SOLARATOR® SUCCESS STORIES

BLACK STUMP
SMART GREEN POWER FOR A BETTER PLANET

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BLACK STUMP

SMART GREEN POWER
FOR A BETTER PLANET

The proven alternative to dirty diesel:

BLACK STUMP Solarator®

BLACK STUMP

SMART GREEN POWER
FOR A BETTER PLANET

Clean energy
Sustainable refrigeration

CONSTRUCTION

INFRASTRUCTURE

MINING

TRANSPORTATION

REMOTE COMMUNITIES

DEFENCE

RAPID AID & DEVELOPMENT

AGRICULTURE & AQUACULTURE

GOVERNMENT & EVENTS

ROSEHILL,
NEW SOUTH WALES

Construction site operating entirely on renewable energy

Overview:

The Sydney Metro West - Western Tunneling Package spans a 9km twin metro rail tunnel which involves civil structures and excavations for services facility at Rosehill.

Key challenge:

Sustainability is ingrained in Gamuda Australia's core values, and is reflected on their strategic focus and goals outlined in Gamuda Green Plan 2025. Thus, decarbonising construction sites is a priority.

Project wins:

- 342 MWh/year renewable energy production
- Tunnel Infrastructure Academy runs entirely on clean, solar energy
- Market leadership in sustainable and innovative construction practices
- Easily redeployed at multiple temporary project sites ensuring ROI

BLACK STUMP Solarator microgrid

I want to learn more about this Solarator®.

$1.27 M

Fuel cost savings p.a.

960,000 KGS

CO2 emissions savings p.a.

MULTIPLE LOCATIONS, VICTORIA

Australia's first carbon-positive site

Overview:

Dubbed as the Western Program Alliance, the Victorian state government has set a goal to remove hundreds of dangerous level crossings by 2030.

Key challenge:

As the lead constructor, McConnell Dowell wanted to implement sustainable construction practices throughout the project lifespan.

Project wins:

- Decarbonised several construction sites by replacing diesel-powered generators
- Market leadership in sustainable and innovative construction practices
- Power bill in credit
- Ministerial visit
- High publicity and media attention
- Project was part of Black Stump's winning entry for Premier's Sustainability Awards 2021

BLACK STUMP Solarator® grid-connect

I want to learn more about this Solarator®.

140,000 KWH

Renewable energy generated p.a. across three deployments

109,000 KGS

CO_2 emissions savings p.a. across three deployments

STOCKING ISLAND, BAHAMAS

Off-grid island resort

Overview:

Coconut Club is located along the pristine white sand in the Exumas. It is a full-service beach club with bar, restaurant, and water activities.

Key challenge:

This secluded beachfront facility is only accessible by boat or seaplane and is fully exposed to harsh and unpredictable weather conditions. Diesel-powered generators and cold storage facilities are too costly and are logistical nightmares.

Project wins:

- Walk-in cold storage space for food, drinks, and ice
- Significant cost reduction by using solar energy to power the entire site
- Low maintenance and servicing required
- Quiet and reliable generator to ensure a comfortable stay for guests

Solarator fold-out 75+

I want to learn more about this Solarator®.

