

Innovative Technologies Pty Ltd

Introduction

Innovative Technologies Pty Ltd is an Australian research, development and commercialisation company that has designed and successfully tested working prototypes our unique new Renewable Solar Energy products called:

'Solar Shutters'[®] **'Superbright Solar Panels'**[™] and **'Superbright Solar Wall Cladding'**

Australian Standard, Design, Innovation and PCT Patents (International) including Trade Marks have been filed and registered.

Based on our Independent Market Research Report by 'The Market Intelligence Company', we believe that there is huge commercial potential uptake for these products initially in Australia which has a suitable climate for renewable solar solutions and is experiencing increasingly high electricity costs for both residential and business.

The **'Solar Shutters'** offer a very effective method of generating Renewable Solar Energy via Vertical Window Shutters which can be installed both inside and outside of the window frame, as well as Balcony Shutter Enclosures options currently not effectively available in Australia.

The **'Solar Shutter'** Units are engineered to be extremely durable and weather resistant, approximately 20 times stronger than the glass used on solar roof panels, therefore able to withstand strong winds and rain, and suitable for outdoor and balcony installation in high rise buildings and apartments.

Currently only solar roof panels are available for homes and businesses with suitable roof space, however there are millions of residential apartments, business offices, business office complexes, high-rise residential and commercial buildings that have no access or very limited roof space to install solar roof panels and to share the limited renewable energy capacity.

However these building structures often have significant vertical window space which could be effectively utilised to generate a significant amount of renewable solar energy to help reduce or greatly offset the high electricity grid costs and carbon footprint.

In a recent **Arena (Australian Renewable Energy Agency)** News editorial about Solar Energy on 19th September 2017 by Neelima Choahan titled:

"More of us are living in apartments. Where does that leave rooftop solar?"

There are few certainties about life in Australia and these are two of them:

We get plenty of sun and we are increasingly opting for apartment living.

But while we are world leaders at taking advantage of all that sunshine with residential rooftop solar initiatives (more than one in five Australian houses have solar panels on the roof, according to the Clean Energy Regulator) this boom has largely been limited to detached housing. In other words, we have been focusing on the quarter acre block.

This uptake in solar power doesn't reflect the increased trend towards apartment living, so when it comes to installing solar photovoltaic storage systems on strata housing and portents we are seriously lagging"

That is why ARENA has contributed \$900,000 to the White Gum Valley development project in

Fremantle Western Australia to research and develop a governance model of shared renewable energy for 45 units.

Kicked off in 2016, the Curtin University-lead project has a total cost of \$2.6 million and includes storage batteries and a monitoring system as well as the potential to trade energy.

In a recent Sydney Daily Telegraph newspaper article called 'Project Sydney' details "Visionary Plans will Transform the Harbour" with Garden Island ready to bloom with a proposed 5000 Garden-inspired Green Apartments and 500 Hotel rooms.

With many more 'Green Apartment Buildings' likely to follow this trend, combined with Sydney's limited land space and growing population the only way is up.

Our CSIRO Partnership - Australian Kick-Start Program

Our 'Solar Shutter' Prototypes are ready for commercialisation, and to this end we have submitted to the CSIRO and been approved for the 'Kick-Start Program' which we believe provides an important independent validation of our 'Solar Shutters' and 'Solar Panels' Prototypes enabling us to provide credible accurate performance and compliance data.

'Superbright Solar Panels'™ and 'Superbright Solar Wall Cladding'

Please also view in this document details about our recently developed 'Superbright Solar Panels™' and 'Superbright Solar Wall Cladding' which present several key benefits and new installation options other than conventional Solar Roof Panels and are suitable for both lightweight roof structure installation such as warehousing and storage structures, carports, farm sheds, etc. and Vertical Solar Wall Cladding for attachment onto any type of building walls.

Please contact me if you are interested in discussing any of our advantageous renewable Solar Energy Solutions for your Council Building windows, walls, balconies, rooftops or carports.

*You can also view our business references from other Australian Government Departments on our website, details below.

Kind Regards

Jack Lyons

Managing Director

Innovative Technologies Pty Ltd

website: www.solar-shutters.com.au

Email: jack@innotech.mobi

Mobile: 0475 556 319

Solar Shutters

Bringing Solar Power to Business Offices, High Rise Buildings and Residential Apartments.

Solar Shutters® is the latest development in Renewable Solar Energy Technology which provides a uniquely practical method of delivering solar generated electricity to residential apartments, apartment townhouse complexes, business offices and high rise buildings that do not have rooftops or limited rooftop area to support traditional Solar Panels.

Traditional curtains and blinds used in residential homes and business offices have always been used to keep the sunlight out of the room.

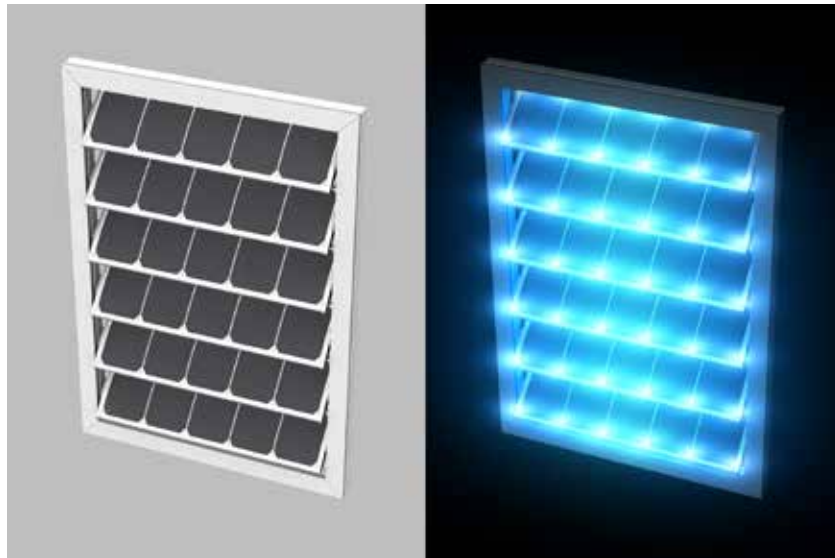
Solar Shutters® are fully functional, durable and weatherproof window shutters or louvres that effectively capture the sunlight and convert it into Renewable Solar Energy that can be used to power home and office lights, home appliances, televisions, and business equipment such as computers and printers, whilst also providing the functionality of keeping the room cool and shaded.

