

## European Solar and Energy Storage Solutions

# Thule energy storage The Netherlands



## Overview

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Where is the Netherlands' largest stand-alone battery energy storage system located?

Dispatch, a Dutch battery developer, is going to construct the Netherlands' largest stand-alone Battery Energy Storage System (BESS) in the port area of Dordrecht. The system will be used for grid stabilization by storing excess energy from renewable sources. The battery, consisting of 144 Fluence cubes will be located on a 6000m<sup>2</sup> site.

How many energy storage facilities are there in the Netherlands?

The vast majority of the 20 MW of installed energy storage capacity in the Netherlands is spread over just three facilities: the Netherlands Advancion Energy Storage Array (10 MW Li-ion), the Amsterdam ArenA (4 MW Li-ion), and the Bonaire Wind-Diesel Hybrid project (3 MW Ni-Cad battery).

Why is flexible battery storage becoming more popular in the Netherlands?

Roger Miesen, CEO RWE Generation and Country Chair for the Netherlands: "With the increasing share of renewable energies in the electricity mix, the demand for flexible battery storage is also rising."

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### Netherlands' largest stand-alone Battery Energy Storage System ...

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### Dispatch introduces the Netherlands' largest stand ...

Dispatch, a Dutch battery developer, is going to construct the Netherlands' largest stand-alone Battery Energy Storage System (BESS). This groundbreaking 45MW/ 90MWh utility-scale BESS will be located in the port area of Dordrecht, on a ...

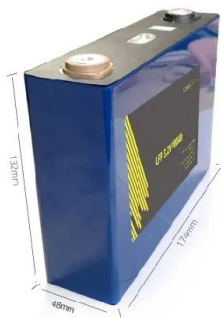
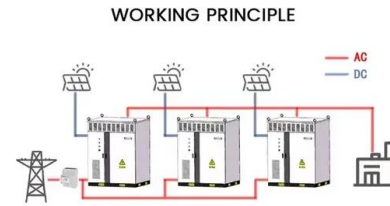


### Aquifer Thermal Energy Storage in the Netherlands: A Review

With the world's energy problems still far from being solved, it is commonly agreed upon, that storing energy is a vital part of any possible solution. When discussing the storage, the type of energies must be distinguished. The storage of thermal energy can be accomplished by several means. One of these means is the storing of the thermal energy in naturally occurring water ...

## Energy storage in The Netherlands

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## Netherlands - a small giant in energy storage

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## Top 5 Storage Projects in The Netherlands

In this infographic, we compiled the 5 largest storage projects coupled with renewable energy sources. Recognizing the differences in projects and the different use cases of storage systems is an essential step in understanding how to make a bankable project.



## Dispatch introduces the Netherlands' largest stand-alone battery

Dispatch, a Dutch battery developer, is going to construct the Netherlands' largest stand-alone Battery Energy Storage System (BESS). This groundbreaking 45MW/ 90MWh utility-scale BESS will be located in the port area of Dordrecht, on a 6000m<sup>2</sup> site and will be used for grid stabilization by storing excess energy from renewable sources.



## California ROUNDUP: Thule's thermal, Flow

Thule Energy Storage makes the Ice Bear energy storage solution, acquired from another maker, Ice Energy, which went out of business in 2019. Thule said in a press release that 5MW of critical system capacity were supplied to the electrical grid in California's Orange County during August this year from 340 Ice Bear units.

## Thule Energy Storage (TES)

Thule Energy Storage (TES) is a thermal energy storage platform with a legacy of innovation delivering resilient, cost-effective and sustainable products using proven technology to

harness the power of ice to store energy. Our Ice Bear(TM) line of products turn air conditioners into the most cost-effective form of energy storage available.



## Netherlands - a small giant in energy storage

As the largest energy storage project in the Netherlands to date, it will store the equivalent of the annual energy consumption of more than 9,000 households each year and reduce annual carbon dioxide emissions by up to 23,000 tonnes. Kenneth Engblom, Vice President Africa & Europe at Wärtsilä Energy says Wärtsilä's track record over more

## TES Ice Bear Case Studies 2021

Ice Energy to provide thermal storage and high efficiency HVAC units. In May 2019, 30 tons of aging, inefficient air conditioning units were replaced with 2 brand new Ice Bear 40 thermal storage THULE ENERGY STORAGE . Title: TES Ice

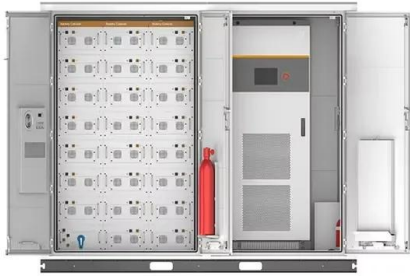
...