Solarator chill

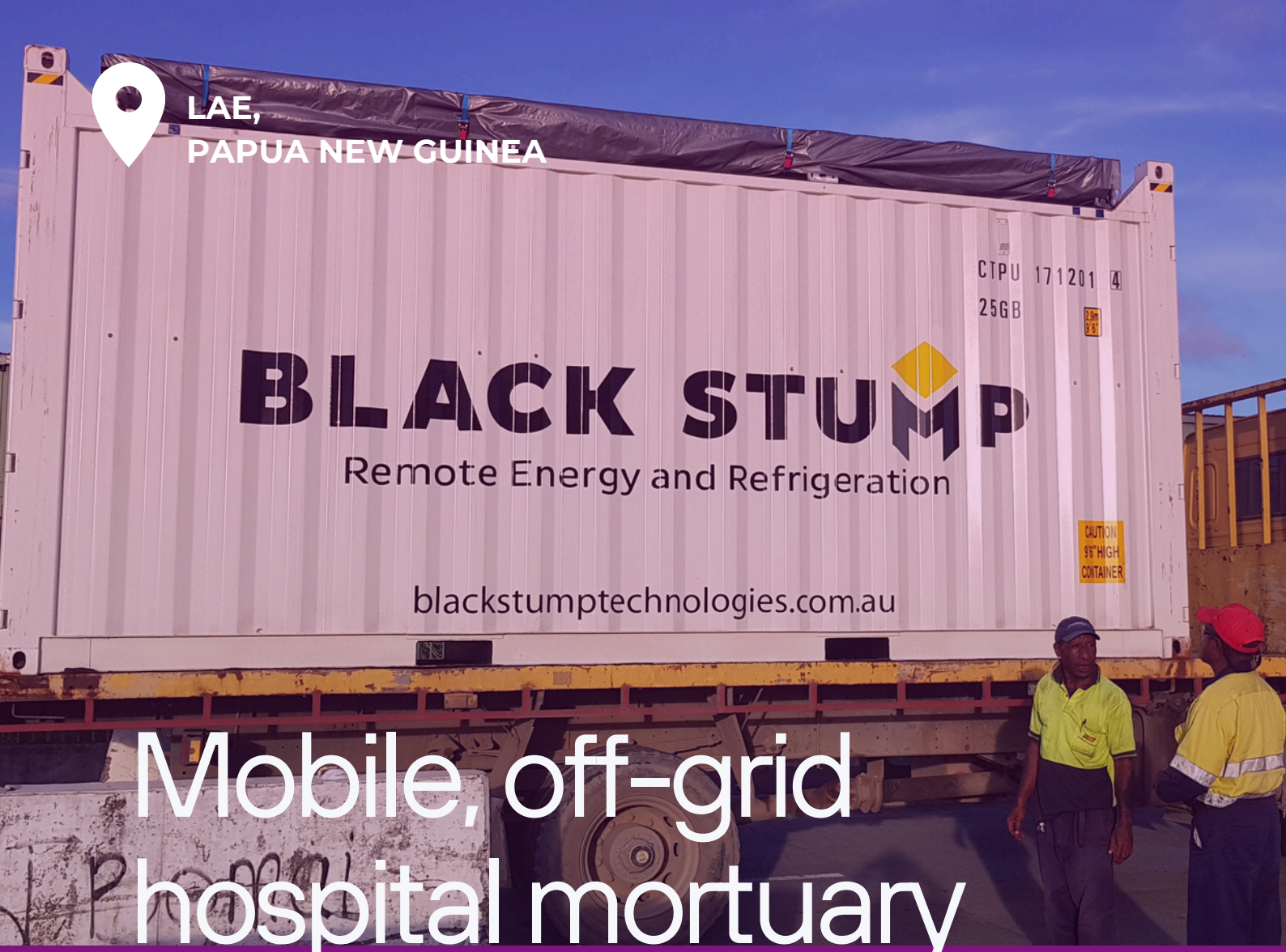
I want to learn more about this Solarator®.

$110,000

Fuel cost savings p.a.

170,000 KGS

CO_2 emissions savings p.a.



Mobile, off-grid hospital mortuary

Overview:

ANGAU Memorial Hospital is one of the largest hospitals in Papua New Guinea that provides critical medical services for the city of Lae and its neigbouring residents.

Key challenge:

In 2018, the Australian Department of Foreign Affairs and Trade (DFAT) and CPB Contractors began to redevelop the hospital increasing its medical capacity and ancillary services. However, essential services like a mortuary cannot operate on an unreliable grid connection during renovation.

Project wins:

- Dignity for the deceased and family
- Easy-to-transport mortuary that works 24/7 in all conditions
- Redeployed to another community after project completion ensuring ROI

BLACK STUMP Solarator® morgue

I want to learn more about this Solarator®.

$48,700

Fuel cost savings p.a.

58,600 KGS

CO2 emissions savings p.a.

KALAF VILLAGE,
DJIBOUTI

Battery charging business for remote communities

Overview:
Liquidstar, the United States Agency for International Development (USAID), and the Ministry of Energy and Natural Resources of Djibouti have been working on a 2-year program to deploy clean energy, network connectivity hubs, and economic opportunities to remote areas.

Key challenge:
Communities living off the grid have little to no access to potable water, rechargeable batteries, and internet.

Project wins:

- Easy access to potable water through an in-built Atmospheric Water Generator
- Mobile, solar-powered battery and e-bike charging stations
- Income-generating opportunities for the community through retail charging kiosks

BLACK STUMP Solarator® custom

I want to learn more about this Solarator®.

$60,000
Fuel cost savings p.a.

44,200 KGS
CO2 emissions savings p.a.