Solar Shutters® offer a uniquely powerful and practical Renewable Solar Energy solution providing off-grid power and reducing grid and peak electricity costs, also eligible as a business tax deductible expense.

Solar Shutters® therefore represents the potential to supply millions of Business Offices and Residential Apartments with an alternative source of Renewable Solar Energy when conventional rooftop solar is not an option.



Solar Shutters can be configured with Superbright Solar Panels™ with integrated colour LED panels.

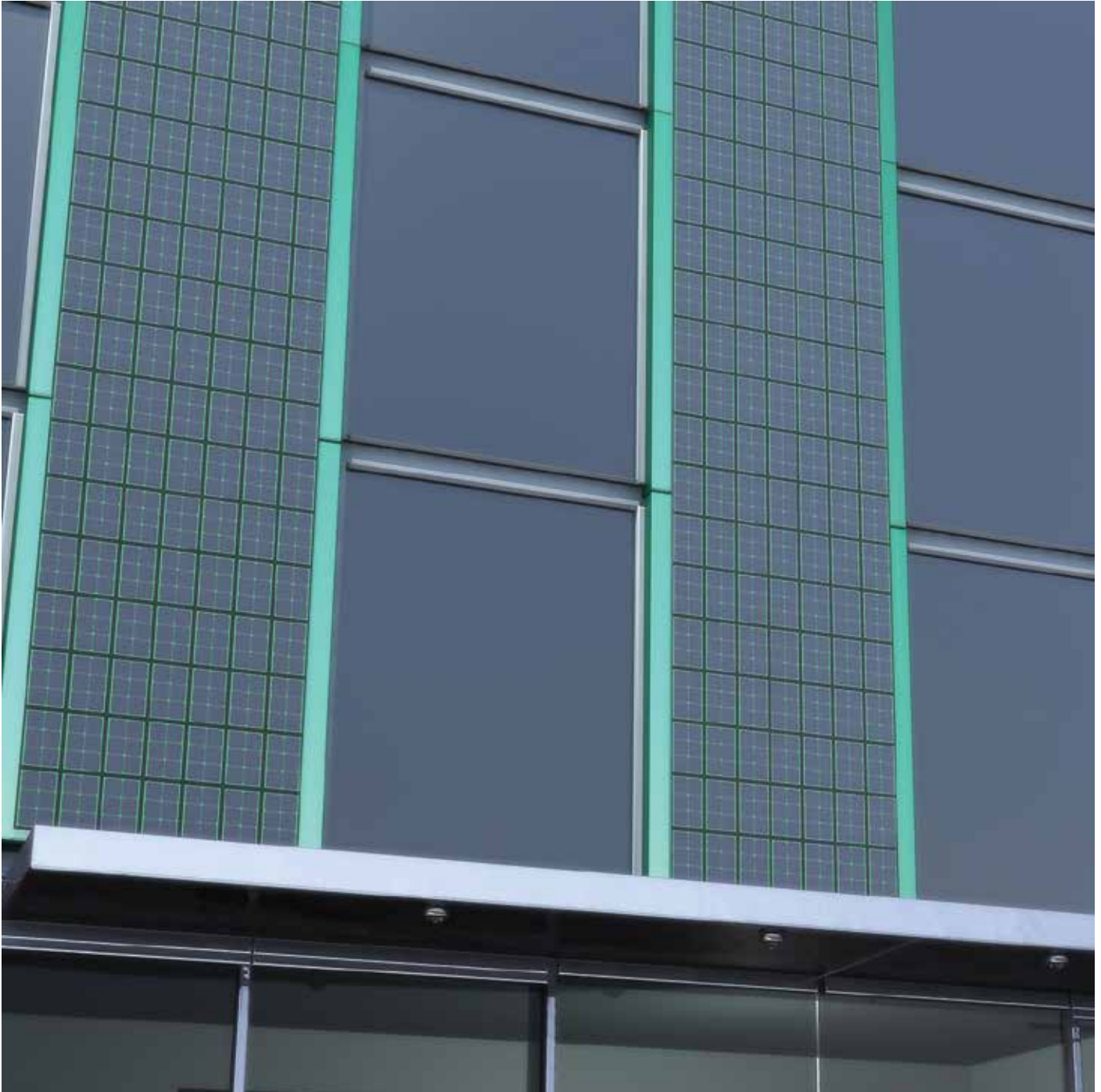


Examples of suitable installation options for the Solar Shutters



Superbright Solar Panels™

Light Weight, Super-Strong, High Impact Resistant, Fire Resistant: Suitable for Residential and Business Vertical Building Wall Cladding.



Lightweight, Super-strong, High Impact Resistant:
Ideal for Warehouses, Carports, Outdoor Terraces &
Lightweight Building Structures.



Bifacial Solar Cells

Our 'Solar Shutters' 'Superbright Solar Panels™' and 'Superbright Solar Wall Cladding' utilise Bifacial solar cells that are designed to allow light to enter from both sides. They typically employ a front surface design similar to that used in industry standard screen-printed solar cells with the major point of difference being the structure of the rear surface contact. Rather than cover the entire back surface with a reflective aluminium contact, a 'finger' grid is used in its place in order to allow sunlight through the rear.

Typically, the silicon material used for bifacial solar cells must be of superior quality such that photo-generated electric charges near the rear surface can contribute to power production as they travel towards the 'emitter' on the front surface. This design also necessitates the use of transparent encapsulating materials on both sides of modules.

Historically bifacial solar cells were targeted towards 'Building Integrated Photovoltaic Applications' or in areas where much of the available solar energy is diffused sunlight which has bounced off the ground and surrounding objects i.e. extreme latitudes and snow-prone regions. However, the combination of plateauing peak efficiencies from standard screen printed solar cells has pushed bifacial solar modules back into the spotlight.

Vertically integrated

In order to better match onsite demand with PV generation profiles throughout the day a vertical panel orientation where both the front and rear sides of the panels are exposed to peak morning and afternoon direct and diffused sunlight creates a 'double-peak' profile that can better match on-site electricity use, especially for residential and commercial installations.

This unconventional approach of vertically installed bifacial modules would more than halve the number of modules needed for an equivalent installation. This configuration would again produce two generation peaks but would also benefit from the additional diffuse light entering the module from the indirect side.

