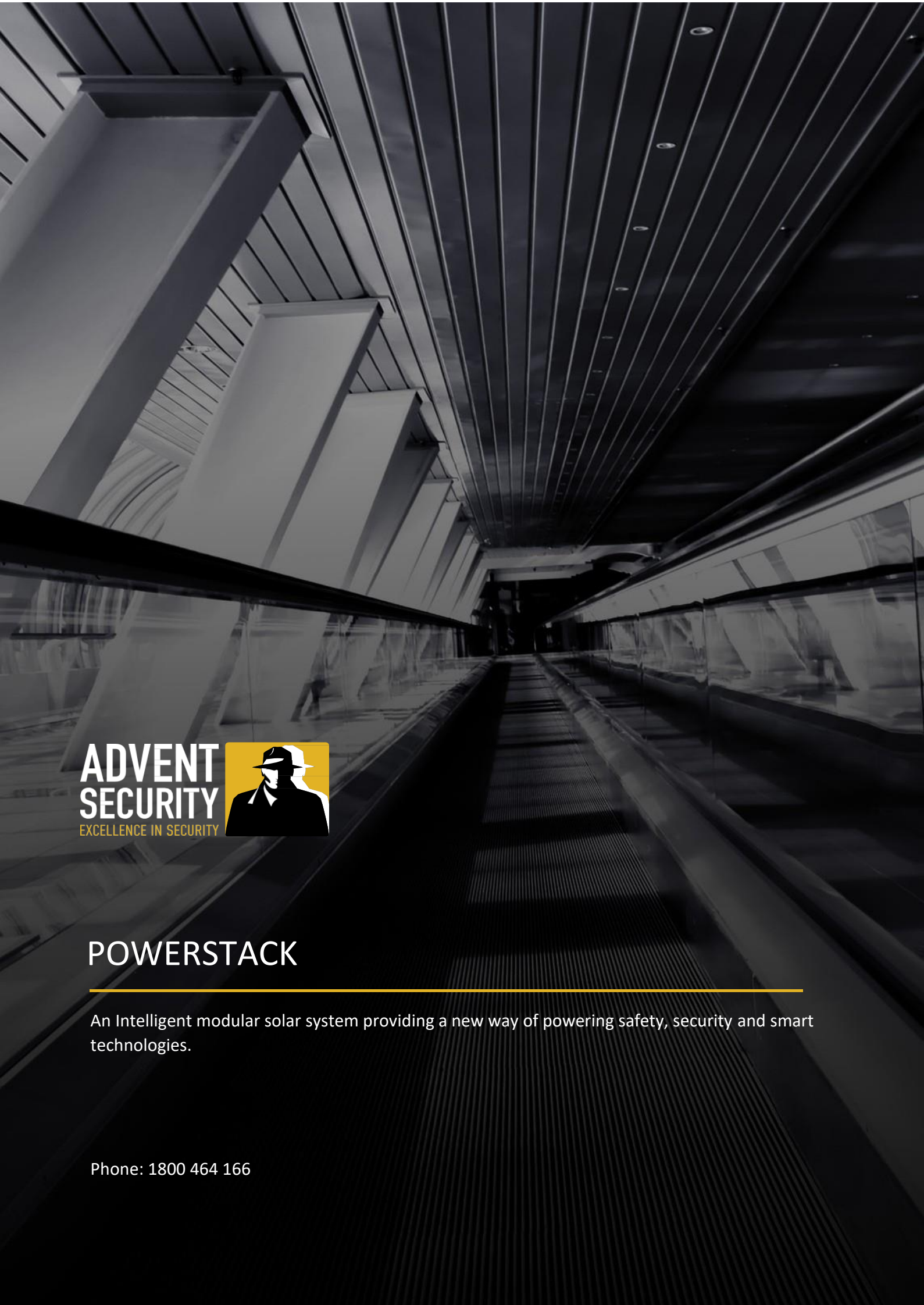


ADVENT SECURITY
EXCELLENCE IN SECURITY

POWERSTACK

An Intelligent modular solar system providing a new way of powering safety, security and smart technologies.

Phone: 1800 464 166

POWERSTACK™

100% off-grid renewable power solutions.