NEWELL HIGHWAY,
NEW SOUTH WALES

Regional highway upgrade project

Overview:

From 2019 to 2023, Transport for NSW, AECOM, and BMD have embarked on a $1.7B project to construct 60kms of new overtaking lanes and improve highway resilience and reliability along the Newell Highway.

Key challenge:

Since the project was done in stages along a 1,000km stretch of road, there were varying ground and weather conditions, logistics, and resourcing issues to deal with.

Project wins:

- Market leadership in sustainable and innovative construction practices
- Less time-consuming and more cost-effective than building permanent solar infrastructure
- Easily redeployed at multiple temporary project sites ensuring ROI

BLACK STUMP Solarator® fold-out 50+

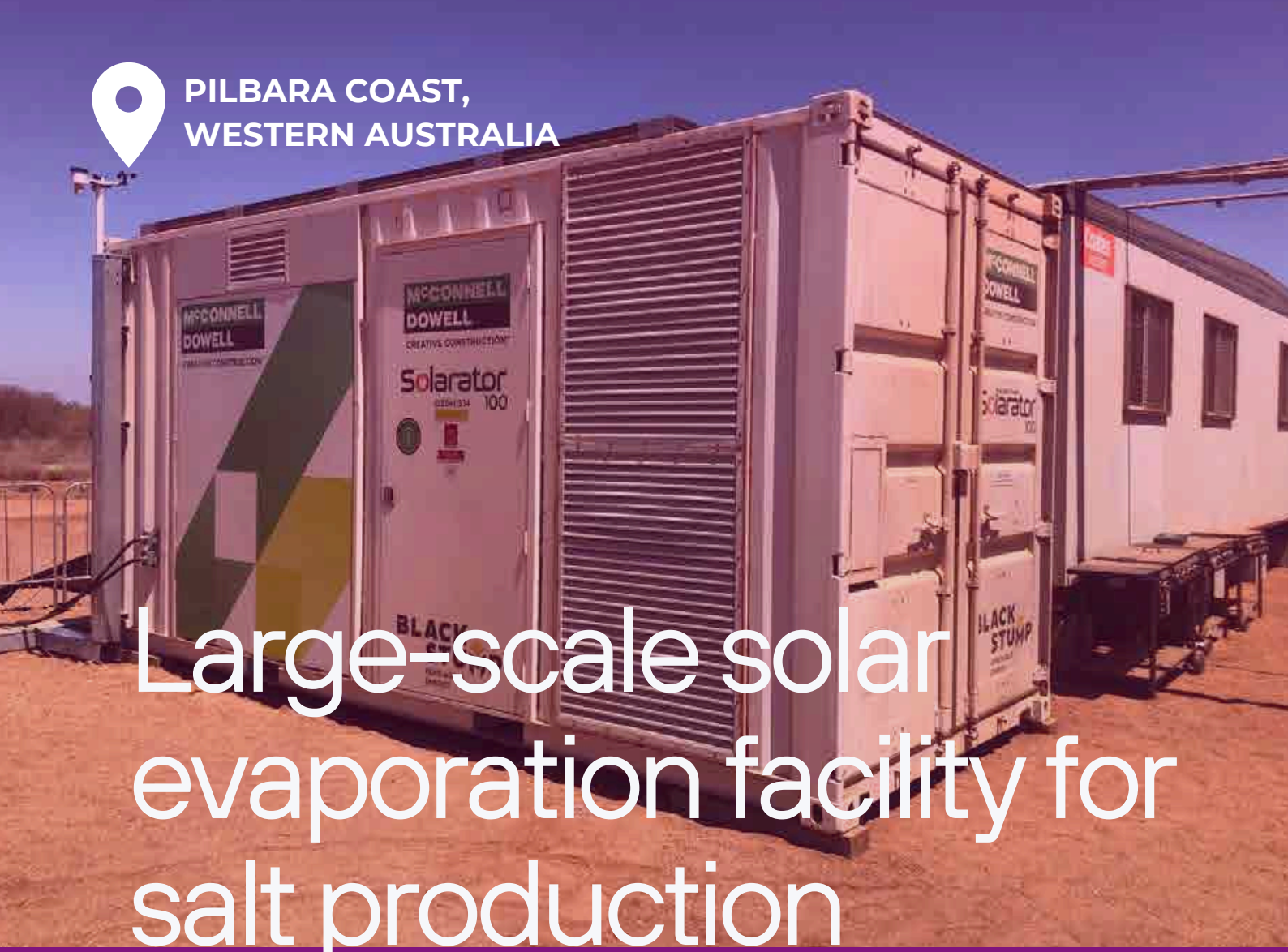
I want to learn more about this Solarator®.

