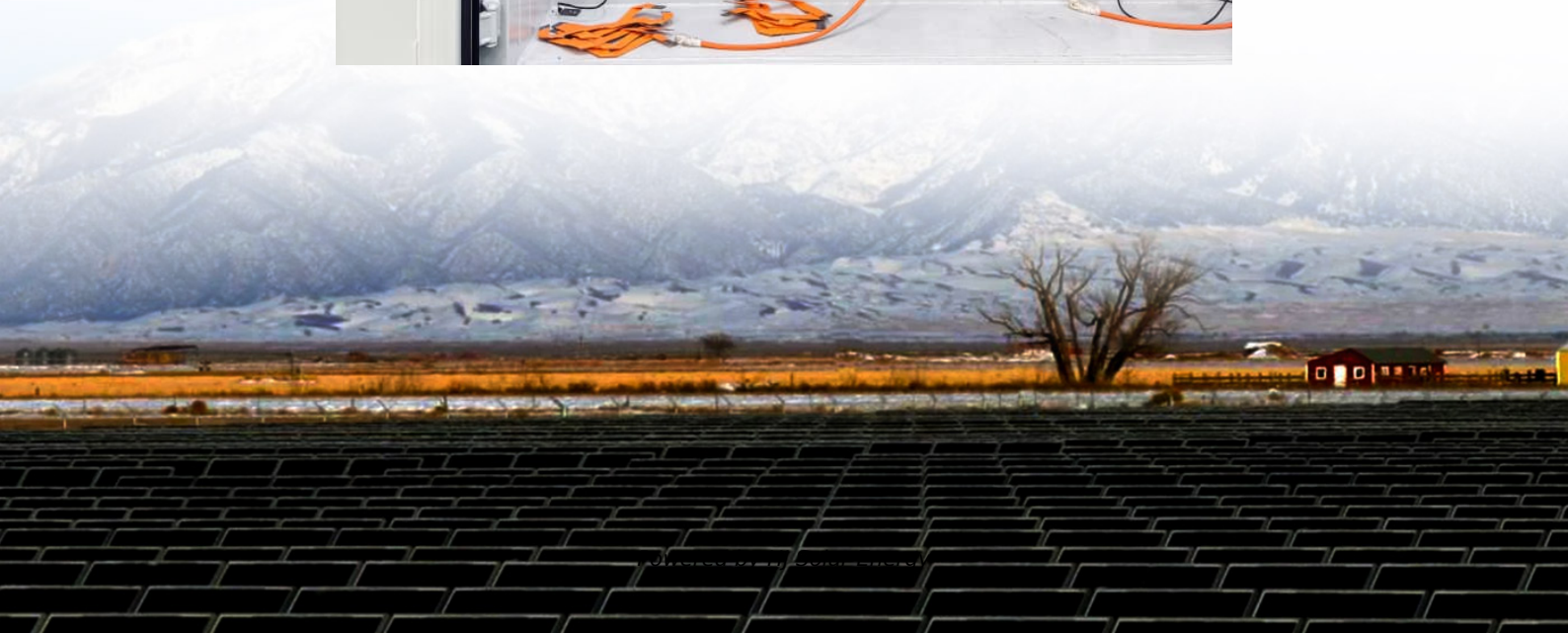


Italian solar thermal storage system production plant





Overview

The MGTES (Magaldi Green Thermal Energy Store) system developed by Magaldi, in agreement with our company, stores solar energy and returns it as medium-temperature steam: today we are inaugurating the first example in Italy for industrial application.

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The MGTES (Magaldi Green Thermal Energy Store) system developed by Magaldi, in agreement with our company, stores solar energy and returns it as medium-temperature steam: today we are inaugurating the first example in Italy for industrial application. How can we reduce the use of fossil fuels by.

Utility and power generation company Enel Group and Brenmiller Energy have inaugurated a thermal energy storage system in Italy using the latter's proprietary bGen technology. Israel-based Brenmiller's energy storage unit has been deployed at a power plant in Santa Barbara, Tuscany, and will help.

Italian firm Magaldi Group, a specialist in ultra-high-temperature material handling, is poised to deploy its first large-scale application of a novel thermal energy storage system that uses a fluidized bed of silica sand. By the end of 2024, the system will be installed at an industrial facility.

