

#### **SolarGrid Energy Solutions**

# Sodium-sulfur battery energy storage container in Osaka Japan





#### **Overview**

The project has been built at the former site of a liquid natural gas (LNG) terminal and features NAS batteries with 11.4MW output and 69.6MWh storage capacity ( $\sim$ 6-hour duration at full rated power).



#### Sodium-sulfur battery energy storage container in Osaka Japan



### Japan's Shift from Lithium to Sodium Batteries: A ...

Apr 11, 2025 · By examining the comparative advantages of sodium-ion technology and its implications for global energy security, this paper aims to ...

#### Sodium-Sulfur (NAS )B

Mar 15, 2021 · Principle of Sodium Sulfur Battery Sodium Sulfur Battery is a high temperature battery which the operational temperature is 300-360 degree Celsius (572-680 °F) Full ...





## Standard NAS presentation as of 06 Nov 2019

Sep 19, 2024 · Sodium-sulfur (NAS®) batteries for stationary energy storage BASF is an exclusive distributor of NAS® Batteries, produced by NGK Insulators, Ltd, Japan, globally ...



### NGK starts operating sodium-sulfur battery ...

Jun 2, 2023 · Japan's NGK Insulators has started operating four 250 kW/1.450 MWh sodium sulfur battery containers at a KEPCO testing site in Naju, South ...





# Battery: Sodium Sulfur Battery System, United Nations ...

Sodium sulfur batteries produced by NGK Insulators Ltd. offer an established, large-scale energy storage technology with the possibility for installation virtually anywhere. With a wide array of ...

# NGK starts operating sodium-sulfur battery ...

Jun 2, 2023 · NGK Insulators has switched on 1 MW/5.8 MWh of NAS batteries under a demonstration project to assess the performance of stationary storage ...



#### **Sodium Sulfur Battery**

Sodium-sulfur batteries are rechargeable high temperature battery technologies that utilize metallic sodium and offer





attractive solutions for many large scale electric utility energy storage ...

# NGK's NAS sodium sulfur grid-scale batteries in depth

Feb 6, 2017 · Japan-headquartered NGK Insulators is the manufacturer of the NAS sodium sulfur battery, used in grid-scale energy storage systems around the world.





#### **Sodium-Sulphur**

Sodium sulfur (NaS) batteries are moltensalt batteries and consist of liquid sodium and liquid sulfur as active materials at the positive and negative electrodes, respectively. From: Energy ...

#### Mitsubishi Electric Delivers Highcapacity Energy-storage ...

Nov 27, 2024 · Large-scale energy storage system at Kyushu Electric



Power's Buzen Power Station Battery (double stacked) The facility offers energy-storage capabilities similar to those ...





# Jakarta sodium sulfur battery energy storage container ...

The NAS& #174; battery is available as a single container or as a modular solution with four containers per PCS, arranged in a two-by-two stackable formation. A 20" container delivers ...

### About NAS Batteries , Products , NGK ...

NAS batteries are rechargeable storage batteries that incorporate anodes (negative electrode) comprised of sodium (Na) and cathodes (positive ...

#### Support Customized Product



### NAS Batteries , Products , NGK INSULATORS, LTD.

The NAS battery is a megawatt-level energy storage system that uses sodium





and sulfur. The NAS battery system boasts an array of superior features, ...

# NAS battery maker NGK in Japan VPP, large ...

Oct 3, 2023 · Sodium-sulfur (NAS) battery storage manufacturer NGK Insulators has formed new partnerships in Japan aimed at both the distributed and utility ...





#### Japan Installs Massive Sodium-Sulfur Wind ...

Apr 14, 2008 · Nagoya-based NGK's sodium-sulfur units, costing about \$2.9 million per megawatt, store electricity for sale when demand is greatest and ...

# NAS Battery: 20% lower cost for next-generation ...

Jun 12, 2024 · The new 'advanced' version of the sodium-sulfur (NAS)



battery, first commercialised by Japanese industrial ceramics company NGK more ...





### BASF, NGK release advanced type of sodium ...

Jun 10, 2024 · BASF Stationary Energy Storage, a wholly owned subsidiary of BASF, and NGK Insulators (NGK), a Japanese ceramics manufacturer, have

# NGK to install sodium-sulfur battery storage at

Sep 13, 2022 · A large-scale sodiumsulfur (NAS) battery energy storage system made by NGK Insulators will be installed at a former LNG terminal in Japan.