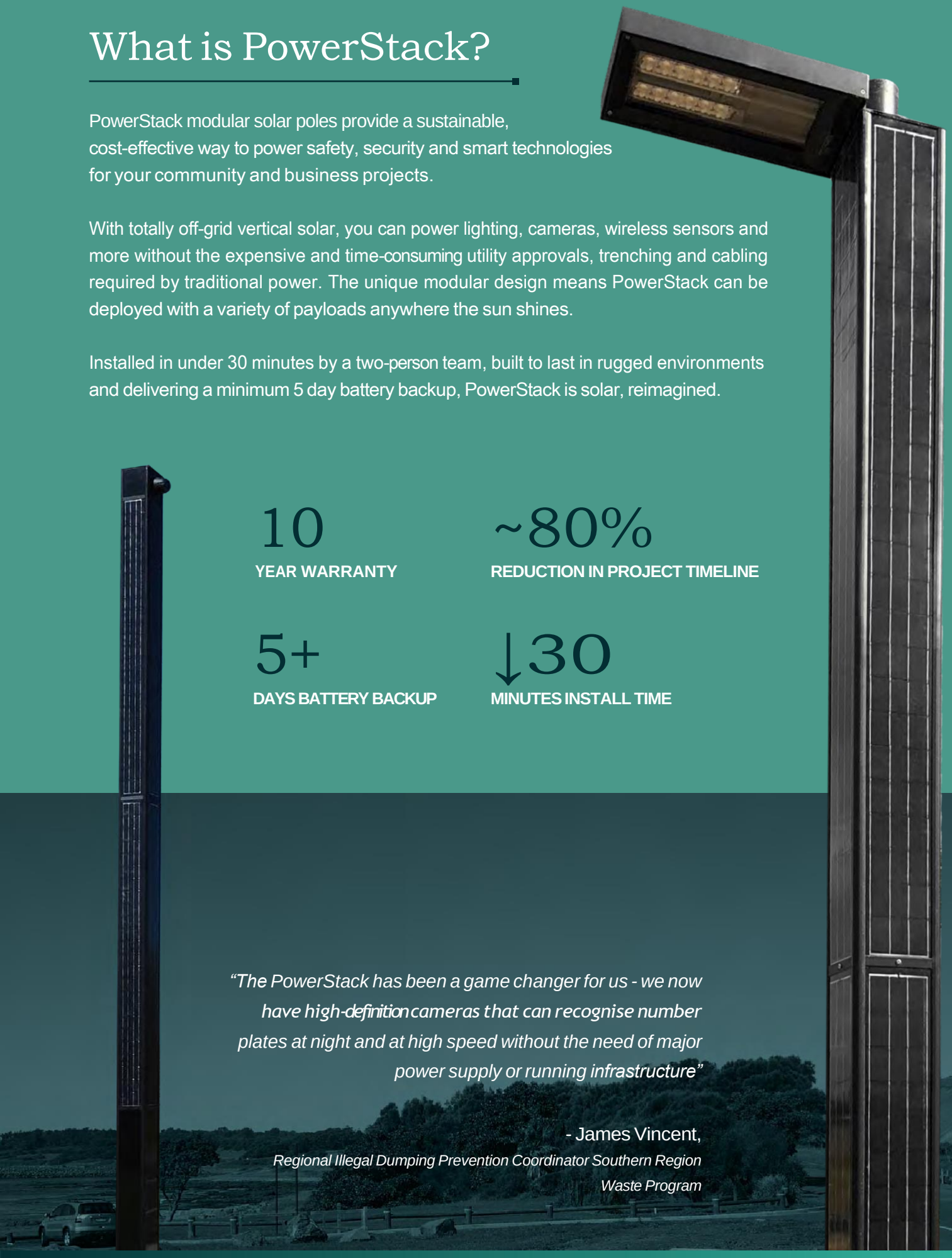
Solar Reimagined.

What is PowerStack?

PowerStack modular solar poles provide a sustainable, cost-effective way to power safety, security and smart technologies for your community and business projects.

With totally off-grid vertical solar, you can power lighting, cameras, wireless sensors and more without the expensive and time-consuming utility approvals, trenching and cabling required by traditional power. The unique modular design means PowerStack can be deployed with a variety of payloads anywhere the sun shines.

Installed in under 30 minutes by a two-person team, built to last in rugged environments and delivering a minimum 5 day battery backup, PowerStack is solar, reimagined.



10
YEAR WARRANTY

~80%
REDUCTION IN PROJECT TIMELINE

5+
DAYS BATTERY BACKUP

↓30
MINUTES INSTALL TIME

"The PowerStack has been a game changer for us - we now have high-definition cameras that can recognise number plates at night and at high speed without the need of major power supply or running infrastructure"

- James Vincent,
Regional Illegal Dumping Prevention Coordinator Southern Region Waste Program

POWERSTACK™

Solar designed differently.

Fully integrated, built to last and using best in class materials, each element of the PowerStack system has been designed to deliver maximum performance and quality.

Agnostic

Easily integrates with a wide range of different technologies and brands.

Intelligent

Smart solar tracking system with Bluetooth and 4G Wi-Fi available.