$168,000

Fuel cost savings p.a.

225,000 KGS

CO2 emissions savings p.a.



PILBARA COAST,
WESTERN AUSTRALIA

Large-scale solar evaporation facility for salt production

Overview:

McConnell Dowell is delivering the largest capital works contract for BCI Minerals' solar evaporation operations called Mardie Salt & Potash Project. It is set to be a large-scale, multi-generational and sustainable salt production facility in the region.

Key challenge:

Difficult site conditions include high ambient heat, fine red dust, and cyclone potential. The site also has limited space for equipment.

Project wins:

- Quiet and reliable operations
- Comfortable workers camp
- Compact, robust and vandal-proof design ideal for extreme conditions
- Performance data used for ESG compliance and strategic business decisions

BLACK STUMP Solarator® compact 150+

I want to learn more about this Solarator®.

$136,000

Fuel cost savings p.a.

205,000 KGS

CO2 emissions savings p.a.

WOOMERA,
SOUTH AUSTRALIA

Temporary workspace & energy source

Overview:

Located in a restricted military and aerospace facility in South Australia, the Australian Department of Defence, Science, and Technology Group (DSTG) required temporary yet comfortable workspaces and a reliable energy source in a remote area.

Key challenge:

Due to Woomera being a high temperature ambient environment, it can be a difficult place to work in especially during dry, Australian summers. The remoteness of the place also presented challenges in keeping critical equipment operational.

Project wins:

- Spacious, fully airconditioned workspace for four people
- Clean and reliable energy source
- Works 24/7, all year round

BLACK STUMP Solarator® office

I want to learn more about this Solarator®.

$62,350

Fuel cost savings p.a.

58,600 KGS

CO2 emissions savings p.a.

COLORADO, USA

Cold storage at organic market & farm

Overview:
Local farmers and entrepreneurs who regularly sell at organic markets need on farm cold storage and sales fridges.

Key challenge:
Purchasing a sales fridge or renting a diesel-powered cool room is not a viable option for small and medium scale entrepreneurs. Local producers also deal with product spoilage and unreliable energy sources especially when travelling to various farmers markets.

Project wins:

- Fresh produce and longer shelf life
- Increased capacity for local producers selling at farmers markets
- Mobile and modular design solves transportation and deployment issues even for small-scale market operators

BLACK STUMP Solarator® chill

I want to learn more about this Solarator®.

$57,700
Fuel cost savings p.a.

63,600 KGS
CO2 emissions savings p.a.

MULTIPLE LOCATIONS, VICTORIA

Clean energy for tourism & hospitality

Overview:
Select hospitality groups and Tourism Victoria collaborated in a series of pop up events promoting regional tourism activity.

Key challenge:
The eco-luxury pods were to be moved around different wineries and should have enough power to operate two shipping container-style accommodations, a hot tub, and car.

Project wins:

- Carbon-neutral operation using solar-powered generators
- Compact, quiet, and highly mobile energy source solves transport issues
- Design of solar generator fits well with overall aesthetic of event

BLACK STUMP Solarator custom

I want to learn more about this Solarator®.

$31,400
Fuel cost savings p.a.

33,600 KGS
CO2 emissions savings p.a.

OURIMBAH,
NEW SOUTH WALES

Road safety improvements on major interchange

Overview:
Transport for NSW is investing millions into its Network Efficiency Program which includes the safety improvements done on the M1 Pacific Motorway Ourimbah interchange.

Key challenge:
Replace costly and noisy 30kVa diesel generator operating on site. Being a government project, value for money to Australian tax payers is an important consideration.

Project wins:

- Compact, quiet and reliable operations
- Performance data used for ESG compliance and strategic business decisions
- Easily redeployed at multiple temporary project sites ensuring ROI

BLACK STUMP Solarator® compact 25+

I want to learn more about this Solarator®.

$100,000
Fuel cost savings p.a.

135,000 KGS
CO2 emissions savings p.a.

VANUATU

Government sponsored agri project

Overview:
This project was a pilot demonstration made in partnership with Vanuatu Department of Agriculture and Rural Development (DARD) and the International Institute for Energy Conservation (IIEC). It aims to showcase the use of efficient and clean cooling technology at a reasonable cost for local farmers.