Buccino (SA), September 16, 2025 - The first MGTES (Magaldi Green Thermal Energy Storage) plant, developed by Magaldi Group in collaboration with Enel, was inaugurated today in the ASI industrial area of Buccino. It is the first fluidized sand thermal battery built in Italy and one of the first in.

And today the Magaldi Green Thermal Energy Storage (MGTES) system is getting ready to demonstrate its value by aiding the decarbonization of a number of industrial processes on a national scale. A recent agreement between Magaldi Power and Enel X to locate and construct the first plants in Italy.



Rome, April 2025 – In a bold move to meet its EU-mandated greenhouse gas emissions targets, Italy is accelerating its renewable energy strategy under the Integrated National Energy and Climate Plan (PNIEC Italy). The government has set ambitious goals for increasing renewable energy on the national. Is Italy a leader in industrial energy storage and commercial energy storage?

Accordingly, there is a growing market for industrial energy storage and commercial energy storage projects, positioning Italy as a leader in advanced Italy storage solutions and renewable energy Italy initiatives.

Why is a grid-scale battery energy storage system important in Italy?

As the penetration of solar power increases, grid stability has become a critical issue. In response, Italy is prioritizing the development of grid-scale battery energy storage systems (BESS Italy) alongside new industrial and commercial energy storage projects.

What role does Italy play in energy storage?

“Italy has the resources and expertise to play an important role in the supply chain of batteries in energy storage, enabling factor in the production of renewable energy continuously, thus helping to make the entire system stable and safe”.

What is Magaldi green thermal energy storage (mgtes)?

And today the Magaldi Green Thermal Energy Storage (MGTES) system is getting ready to demonstrate its value by aiding the decarbonization of a number of industrial processes on a national scale. A recent agreement between Magaldi Power and Enel X to locate and construct the first plants in Italy gave rise to the initiative. The initial submission?

How will Italy's solar power impact grid stability?

This rapid expansion in Italy's solar is fueling the country's drive to have renewables contribute to 65% of electricity consumption by 2030. As the penetration of solar power increases, grid stability has become a critical issue.

How much will Italy invest in utility-scale storage?



In support of these ambitious objectives, the Italian government recently received approval from the EU Commission for investment schemes aimed at developing at least 70 GWh of utility-scale storage—an initiative projected to attract over €17 billion in investments over the next decade.



Italian solar thermal storage system production plant



[Trina Storage delivers first utility energy storage ...](#)

Leveraging over 26 years of expertise in solar manufacturing, we offer cost-effective and flexible storage solutions to meet the diverse needs ...

[Energy Storage: sand battery technology made in ...](#)

Special MGTES sand batteries will be placed here in addition to a 5 MW PV system to ensure a daily storage capacity of 13 thermal MWh. By the ...



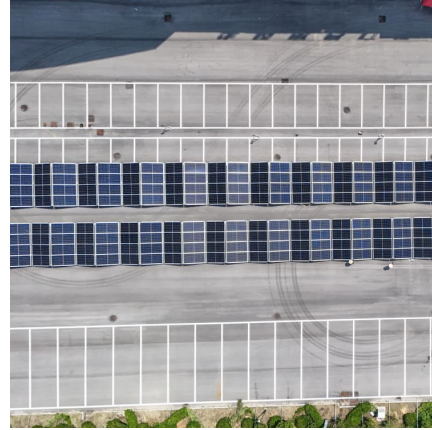
[Assessing the role of storage and thermoelectric plants in the ...](#)

The consequences of the higher penetration of the combination of iRES and electricity storage into the system have been also analyzed through the duration curves of the ...



[RENEWABLES 2022 GLOBAL STATUS REPORT](#)

Annual sales grew at double-digit rates in several large solar thermal markets, including Brazil, France, Greece, India, Italy, Morocco, Poland, Portugal and the United States. Large collector ...



[Energy storage systems supporting renewables.](#)
[Eni](#)

Eni's research on electrical energy storage focuses on two types of medium-sized rechargeable batteries: flow batteries and sodium-ion batteries. Thermal ...



From Sun to steam: the first MGTES plant for industrial ...

1 ??· From Sun to steam: the first MGTES plant for industrial decarbonization The MGTES (Magaldi Green Thermal Energy Store) system developed by Magaldi, in agreement with our ...



Magaldi unveils the first MGTES plant in Buccino: A new frontier ...

1 ??· Buccino (SA), September 16, 2025 - The first MGTES (Magaldi Green Thermal Energy Storage) plant, developed by Magaldi Group in collaboration with Enel, was inaugurated today ...





