

**PIENAAR ENERGY (PTY) LTD**

# **Armenia Energy Storage Peak Shaving Battery**



## Overview

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Vehicle-to-grid (V2G) pilot projects using EV batteries for peak shaving have shown 18% efficiency gains in local grid management. Did you know?

Armenia's elevation variations (400-4,000m) enable gravity-based storage solutions with 85% round-trip efficiency. A 25-35 MW-4h BESS offers a cost-effective solution to enhance system resilience. Armenia imports 81% of its primary energy supply and 100% of its fossil and nuclear fuels. These imports stem mainly from Russia and to a lesser extent also from Iran. Expansion in cross-border transmission capacity is limited. As Armenia works towards the Government's ambitious renewable energy targets and the share of variable renewable generation increases, the country might need to install battery storage systems to ensure the reliable and smooth operation of its power system. While the need for battery storage is clear, peak shaving, or load shedding, is a strategy for eliminating demand spikes by reducing electricity consumption through battery energy storage systems or other means. Studies have identified an optimal battery storage use case. Battery storages play a more important role in a less flexible environment and in a more constrained system operation. The goal of peak shaving is to avoid the installation of capacity to supply the peak load of highly variable loads. In cases where peak load coincide with electricity price peaks, peak shaving can also provide a reduction of energy cost.

## Armenia Energy Storage Peak Shaving Battery

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### Yerevan Jinyuan Energy Storage: Powering Armenia's Renewable ...

As Yerevan positions itself as the Caucasus' renewable hub, Jinyuan's storage solutions could become Armenia's new copper - the 21st century's must-have commodity.

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### Armenia's Energy Storage Boom Powering a Sustainable Future

With increasing investments in renewable energy and grid modernization, the country's energy storage sector is experiencing unprecedented growth. This article explores the driving forces, key projects,

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### Peak shaving

Circuit breakers play a pivotal role in peak shaving applications, particularly in power distribution and optimization of energy storage systems. Safely de-energizing specific parts of electrical systems ...

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TILE ROOF SOLAR MOUNTING SYATEM



STANDING SEAM ROOF SYATEM



ADJUSTABLE TILT FLAT ROOF SYATEM



TRIANGLE FLAT ROOF SYATEM

## Peak Shaving: Optimize Power Consumption with Battery Energy Storage

Peak shaving, or load shedding, is a strategy for eliminating demand spikes by reducing electricity consumption through battery energy storage systems or other means. In this article, we explore what ...



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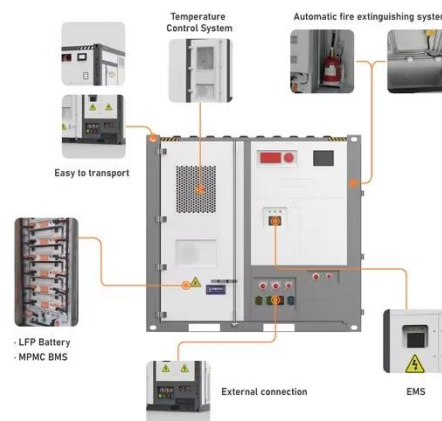
## ARMENIA RENEWABLE RESOURCES AND ENERGY ...

Bigger battery storage variant (100 MW) doesn't necessarily mean better for the overall economic impact, a smaller battery (30MW) is more appropriate option for the Armenian system.

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## Peak Shaving: Optimize Power Consumption with Battery Energy ...

How Does Peak Shaving Work? Benefits of Peak Shaving Intelligent Battery Energy Storage Systems Peak shaving is the most effective way to manage utility costs for customers with demand charges, but it can also mitigate consumption charges, and offer benefits to other stakeholders, as well. For example, self-consumption of embedded renewables can significantly reduce electricity bills. According to a research



study by the Journal of Energy Sto See  
more on exro esmap [PDF]

## ARMENIA RENEWABLE RESOURCES AND ENERGY

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## PEAK SHAVING CONTROL METHOD FOR ENERGY STORAGE

supply the peak load of highly variable  
loads. In cases where peak load coincide  
with electricity price peaks, peak shaving  
can also provide a reduction of energy  
cost. This paper addresses the ...

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## Comparative analysis of battery energy storage systems' operation

Battery energy storage systems can  
address energy security and stability  
challenges during peak loads. This study  
examines the integration of such  
systems for peak shaving in ...

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## Armenian Power Plant Energy Storage: Innovations Lighting Up the



Enter battery energy storage systems (BESS), the shock absorbers for Armenia's bumpy energy road. These aren't your grandma's AA batteries. We're talking about: The Ayg-1 solar plant ...

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### GET\_ARM\_PS\_01\_2025\_EN

Creation and use of a techno-economic model to analyse the Armenian electricity system and determine cost-optimal deployment of battery energy storage system (BESS)



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TAX FREE

1-3MWh  
BESS



## ARMENIA ENERGY STORAGE PROGRAM

oBTM batteries are small-scale batteries (3 kW-5 MW) installed at the residential or commercial customer level (typically in conjunction with a solar PV system), to provide peak shaving, self- ...

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