Key challenge:
Traditional cold storage rooms used for food preservation and cold chain logistics operate using expensive and hard-to-source diesel

Project wins:
- Opportunity to sell to more markets using cost-effective cold storage
- Local community has more access to fresh produce
- Reduction of food waste and operating cost

BLACK STUMP Solarator® chill

I want to learn more about this Solarator®.

$59,100
Fuel cost savings p.a.

58,600 KGS
CO2 emissions savings p.a.

AUSTRALIA

Custom mortuary for rapid disaster relief

Overview:

The Australian Department of Defence is always on the lookout for innovative products and cost-effective technology to improve rapid aid and development.

Key challenge:

In relief operations, cold storage is used to transport food, medicine, or casualties. Thus, battery capacity is mission critical for continuous operations.

Project wins:

- Custom engineering and design suitable for military requirements
- Compact, rapidly deployable, and solar-powered battery banks with 5-day hold-over capacity
- Compliant with NATO specifications for rapid air transport

BLACK STUMP Solarator custom

I want to learn more about this Solarator®.

$37,700

Fuel cost savings p.a.

43,600 KGS

CO2 emissions savings p.a.

HEYSEN TUNNEL,
SOUTH AUSTRALIA

Major tunnel refit and upgrade

Overview:

Australia's Department for Infrastructure and Transport appointed McConnell Dowell to manage the safety, traffic management, and incident response capabilities of Heysen Tunnels. This project was part of the $350M South Eastern Freeway Upgrade providing the most direct connection between Adelaide and Melbourne.

Key challenge:

The site does not have enough real estate for a fixed solar infrastructure or full roll-out of solar arrays. It also requires continuous, reliable energy for night operations and site hut power.

Project wins:

- Excellent site team engagement
- Quiet and continuous operations
- Compact design
- Performance data used for ESG compliance and strategic business decisions

BLACK STUMP Solarator compact 50+

I want to learn more about this Solarator®.

$95,000

Fuel cost savings p.a.

128,000 KGS

CO2 emissions savings p.a.

Food & beverage cooling at major event

Overview:

Off The Grid is an annual environmentally conscious festival celebrating music, art, culture, and eco-lifestyle. In 2017, it was Australia's only solar-powered festival.

Key challenge:

The entire festival operations must be self-sufficient and zero-waste, relying only on renewable sources of energy and battery banks.

Project wins:

- 100% solar-powered cold storage with generous space for food, drinks, and ice
- Worked reliably throughout 3-day event
- Cost-effective rental unit

BLACK STUMP Solarator® chill

I want to learn more about this Solarator®.

$57,700

Fuel cost savings p.a.

63,600 KGS

CO2 emissions savings p.a.

BARWON, VICTORIA

Renewable energy source for site huts

Overview:
Symal was commissioned to deliver a community infrastructure project involving the Chisholm Road Prison Precinct.

Key challenge:
Replace costly and noisy diesel generator to power temporary site huts, first aid facility and toilet blocks.

Project wins:

- Quiet and reliable operations
- Comfortable workers camp
- Minimal labour required to deploy and stow solar arrays
- Performance data used for ESG compliance and strategic business decisions

BLACK STUMP Solarator® fold-out 50+

I want to learn more about this Solarator®.

$32,000
Fuel cost savings p.a.

100,000 KGS
CO2 emissions savings p.a.

NARRE WARREN,
VICTORIA

Large-scale local road network upgrade

Overview:
Major Road Projects Victoria and McConnell Dowell partnered to deliver major road improvements in Melbourne's south eastern growth corridor.

BLACK STUMP Solarator® compact 25+

I want to learn more about this Solarator®.

Key challenge:
Decarbonisation is a focus for McConnell Dowell and the State of Victoria. It is imperative for big business to carve a path to net zero while using cost-effective and turnkey solutions. The site also lacks space for fixed solar infrastructure or full roll-out of solar arrays.

$57,800
Fuel cost savings p.a.

Project wins:

- Tangible, sustainable actions onsite leading to team buy-in
- Quiet operations
- Compact design
- Performance data used for ESG compliance and strategic business decisions

77,000 KGS
CO2 emissions savings p.a.

