A. C. Perchs Thehandel x 0-Mission rapport for 2024

I 2024 brugte A. C. Perchs Thehandel ca. 51 MWh strøm, der blev dækket via The 0-Mission. 51 MWh svarer i grove træk til en udledning på ca. 25 tons CO2e[1], svarende til 115 retur rejser mellem København og Paris[2].

Solparken i Vandel ved Vejle
Forbruget på 51 MWh svarer til produktionen fra ca. 195 m solpaneler. Vi er stolte over at være med, men er også opmærksomme på, at solparker optager land. Derfor er det vigtigt for os, at solparken er opført med respekt for naboer og lokalsamfund og bidrager til at øge biodiversiteten. Solparken er bygget på en nedlagt flyvestation, og dele af arealet har været brugt til landbrug, indtil solparken blev etableret, mens en mindre andel af parken var dækket af skov. I forbindelse med etablering af parken blev 11 ha skov fældet. I stedet er der plantet 20 ha ny skov bestående af hjemmehørende arter.

Klimatilbagebetalingstid
I forbindelse med fremstilling, transport og opstilling af solparken er der anvendt energi og udledt CO2. Parken har på nuværende tidspunkt reduceret 25% af de CO2-emissioner, der blev udledt i forbindelse med konstruktion af parken, og den har indtil nu genereret 33% af den energi, der blev anvendt til produktion af paneler og opstilling af parken. At klima-tilbagebetalingstiden ikke er kortere, skyldes tekniske vanskeligheder i parken, som har betydet lavere produktionskapacitet. De tekniske vanskeligheder ser ud til at være løst nu. I 2024 genererede parken 85% af den forventede produktion.

Cirkularitet
Opstilling af solparker er forbundet med et relativt stort forbrug af materialer. Det er derfor nødvendigt at være opmærksom på cirkulariteten i en solpark. Som udgangspunkt kan 99% af materialerne genanvendes, men der er en række andre forhold, der påvirker cirkulariteten i en specifik park, bl.a. forbruget af jomfruelige materialer (f.eks. metaller), produktion af affald i forbindelse med genanvendelse, parkens levetid mv. I 2024 blev cirkulariteten i solpark Vandel III estimeret ved anvendelse af Ellen MacArthurs cirkularitetsmetode. Det resulterede i en MCI-score på 0,87 på en skala fra 0 til 1, hvor 1 er 100% cirkulær.

Biodiversiteten i solparken
Biodiversiteten er under pres – i Danmark såvel som i resten af verden. Solparker giver

[1] Ifølge Energinet svarer CO2e-emissioner relateret til forbrug af 1 KWh i 2023 til 499 g CO2e. Tallet er den markedsbaserede opgørelse, dvs. en teknisk beregning, der tager hensyn til, at mange certifikater fra danske vindmøller og solceller bliver solgt til udlandet. Dette forklarer også hvorfor det tekniske emissioner overstiger de fysiske lokationsbaserede udledninger. Vær opmærksom på at 2024 tallet endnu ikke er kendt. Kilde: Energinet generel eldeklaration

[2] Udregningen er foretaget på icao.int

mulighed for at øge biodiversiteten i Danmark, da arealerne ikke længere dyrkes intensivt eller anvendes til industriformål.

BeGreen forvalter Vandel III med henblik på at øge biodiversiteten. For at kunne følge biodiversiteten over tid har BeGreen i perioden fra marts til oktober gennemført undersøgelser af planter og bestøvere i parken i både 2023 og 2024. Målet er at kunne justere parkforvaltningen, så den bidrager til at øge biodiversiteten mest muligt.

Undersøgelserne har vist, at der er store forskelle på, hvordan de forskellige arter klarer sig i forskellige dele af parken. Diversiteten af både planter og bestøvere var størst på de åbne græsvolde og mindre på åbne græsstykker, den åbne hede og arealerne mellem panelerne. Det sidste skyldes med overvejende sandsynlighed, at græsset slås løbende på disse stykker. Det betyder ikke, at disse arealer er mindre vigtige for biodiversiteten, blot at det er andre arter, der trives her, hvor næringsindholdet er mindre. Samlet set understreger det behovet for, at parkforvaltningen bidrager til at skabe forskellige habitater i parken.

