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| **BATTERY ENERGY STORAGE**  **SYSTEM PROPOSAL**  **Professional Energy Storage Solution** | **🧙‍♂️**  **MERLIN**  *Energy Solutions* |

**PROJECT INFORMATION**

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| --- | --- |
| **Client Name:** | Client Name |
| **Project Name:** | BESS Project |
| **Quote Date:** | 10/22/2025 |
| **Location:** | United States |
| **Tariff Region:** | North America |

**1. EXECUTIVE SUMMARY**

This proposal provides a comprehensive Battery Energy Storage System (BESS) solution designed to meet your specific energy requirements and deliver exceptional return on investment.

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| --- | --- |
| **KEY METRIC** | **VALUE** |
| **System Capacity** | **5.0 MWh** |
| **Power Rating** | **1 MW** |
| **Total Investment** | **$2,155,525** |
| **Annual Energy Savings** | **$27,375/year** |
| **Simple Payback Period** | **78.74 years** |
| **10-Year ROI** | **-87.3%** |
| **System Warranty** | **10 years Years** |

**2. PROJECT OVERVIEW & VISUALIZATION**

The proposed BESS installation will integrate seamlessly with your existing infrastructure to provide reliable energy storage, peak shaving, and grid stabilization capabilities.

**Project Site Layout & Configuration:**

|  |  |
| --- | --- |
| **📸 PROJECT SITE PHOTO**  *[Insert aerial or ground-level photo of installation site]* | **🔧 SYSTEM DIAGRAM**  *[Insert technical diagram showing BESS configuration and connections]* |

**3. TECHNICAL SPECIFICATIONS & PRICING**

|  |  |  |
| --- | --- | --- |
| **COMPONENT** | **SPECIFICATION** | **COST (USD)** |
| **Battery System** | 5.0 MWh LFP Chemistry | $700,000 |
| **Power Conversion** | 1 MW Bi-directional Inverter | $40,000 |
| **Balance of System** | Enclosures, Cabling, Protection | $200,400 |
| **Engineering & Installation** | EPC Services, Commissioning | $250,500 |
| **Solar Array** | 1 MW + Inverters | $800,000 |
| **EQUIPMENT SUBTOTAL** |  | **$1,670,000** |
| **Balance of System (BoS)** | Installation materials & labor | $200,400 |
| **EPC Services** | Engineering, procurement, construction | $250,500 |
| **Import Tariffs & Duties** | North America tariffs | $20,875 |
| **Shipping & Logistics** | To United States | $13,750 |
| **GRAND TOTAL** |  | **$2,155,525** |

**4. ENHANCED FINANCIAL ANALYSIS**

This comprehensive financial analysis demonstrates the strong return on investment and long-term value of this BESS installation.

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| --- | --- |
| **FINANCIAL METRIC** | **VALUE** |
| **Annual Energy Savings** | **$27,375/year** |
| **Simple Payback Period** | **78.74 years** |
| **5-Year Net Savings** | **$-2,018,650** |
| **10-Year Net Savings** | **$-1,881,775** |
| **10-Year ROI** | **-87.3%** |
| **20-Year Net Savings** | **$-1,608,025** |
| **Budget Status** | **✓ Under budget by $2,844,475** |
| **Cost per kWh Storage** | **$431/kWh** |

**5. IMPLEMENTATION & CERTIFICATIONS**

**Project Timeline:** 12-16 weeks from contract execution to commissioning

**Required Certifications:** UL9540A, IEEE 1547

**Warranty Period:** 10 years comprehensive system warranty

**6. SUMMARY & NEXT STEPS**

This Battery Energy Storage System provides an optimal solution for your energy requirements with strong financial returns and proven technology. The proposed system will deliver reliable energy storage, grid stabilization, and significant cost savings over its operational lifetime.

**Key Benefits:**

• Peak demand reduction and energy cost optimization

• Grid stabilization and power quality improvement

• Backup power capability during outages

• Reduced carbon footprint and sustainability goals

**This proposal is valid for 30 days.** Please contact us to discuss next steps and begin the implementation process.

# APPENDIX A: CALCULATION REFERENCE

This appendix provides the formulas used in this quote. All calculations are based on industry-standard methodologies and current market data (Q4 2025).

BESS Sizing

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| --- | --- |
| **Calculation** | **Formula** |
| Energy Capacity | Energy (MWh) = Power (MW) × Duration (hours) |
| Power Capacity | PCS Capacity (kW) = Power (MW) × 1000 |

Equipment Costs

|  |  |
| --- | --- |
| **Calculation** | **Formula** |
| Battery System | Battery Cost = Energy (kWh) × Unit Price ($/kWh) |
| Power Conversion System | PCS Cost = Power (kW) × Unit Price ($/kW) |
| Solar PV | Solar Cost = Capacity (MW) × 1000 × Unit Price ($/Wp) |

Balance of System

|  |  |
| --- | --- |
| **Calculation** | **Formula** |
| BOS Costs | BOS = (Battery + PCS) × BOS % |

EPC & Installation

|  |  |
| --- | --- |
| **Calculation** | **Formula** |
| EPC Costs | EPC = (Equipment + BOS) × EPC % |

BESS Total

|  |  |
| --- | --- |
| **Calculation** | **Formula** |
| BESS Capital Cost | BESS CapEx = Battery + PCS + BOS + EPC |

Tariffs & Duties

|  |  |
| --- | --- |
| **Calculation** | **Formula** |
| Battery Tariffs | Battery Tariff = BESS CapEx × Tariff Rate |
| Other Equipment Tariffs | Other Tariff = (Gen + Solar + Wind) × Tariff Rate |

Financial Returns

|  |  |
| --- | --- |
| **Calculation** | **Formula** |
| Peak Shaving Savings | Peak Savings = Energy × 365 × 1000 × (Peak - Off-Peak) × 0.7 |
| Demand Charge Reduction | Demand Savings = Power × 1000 × Demand Charge × 12 |
| Simple Payback Period | Payback = Total CapEx ÷ Annual Savings |
| 10-Year ROI | ROI % = ((Savings × 10 - CapEx) ÷ CapEx) × 100 |

## Data Sources & References

* • NREL (National Renewable Energy Laboratory) - Energy Storage Cost Data
* • BloombergNEF - Q4 2025 Battery Pack Pricing Report
* • Wood Mackenzie - Power & Renewables Market Analysis

*Confidential & Proprietary*