alternatives and show interest in PPAs.



Google has been one of the leading companies in PPAs and has entered into several agreements with Nordic wind farms to cover electricity consumption with renewables. They have had a strong focus on additionality – to contribute to the construction of new renewable production. In recent weeks, there have been many announcements on Google's next step and target to achieve 24/7 matching between consumption and fossil-free production. We had the pleasure of listening to the company's Senior Lead in Energy Strategy, Ainhoa Anda.



Ainhoa explained that Google combines high efforts on energy efficiency with ensuring fossil-free energy for the remaining part. Since 2017, they cover 100% of their annual consumption with renewables, but the new target is 24/7 matching from fossil-free energy sources. They are involved in 24 projects in Europe, totalling 1692 MW, of which a large part is located in Scandinavia. 24/7 tracking is underway, and for a data centre in Finland, they have reached an annual 77% fossil-free hourly matching. The global average is 61% hourly matching. To reach 100% hourly matching by 2030, Google has identified that they need to:

- Enter into agreements on higher volumes and from several types of production sources
- Push for policy changes for an increased share of fossil-free power in electricity grids

- Support and push for technical development, e.g., around hourly forecasting and tracking of renewable production, increased flexibility, and optimal shift between sources.

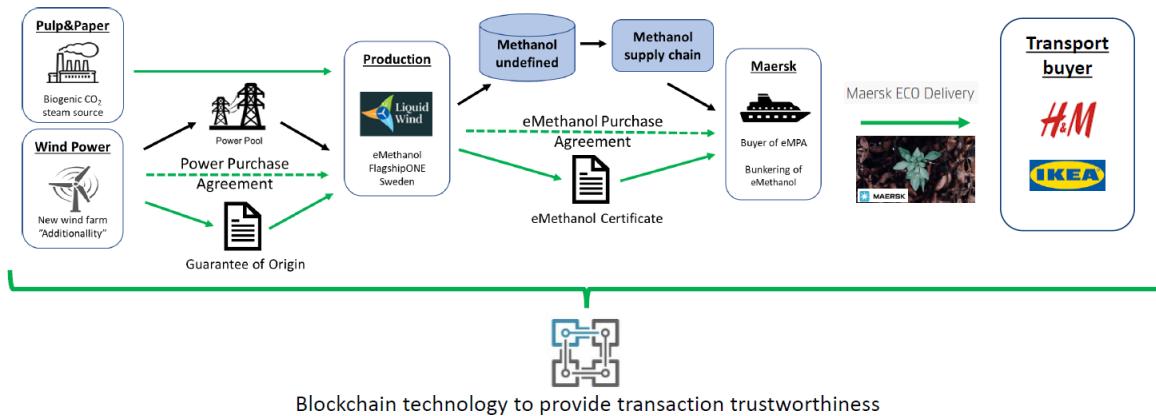
Google has also moved from renewable to fossil-free targets, making it easier to reach hourly matching.

Liquid Wind's Thomas Nilsson (who has also previously presented at Re-Scandinavia, representing Axpo) described that it is essential for the fuel sector to prove renewable electricity sourcing and that annual GoOs are insufficient. According to Thomas, criteria will be presented by the EU, making future requirements more transparent.

Liquid Wind is now constructing its first e-Methanol plant in SE2 in Sweden. By 2030, the plan is to have at least ten factories. Each plant is estimated to use 70 000 tonnes of CO₂ and produce 50 000 tonnes of e-Methanol (to be used as shipping fuel). This requires ~550 GWh of electricity per year.

"Besides additionality, there must also be a geographical and temporal correlation"

