



सत्यमेव जयते



पी एन जी आर बी  
PNGRB

# COMPENDIUM OF CASE STUDIES ON SUSTAINABILITY

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OIL AND GAS SECTOR

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**PETROLEUM AND NATURAL GAS REGULATORY BOARD**



## Sectionalization Valve (SV) Station Powered by Hybrid Renewable Architecture

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PMHBL has established India's first SV station that is fully powered by solar PV technology and a Lithium Iron Phosphate (LiFePO<sub>4</sub> or LFP) battery energy storage system (BESS). The setup is managed through hybrid inverters and an integrated SCADA.

This deployment fully retires Diesel Generators (DGs), legacy lead-acid batteries, and conventional battery chargers. It facilitates round-the-clock autonomous management of cathodic protection (CP), SCADA, and telecom functions, delivering a substantial reduction in carbon emissions and operating expenditure.

### BACKGROUND & CONTEXT

Traditionally, SV stations have been manned 24x7 and powered by State Electricity Board with Diesel Generator (DG) backup. Diesel use posed fire risk, environmental concerns, and high maintenance. Manual operation reduced system uptime and responsiveness. In pursuit of safety, sustainability, and reliability, Petronet MHB Limited (PMHBL)

undertook the initiative to eliminate fossil-fuel-based power at SV stations and implement intelligent, remotely operated, renewable-powered infrastructure.

### OBJECTIVES

- Achieve 100% automated SV station operations.
- Eliminate DG dependency to reduce emissions and fire risk.