Cost comparisons

In comparing the financial merits of single-sided against bifacial modules, the effective levelised cost of electricity (LCOE) over the project lifetime should be used as the deciding metric and not just the dollars-per-peak-watt cost of respective modules. For grid-connected PV consumers, the ability to more closely match PV generation profiles with onsite demand throughout the day – thus maximising the use of generated PV electricity rather than feeding it back into Australian grids at reduced rates can boost returns on a PV investment, despite a marginally higher upfront cost with bifacial technology.

Superbright Solar Panels™ & Superbright Solar Wall Cladding Product Features

1. Enhanced Solar Light Capture

By way of our Prismatic Polycarbonate Panel front surface area and Bifacial PV solar cells.

2. Super-Strong Polycarbonate

High Impact Resistant, 20 x stronger than the glass used in conventional Solar Roof Panels.

3. Super-Thin Profile

10-15mm Profile thickness.

4. Integrated Micro-Electronics

Our specialised Solar Panel Connector Chanel with Integrated Micro-Electronics System enables optional inclusions, namely: Lithium Ion Battery , AC/DC Inverter, Wifi Device, all powered and rechargeable by the attached 'Superbright Solar Panels™' or 'Superbright Solar Wall Cladding' Panels.

5. Vertical Wall Installation/Attachment

Provides the ability to be effectively installed onto any vertical wall surface area due to the thin profile of the solar panels combined with the 'Solar Panel Connector Channel' Installation System specifically designed for vertical solar panel installation.

6. Connection and Integration to online usage data

Connectivity to custom software programs and online mobile app for comprehensive usage data and solar power output.

7. Colour Design Options

The 'Superbright Solar Panels™' and 'Superbright Solar Wall Cladding' Panels have unique colour design options, such as Green, Blue, Gold, White. This enables business and corporate offices/buildings the use of enhanced custom colour/brand displays.

Horizontal Surface Area Applications	Vertical Surface Area Applications
• Garage Ports	• High-rise Residential and Office Building Walls
• Conventional House and Building Rooftops	• Residential House/Apartment and Business Office Windows
• Business Warehouses	• Replacing Conventional Home/Office Blinds
• Farm Sheds	• House Walls and Apartment Enclosed Balconies
• Outdoor Awning structures	• Warehouse Side Walls
• Bus Stops	• Perimeter Fencing
• Caravan Rooftops	
• Boats	



Color Options



Blue



Gold



Green



White

Superbright Solar Panels™

Game Changing Solar Technology

The 'Superbright Solar Panels' enable vertical installation of a **Multifunctional Renewable Energy Solar Panel** which not only provides daytime solar power for the high-rise or any building structure but also provides self-generating cost free night-time illumination of the high-rise or any building structure.

Product Summary

Our latest solar technology development is the multifunctional renewable energy 'Superbright Solar Panels' which are an integrated multi-layered Photovoltaic Solar Panel with specialised construction materials, specifically; a prismatic polycarbonate top layer, laminated photovoltaic solar cells, a reflective coloured backing layer and a corrugated LED Light panel.

The specialised construction materials, component configuration, design and electrical wiring model enable the Multi-functional 'Superbright Solar Panels' to perform 4 very important functions, namely;

1. Generates daytime renewable solar energy from the vertically installed 'Superbright Solar Panels' as building wall cladding or the vertically installed 'Solar Shutters' as window or balcony self-supporting framed units.
2. Generates renewable self-generating LED lighting for night-time illumination of high-rise or low rise building structures.
3. The daytime solar energy generated from the vertically installed 'Superbright Solar Panels' or 'Solar Shutters' is electrically connected to the main electricity grid in the building or home as a supplementary renewable electricity supply to significantly reduce the amount of main grid electricity required and therefore also the costs. A percentage [up to 25%] of the daytime renewable energy generated is electrically connected to an inverter and lithium-ion storage battery, to continuously charge the storage battery.
4. An 'Electrical Connection System' from the storage battery is directed and connected to each individual 'Superbright Solar Panel' or each 'Solar Shutter Unit' via the 'Connector Channel System'. Therefore the stored renewable solar energy directly powers and illuminates the night-time LED Lights contained within the 'Superbright Solar Panels' and 'Solar Shutters.'

Product Features:

1. Light in weight
2. Thin Profile
3. Strong high impact construction materials - Recycled or non recycled Prismatic Acrylic and Polycarbonate, provide enhanced weather resistance.



4. Stand Alone Construction Materials -The strength, rigidity and side electrical interconnection of the solar panel construction materials allows for them to be flat and vertically attached to any vertical wall or horizontal roof surface area. They can therefore be used as actual stand alone construction Roof Panels, and vertical Wall Cladding for buildings.

5. Enhanced Solar Energy Capture - by way of our top layer inverted Prismatic Panel (downward facing prisms which captures and directs the sunlight) and is directly above the layer of PV Solar Cells and therefore provides enhanced internal refraction and reflection of the sunlight directly onto the layer of PV Solar Cells below.

6. Electrical wiring exits from the side of the panel - this allows for easy flat/flush vertical wall attachment, as opposed to conventional solar roof panels where the electrical wiring connection exits at the back of the panel and therefore have to be raised to be interconnected at the back of each solar panel.

7. Vertical Wall Attachment and Installation - provides the ability to effectively install the Solar Panels' on any vertical wall surface area due to the very light weight, thin profile and side electrical wiring interconnection of the solar panels combined with the 'Solar Panel Connector Channel' Installation System specifically designed for vertical solar panel installation.

8. The reflective acrylic or polycarbonate backing panel layer can be in different colour options, therefore the Solar Panels will have a very unique and distinctive aesthetic design and appearance.

9. The coloured acrylic or polycarbonate layer/sheet/panel reflects the sunlight back up to the underside of the Bifacial Solar Cells if they are used, increasing the solar cells power generation and corresponding output.

