



# Case Study

Optimising Sojitz Blue operations at Meteor Downs Mine with Fuelfix innovative hybrid lighting tower.

## OVERVIEW

Mining operations are expected to be more efficient in their use of hydrocarbons and are looking for tangible strategies to immediately reduce their scope 1 and scope 2 CO2 emissions, whilst maintaining operational reliability and cost efficiency. Sojitz Blue, a prominent player in the mining industry, approached Fuelfix & Tanks2Go with a clear mandate: Identify opportunities for optimising their mine site operations, with a primary focus on mobile plant and equipment.

## CHALLENGE

Prior to engaging Fuelfix, Sojitz Blue relied on traditional diesel-powered lighting towers for their Meteor Downs mine site. With the diesel generator running continuously whilst the lights are in operation, these systems presented operational challenges, including excessive fuel consumption, increased emissions and noise levels, frequent maintenance requirements, and a lack of remote monitoring capabilities. Operating in harsh mine environments posed additional challenges, requiring fail safe solutions that could withstand extreme conditions and ensure operational reliability at all times.

Fuelfix was appointed to provide a dependable and greener lighting solution with the overarching goal to improve operational efficiencies and asset utilisation by:

- reducing fuel consumption and CO2 emissions,
- mitigating National Greenhouse and Energy Reporting (NGER) compliance expenditures,
- reducing maintenance and operational costs,
- ensuring fuel supply security.




<b>LOCATION</b>	Meteor Downs Mine South, QLD
<b>YEAR</b>	2023
<b>INDUSTRY</b>	Mining
<b>FOCUS</b>	Optimise mining operations and reduce CO2 emissions, with a primary focus on mobile plant and equipment.
<b>SOLUTION</b>	Dependable and greener lighting solution

## SOLUTION

Fuelfix hybrid lighting towers (HL270) have illuminated major projects across some of the most challenging environments across Australia and were the ideal lighting solution to address Sojitz Blue' challenges.

Overcoming the constraints of traditional systems, our hybrid lighting towers utilise a highly efficient diesel generator and the latest in LiFEPO4 battery technology to deliver the most efficient power system for lighting applications.

What made these lighting towers exceptional was their ability to operate predominantly on battery power, the system automatically switched between diesel and battery power to maximise reliability and minimise fuel usage and CO2 emissions.

The generator was only engaged to charge the battery, which then powered the lighting system, reducing the manual workload associated with maintenance and refuelling requirements.

The intuitive operating system required minimal training and offered remote monitoring capabilities such as such as informing the operator when they require refuelling.

The ease of transitioning from conventional systems to the hybrid solution contributed to the successful implementation on site.



## VERDICT

The hybrid towers offered a direct like-for-like replacement for existing diesel-powered solutions in the market.

The deployment of Fuelfix's hybrid lighting towers had a transformative impact on Sojitz Blue's mining operations. The solution not only reduced significantly fuel usage but also led to substantial operational efficiencies, cost savings, extended equipment life and a significant reduction in carbon emissions.

During the trial period, the lights operated from 6:00 pm to 5:30 am daily, with the diesel generator running for only 6 hours out of 80 hours of operation, accounting for 8% of the time.



The projected annual savings were impressive with the HL270's proving capable of delivering savings of up to 50% in related fuel and maintenance costs compared to conventional lighting solutions. On an annualised basis, each light eliminates approx. 2 Tonnes less carbon emissions over conventional diesel powered lighting solutions.

The HL270's also promises to deliver significant savings in relation to reduced servicing requirements, with maintenance and refuelling intervals found to be extended by a factor of 4 and 10 respectively over conventional lighting solutions.

The most prominent feature for Sojitz Blue's operational team was the substantially reduced manual workload, saving both time and money.

## Our Go-Greener solution enabled Sojitz to:



Reduce fuel consumption by 50% - Leading to lower operational costs and increased plant lifespan



Reduce workload - Extended refuelling and maintenance intervals compared to traditional diesel-powered units



Reduce CO2 emissions - Approx. 2 Tonnes emissions reduction per unit on an annualised basis



## THE PATHWAY TO A CLEAN ENERGY FUTURE

The mining, resources and energy sector is where the Fuelfix hybrid lighting towers really shine, delivering a superior solution while addressing the challenges posed by traditional diesel-powered lighting systems.

Fuelfix's innovative hybrid lighting towers have enabled Sojitz Blue to drive more cost efficiencies and carbon reduction in their mining operations. The tangible impact, measured through reduced fuel consumption, lower operational expenses, extended plant life, and emissions reduction, underscores the success of this collaboration.

Fuelfix's solution not only meets environmental and compliance objectives but also enhances operational efficiency, making it a strategic choice for Sojitz Blue's sustainable and cost-effective mining operations.

**Two Pathways,  
One Goal**



This project is in line with our [Two Pathways, One Goal Strategy](#) which includes designing and delivering solutions that provide opportunities to reduce carbon emissions and maintain efficient operations with better environmental outcomes.