Powerful

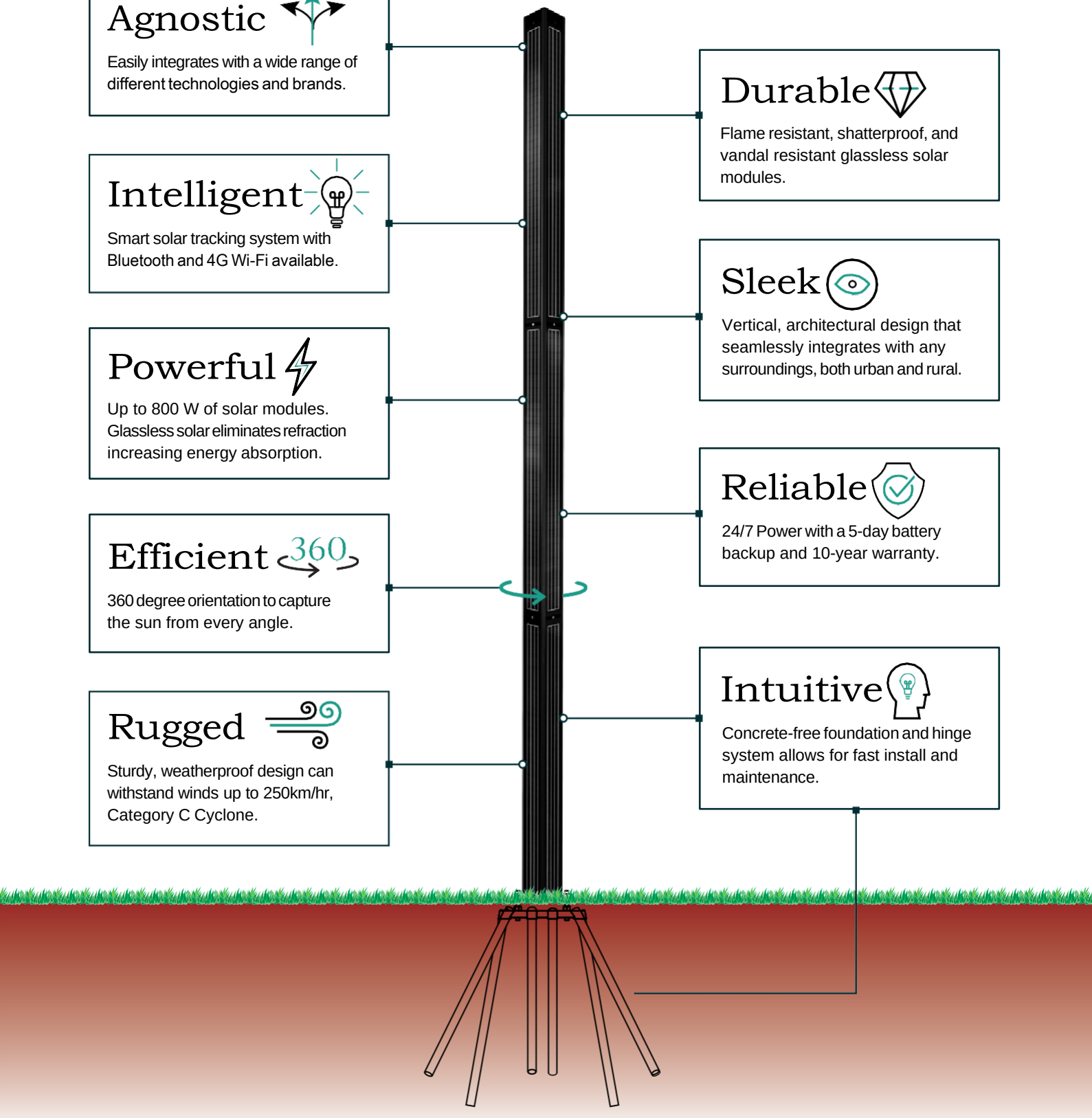
Up to 800 W of solar modules. Glassless solar eliminates refraction increasing energy absorption.

Efficient 360

360 degree orientation to capture the sun from every angle.

Rugged

Sturdy, weatherproof design can withstand winds up to 250km/hr, Category C Cyclone.



Durable

Flame resistant, shatterproof, and vandal resistant glassless solar modules.

Sleek

Vertical, architectural design that seamlessly integrates with any surroundings, both urban and rural.

Reliable

24/7 Power with a 5-day battery backup and 10-year warranty.

Intuitive

Concrete-free foundation and hinge system allows for fast install and maintenance.

Solar Reimagined.

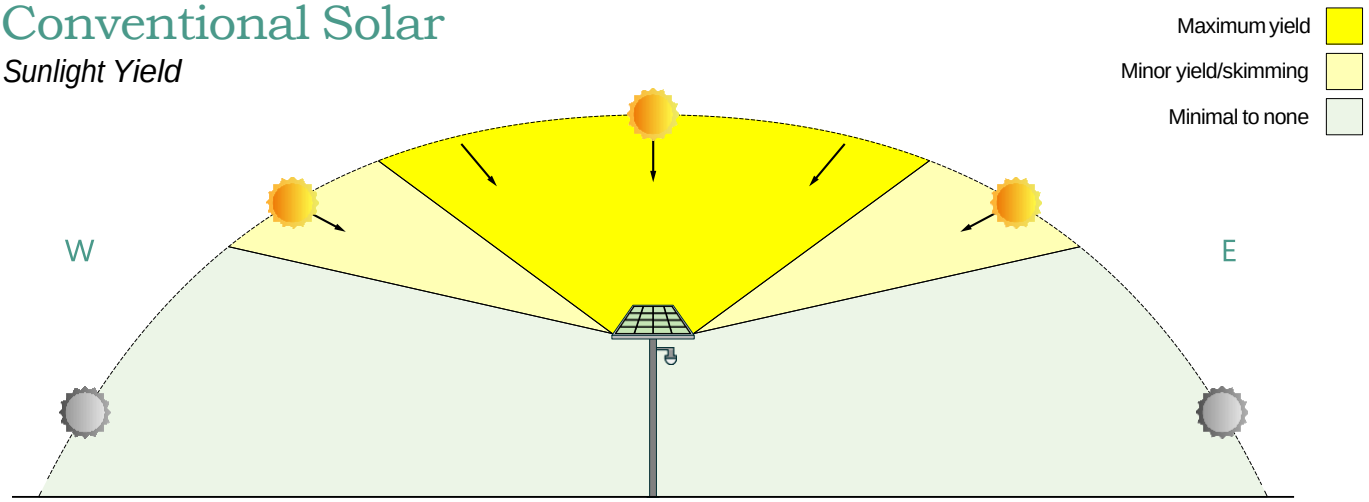
Why vertical solar?