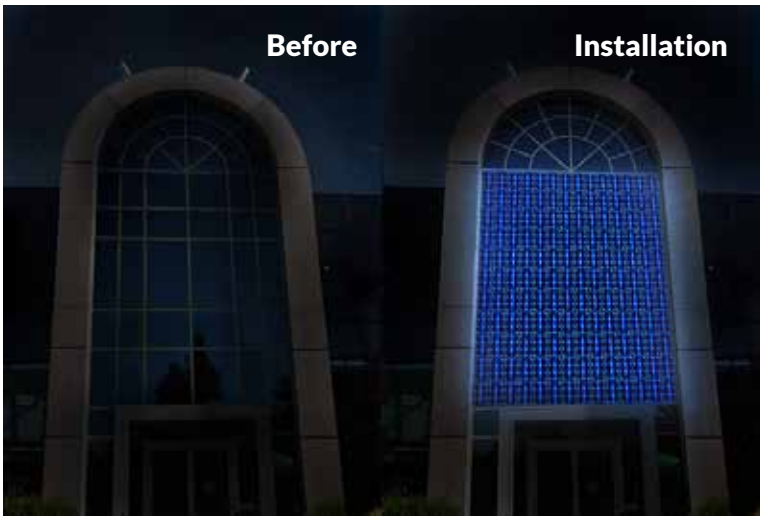
10. The coloured acrylic or polycarbonate layer/sheet/panel reflects the sunlight during the daytime and provides a bright coloured visual effect for enhanced aesthetics of the Solar Panel.

11. (A.) An electric connection cable from the PV Solar Cell layer/sheet/panel is electrically connected to an external battery to charge the battery by way of Direct Current generated from the PV Solar Cell layer/sheet/panel exposure to daytime sunlight.

(B.) The external battery is charged by the PV Solar Cell layer/sheet/panel and stores the generated electricity.

(C.) The result is a very bright coloured night display of the individual and combined 'Superbright Solar Panels™' not only providing enhanced visual aesthetics to building walls or roofs but also providing night lights generated by renewable solar energy.

Virtual Examples of Superbright Solar Panels™ Installations.



Color Options



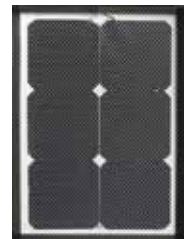
Blue



Gold

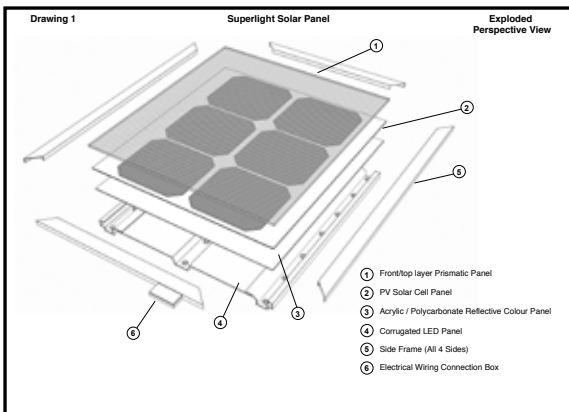


Green

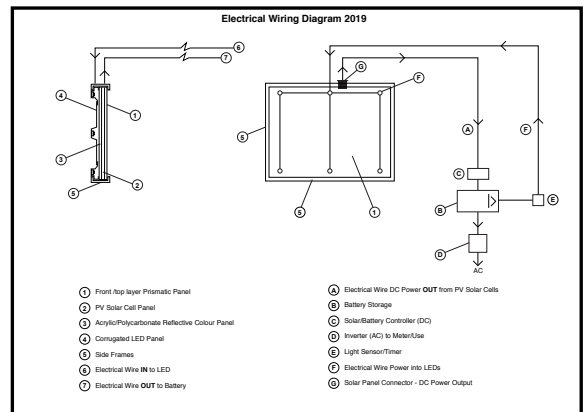


White

Drawing 1



Drawing 2



Virtually Installed Superbright Solar Panels™



Virtually Installed Superbright Solar Panels™



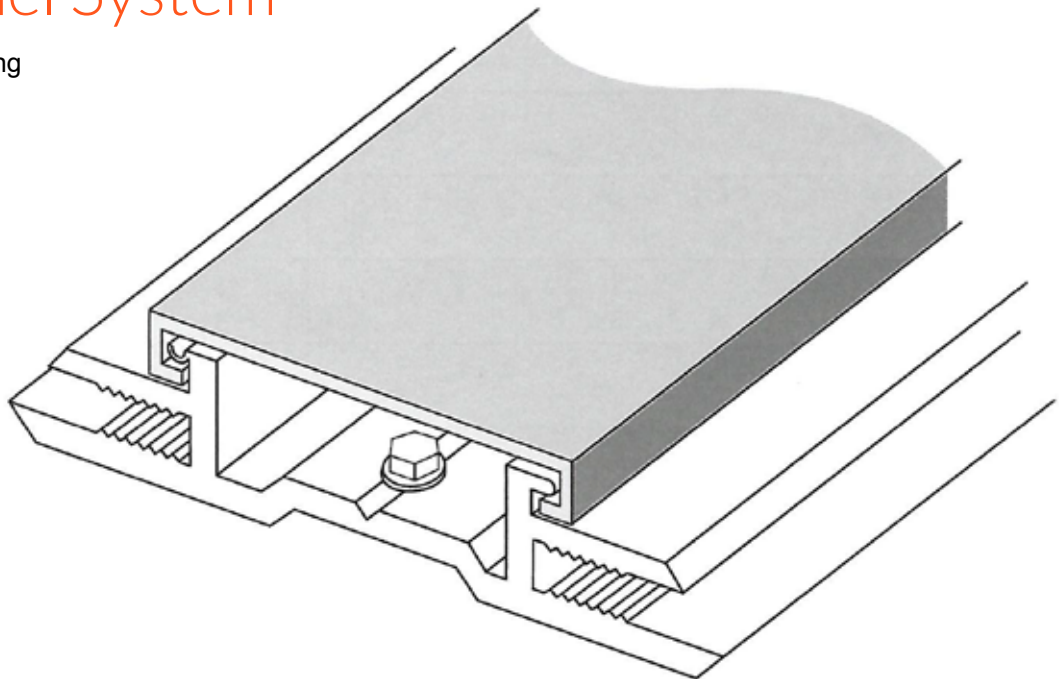
Virtually Installed Superbright Solar Panels™