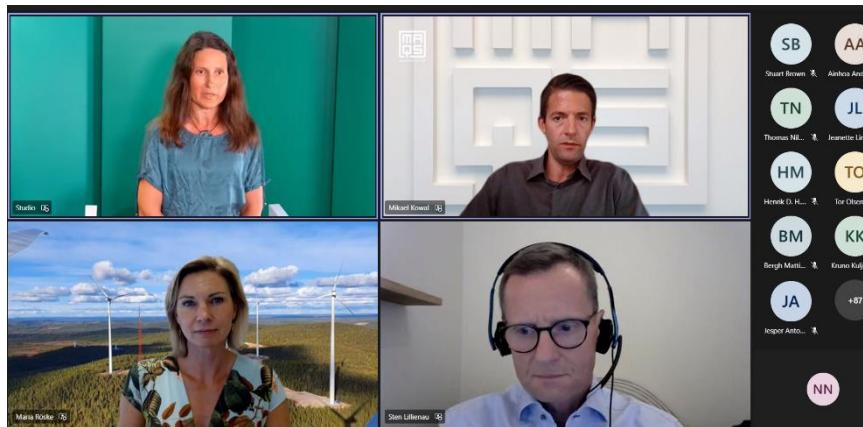
Liquid Wind will therefore contribute to new renewable energy, meeting requirements of REDII, to cover their electricity consumption. According to Thomas, besides additionality requirements, leaked REDII texts (delegated act RFNBO) indicate a need for a geographical connection (bid zone) as well as a temporal correlation between consumption and production. However, it seems sufficient that the renewable share in the bid zone is sufficiently high, indicating that own 24/7 matching will not be a requirement. Thomas believes that requirements cannot be too detailed as this would prevent necessary investments. Liquid Wind is now (supported by Bodecker Partners) in the process of sourcing PPA from new wind power in SE2 or SE1. Next step will be to find an optimal solution for handling balancing, profiling/shaping, and flexibility.



The timing aspect was mentioned briefly during previous presentations, and Thomas returned to these. For Liquid Wind, the entire value chain must meet all sustainability requirements; sources proven by PPAs and GoOs, continuing to the shipping sector through EPAs, and then on to the end customer ordering the transport. Blockchain technology has a significant role to play. One challenge, Thomas says, is to secure all agreements in time. There are long processes for everyone involved and mutual dependence.

Session 2: Panel discussion “Best practice”

This year's panel consisted of Michael Kowal, partner at MAQZ Advokatbyrå, Maria Röste, CEO of WPD Scandinavia, and Sten Lillienau, senior originator at Centrica Energy Trading. This diverse panel provided us with experience and perspectives from the legal side, from a wind power developer/PPA seller, and from risk management/intermediate. A perfect combination.



We started by discussing whether the apparent increasing PPA interest has begun to turn into real business opportunities and actual off-take demand. The general perception was that we are not really there yet; it is still a “buyer’s market.” However, as more and more companies from different sectors come in, the knowledge spreads. The trend is very positive. The panel saw this driven by a combination of smaller companies also now signing PPAs (many from solar) and industry electrification projects and Power-to-X, where sustainability criteria are an essential part. There is also support for PPA from the EU in new directives.

“Municipalities and cities have a responsibility to show the way”

Maria also emphasized the public sector’s responsibility and was happy to hear about the interest from Aarhus earlier in the day. She believes that municipalities and cities have a responsibility and an excellent opportunity to show the way and enhance knowledge, thereby also supporting local companies wanting to take this path.

But naturally, there are challenges. From a legal perspective, Michael said that credit risks are often one of the major challenges and probably also one of the most difficult parts if companies want to join forces to procure energy through PPAs. Maria agreed but also addressed the timing aspect previously discussed by Thomas from Liquid Wind. Several future PPAs will stem from offshore wind in Sweden and Denmark, and these projects are extensive and costly, so far with high uncertainties and lengthy processes. A PPA may be needed to reach a final investment decision, but how early does a corporate want and dare to commit?

“PPAs no longer a requirement from investors”

When discussing buyer’s or seller’s market, we also get a confirmation that PPAs are no longer (always) a requirement or even desirable for investors in Nordic wind power. Not at any price. There is now a higher knowledge of how to manage market risks as well as a general belief in increasing market prices.

A PPA contract normally includes many parts, such as credit risks, project delays, production insufficiency, and responsibilities for price- and volume risks. But, according to Michael, it does not have to be that complicated; it is also possible to make relatively short and simplified agreements. Sten also explained that his type of company takes on this type of risk to minimize the

parties' difficulties. None of the panelists had so far been involved in a breach of an agreement or other similar complications.

When it comes to 24/7 matching, none of the panelists had seen this as a requirement so far. Legally, it does not have to involve any major difficulties, nor does the technology for matching. The big question is how to cover all hours' demand most effectively - it probably requires many diversified agreements as well as flexibility solutions, the panel concluded.

I also asked Maria if she sees a risk in that all future new demand for electricity cannot be covered by new renewable electricity. Will be wind industry be able to keep up? Maria concluded that the projects, will, and capital is there, but that challenges regarding municipal vetoes, Swedish defense areas, and long and uncertain permitting processes need to be solved.

Session 3: Looking forward

Late afternoon, Hanna Hunt, Impact Director at RE-Source, and Alana Kühne, Head of PPAs & Merchant Products at Ørsted, provided us with an outlook for the future and insights into offshore wind development.