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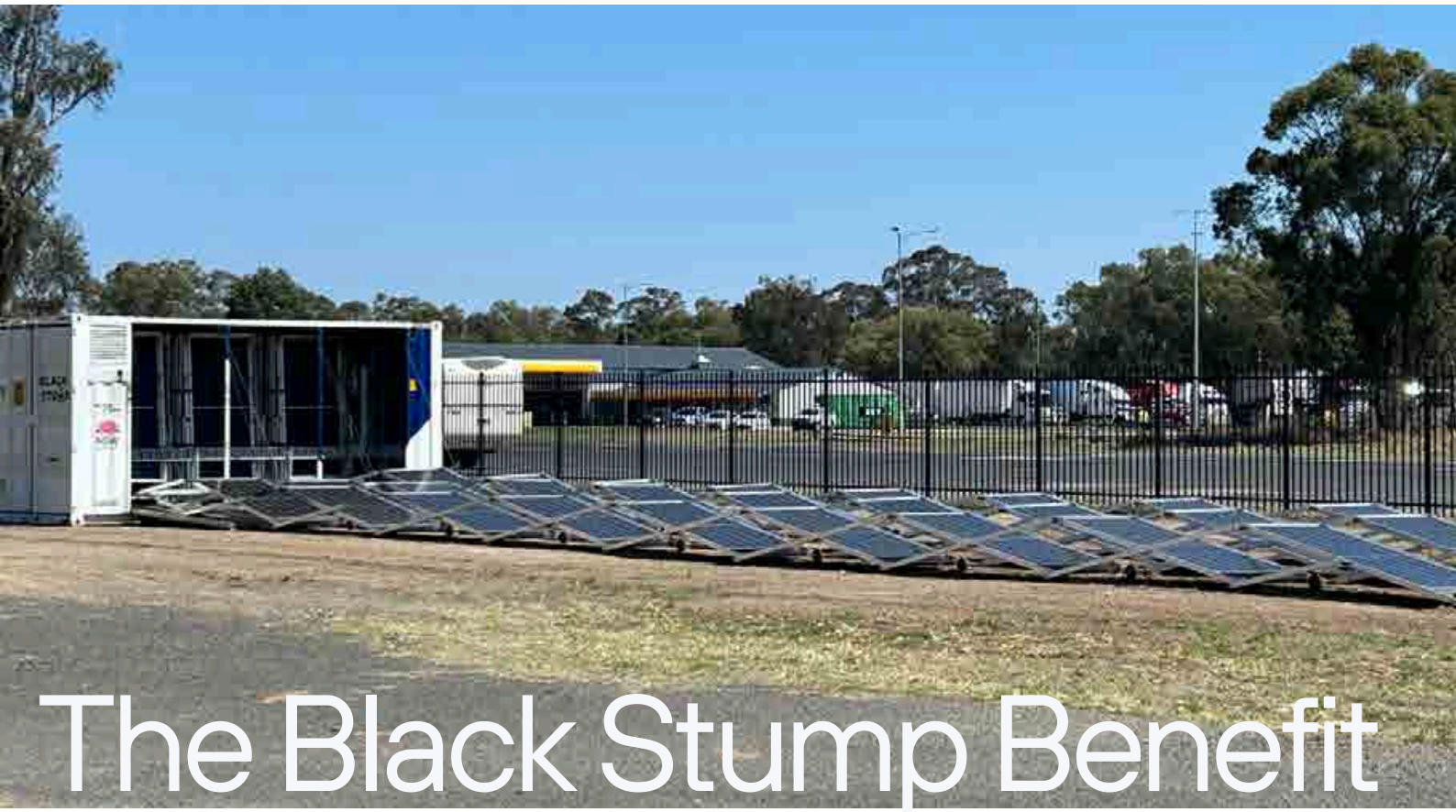

The Black Stump Benefit

SIGNIFICANT COST SAVINGS

EMISSIONS REDUCTION

ESG REPORT IN MINUTES

RELIABILITY IN ALL CONDITIONS

EASE OF USE & INSTALLATION

BLACK STUMP
SMART GREEN POWER
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OUR GLOBAL FOOTPRINT

Black Stump Technologies is a sustainability technology company operating globally.

Our core technology was developed to withstand the harshest Australian remote areas which means it will work anytime, anywhere in the world. Our Solarators® can be found in Australia, USA, the Pacific Islands, and Europe, with plans to expand in Middle East and Asia. Our impact is environmental, economic, and social. Our products are proven in assisting organisations to achieve their sustainability goals and operational objective of net zero. Our customers include global infrastructure companies, the highest levels of government, defence departments, international aid & development operations, and remote communities.

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