PowerStack's vertical design overcomes many of the limitations of traditional solar. When the sun is lower in the sky, PowerStack is harvesting maximum sunlight throughout the day with its modular, 4-sided design.

This gives you increased flexibility and reliable power, meaning you can install PowerStack almost anywhere and deliver 100% self-sustaining powered infrastructure.

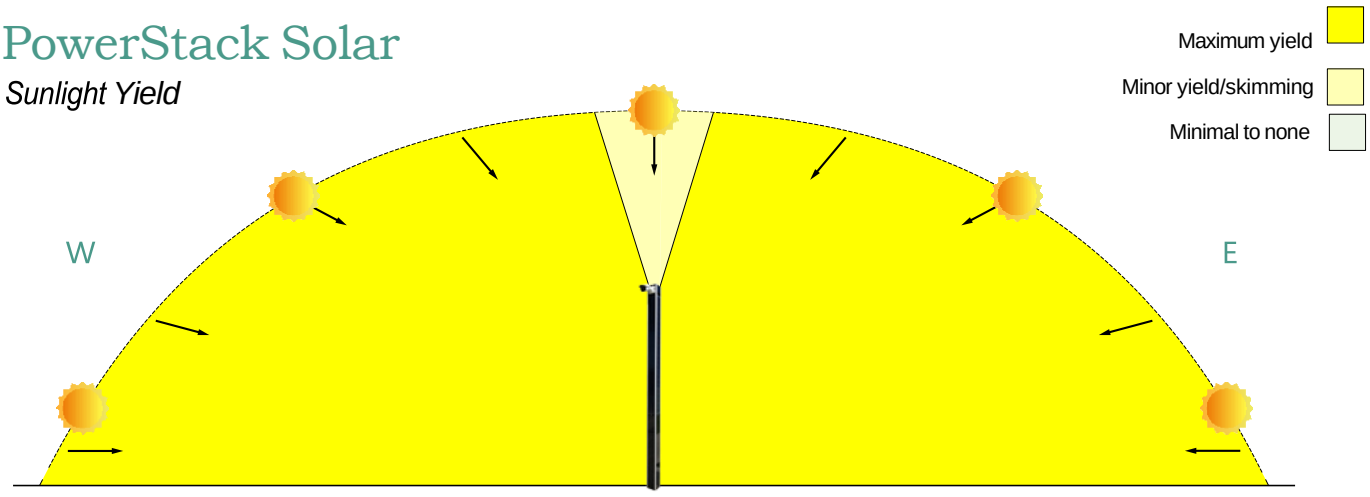
Conventional Solar

Sunlight Yield



PowerStack Solar

Sunlight Yield



Benefits of Vertical Solar

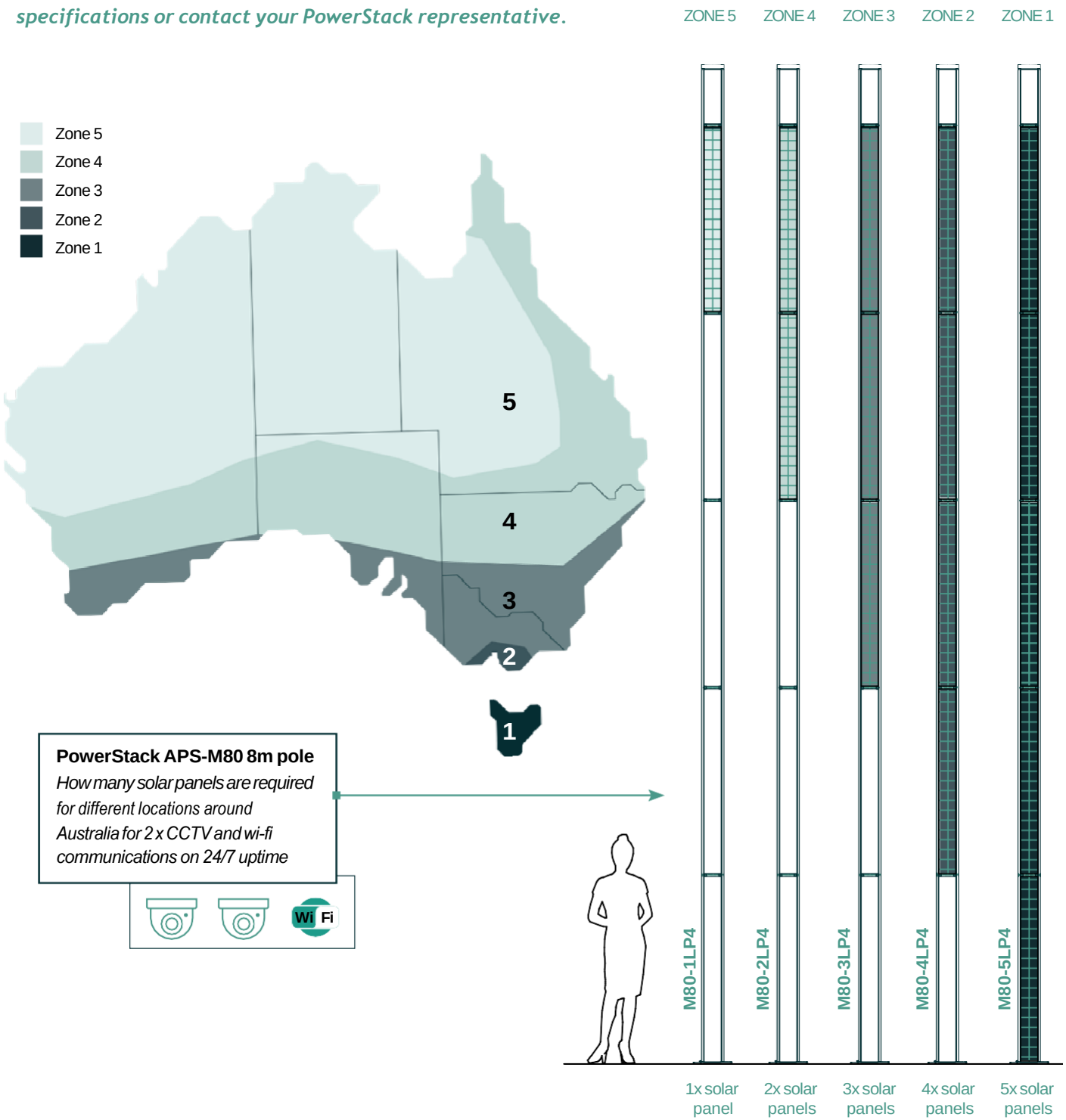
- Fully integrated design. No heavy steel pole, unsightly panel or battery box on top of pole.
- Low profile. Vertical vastly reduces wind drag so no structural or vibration issues.
- 360 Modular 4-sided design. Captures sunlight in all directions, add panels as required.
- Designed for mid-winter conditions. Vertical panels optimise harvest when the sun is at its lowest in the sky.
- Easy to install. Lightweight, installed with hand operated tools, no working at heights required.
- Animal Proof. Vertical design limits bird droppings and nesting that obscure traditional flat panels.

Modular solar designed for your location.

PowerStack's modular system is designed for a location's mid-winter conditions when sunlight hours are lowest. This ensures the pole will always deliver enough power for continuous uptime plus a 5-day battery backup, even at the darkest time of the year.

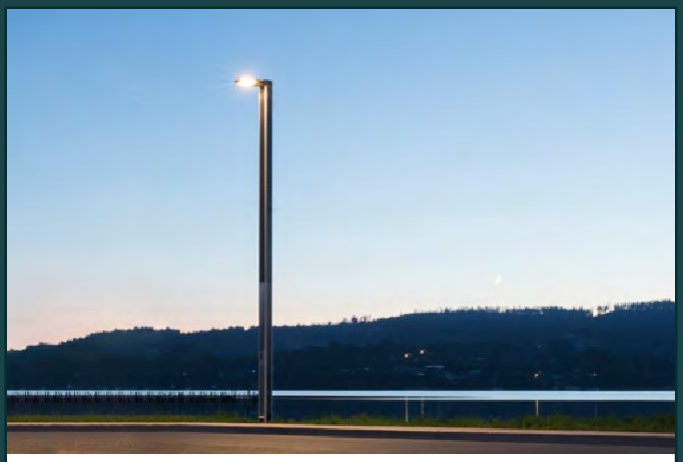
