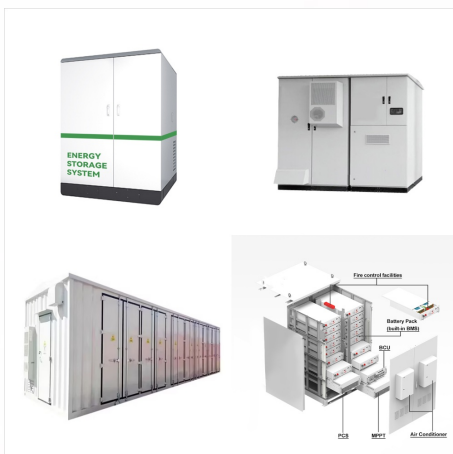




maximum power point (MPP) is achieved using a boost DC-DC converter. The battery bank is designed according to the average load connected to the system and they are stacked in series and parallel to achieve the required voltage and current. It is designed with 20 batteries in series and 3 batteries in parallel with each battery of 12 V, 7 Ah.



2.2.1 Battery disassembly. The first step of battery disassembly is to remove the battery pack from the EV, which requires the use of a trailer to lift the drive wheels of the vehicle and drag it to the operating station at a slow speed.



Infinity Power, a joint venture between Egypt's Infinity and UAE's Masdar, has sealed a 20-year capacity change agreement related to a 40-MW/160-MWh battery energy storage systems (BESS) project with Senegal's national electricity company Senelec.

# SENEGAL BATTERY TO GRID OPERATING POINT



The national electric utility of Senegal, Senelec, has signed a 20-year capacity change agreement (CCA) with developer Infinity Power for a 40MW/160MWh battery energy storage system (BESS) project.



Deep turndown, characterized by operating a battery at very low states of charge, can have adverse effects on battery health, including reduced capacity, configuration consists of a combination of distributed storage units and a centralized storage unit at the point of grid connection. In this work, the semi-distributed approach aims to



Infinity Power announced the signing of a 20-year Capacity Change Agreement with Senelec, Senegal's national electricity company to supply 40MW through a battery energy storage system (BESS). The system ???

# SENEGAL BATTERY TO GRID OPERATING POINT



The capacity charge agreement project with Infinity Power plays a pivotal role across both operational and financial levels through a long-term guaranteed performance to provide increased grid stability, integrate renewable energy into Senelec's electricity grid and empower Senegal in becoming an independent power producer."



The capacity charge agreement project with Infinity Power plays a pivotal role across both operational and financial levels through a long-term guaranteed performance to provide increased grid stability, integrate ???



In recent years, the integration of bidirectional converters in the grid for V2G (vehicle-to-???grid) applications of Electric Vehicles (EVs) has gained significant attention due to its potential to enhance grid stability, energy efficiency, and economic benefits. This analytical review highlights the different topologies of bidirectional converters and discusses various control ???

# SENEGAL BATTERY TO GRID OPERATING POINT



The system will enable Senelec to stabilise the nation's electricity grid and pave the way for further renewable energy growth in Senegal. The BESS is expected to begin construction in early 2024 at the Tob?ne ???



Senegal's national power utility firm Senelec has recently signed a 20-year capacity change agreement (CCA) for a 40MW/ 160MWh (4-hour) battery energy storage system (BESS) project with clean energy developer Infinity Power.



The system is connected to the grid via a three-phase inverter controlled by the Voltage Source Control strategy, ensuring a stable energy exchange with a constant DC bus. In situations where the generated power is insufficient for the proper functioning of the three-phase load or for battery charging, the grid can compensate for the lack of

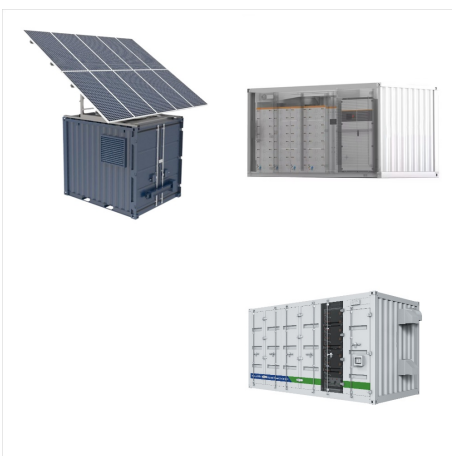
# SENEGAL BATTERY TO GRID OPERATING POINT



Batteries and Transmission ??? Battery Storage critical to maximizing grid modernization ???  
Alleviate thermal overload on transmission ???  
Protect and support infrastructure ??? Leveling and absorbing demand vs. generation mismatch ???  
Utilities and transmission providers can look to batteries as an important tool in addressing ST/LT reliability 4



its existing presence in Senegal, C?te d'Ivoire, Mali, and Madagascar, and begin operations in new countries.<sup>22</sup> MyJouleBox, a France-based company raised ???3 million in 2021 as part of its plan to deploy 36MW of off-grid solar power by 2023 to 55,000 new customers in Senegal, Benin, Burkina Faso, and Togo.