Solar Panel Connector Channels

Solar Panel Connector Channel System

Patents Pending

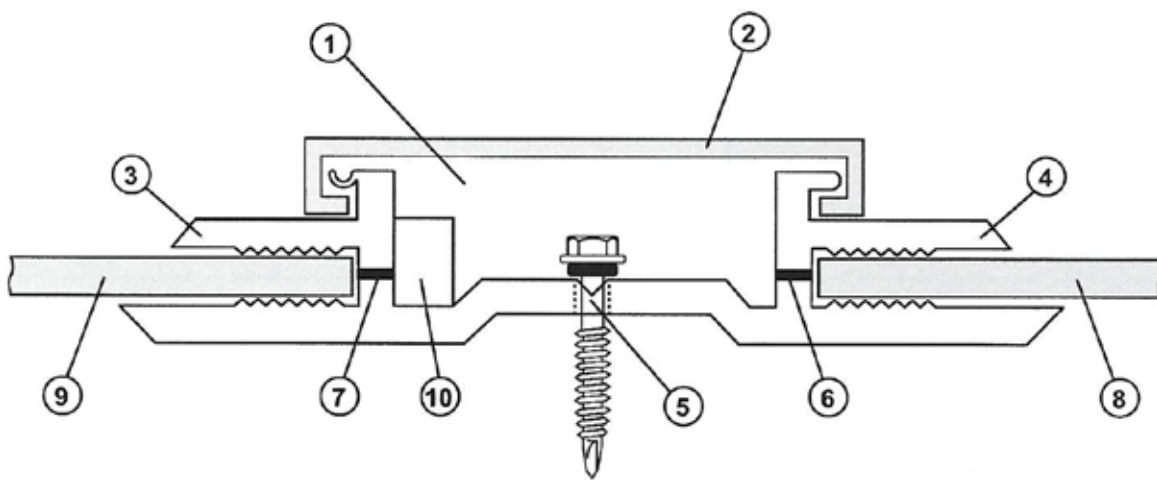


'Solar Panel Connector Channel System with Integrated Micro-Electronics'

The *Patent Pending 'Solar Panel Connector Channel System with Integrated Micro-Electronics' was specifically designed as an effective Horizontal and Vertical Solar Panel Installation System that provides a number of enhanced Innovative features and functions, details as follows:

1. Made from highly durable weather resistant and light weight material.
2. Specifically designed for effective Vertical Wall and Horizontal Roof Installation of the 'Superbright Solar Panels™' and 'Superbright Solar Wall Cladding' Panels.
3. Represents the first Vertical Solar Wall Cladding Panel Installation method and system, therefore presents the opportunity for Renewable Solar Energy generation from Residential Apartments and Business Office buildings that have minimal roof space for conventional solar roof panels.
4. Securely attaches and electrically inter-connects any number of 'Superbright Solar Panels™' and 'Superbright Solar Wall Cladding' Panels together.
5. Contains the electrical wiring from the inter-connected Solar Panels in a secure Watertight Compartment.
6. Contains the roof or wall attachment bolt/bracket within the Watertight Compartment.
7. Ability to integrate and electrically connect micro-electronics within the watertight Solar Panel Connector Channel System, namely: Lithium Ion Battery, AC/DC Inverter and WiFi Device.
8. The renewable solar energy generated by the 'Superbright Solar Panels™' and the 'Superbright Solar Wall Cladding' Panels would therefore automatically charge and re-charge the electrically connected micro-electronics; Lithium Ion Battery, AC/DC Inverter and Wifi Device.

9. Therefore the 'Superbright Solar Panels™' and 'Superbright Solar Wall Cladding' Panels connected with the 'Solar Panel Connector Channels' would not only provide Renewable Solar Energy but would additionally provide Wifi connection for Mobile Phones and Computers/Laptops which could be extremely beneficial in specific residential and commercial locations and situations.
10. Beneficial if fitted to the roofs of Public Transport Buses, Caravans and Mobile Homes utilising the extremely light, low profile and highly durable weatherproof Polycarbonate 'Solar Panel Connector Channels'
11. Beneficial if fitted to Commercial and Farming building structures such as warehouses and storage facilities that may not have an office or electricity connection, or may be in remote locations.



- ① Electrical wiring (cable) compartment
- ② Clip-on overcap seals electrical wires in watertight compartment
- ③ Solar Panel holder channel
- ④ Solar Panel holder channel
- ⑤ Roof Attachment bolt/bracket hole
- ⑥ Solar Panel electrical wiring hole
- ⑦ Solar Panel electrical wiring hole
- ⑧ Solar Panel
- ⑨ Solar Panel
- ⑩ Micro-electronics box

Connector Channel System

Technical Functionality

Designed for the functional purpose of Vertical flat wall attachment of the Superbright Solar Panels™ and Superbright Solar Wall Cladding.

The unique design of the Superbright Solar Panels™ and Superbright Solar Wall Cladding features an electrical wiring configuration that enables the connected PV cells electrical wiring to exit from the side of the solar panel, which is different to conventional solar roof panels where the electrical wiring exits from the back surface area of the solar panel, so this enables Vertical Flat Wall Attachment by way of the 'Connector Channel System'

The unique design of the 'Connector Channel System' also significantly reduces the installation time and costs associated with the installation of conventional solar roof panels. No steel railing frames or numerous attachment bolts are needed to be installed to secure every individual solar panel as is the case with conventional solar roof panels.

Electronic Technology System

1. The Central watertight compartment of the Connector Channel is designed to hold the micro-electronics, specifically the electrical cable connection points which connect the photovoltaic solar cells from every solar panel to one central connection point, and likewise from every solar panel connected to the Connector Channel System, so that the cumulative amount of solar panels are electrically connected to each other.
2. The Connector Channel System therefore enables the integration of electronic solar data readers or meters at every Solar Panel electronic connection point to get an individual solar panel Kilowatt output reading, and this can also be fed through to a cumulative solar data and management software program that can be viewed on your mobile phone as an app or laptop and provides the total solar power output and usage details.
3. This Connector Channel Electronics System therefore also enables the delivery of a combined cumulative data reading for the total solar power generation of the whole highrise building or building complex.
4. The cumulative building solar power generation can then be individually allocated to each home unit or business office for individual unit allocation, usage and payment.