Typically, the further south you go, the more solar panels are needed for the same application.
See example pole design below.

For indicative zonal performance data (W) please refer to technical specifications or contact your PowerStack representative.



What can it be used to power?

PowerStack's customisable design and off-grid operation enable you to power what you want, where you want with 100% solar energy. Power lighting, cameras, wi-fi, IoT sensors, device charging and more. If it needs power and can be connected, it can be integrated with PowerStack.



Light

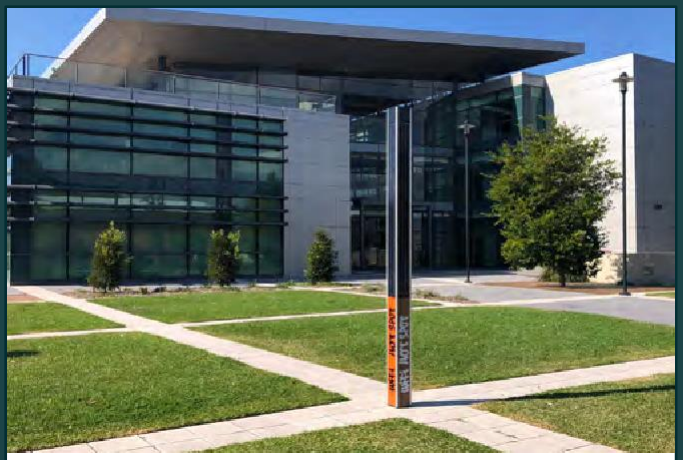
Street, area and parking lot illumination

- Street and area lighting
- Architecture lighting
- Temporary event lighting
- Security and safety lighting
- Wildlife friendly lighting
- Parking lot lighting

Monitor

Total-site monitoring and response

- ANPR
- P2P camera systems
- IoT sensors and controllers
- CCTV systems
- Motion detection systems
- Emergency help points



Connect

Deployed communications

- Public wi-fi hotspots
- Cellular
- Gateways
- IoT network extenders
- Security system networks

Charge

Off-grid remote power

- Mobile and tablet devices
- USB power outlet
- Small EVs
- Incident alarms and defibrilators

Proven in the field

PowerStack systems have been used to deploy powered infrastructure in applications ranging from university PA speakers and general street lighting, to EPA waste monitoring and bushfire early warning systems.