From Hanna's graph on European PPA contracts 2013-2020, I conclude two main things; that the market is growing for each year and last year marked a real boost, and that onshore wind is no longer the only dominant production source. Sweden and Norway are still in the lead but closely followed by Spain, which had by far the largest (in MW terms) development last year.

The IT sector continues to dominate among PPA buyers (34%), but heavy industry follows closely behind, and the pharmaceutical industry and transport sector are on the rise.

Also Hanna described great new opportunities in the landscape of offshore wind, hydrogen, and heavy industry. She identified further trends within 24/7 matching, increased sustainability focus throughout the value chain, and increasing local engagement.

Don't miss that you can find a lot of practical information, tools, and advice on the RE-Source platform – strongly recommended for corporates considering PPAs to increase sustainability.

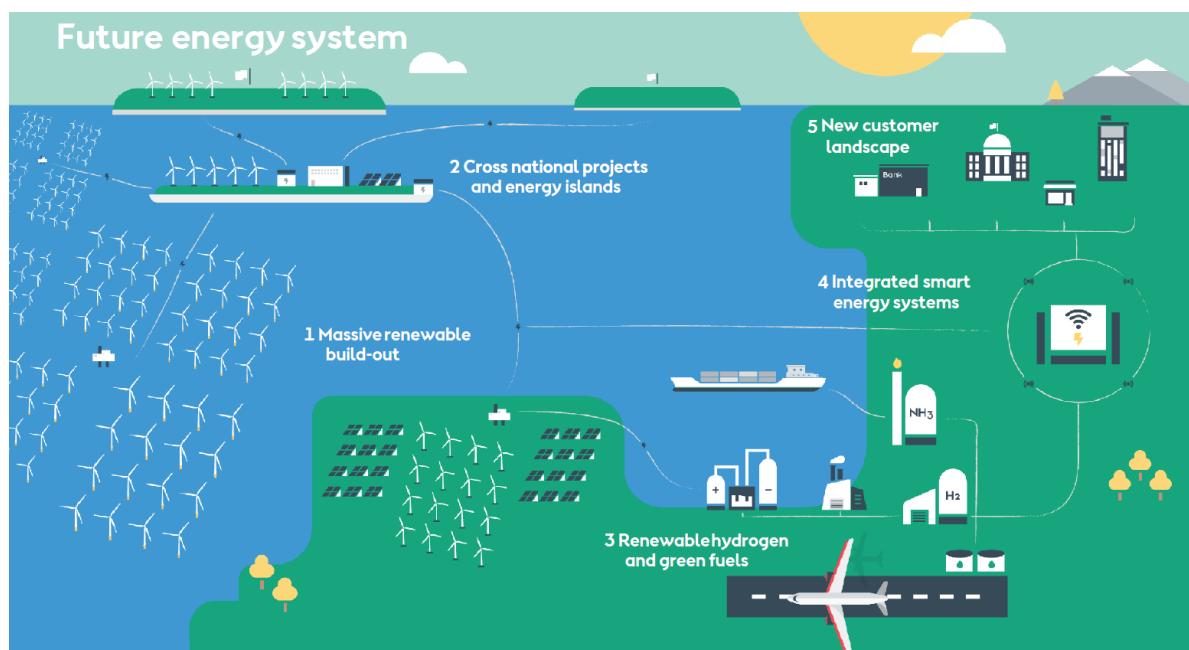


Alana at Ørsted began by describing their own ambitious sustainability goals based on "Science-Based Targets." After that, she explained that PPAs are an important part of many companies' sustainability work - to achieve sustainability targets, reduce electricity price exposure, and contribute to new renewable power production.

Ørsted themselves have entered into PPAs from their offshore parks with i.a. Amazon, Nestlé, and Danfoss. Like previous speakers and panels, Alana described trends around increased focus on additionality and future demand for 24/7 matching. She also identified increased interest in “cross-country” PPAs and global long-term PPA partnerships.

When it comes to offshore wind, Alana expects a build-out of 14.6 GW by 2030 and another 10.7 GW by 2020 in Scandinavia, divided as per the picture to the right.

Below is a picture of Ørsted’s vision of the future energy system, which I think well summarises today’s conference where PPA is an essential part of something even more significant.



I thank you very much for the confidence to moderate this interesting afternoon and already look forward to next year when we will hopefully meet “live” in Sweden or Denmark!

If you want to take part in the presentations, they can be downloaded here: [RE-Scandinavia 2021 - see the presentations here! - Swedish Wind Power](#)



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