

Case Study - Civil Engineering



Construction Site Decarbonisation with BESS Powering an All Electric-site



- Loading: 2 site offices + light for the whole site + 1 security cabinet
- AEE Model: AEE-350 (New version)
- Input current: 90A (39kW)
- Duration: 24 hours
- Capacity: 375 kWh

The site requires a continuous power supply, providing full energy 24 hours a day, every day. Safety at the construction site is a priority, which is why there is a 24-hour security system in place. Additionally, adequate lighting is maintained inside and outside the construction area. Power will also be supplied to the two site offices during working hours.



The Challenge

The primary challenge at this construction site is its location in a busy residential area, where safety is the top priority. To prevent accidents involving pedestrians, security measures such as cabinets and lights have been installed both inside and outside the site. Additionally, diesel generators are prohibited from operating after 6 PM each day to maintain a quiet environment during the evening hours.

Moreover, the site has limited space, and the proximity of heavy machinery makes it difficult to accommodate a larger Battery Energy Storage System (BESS). Lastly, there is a reduced cost for only 10 hours of grid support provided to our BESS.

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AEE BESS Combined With Full Site Electricity

1. Location Challenges

- Situated in a busy residential area.
- Safety is the top priority to protect pedestrians and residents.

2. Security Measures

- Installation of security cabinets to safeguard tools
- Adequate lighting both inside and outside the site to enhance visibility and deter unauthorized access.

3. Noise Regulations

- Diesel generators are prohibited from operation after 6 PM.
- Guarantees a peaceful environment for residents during evening hours.

4. Space Limitations

- Limited space on-site complicates the accommodation of a larger Battery Energy Storage System (BESS).
- The presence of heavy machinery limits operational flexibility.

5. Power Supply Constraints

- The site has reduced cost for only 10 hours of grid support provided to the BESS.

The Result

- **Location Challenge:** We are proactively addressing the unique challenges of construction sites in a vibrant residential area.
- **Whisper-Quiet BESS:** Our innovative energy storage system operates at a low noise level of under 60 dB, ensuring compliance with government noise regulations for a peaceful environment.
- **Nighttime Operation:** We are committed to maintaining tranquility in designated quiet zones during nighttime hours.
- **24/7 Energy Supply:** Our solution provides a reliable energy supply 24/7, ensuring continuous operation every day.
- **Compact Design:** With a high-capacity yet compact format, our design maximizes efficiency while effectively managing space limitations and power supply needs.

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