Street and pathway lighting

PowerStack poles reducing Hobart City Council's path and street lighting supply and install costs by 45%.

Mobile charging station

Mobile charging station keeping visitors connected at Shoalhaven Council's Boongaree Nature Park with 24/7 power.

ANPR camera monitoring

Security cameras helped Shellharbour City Council reduce illegal dumping incidents by 98.75% in only 12 months.

Bollard lighting

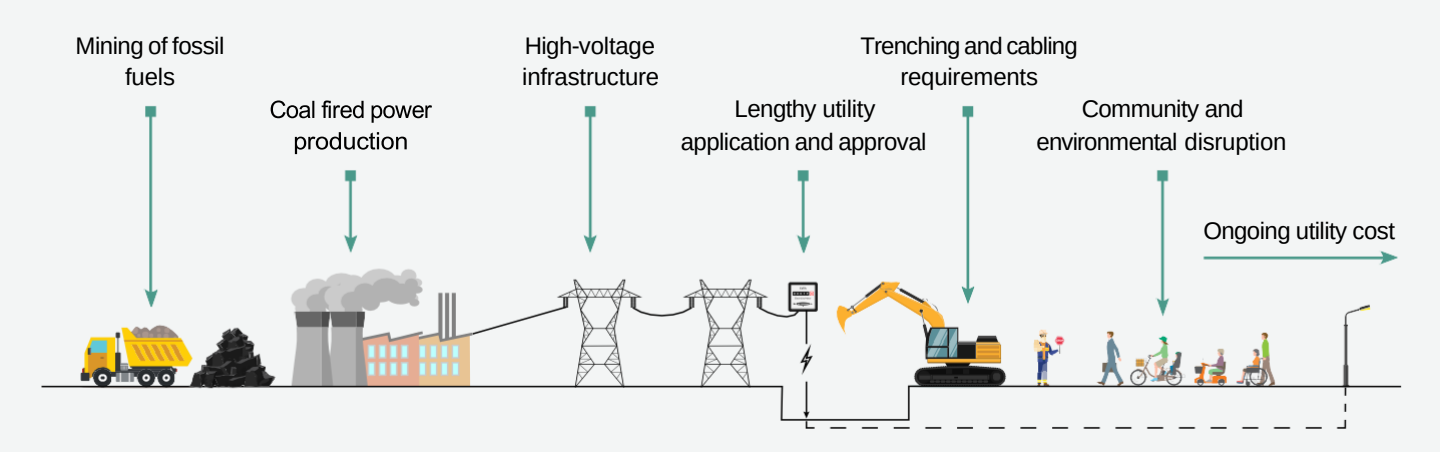
Keeping the community of Torquay, Melbourne safe with PowerStack bollards providing lighting on busy bike paths.

Reliable power that doesn't cost the Earth

The costs of underground trenching and utility connection can derail budgets and drive projects off the table. PowerStack brings them back on course, enabling projects by providing reliable, 100% off-grid power using just the power of the sun. Powered infrastructure delivered at a fraction of the cost.

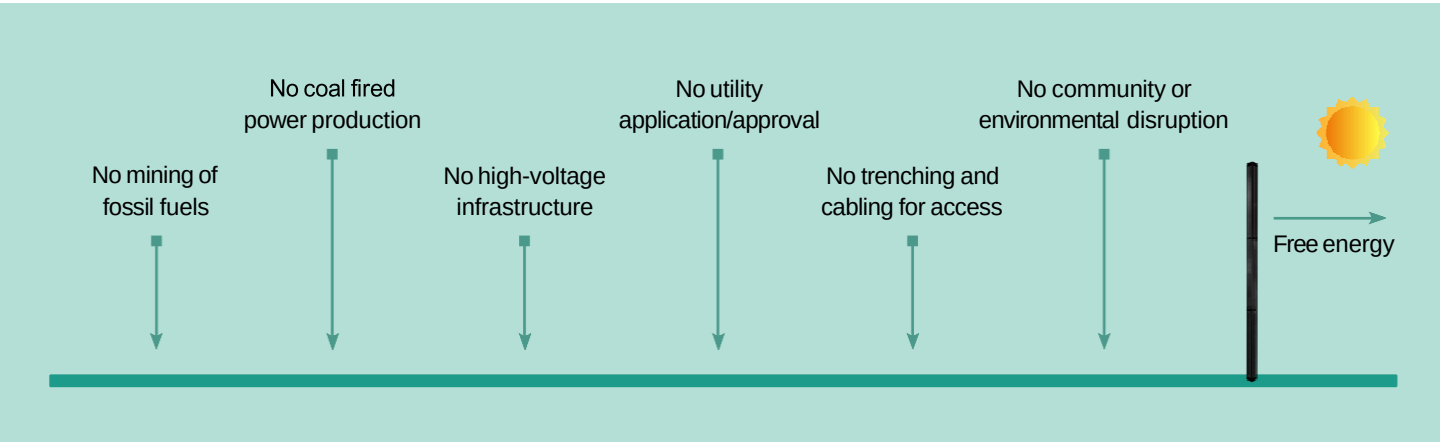
What it takes to deliver traditional power

Costs to you, the community and environment



What it takes to deliver power with PowerStack

100% off-grid, sustainable power.