Innovative Technologies Pty Ltd

Intellectual Property

Australia

PCT Patents



A Modular Photovoltaic Louvered device



Multifunctional Solar Panel

Countries Designated:

United Arab Emirates, Antigua & Barbuda, Albania, Armenia, Angola, African Regional Industrial Property Organisation (ARIPO), Austria, Australia, Azerbaijan, Bosnia and Herzegovina, Barbados, Bulgaria, Bahrain, Brunei Darussalam, Brazil, Botswana, Belarus, Belize, Canada, Switzerland, Chile, People's Republic of China, Colombia, Costa Rica, Cuba, Czech Republic, Algeria, Eurasia, Ecuador, Estonia, Egypt, Europe, Spain, Finland, Dominica, Dominican Republic, United Kingdom, Grenada, Georgia, Ghana, Gambia, Guatemala, Honduras, Croatia, Hungary, Indonesia, Israel, India, Iran, Iceland, Jordan, Japan, Kenya, Kyrgyzstan, Cambodia, Saint Kitts and Nevis, Democratic People's Republic of Korea, Kuwait, Kazakhstan, Lao People's Democratic Republic, Saint Lucia, Liechtenstein, Sri Lanka, Liberia, Lesotho, Luxembourg, Libyan Arab Jamahiriya, Morocco, Republic of Moldova, Republic of Montenegro, Madagascar, The Former Yugoslav Republic of Macedonia, Mongolia, Mexico, Malawi, Malaysia, Mozambique, Namibia, Nigeria, Nicaragua, Norway, New Zealand, African Intellectual Property Organisation (OAPI), Oman, Panama, Peru, Papua New Guinea, The Philippines, Poland, Portugal, Qatar, Romania, Republic of Serbia, Russian Federation, Rwanda, Saudi Arabia, Seychelles, Sudan, Sweden, Singapore, Slovakia, Sierra Leone, San Marino, Sao Tome and Principe, El Salvador, Syrian Arab Republic, Thailand, Tajikistan, Turkmenistan, Tunisia, Turkey, Trinidad and Tobago, United Republic of Tanzania, Ukraine, Uganda, United States of America, Uzbekistan, St Vincent and the Grenadines, Vietnam, South Africa, Zambia, Zimbabwe.

Regions Designated:

African Regional Industrial Property Organisation (ARIPO); (designating: Botswana, Ghana, Gambia, Kenya, Lesotho, Liberia, Malawi, Mozambique, Namibia, Rwanda, Sudan, Sierra Leone, Sao Tome and Principe, Swaziland; United Republic of Tanzania, Uganda, Zambia, Zimbabwe.

Patents



**CERTIFICATE OF GRANT
INNOVATION PATENT**

201610022

The Commissioner of Patents has granted the above patent on 3 November 2016, and certifies that the following are the particulars of this patent appearing in the Register of Patents:

Name and Address of Patentee(s):
Mark Jack Lyons
PO BOX 518 Roseville NSW 2059 Australia

Name of Actual Inventor(s):
Lyons, Mark Jack

Title of Invention:
Enhanced PV Solar Cell Module

Term of Patent:
Eight years from 17 October 2016

NOTE: This Innovation Patent cannot be enforced unless and until it has been examined by the Commissioner of Patents and a Certificate of Examination has been issued. See sections 120(1A) and 129A of the Patents Act 1990, set out on the reverse of this document.



Dated this 3rd day of November 2016
Commissioner of Patents

PATENTS ACT 1990



**CERTIFICATE OF GRANT
INNOVATION PATENT**

Patent number: 201610066

The Commissioner of Patents has granted the above patent on 26 July 2016, and certifies that the below particulars have been registered in the Register of Patents:

Name and address of patentee(s):
Mark Jack Lyons of PO BOX 518 Roseville NSW 2059 Australia

Title of invention:
"Superlight Solar Panel" with "Solar Panel Connector Channel" featuring integrated micro-electronics and LED light

Name of Inventor(s):
Lyons, Mark Jack

Term of Patent:
Eight years from 6 July 2016

NOTE: This Innovation Patent cannot be enforced unless and until it has been examined by the Commissioner of Patents and a Certificate of Examination has been issued. See sections 120(1A) and 129A of the Patents Act 1990, set out on the reverse of this document.



Dated the 26th day of July 2016
Commissioner of Patents

PATENTS ACT 1990



**CERTIFICATE OF GRANT
INNOVATION PATENT**

201710088

The Commissioner of Patents has granted the above patent on 3 June 2017, and certifies that the following are the particulars of this patent appearing in the Register of Patents:

Name and Address of Patentee(s):
Mark Jack Lyons
PO BOX 518 Roseville NSW 2059 Australia

Name of Actual Inventor(s):
Lyons, Mark Jack

Title of Invention:
Solar Shutter Unit with integrated Micro-electronics and LED

Term of Patent:
Eight years from 17 May 2017

NOTE: This Innovation Patent cannot be enforced unless and until it has been examined by the Commissioner of Patents and a Certificate of Examination has been issued. See sections 120(1A) and 129A of the Patents Act 1990, set out on the reverse of this document.

Priority Details:

Number	Date	Filed with
201604423	28 October 2016	AU



Dated this 3rd day of June 2017
Commissioner of Patents

PATENTS ACT 1990



**CERTIFICATE OF GRANT
INNOVATION PATENT**

Patent number: 201910024

The Commissioner of Patents has granted the above patent on 30 January 2019, and certifies that the below particulars have been registered in the Register of Patents:

Name and address of patentee(s):
Mark Jack Lyons of PO Box 518 Roseville NSW 2059 Australia

Title of invention:
"Superlight Solar Panel" comprising integrated Colour and LED Light Panel

Name of Inventor(s):
Lyons, Mark Jack

Term of Patent:
Eight years from 10 January 2019

NOTE: This Innovation Patent cannot be enforced unless and until it has been examined by the Commissioner of Patents and a Certificate of Examination has been issued. See sections 120(1A) and 129A of the Patents Act 1990, set out on the reverse of this document.



Dated the 30th day of January 2019
Commissioner of Patents

PATENTS ACT 1990



Australian Government
IP Australia

8 May 2019

Delivering a world leading IP system
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Austlii: 61 119 011 760

Notice of filing for your provisional patent application

Mark Jack Lyons
PO BOX 518
Roseville NSW 2059
Australia

Application number 201901528
Applicant name Mark Jack Lyons
Your reference Superbright Power Unit

Dear Applicant,
Thank you for filing a provisional patent application with IP Australia.

Your provisional patent application number is: 201901528
Your filing date is: 4 May 2019

What you need to do now

- Check your details - attached to this letter are the details of your application. Please review your details to ensure they are correct.

What will happen next

- If the filing fee has not been paid - an invitation to Pay will be issued to you.

What you can do

- Request an international-type search - this is optional and provides an opinion on your invention. This may help you to decide whether patent protection is worth pursuing in Australia and/or overseas.
- File a complete application - in order to claim priority with this provisional application, a complete application or PCT application must be filed on or before 4 May 2020.

