

DOOSAN GRIDTECH

Representative Global Project Experience

ESS Design & Delivery - US & Australia

Project	Client & Technology	Objectives	Applications
Wandoan South ESS Queensland, AUS (100 MW / 150 MWh)	Client: Vena Energy Battery: Samsung Li-ion PCS: Power Electronics EMS: DG-IC®	Market participation, standalone ESS, providing energy arbitrage and FCAS revenue.	Energy arbitrage, frequency control, ancillary services.
Beacon Solar Plant ESS Mojave Desert, CA (20 MW / 10 MWh)	Client: LADWP Battery: Samsung Li-ion PCS: SMA EMS: DG-IC®	Deploy large-scale energy storage system to provide greater resiliency and reliability to electrical system grid and allow for greater utilization of existing solar plant.	Solar integration, frequency response services, local voltage support.
Micanopy ESS Microgrid Micanopy, FL (8.3 MW / 11.7 MWh)	Client: Confidential Battery: Samsung Li-ion PCS: SMA	Deploy ESS with microgrid services to improve reliability for third-party energy user. Capture revenue from the southeast wholesale market to improve economics for investment.	Islanding, frequency regulation.
Jennings ESS Microgrid Jennings, FL (5.5 MW / 5.5 MWh)	Client: Confidential Battery: Samsung Li-ion PCS: SMA	Deploy ESS with microgrid services to improve reliability for third-party energy user. Capture revenue from the southeast wholesale market to improve economics for investment.	Islanding, frequency regulation.
Atterbury PV + S Microgrid Camp Atterbury, IN (5 MW / 5 MWh)	Client: Duke Energy Battery: Samsung Li-ion PCS: SMA EMS: DG-IC® PV: 2 MW array	Deploy mission-critical solar+storage system with microgrid services to improve reliability for Atterbury National Guard base. Capture revenue from the MISO Frequency Regulation market to improve economics for investment.	Islanding, frequency regulation.
Nabb ESS Microgrid Nabb, IN (5 MW / 5 MWh)	Client: Duke Energy Battery: Samsung Li-ion PCS: SMA EMS: DG-IC®	Use ESS to improve reliability to community. Capture revenue from the MISO Frequency Regulation market to improve economics for investment.	Islanding, frequency regulation.
John Hopkins PV + S Microgrid St. Petersburg, FL (2.5 MW / 18 MWh)	Client: Duke Energy Battery: CATL PCS: Dynapower PV: .8 MW array	Deploy ESS + PV with microgrid services to improve reliability for third party energy user. Capture revenue from the southeast wholesale market to improve economics for investment.	Islanding, frequency regulation.
Everett ESS Everett, WA (2 MW / 7 MWh)	Client: Snohomish PUD Battery: Vanadium Redox Flow PCS: Siemens EMS: DG-IC®	Enable storage-based firming of renewable energy.	Energy arbitrage, peak shifting.
Hardeson ESS Everett, WA (2 MW / 1 MWh)	Client: Snohomish PUD Batteries: Mitsubishi & LG Li-ion PCS: Parker Hannifin EMS: DG-IC®	Enable storage-based firming of renewable energy as part of broader ESS fleet optimization.	Peak shaving, renewables smoothing, energy arbitrage/system flexibility.
Mueller ESS Austin, TX (1.8 MW / 3.2 MWh)	Client: Austin Energy Battery: Samsung Li-ion PCS: Younicos EMS: DG-IC®	Deploy utility-owned energy storage to integrate 3 MW of community and rooftop solar PV at lowest-cost of load served as part of DOE SHINES program.	Distributed-solar integration, bulk power market services, local power quality support.
Kingsbery ESS Austin, TX (1.5 MW / 3 MWh)	Client: Austin Energy Battery: LG Chem Li-ion PCS: Parker Hannifin EMS: DG-IC®	Deploy utility-owned energy storage to integrate community and rooftop solar PV at lowest-cost of load served as part of DOE SHINES program.	Distributed-solar integration, bulk power market services, local power quality support.
Horn Rapids ESS Richland, WA (1 MW / 4 MWh)	Client: Energy NW Battery: CATL PCS: Power Electronics EMS: DG-IC®	Smooth the solar output, shift off-peak solar energy generation to times when the energy is needed, and help reduce peak energy demand.	Solar smoothing, firming, and shifting.
Parkview ESS Kalamazoo, MI (1 MW / 1 MWh)	Client: Consumers Energy Battery: Samsung Li-ion PCS: Ingeteam EMS: DG-IC®	Deploy utility-owned energy storage system to support distribution circuit reliability and efficiency.	Peak shaving, voltage support.
John Ferraro Bldg ESS Los Angeles, CA (.2 MW / .8 MWh)	Client: LADWP Battery: Li-ion / Flow Hybrid PCS: Dynapower EMS: DG-IC®	Reduce energy costs for LADWP's headquarters while evaluating two battery technology types for performance, operation, and feasibility.	Energy arbitrage, peak shaving.