$0 ongoing electricity supply costs for clients and communities, win more projects with a green, sustainable solution.

Up to 80% reduction in time to deploy powered infrastructure. Minimise disruption for end users and deliver projects on time and on budget.

Up to 50% of project costs saved compared to a standard grid powered installation, deploy these funds elsewhere.

NEW solutions that are as reliable as traditional grid power. Win more projects without the hurdle of cost-prohibitive AC access.

POWERSTACK™

Installed in minutes

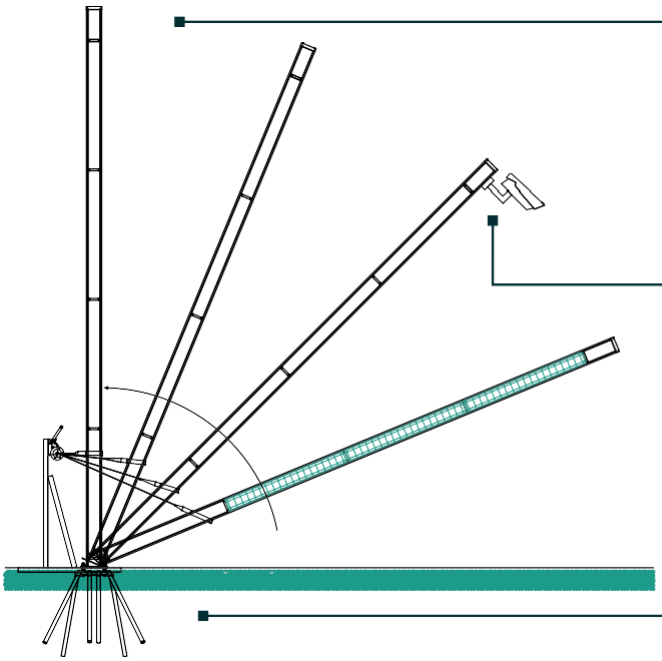
PowerStack can be installed using just a two-person team in under 30 minutes, so there's no need for a crane, heavy machinery, excavation or disruption to underground utilities.

Record install time:

28 min

including foundation

See for yourself how easy it is to install Powerstack, scan the QR code to watch.



3 Winch pole into position with ease using the powered winch system and power drill. Bolt to base plate.

2 Chosen technology attached to pole and pole hinged base attached to base plate.

1 Concrete free foundation base is jackhammered into ground using micropiles. Base plate attached.

Built to Last

PowerStack's glassless solar modules and vertical design make it durable, rugged and vandal resistant.

- *Graffiti wipes off easily.*
- *Panels that will never shatter*
- *Glassless solar design is flame resistant*

Solar Reimagined.

Technical specifications

General

Energy Source	Solar Power
Operating Temperature	-30°C to +60°C
Height	1m to 8m
Cross-Sectional Dimensions	180mm x 180mm
Warranty	10 Years
System Design Life	> 12 Years
System Voltage	12/24 V_{DC} 48V & PoE available
Wind Resistance	> 250km/hr wind
Pole Material	T6 6000 series aluminium extrusions (60%+ recycled)

Solar Panel

Technology	Monocrystaline cells
Encapsulant	Shatterproof glassless polymer
Life Expectancy	>15 Years
Solar Efficiency	17-19%
Connection	Waterproof 30A connection system
Voltage	28V_{OC}