## Energy storage trends - Spotlight on the Netherlands

This highlights one of the main barriers to energy storage in the Netherlands, as batteries currently pay more transmission costs than polluting wholesale consumers. The ACM recognises this issue but holds that, as a general rule,

transmission tariffs should be paid by the parties charging the network. In the traditional context, this was the



## RWE gives green light for utility-scale battery storage project in ...

The company has now finalised its investment decision for a Dutch battery storage project with an installed power capacity of 35 megawatts (MW) and a storage capacity of 41 megawatt-hours (MWh). A total of 110 lithium-ion battery racks are to be installed at RWE's biomass plant in Eemshaven on an area of around 3,000 square metres.



## Netherlands' largest stand-alone Battery Energy ...

Dispatch, a Dutch battery developer, is going to construct the Netherlands' largest stand-alone Battery Energy Storage System (BESS) in the port area of Dordrecht. The system will be used for grid stabilization by storing ...



## 45MW/90MWh! Dispatch to open the largest battery storage ...

3 ???· The companies plan to collaborate on the development and deployment of a portfolio of up

to 3GWh of battery energy storage projects in the Netherlands, Belgium and Germany over ...



## Biggest battery storage system inaugurated in the Netherlands

GIGA Buffalo, the largest battery energy storage system in the Netherlands provided by technology group Wärtsilä, has been officially inaugurated after 10 months of construction. The ribbon-cutting ceremony last week (6 October) marks the opening of the 24MW/48MWh project, which uses Wärtsilä's grid-scale energy storage product Gridsolv

## Top 5 Storage Projects in The Netherlands

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## Alfen and SemperPower Build the Largest Battery Energy Storage ...

Alfen's TheBattery Elements Energy Storage System balances energy supply and demand to



offer grid congestion solutions while investment in Dutch grid infrastructure is realized; The 30MW/68MWh battery energy storage system will accelerate the integration of renewable energy into the Dutch electricity market

## TES Ice Bear Case Studies 2021

drastically reduced pricing as part of the Ice Energy SoCal Thermal Storage Program, while installation efficiency also 20 year old HVAC equipment, were spending \$53,289 on their electricity bill. In July 2019, Greenlaw spent \$33,285. Solution In May 2019, 220 tons of aging, inefficient air conditioning units THULE ENERGY STORAGE



## 45MW/90MWh! Dispatch to open the largest battery storage ...

3 ??? The companies plan to collaborate on the development and deployment of a portfolio of up to 3GWh of battery energy storage projects in the Netherlands, Belgium and Germany over the next seven years. The 45MW/90MWh battery storage system, planned in partnership with the local government, will be built using 144 modular Fluence Cube battery

## Thule , Nederland

In het Thule Test Center worden onze producten tot het uiterste getest om veiligheid en duurzaamheid te garanderen. Van tropische hitte

tot ijskou, crashtests tot UV-blootstelling - we onderwerpen alles aan strenge tests om aan de hoogste normen te voldoen en deze te overtreffen. Met meer dan 25 door Thule zelf ontwikkelde normen zien we op

Energy storage(KWH)

**102.4kWh**

Nominal voltage(Vdc)

**512V**

Outdoor All-in-one ESS cabinet



## High-Quality Products , Thermal Energy Storage

Residential Ice Bear 20: This unit, designed for medium to large residential properties, acts as an all-in-one AC and thermal energy storage device--replacing traditional residential condensing units. With up to 5 tons of AC cooling capacity and the ability to work with both ductless and ducted systems, this is a go-to option to save money by

## THULE ENERGY STORAGE

Specialties: With rising temperatures, power grids are increasingly stressed. Air conditioning is the main driver of peak demand and the most difficult load to manage. Thule Energy Storage's behind-the-meter Ice Bear batteries offer utilities a proven way to permanently eliminate up to 95% of peak cooling load. Since 2005, over 40 utilities have been using our award-winning Ice

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