ESS Design & Delivery - Korea

Project	Client & Technology	Objectives	Applications
DHI Facility ESS Changwon (12 MW / 70 MWh)	Client: SK E&S Battery: Samsung Li-ion PCS: Plaspo Software: DG-IC®	Increase utility of solar by shifting production to high demand hours.	Peak demand management, energy arbitrage, solar power shifting.
BSS ESS Phase 1 & 2 Gyeongsan-bukdo (3.8 MW / 12.2 MWh)	Client: BSS Battery: LG Chem Li-ion PCS: Plaspo Software: DG-IC®	Reduce energy costs by shifting solar energy production from four systems, using 5 th ESS for peak shaving.	Energy arbitrage, peak shaving.
Uiryong PV + S Gyeongsan-bukdo (3 MW / 8 MWh)	Client: BSS Battery: Samsung Li-ion PCS: Plaspo Software: DG-IC® PV: 3 MW array	Create REC Sales profit by charging and discharging of electricity from solar PV.	Energy arbitrage.
Energy Storage System PV + S Changwon (2.5 MW / 7.5 MWh)	Client: Future Energy Battery: LG Chem Li-ion PCS: Plaspo Software: DG-IC® PV: 1.2 MW array	Reduce energy costs by shifting solar energy production from local solar PV.	Energy arbitrage.
Jeungpyeong ESS Chungcheong-bukdo (2 MW / 10 MWh)	Client: SK E&S Battery: SK Innovation Li-ion PCS: SMA Software: DG-IC®	Reduce energy costs through peak shaving and energy arbitrage and create additional profit through demand response discharge.	Energy arbitrage, peak shaving.
Naju PV + S Jellanam-do (2 MW / 6 MWh)	Client: Ihan Battery: Samsung Li-ion PCS: Plaspo Software: DG-IC® PV: 2.6 MW array	Create REC Sales profit by charging and discharging of electricity from solar PV.	Energy arbitrage.
Industrial PV + S Microgrid Changwon (2 MW / 4.2 MWh)	Client: KOEN Battery: Samsung Li-ion PCS: Plaspo Software: DG-IC® PV: 0.1 MW array	Reduce energy costs by peak shaving and energy arbitrage in conjunction with solar PV.	Energy arbitrage, peak shaving.
HQ Facility ESS Naju (.8 MW / 2.4 MWh)	Client: Korea Power Exchange Battery: Samsung Li-ion PCS: Plaspo PCS	Reduce energy costs through peak shaving and energy arbitrage.	Energy arbitrage, peak shaving.
Changwon Learning Center PV + S Changwon (.5 MW / 1 MWh)	Client: DHI Battery: Samsung Li-ion PCS: Plaspo Software: DG-IC® PV: 0.3 MW array	Reduce energy costs by shifting solar energy production from local solar PV.	Energy arbitrage.

EMS Controls and Optimization - Software Installations and Integrations

Project	Client & Technology	Objectives	Applications
Chisholm Grid Fort Worth, TX (100 MW)	Client: AbleGrid EMS: DG-IC®	Control, monitor, and dispatch 100MW ESS in ERCOT market with less than 150ms response time.	Fast frequency response, regulation services, reserve services, energy arbitrage, and voltage support.
Agawam PV + S Microgrid Agawam, MA (2.5 MW / 4.9 MWh)	Client: Consolidated Edison EMS: DG-IC® PV: 5.1 MW array	Optimized for DC-coupled configuration. Charge the BESS with PV production that exceeds PCS nameplate during the day and discharge during high value afternoon/evening periods to maximize SMART Program and CPEC value	Clipped- PV shift, frequency response.
Springbok 3 Solar Plant PV + S Mojave Desert, CA Predictive PV+S Dispatch	Client: 8minute Solar Energy EMS: DG-IC®	Controls-only solution to dispatch 8minute's Springbok 3 PV+S plant, optimized for DC-coupled configuration.	Leverage solar forecasting, smooth plant output, deliver ancillary services, provide grid support, and automate PPA & ITC requirements.
Glacier ESS Glacier, WA (2 MW / 4.4 MWh)	Client: Puget Sound Energy EMS: DG-IC®	Improve service to a remote community.	Peak shaving, islanding, and frequency response.