C-2-C™ Energy Storage Solutions for Commercial & Industrial Customers

Behind-the-meter C-2-C™ energy storage brings a truly revolutionary cell-to-cabinet design that provides affordability & revenue stacking with a 20-year performance guarantee.

C-2-C™ provides 100% system uptime with its double conversion UPS to protect against all power anomalies like spikes, surges, sags and brownouts. PLUS energy storage mitigates peak charges and power outages to de-risk your business while saving on facility expenses.

SPS

Evolving Energy Storage

C-2-C ™ - All the Benefits of a Double Conversion UPS Plus Energy Storage to Reduce Your Facility's Energy Costs While De-risking Operations

Energy Intensive facilities with critical loads face rising electricity prices, as well as increased risk of outages and grid disruption. In the past, typical solutions have included expensive combined-heat and power (CHP) systems or localized UPS. However, CHP systems are not able to improve power quality and have unacceptably long-switch over times. UPS solutions were, until recently, only able to provide limited backup capability and were cost prohibitive.

Storage Power Solutions' C-2-C™ energy storage system uses proprietary controls to enable a scalable 30-minute to 20-hour storage solution with a double conversion UPS. This flexibility allows commercial and industrial customers to reduce peak demand and energy charges, all while improving power quality and fully isolating the energy supply from the grid. As well, UPS-based solutions for behind the meter customer applications, greatly reducing and simplifying the utility permitting process.

In a nut-shell, C-2-C™ provides 24/7 on-demand, fast response power that is 100% available due to the system's. N+4 fault tolerant design. Improvements in power quality are a result of energy back-feed protection from industrial load transients (motors and motor controllers), as well as reduction of 3rd harmonics from the load and load short circuit currents during motor starts.

One of the real advantages is the easy installation & plug & play capabilities with C-2-C™ Installation and commissioning is simplified by packaging the cell-to-cabinet solution at SPS" Canadian factory before shipping the system to site fully assembled and tested. This breakthrough approach ensures that the energy storage project comes in on time and on budget while ensuring 100% availability for performance over the life of the asset.

IMPROVED POWER QUALITY

- Dynamic reactive power input & output for voltage and frequency correction.
- Power factor correction through pure phase shift to adjust apparent power.
- UPS inverter galvanically isolates the AC input and DC bus from the customer load, eliminating all neutral line common-mode noise coupling.
- 100 MW/min. ramp rate with 4 quadrant charge and discharge capability.

ENERGY SAVINGS

- Enables significant reductions in energy costs through peak demand reduction, energy arbitrage and ability to participate in utility demand response programs.
- Each dual conversion UPS is able to perform 0 – 100% for Demand Response.
- UPS double conversion efficiency > than 96%, and > 98.5% in active intelligent mode.
- BESS round-trip efficiency from DC input to DC output is greater then 93.5%.

