

PIENAAR ENERGY (PTY) LTD

Field solar oxygen supply system



Overview

The solar-powered oxygen delivery (SPO2) system consists of a commercially-available oxygen concentrator, charge controller, battery bank, and solar panels to provide medical-grade oxygen from ambient air without the need for reliable grid access. The systems are custom designed by Dr. Michael. Powering oxygen Pressure Swing Adsorption (PSA) plants with solar energy addresses the common challenge of unreliable or absent grid power in low-resource settings. This is key to ensure security of oxygen supply to children and patients suffering from pneumonia, COVID-19 and other serious. The solution lies in creating a more robust, intelligent, and sustainable oxygen infrastructure, powered by new technology. Here are three areas of innovation that are defining the future of oxygen access. This could help facilitate solar power implementation in MSF by avoiding an extensive need for battery. Help is at hand – a recently completed solar energy system now provides twenty-four hour reliable power, without cost, allowing the hospital to generate its own medical grade oxygen from a three-phase supply. Life supporting oxygen is abundantly available and the cost savings can be re-invested in. E.

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Solar Power to AI: 3 Innovations Reshaping Oxygen Delivery

These systems can generate a continuous supply of medical-grade oxygen for an entire facility. By connecting PSA plants to dedicated solar arrays with battery storage, hospitals can ...

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SOX - Sustainable off-grid oxygen concentration with direct solar ...

The aim of this project was to explore the possibilities of producing concentrated medical grade oxygen with direct solar power during daytime and store it as compressed gas for night-time use.

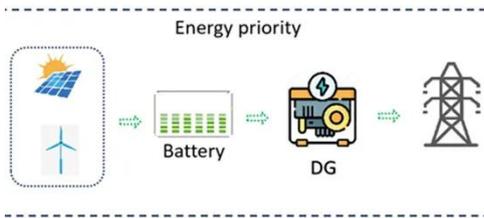


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Solar Power for Oxygen Plants , UNICEF Office of Innovation

The solar power solution is clean and renewable and reduces the overall cost of running PSA plants, whilst protecting children from air pollution and other potential environmental risks. This sustainable ...

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Solar-powered O₂ delivery for the treatment of children

Solar-powered O₂ delivery can overcome gaps in O₂ access, generating O₂ independent of grid electricity. We hypothesized that installation of solar-powered O₂ systems on ...



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Solar Plant makes oxygen

Help is at hand - a recently completed solar energy system now provides twenty-four hour reliable power, without cost, allowing the hospital to generate its own medical grade oxygen ...

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Solar-Powered Oxygen Delivery in Low-Resource Settings

This randomized clinical noninferiority trial compares solar-powered oxygen

delivery vs standard oxygen delivery using compressed oxygen cylinders among children younger than 13 years with hypoxemic ...

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Utility of solar-powered oxygen delivery in a resource-constrained

Solar-powered oxygen (SPO2) is a novel technology developed for delivering therapeutic O₂ in resource-constrained environments. Is the introduction of SPO2 associated with a reduction in ...

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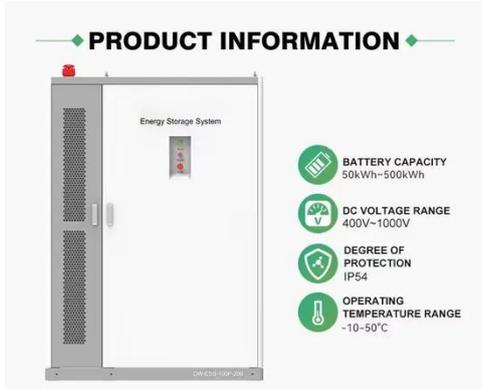
Solar-Powered Oxygen Delivery (SPO2) , Engineering For Change

The solar-powered oxygen delivery (SPO2) system consists of a commercially-available oxygen concentrator, charge controller, battery bank, and solar panels to provide medical-grade ...

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Oxygen Supply Systems Archives



A PSA plant should be designed and built according to an assessment of how much oxygen is needed to supply a direct pipe system plus how much oxygen should be produced to fill cylinders, ...

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