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# POWER YOUR OPERATIONS WITH THE SOLAR EDGE

Get more from your genset. Mantrac's proven solar technology allows you to save costs and tap into an unlimited supply of energy for uninterrupted power.

# INTEGRATING RENEWABLE ENERGY INTO YOUR POWER SOURCES

Your business already uses gensets or the grid for power. But your ideal operation could achieve significant cost reduction with renewable energy integration.



### Reliable Power supply

Save money as the sun shines



### Longer equipment lifespan

Longer performance cycles for lower OPEX and increased lifetime value



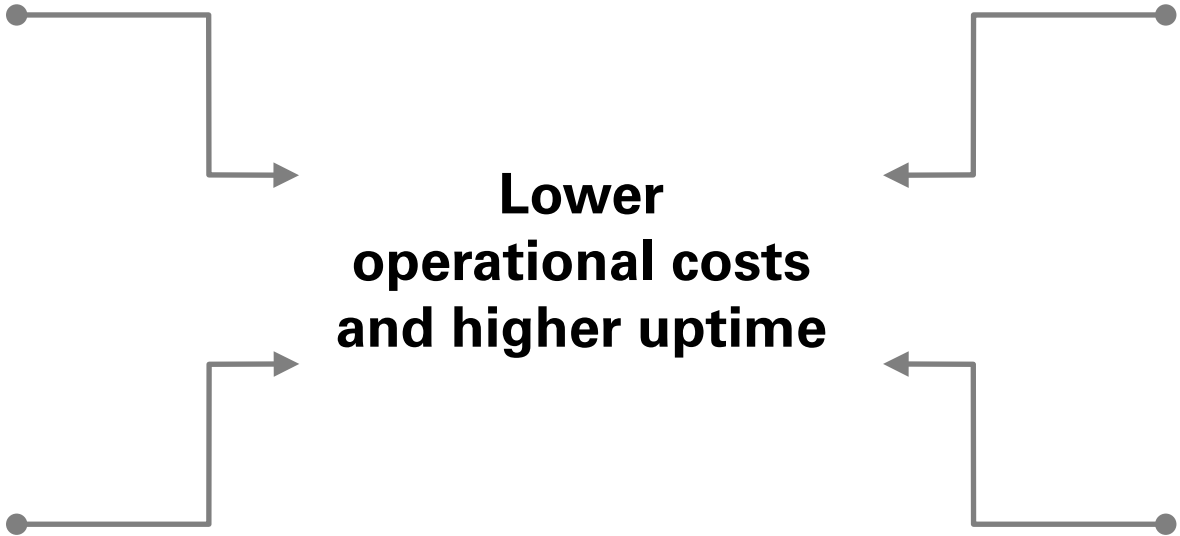
### Lower operational costs

Decrease fuel or grid dependency and offset costs by a large margin



### Reduced emissions

Eco-friendly technology for simpler compliance with regulations



# KEEP OPERATIONS RUNNING WITH UNMATCHED PERFORMANCE

When you enhance your power generation technology with Cat<sup>®</sup> solar photovoltaic (PV) solutions and Energy Storage, you maximise your return on investment in the shortest possible time frame.



## Unmatched performance



**Best in-class technology:** Latest PV technology engineered to work with your existing power set up



**Reliable:** Designed to be roof or ground mounted, our PV solutions are built to last a lifetime



**Intelligent:** Cat Microgrid controllers allow you to switch to the cheapest energy source at all times



**Industry-leading warranty:** Rigorously tested for life and stress, Cat PV panels come with a 25 year performance warranty

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# SOLAR SOLUTIONS TAILORED TO SPECIFICATIONS

Cat solar solutions serve various industries, in multiple configurations, with proven durability over decades.



## Technology

### Cat photovoltaic modules:

Cat Monocrystalline, Bifacial or Thin film panels can be engineered to be roof or ground mounted

### Cat Microgrid Master Controllers (MMCs)

MMCs seamlessly integrate traditional gensets and renewable energy sources while providing:

- Real-time monitoring
- Control of assets in a common location or over a wider area
- Switching between generators, grid, solar and energy storage



## Configurability

### System configurability:

- Depending on your needs, Cat solar panels allow us to recommend various systems: grid-tied, photovoltaic-diesel hybrid, off-grid, microgrid

### Upgradability

- Cutting-edge design and technology that allows for upgrades and additions when you need them.

# MANTRAC CAN MAXIMISE YOUR SOLAR UPGRADE

We support your operation, starting with product selection, design and commissioning, through installation and after-sales service.



## Choice of service level

**We put the entire system together for you, or we can tailor services:**

- Design
- Installation
- Financial analysis
- Consultation



## Flexible Systems

**Designed to work around your existing power set up:**

- Stand alone PV systems
- Ability to work with non-Cat generators



## Financing

**Minimise upfront costs:**

- Take advantage of tailored financing solutions
- Power Purchase Agreements: Pay a set dollar amount per kWh over a contract period



## Operation & maintenance

**Lifecycle support:**

- Choice of service level and regular maintenance
- One stop shop for all component warranty claims

A MANTRAC CASE STUDY

# SOLAR SOLUTIONS: TOURISM INVESTS FOR THE FUTURE



# SOLAR SOLUTIONS: TOURISM INVESTS FOR THE FUTURE

Future Group Travel was in need of an independent, reliable power source, and Mantrac took the lead in providing a sustainable power generation solution with solar.

## Scope of work



Create a solar microgrid with minimal OPEX



Complete commissioning with civil design and execution



Design and install associated structures for the PV panels



Complete electro-mechanical installation



Accomplish project in an environment with varying temperatures

# SOLAR SOLUTIONS: TOURISM INVESTS FOR THE FUTURE

## Solution

- Commission a micro-grid 1.5 MWp ground-mounted Solar solution integrated to Cat generators
- In 3 days, source and deliver to site: PV panels, totalising panel, mounting structures, adaptation panels, power and control cables
- Develop a cloud forecasting system to start up generators before clouds pass



## Impact

**2,985**  
**mWh/year**  
power generation

**30%**  
**less**  
fuel consumption

**805,000**  
**litres/year**  
diesel fuel saved

**2,093 tons**  
**reduction**  
in CO<sub>2</sub> emissions

**4,475 kg**  
**reduction**  
in NO<sub>x</sub> emissions

**1,182 kgs**  
**reduction**  
in sulphur emissions



RELATED ASSETS

# EXPLORE OUR GAS GENSET RANGE FOR OPTIMAL OPERATIONS

## COMMERCIAL MATERIAL

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Get an overview of the entire range of solar power solutions by viewing our brochures and videos.

## PROJECT REFERENCES

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See how Mantrac has successfully delivered solar power solutions for customers across industries.

## TECHNICAL DOCUMENTS

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Understand the types of solar power solutions that are ideal for your specific operational needs.

## PRODUCT SPECIFICATIONS

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Get all the details on prospective solar power solutions for your operations.