Energy Storage System

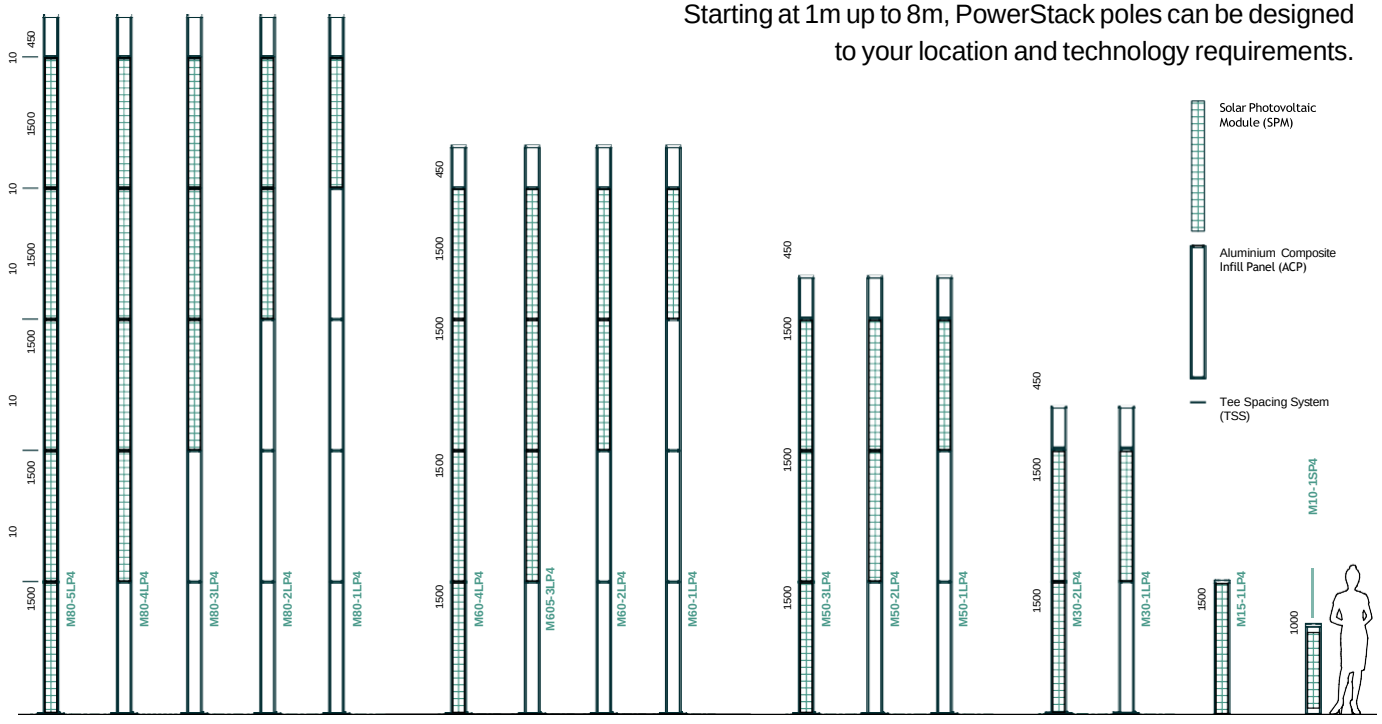
Technology	$LiFePO_4$ (Lithium Iron Phosphate)
Battery Management	Proprietary battery management system
Battery Backup	5 days minimum
Battery Life Cycle	10,000 cycles
Thermal	Insulation Protection
Connection	1.5mm copper strip
Replacement	>12 Years
Battery Capacity	3.5 time maximum load
Battery Voltage	13.6 V_{DC}

Energy Distribution Centre

Material	Powder coated gal sheet metal
Terminal	Wago 2022 series
Isolation	Lever blade isolation
Control System	Maximum power point tracking
Voltage	12/24V Auto sense
Circuit Protection	Mini blade fuse

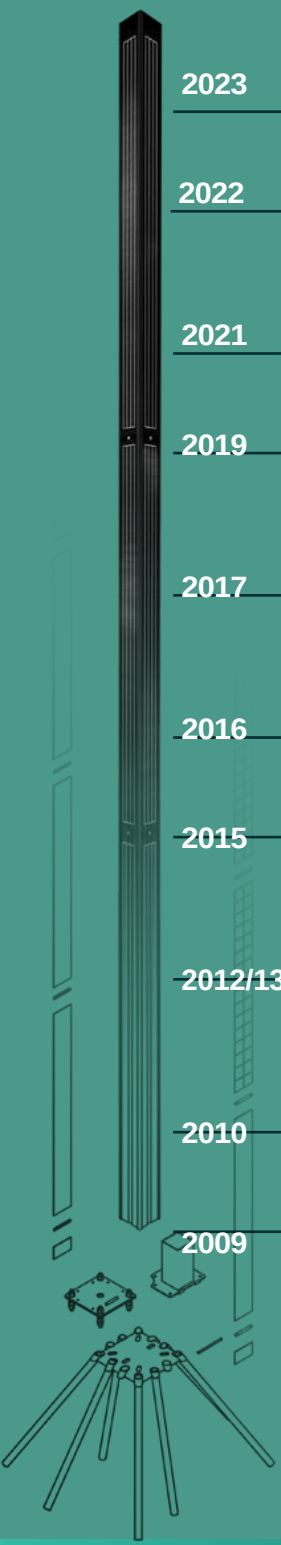
Model Range

Starting at 1m up to 8m, PowerStack poles can be designed to your location and technology requirements.



The PowerStack story

We developed the PowerStack technology with the aim to manufacture a commercial solar product that was architecturally designed and more efficient than traditional solar. With renewable energy solutions becoming more important than ever, we're proud to power applications that enhance safety, security and connectivity without compromising the environment.



2023
PowerStack team expands to grow existing and new markets

2022
Australia and USA offices expand production capability to meet market demand

2021
Series A funding finalised, business scales

2019
Company rebrand as PowerStack
Over 2000 PowerStack poles deployed

2017
First APAC PowerStack systems deployed in Hobart, Tasmania, Australia

2016
First USA PowerStack systems installed, Austin Texas, USA

2015
Glassless solar modules developed
Unique, shatterproof, solar module development finalised

2012/13
Valen Energy brand launched
North American manufacturing facility opened up

2010
Vertical solar vision concept started

2009
Started development of off-grid solar lighting technologies