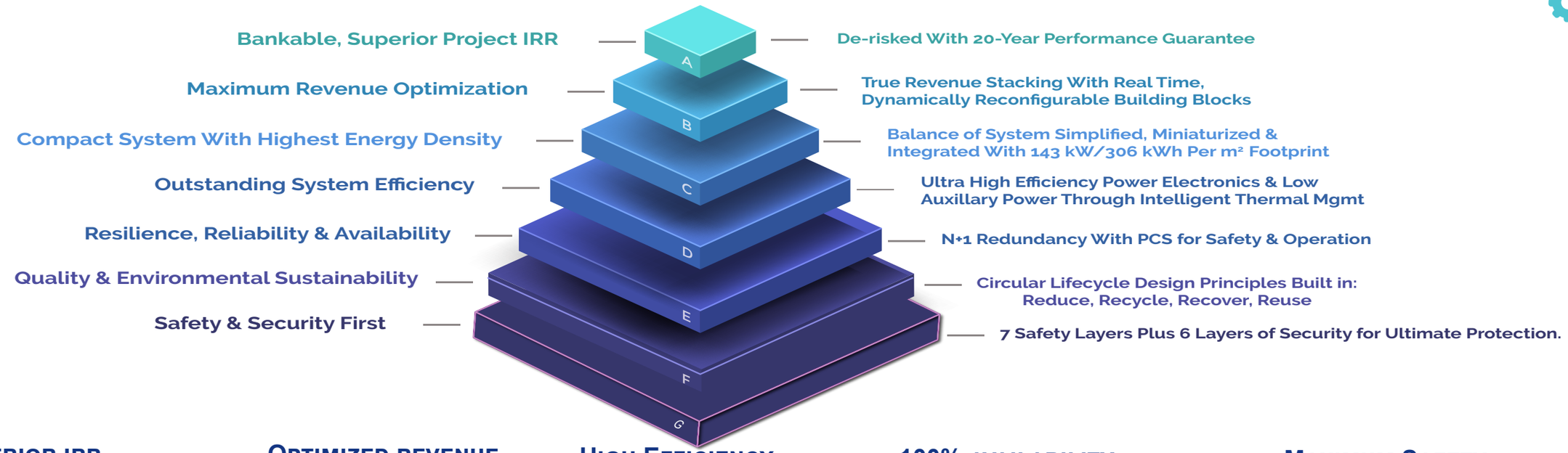
EASY INSTALLATION

- Easy Installation & Plug and Play.
- System integration with the UPS reduces installation complexity and cost.

	1-Hour System	2-Hour System	4-Hour System
300kVA 400Vac 3P	14.5'x6.5'x10'	14.5'x6.5'x10'	24'x6.5'x10'
500kVA 400Vac 3P	21'x6.5'x10'	21'x6.5'x10'	30.5'x6.5'x10'
600kVA 400Vac 3P	14.5'x20'x10'	14.5'x20'x10'	24'x20'x10'
1.0MVA 400Vac 3P	21'x20'x10'	21'x20'x10'	30.5'x20'x10'
1.5MVA 400Vac 3P	50.5'x11.5'x10'	50.5'x11.5'x10'	50.5'x11.5'x20'
2.0MVA 400Vac 3P	38.5x11.5'x20'	38.5'x11.5'x20'	62.5'x11.5'x20'

2.0MVA+ Please Consult Factory

CELL-TO-CABINET STORAGE DESIGNED FOR MAXIMUM CUSTOMER VALUE



Superior IRR

De-risked projects with 20-year performance guarantee.

SPS drives value by eliminating costly balance-of-system components. Installation costs have been reduced through use of modular cartridge technology, perfected in the telecom world. C-2-C™ system arrives at site with all inter-cabinet connections included for quick and seamless installation.

Optimized revenue

For the first time, storage integrates multiple customer value streams to maximize IRR. C-2-C™ enables true revenue stacking by segmenting storage into configurable units which can be dynamically reconfigured in real time to perform distinct revenue functions.

Compact design

Balance of System Simplified, Miniaturized & Integrated, with 143 kW/306 kWh Per m² Footprint.

High Efficiency

NEMA 3R/IP55 rated.

Ultra-high efficiency power electronics & low auxiliary (10 kW) power requirements. Intelligent thermal management using forced air cooling.

Cabling & large switch gear eliminated.

Sustainability

SPS practices Circular Life-cycle Design Principles. LFP cells are 100% recyclable and meet all ROHS compliance requirements.

100% availability

Engineered using principles from telecom applications for enhanced availability, providing cost effective N+4 redundancy and no single point of failure.
MTBF = 300,000 Hours.
MTTR = 60 Minutes.

Response time 2 msec.

Up to -20ºC to 60ºC operation (with de-rating).

High volume automated. manufacturing with strong automotive QA processes built in (IAT 16494:2016).

Maximum Safety

UL1741, UL1973, CSA/UL 9540/A and NFPA855 compliant.

7-Layers of safety built in for optimum protection against thermal runaway - 4 prevention layers and 3 containment layers.

There are an additional 6 unique protection layers for public and worker safety.

Holistic cybersecurity approach that meets IEC-62443-4-1 and BDEW whitepaper and NERC CIP.1.

Storage Power Solutions (SPS), founded in 2014 with its HQ near Toronto, Canada, designs, manufactures and distributes large-scale battery energy storage solutions that are infrastructure-hardened, resilient and affordable.

SPS is uniquely positioned in energy storage, leveraging its 100+ years of experience in AC & DC Power Electronics, UPS Systems, Ni-Cd, VRLA, Ni-MH and LFP batteries, control & monitoring, IP65 N+1 systems with network & asset management tools as well as solar energy.

SPS has designed, deployed and managed over 6 GW/6 GWh in a variety of critical applications. SPS' DNA is critical infrastructure and employs a field-proven system architecture in its C-2-C™ technology. This includes a proprietary front-end with analog intelligent controls of the battery module, enabling plug and play interface with a variety of PCS and UPS. With a focus on reliable and resilient (N+4) system design, SPS' modular approach can scale from 50 kWh to GWh+ and is suited to a variety of applications requiring infrastructure hardening and rugged environments.

SPS

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