#### **NAS® Battery**

NAS® Battery The NAS® battery, manufactured by NGK Insulators Ltd. in Japan and distributed globally by BASF





Stationary Energy Storage GmbH, is made ...

#### electrochemical energy Storage

May 25, 2020 · A. Physical principles A Sodium-Sulphur (NaS) battery system is an energy storage system based on electrochemical charge/discharge reactions that occur between a ...





# Why Sodium-Sulfur Battery Energy Storage Containers Are ...

May 8, 2022 · Who's Reading This and Why Should They Care? renewable energy developers scratching their heads over how to store solar power for cloudy days. Grid operators sweating ...

### BASF Stationary Energy Storage GmbH

BASF Stationary Energy Storage - Our Support for Your Energy Storage Solution



With NAS batteries, we contribute to the energy transition by meeting our customers' need for stable, ...





#### **BASF, NGK release new NaS battery**

June 14, 2024: Sodium sulfur batteries, a mostly forgotten chemistry pioneered in the 1980s and 1990s, received a boost with the announcement on June 10 of a new advanced container ...

# BASF and NGK release advanced type of sodium-sulfur batteries ...

Jun 10, 2024 · Ludwigshafen, Germany, and Nagoya, Japan, June 10th, 2024 -BASF Stationary Energy Storage GmbH, a wholly owned subsidiary of BASF, and NGK INSULATORS, LTD. ...



# Australia pilots 1.5 MW sodium sulfur battery

Oct 4, 2024 · The charging step recovers metallic sodium and elemental sulfur.





The battery runs at temperatures of around 300 C and both elements are in a

# NGK sodium-sulfur batteries: Japan project, ...

May 27, 2025 · Japanese manufacturer NGK Insulators' proprietary battery tech features in a large-scale project that has just come online in its home country, ...





#### **Technology Strategy Assessment**

Jul 19, 2023 · About Storage Innovations 2030 This technology strategy assessment on sodium batteries, released as part of the Long-Duration Storage Shot, contains the findings from the ...

# Japan Sodium Sulfur (NaS) Battery for Energy Storage ...

Jun 21, 2025 · Leading Japanese conglomerates and energy utilities are



increasingly investing in sodium-sulfur battery projects to mitigate grid fluctuations and improve energy resilience. ...





48V 100Ah

### NGK's NAS sodium sulfur grid-scale batteries in ...

Feb 6, 2017 · Japan-headquartered NGK Insulators is the manufacturer of the NAS sodium sulfur battery, used in grid-scale energy storage systems around ...

# Japanese utility putting 70MWh NGK NAS ...

Jul 27, 2023 · NGK Insulators will supply a sodium-sulfur (NAS) battery storage system to a project for utility Sala Energy in Japan's Shizuoka Prefecture.



# BASF, NGK launch advanced sodium-sulfur ...

Jun 12, 2024 · BASF Stationary Energy Storage GmbH and NGK Insulators (NGK)





have recently introduced an advanced container-type NAS (sodium ...

# NGK sodium-sulfur batteries: Japan project, ...

May 27, 2025 · NGK Insulators' proprietary battery tech features in a large-scale project that has just come online in Japan, as a pilot begins in the US.





#### Sodium battery new product release

Jun 12, 2024 · On June 10, BASF announced that its wholly-owned subsidiary BASF Stationary Energy Storage Co., Ltd. (BSES) and Japan's NGK jointly ...

# NGK sodium-sulfur batteries: Japan project, Duke Energy pilot

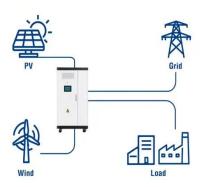
Jul 18, 2025 · NGK Insulators, based in Japan, has been at the forefront of



sodium-sulfur battery development since the 1980s. The company has established several large-scale installations ...



#### **Utility-Scale ESS solutions**



### BASF, NGK Offer New NAS Battery With Novel ...

Jun 10, 2024 · BASF Stationary Energy Storage GmbH and NGK INSULATORS, LTD. have released an advanced container-type NAS battery (sodiumsulfur ...

# Sodium Sulfur Battery - Zhang's Research Group

Feb 25, 2015 · Although the battery's conceptual origins stem as early the World War II era as a way to power Germany's V-2 rockets, significant research and development of the sodium



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