The national electric utility of Senegal, Senelec, has signed a 20-year capacity change agreement (CCA) with developer Infinity Power for a 40MW/160MWh battery energy storage system (BESS) project.



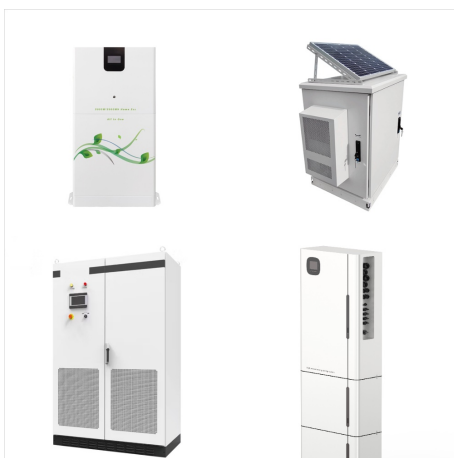
# SENEGAL BATTERY TO GRID OPERATING POINT



Different from the quick charging of electric vehicles, BSS places the battery charging scene on the charging machine in the BSS. Unified charging scheduling of many of standardized batteries will transport the fully charged batteries to the changing cabinet through automatic mechanical equipment for the arrival of EVs [10], [11]. The purpose of studying BSS ???



The system will enable Senelec to stabilise the nation's electricity grid and pave the way for further renewable energy growth in Senegal. The BESS is expected to begin construction in early 2024 at the Tob?ne substation in Thies and is expected to become operational in 2025. Once completed, the system will be one of the largest of its kind



Senegal's national power utility firm Senelec has recently signed a 20-year capacity change agreement (CCA) for a 40MW/ 160MWh (4-hour) battery energy storage system (BESS) project with clean energy ???

# SENEGAL BATTERY TO GRID OPERATING POINT



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The feasible operating voltage at grid supply point is significantly affected by the high level of distributed energy resources (DERs) integration. However, while the operating voltage is typically defined by the transmission system operator (TSO), often the integration of DERs at specific nodes within the distribution system is not taken into

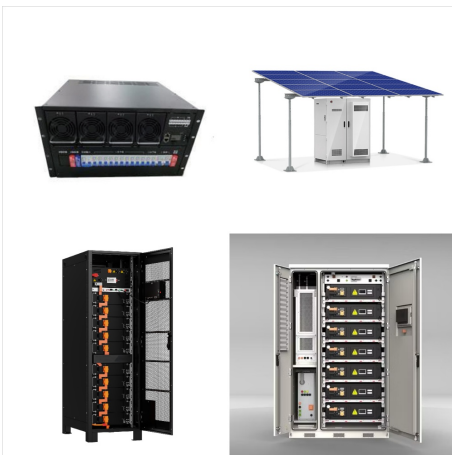


The step size of the perturbation is assumed as 1 V which ensures that the operating point is reached faster at all working conditions and maintains the operating point during the dynamic changes in the system. The phase margin (PM) considered for the controller is enough to handle the large perturbations in the system.

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The Republic of Senegal launched the Energy Sector Development Policy Letter of October 31, 2012, pursuant to Act no. 2010-21 on the Renewable Energy Policy Law of December 20, 2010, and Decree no. 2011-2013 on the Implementation of the Renewable Energy Act. Grid code: A grid code is also expected to be adopted in 2021. This code will allow



Infinity Power, a joint venture between Egypt's Infinity and UAE's Masdar, announced today the signing of a 20-year Capacity Charge Agreement with Senelec, Senegal's national electricity company to supply 40MW through a battery energy storage system (BESS).



# SENEGAL BATTERY TO GRID OPERATING POINT



The 35MWp Kahone and 25MWp Kael solar PV plants procured through the World Bank Group's Scaling Solar programme in Senegal will be commissioned this month, Engie Africa's head of communications Katja ???

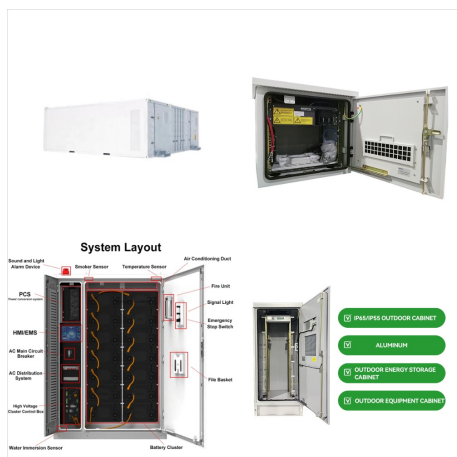


It will provide ancillary services like frequency regulation, reactive power and energy charging and discharging. A CCA is similar to a power purchase agreement (PPA). Senelec estimates that the BESS will save the grid an estimated US\$165 million over its operating life, including by reducing reliance on thermal power plants.



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