Energy, environmental and economic dynamic assessment of a solar ...

In this paper a solar hybrid district heating network integrated with a seasonal borehole thermal energy storage is modelled, dynamically simulated and analyzed over a 5 ...



[Largest solar thermal power stations \(CSP\) list](#)

Concentrating solar, or solar thermal power plants, utilize systems of mirror or lenses and trackers to focus a huge volume of sunlight onto a receiver and generate heat energy. The thermal ...

ENERGY STORAGE

In the Italian National Integrated Plan for Energy and Climate (PNIEC), energy storage is identified as a critical element in enhancing the renewable energy sector for stabilizing the grid ...



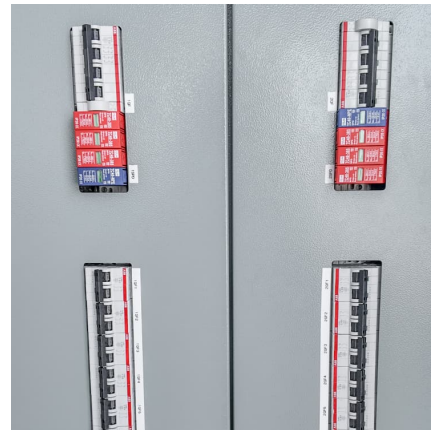
[Concentrated Solar Power tower at pasta plant spurs ...](#)

A concentrated solar heat (CSH) system installed in Italy next year will bring a new high-temperature technology to industrial heating. A group of European ...



Solar Thermal Storage

Solar thermal storage refers to the method of storing solar thermal energy primarily in the form of heated water or latent heat using phase change materials (PCMs). This process enhances ...

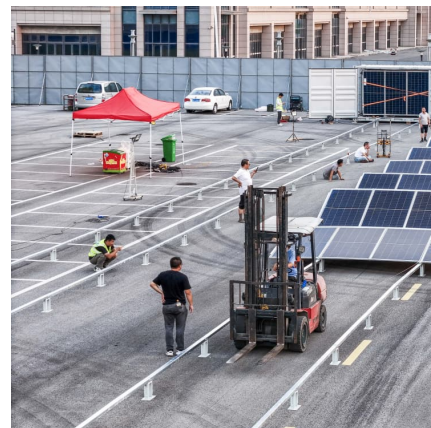


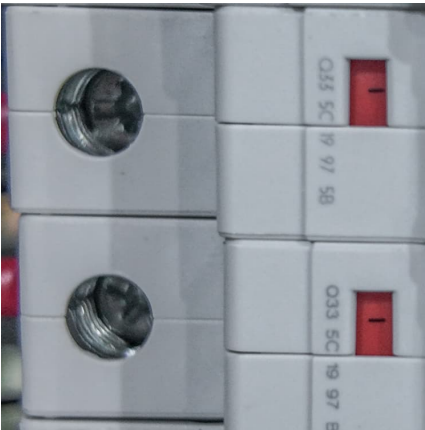
Impact of seasonal thermal energy storage design on the dynamic

Abstract A centralized solar hybrid heating system serving a small-scale district composed of 6 typical Italian residential buildings and 3 schools located in Naples (southern ...

Solar Energy in Italy Market

Italy Solar Energy Market News March 2023: Solitek announced the construction of a solar PV module manufacturing factory in Italy with a 600 MW annual capacity. The ...





Thermal Energy Storage System , Magaldi

Based on fluidized sand bed technology, MGTES allows to store thermal energy from renewable sources or directly from the power grid, when the price is low and dispatch it when it is needed.

Energy storage equipment installation in italy

Therefore, battery energy storage systems (BESS) are needed in Italy. The Italian market for BESS is growing rapidly and currently amounts to 2.3 GW but it almost exclusively consists of ...

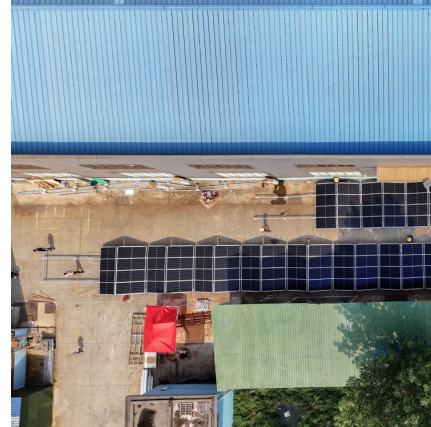


Long-duration thermal storage system based on silica sand

Developed by Italian dry bottom ash handling system provider Magaldi Power, the system produces green thermal energy -- steam or hot air -- which can be used directly in ...

