

Solar Energy Bore Water Pumping Solution

Regional & Outback Queensland - SEBSS Case Study

1. Agricultural Context & Technical Challenge

Water pumping and livestock irrigation in regional Queensland represent critical farm operations. Traditional reliance on diesel generators or expensive battery banks imposes heavy fuel logistics, high maintenance, and frequent battery replacements in summer temperatures.

2. Direct Solar Load Matching Innovation

SEBSS engineered a direct Photovoltaic (PV) load matching system where motor torque and pumping rates directly scale with incident solar radiation. By eliminating chemical battery banks and utilizing elevated water dams and storage reservoirs, energy storage is achieved at zero ongoing cost.

3. Operational Benefits & Reliability

The system provides 100% off-grid reliability, zero battery maintenance costs, and continuous water availability for livestock and crops throughout dry seasons.