BeGreens parkforvaltningsplan indebærer bl.a. justering af tidspunkter for, hvornår græsset slås, og skabelse af habitater til forskellige arter med et særligt fokus på at fremme arter, der binder nitrogen i jorden (f.eks. hvidkløver, almindelig kællingetand og vikke), idet det forbedrer jordstrukturen og antallet af mikroorganismer i jorden.
Over tid arbejder BeGreen på at øge kulstofindholdet i jorden og planternes rodsystem – et naturligt carbon-capture-projekt.

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In 2024, A.C. Perchs Thehandel used approximately 51 MWh of electricity, covered via The 0-Mission. 51 MWh roughly corresponds to an emission of about 25 tons of CO_2e[3], equivalent to 115 round-trip flights between Copenhagen and Paris[4]. These are unnecessary emissions, as the electricity should have been generated by wind turbines and solar panels rather than power plants.

At A.C. Perchs Thehandel, we cannot choose what electricity comes out of our sockets. However, we can ensure that we add as much solar energy to the grid as we consume. That's why A.C. Perchs Thehandel subscribes to a solar park via The 0-Mission. The solar park is 100% privately financed. This means that A.C. Perchs Thehandel contributes to the construction of more green energy in Denmark and to phasing out fossil fuels and biomass from the power grid. We hope more companies will choose similar solutions, recognizing that we need to appreciate that green transition is a team sport, to meet the goals of the Paris Agreement.

The Solar Park in Vandel near Vejle

The consumption of 51 MWh corresponds to the production of approximately 195 m of solar panels. We are proud to be part of this initiative but also aware that solar parks take up land. Therefore, it is important to us that the solar park is constructed with respect for neighbors and local communities and contributes to increasing biodiversity.

The solar park was built on a decommissioned airbase, and parts of the area had been used for agriculture until the solar park was established, while a smaller portion of the park was covered by forest. During the establishment of the park, 11 hectares of forest were felled. In its place, 20 hectares of new forest, consisting of native species, have been planted.

Carbon Payback Time

The construction, transportation, and installation of the solar park required energy and emitted CO_2. The park has so far reduced 25% of the CO_2 emissions associated with its construction and has generated 33% of the energy used for the production of panels and park installation. The relatively long carbon payback time is due to technical challenges in the park, which resulted in lower production capacity. These technical issues now appear to have been resolved. In 2024, the park generated 85% of its expected production.

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[3] According to Energinet, CO_2e emissions related to the consumption of 1 kWh in 2023 amount to 499 g CO_2e. This figure represents the market-based calculation, a technical assessment that considers the fact that many certificates from Danish wind turbines and solar panels are sold abroad. This also explains why the technical emissions exceed the physical location-based emissions. Please note that the 2024 figure is not yet available. Source: Energinet General Electricity Declaration 2023

[4] The source is icao.int

Circularity

The construction of solar parks involves a relatively high consumption of materials, making circularity an essential consideration. As a baseline, 99% of the materials can be recycled. However, several factors influence the circularity of a specific park, including the use of virgin materials (e.g., metals), waste generation during recycling, and the lifespan of the park.
In 2024, the circularity of the Vandel III solar park was estimated using Ellen MacArthur's Circularity Method. This resulted in an MCI score of 0.87 on a scale from 0 to 1, where 1 represents 100% circularity. Long lifetime expectations contribute to the relatively high score whilst high use of virgin materials lowers the score.

Biodiversity in the Solar Park

Biodiversity is under pressure—both in Denmark and globally. Solar parks present an opportunity to enhance biodiversity in Denmark, as the land is no longer intensively farmed or used for industrial purposes.

BeGreen manages Vandel III with a focus on increasing biodiversity. To monitor biodiversity over time, BeGreen conducted surveys of plants and pollinators in the park from March to October in both 2023 and 2024. The goal is to adjust park management to maximize its contribution to biodiversity. The surveys revealed significant differences in how various species thrive in different parts of the park. The diversity of plants and pollinators was highest in open grassy banks and lower in open grasslands, open heatland, and grassland between the panels. The latter is likely due to regular mowing in these areas. This does not mean these areas are less important for biodiversity, but rather that different species thrive there, where nutrient levels are lower. Overall, this highlights the need for park management to create diverse habitats within the park.

BeGreen's park management plan includes adjustments to mowing schedules and creating habitats for various species, with a particular focus on promoting species that fix nitrogen in the soil (e.g., white clover, bird's-foot trefoil, and vetch), as this improves soil structure and increases the number of microorganisms in the soil. Over time, BeGreen aims to enhance the carbon content in the soil and the root systems of plants—a natural carbon capture project.