Your progress

Filed
Provisional application is filed

International-type search
If you request an international-type search, an IP Australia request for an international-type search will be issued to you.

Complete or PCT application is filed
If you want to claim priority from this provisional application, you must file a complete or PCT application on or before 4 May 2020.

Issued
Provisional application is issued to you.

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10 January 2019

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Austlii: 61 119 011 760

Notice of filing for your provisional patent application

Mark Jack Lyons
PO BOX 518
Roseville NSW 2059
Australia

Application number 201900071
Applicant name Mark Jack Lyons
Your reference Solar Panel with Colour & LED

Dear Applicant,
Thank you for filing a provisional patent application with IP Australia.

Your provisional patent application number is: 201900071
Your filing date is: 10 January 2019

What you need to do now

- Check your details - attached to this letter are the details of your application. Please review your details to ensure they are correct.

What will happen next

- If the filing fee has not been paid - an invitation to Pay will be issued to you.

What you can do

- Request an international-type search - this is optional and provides an opinion on your invention. This may help you to decide whether patent protection is worth pursuing in Australia and/or overseas.
- File a complete application - in order to claim priority with this provisional application, a complete application or PCT application must be filed on or before 10 January 2020.

Your progress

Filed
Provisional application is filed

International-type search
If you request an international-type search, an IP Australia request for an international-type search will be issued to you.

Complete or PCT application is filed
If you want to claim priority from this provisional application, you must file a complete or PCT application on or before 10 January 2020.

Issued
Provisional application is issued to you.

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Make an enquiry or provide feedback on our website.

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Australian Government
IP Australia

15 January 2019

Delivering a world leading IP system
Phone: 180 011 010
Facsimile: 611 2 620 294
www.ipaustralia.gov.au
Austlii: 61 119 011 760

Notice of filing for your innovation patent application

Mark Jack Lyons
PO BOX 518
Roseville NSW 2059
Australia

Application number 2019100024
Applicant name Mark Jack Lyons
Your reference Solar Panel with Colour & LED

Dear Applicant,
Thank you for filing an innovation patent application with IP Australia.

Your innovation patent application number is: 2019100024
Your filing date is: 10 January 2019

What you need to do now

- Check your details - attached to this letter are the details of your application. Please review your details to ensure they are correct.

What will happen next

- If your application is in order - your innovation patent will be accepted and granted within four weeks of your filing date. If there are any outstanding matters, we will contact you.
- If the filing fee has not been paid - an invitation to Pay will be issued to you.

Your progress

Filed
Innovation is filed

Acceptance and grant
Innovation is accepted and granted to you.

Finalisation
Finalising your application.

Cancellation
Innovation is cancelled (only in exceptional cases).

Revised
Revised fee required to register your innovation patent (only in exceptional cases).

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Make an enquiry or provide feedback on our website.

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Australian Government
IP Australia

CERTIFICATE OF REGISTRATION
DESIGN

No. 367337

I, George Vuckovic, Registrar of Designs, certify that the design, a representation of which is attached, has been registered in the Register of Designs, and that the following details have been entered in the Register in respect of that registration.

Name and Address of Owner(s):
Mark Jack Lyons
50 George St Dover Heights New South Wales 2020 Australia

Name of Designer(s): Mark Jack Lyons

Product in respect of which the design is registered: Solar shutters

Design Number: 10001(2016)

Date on which Application for Registration of the Design was filed: 4 January 2016

Date of Registration: 29 February 2016

Term of Initial Registration: Five years commencing on 4 January 2016

Statement of Novelty and Distinctiveness: The Solar Shutter design comprises of Photovoltaic Cells (PV) which are securely attached to both sides of the individual Solar Shutter Blades, or Blind or Louvre Slats. The Solar Shutter Blades are three dimensional, with hollow and curved blades. The Solar Shutters features Side Supporting Frames. The Side Supporting Frames may have any type of decorative material or design, such as wood or metallic finish. Both ends of each individual Shutter Blade or Blind or Louvre Slat has an End Cap which fits securely over both ends of each individual Shutter Blade or Blind or Louvre. The End-Caps are designed so that the electrical wiring from the Photovoltaic Cells (PV) on the Shutter Blades are securely directed through the bearing within the End-Caps to the Electrical Connection Hubs which are housed within the side Supporting Frame of the Solar Shutters Unit has an Electrical Control Box attached to it, with a LED display light.

The design representation(s), plus any additional owner or designer names or other additional information relating to the registration, are listed on the attached pages.

Given under my hand and the seal of the
Designs Office on 1 March 2016

George Vuckovic
REGISTRAR OF DESIGNS

DESIGNS ACT 2003

CERTIFICATE OF REGISTRATION DESIGN

Design number: 201814339

The Registrar of Designs has registered the design represented on this certificate and certifies that the following particulars have been entered in the Register of Designs.

Name and address of owner(s):

Mark Jack Lyons of PO Box 518 Roseville NSW 2069 Australia

Product to which the design is registered:

Solar Panel

Name of designer(s):

Mark Jack Lyons

Date of filing:

22 July 2018

Date of registration:

17 September 2018

Term of initial registration:

Five years commencing on 22 July 2018

Statement of newness and distinctiveness:

The 'Support' Solar Panel features new product materials that give a distinctive new look to the Solar Panels, detailed as follows:

1. The top/side face of the Solar Panel is made from an acrylic or polycarbonate clear prismatic shaped material. 2. The clear prismatic front face/panel is inverted so that the smooth surface of the panel faces outwards and the prism shaped surface area faces inwards/inwards. 3. The back/rear panel of Solar Panel is made from a reflective solid coloured acrylic or polycarbonate material, such as blue, green, white, grey, gold etc. 4. Therefore the coloured back panel of the Solar Panel is visible from the front view of the Solar panel through the clear prismatic front face/panel of the Solar Panel. 5. The reflective solid coloured back/rear panel is also visible from the back of the solar panel. 6. The side frames of the Solar Panel are made from a dark tinted acrylic or polycarbonate material.

NOTE: This Design Registration cannot be enforced unless and until it has been examined by the Registrar of Designs and a Certificate of Examination has been issued. See sections 73(3) and 77(3) of the Designs Act 2003, set out on the reverse of this document.