Solar power in Italy

The use of silica sand also lowers the cost of the CSP, and the facility aims to minimise pollution released during the production and operation of the system while producing 50-100 MWe with ...



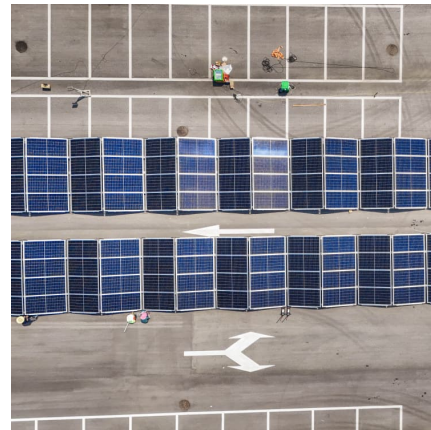
Concrete thermal energy storage for linear Fresnel collectors

The average annual solar contribution can reach about 40% of the total thermal energy requirement, maximizing the solar energy production during the summer season. ...



[Italian thermal energy storage production plant](#)

Brenmiller has developed a thermal energy storage system using crushed rock as storage material, which fosters high performance, low maintenance, and an environmentally-friendly ...



Thermocline vs. two-tank direct thermal storage system for

Hexamethyldisiloxane (MM) and "Therminol SP-I are used respectively as ORC working fluid and " heat transfer fluid in the solar receivers. A two-tank direct Thermal Energy Storage (TES) ...





th CIRIAF National Congress

Abstract: Thermal Energy Storage is a key factor for efficiency, dispatchability and economic sustainability of Concentrating Solar Power plants. Since 2001 ENEC has developed new CSP ...

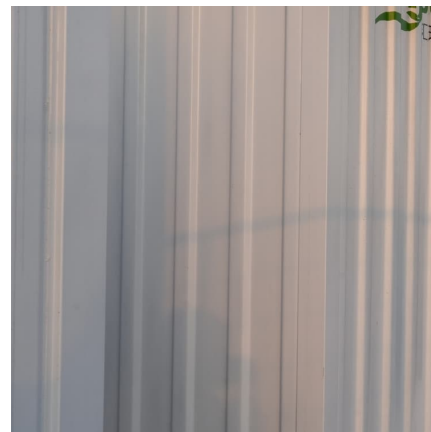


Thermal Storage System Concentrating Solar-Thermal Power ...

One challenge facing the widespread use of solar energy is reduced or curtailed energy production when the sun sets or is blocked by clouds. Thermal energy storage provides a ...

[An overview of thermal energy storage systems](#)

In co-generation, tri-generation or multi-generation thermal power plants more functions like district heating, drying, heat storage TES system, absorption chiller and cold ...



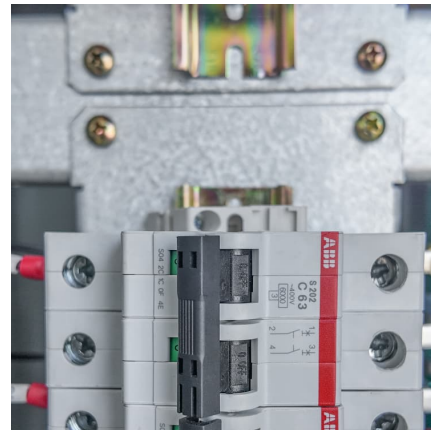
Thermal energy storage materials and systems for solar energy

Usage of renewable and clean solar energy is expanding at a rapid pace. Applications of thermal energy storage (TES) facility in solar energy field enable dispatchability ...



CASE STUDY ON THERMAL ENERGY STORAGE: ...

Introduction Torresol Energy's Gemasolar plant is the first commercial¹ concentrating solar thermal power (CSP) plant to use a central receiver tower and two-tank molten salt thermal ...



of Thermochemical Storage Systems in Concentrating Solar ...

The currently available thermal energy storage solutions for CSP plants can achieve these results in specific contexts, but a more ambitious objective is the realization of long-term storage ...

Impact of seasonal thermal energy storage design on the dynamic

A centralized solar hybrid heating system serving a small-scale district composed of 6 typical Italian residential buildings and 3 schools located in Naples (southern ...





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