Dated this 17th of September 2018
Registrar of Designs

DESIGNS ACT 2003

The Australian Design Register is the official record and should be referred to for the full details pertaining to this IP Right.

CERTIFICATE OF REGISTRATION DESIGN

Design number: 201912438

The Registrar of Designs has registered the design represented on this certificate and certifies that the following particulars have been entered in the Register of Designs.

Name and address of owner(s):

Mark Lyons of PO Box 518 Roseville NSW 2069 Australia

Product to which the design is registered:

Renewable Battery Power Unit

Name of designer(s):

Mark Lyons

Date of filing:

4 May 2019

Date of registration:

16 June 2019

Term of initial registration:

Five years commencing on 4 May 2019

Statement of newness and distinctiveness:

The self-contained unit can be fully illuminated by the internal LED Light Panels within the Multifunctional Battery Power Unit.

The Unit can be illuminated with any colour.

The top horizontal surface area of the Unit contains a PV Solar Cell Panel which can also be illuminated by the LED Light Panel underneath the PV Solar Cell Panel.

The Unit has a distinctive Electrical Control Panel diversity underneath the PV Solar Cell Panel which contains electrical switches, USB Ports and digital LED Power Output Displays.

The Unit contains an internal shelf and bracket structure which provides strength to the unit but also performs the function of securely holding the internal hardware components and devices, specifically, the batteries, inverters, battery controller, PV controller and electrical wiring.

The Unit contains a supporting wheel base with four multidirectional wheels.

NOTE: This Design Registration cannot be enforced unless and until it has been examined by the Registrar of Designs and a Certificate of Examination has been issued. See sections 73(3) and 77(3) of the Designs Act 2003, set out on the reverse of this document.



Dated this 16th day of June 2019
Registrar of Designs

DESIGNS ACT 2003

The Australian Design Register is the official record and should be referred to for the full details pertaining to this IP Right.

CERTIFICATE OF REGISTRATION DESIGN

Design number: 201912438



DESIGNS ACT 2003

The Australian Design Register is the official record and should be referred to for the full details pertaining to this IP Right.

CERTIFICATE OF REGISTRATION DESIGN

Design number: 201912438



DESIGNS ACT 2003

The Australian Design Register is the official record and should be referred to for the full details pertaining to this IP Right.

Trademarks

Australian Government
IP Australia

CERTIFICATE OF REGISTRATION TRADE MARK

Trade mark number: 1881628

The Registrar of Trade Marks has registered the trade mark represented on this certificate on 23 May 2018 and certifies that the following particulars have been entered in the Register of Trade Marks:


Name and address of owner(s):
Mark Jack Lyons of PO BOX 518 ROSEVILLE NSW 2069 AUSTRALIA

The trade mark is registered in the following class(es):
9

Date of filing:
25 October 2017


Term of registration:
Ten years from 25 October 2017

Representation:



Goods and/or services, and other information relating to the registration of this trade mark are listed on the following page(s).

Dated this 23rd day of May 2018
Registrar of Trade Marks



TRADE MARKS ACT 1995
The Australian Trade Marks Register is the public record of all trade marks registered in the IP Register.


Australian Government
IP Australia

CERTIFICATE OF REGISTRATION TRADE MARK

Trade mark number: 1881628

The trade mark is registered for the following goods and/or services:
Class: 9
Solar panels for electricity generation; Solar panels for the production of electricity

Dated this 23rd day of May 2018
Registrar of Trade Marks



TRADE MARKS ACT 1995
The Australian Trade Marks Register is the public record of all trade marks registered in the IP Register.

Australian Government
IP Australia

21 January 2019

Your trade mark has been filed

Mark Jack Lyons
PO Box 518
Roseville NSW 2069
Australia

Trade mark number: 1880280
Your reference: Superbright Solar Panels
Trade mark: Superbright Solar Panels
Applicant name: Mark Jack Lyons

Dear Applicant,
You have successfully lodged your trade mark application. The filing date is 21 January 2019.

Please note your trade mark number as you will need it when contacting IP Australia or making payments.

What you need to do now
Attached to this letter are the details of your trade mark application. Please review the details to ensure they are correct. If they are not correct, then please update them via our online services.

What will happen next
An examiner will assess your trade mark application against the requirements specified in the trade mark act.

If the requirements are met we will notify you and your trade mark will be advertised on our website. If the requirements are not met you will receive an adverse report. You will then have 15 months from the date of the report to address any issues and gain acceptance.

Things to be aware of
If you can prove you will be seriously disadvantaged by the time taken between filing and examination you can request to have the examination expedited.

If you meet the requirements and your trade mark is accepted then there is a 2 month period for others to oppose the registration of your trade mark.

Your progress

- Lodgement: Application is lodged (Application not published)
- Examination: Application is examined (Examination not published)
- Accepted: Application is accepted (Application not published)
- Registration: Trade mark is registered (Application not published)
- Renewed: Trade mark is due for renewal (Application not published)

Need help?
Talk to Alex, our virtual assistant

For further information on this topic, visit our IP website. Make an enquiry or provide feedback on our website.

Download our app: [App Store](#) [Google Play](#)

Page 1 of 2

Australian Government
IP Australia

8 April 2019

Your trade mark has been filed

Mark Jack Lyons
PO Box 518
Roseville NSW 2069
Australia

Trade mark number: 2001572
Your reference: Superbright Power Unit
Trade mark: Superbright Power Unit
Applicant name: Mark Jack Lyons

Dear Applicant,
You have successfully lodged your trade mark application. The filing date is 8 April 2019.

Please note your trade mark number as you will need it when contacting IP Australia or making payments.

What you need to do now
Attached to this letter are the details of your trade mark application. Please review the details to ensure they are correct. If they are not correct then please update them via our online services.

What will happen next
An examiner will assess your trade mark application against the requirements specified in the trade mark act.

If the requirements are met we will notify you and your trade mark will be advertised on our website. If the requirements are not met you will receive an adverse report. You will then have 15 months from the date of the report to address any issues and gain acceptance.

Things to be aware of
If you can prove you will be seriously disadvantaged by the time taken between filing and examination you can request to have the examination expedited.

If you meet the requirements and your trade mark is accepted then there is a 2 month period for others to oppose the registration of your trade mark.

Your progress

- Lodgement: Application is lodged (Application not published)
- Examination: Application is examined (Examination not published)
- Accepted: Application is accepted (Application not published)
- Registration: Trade mark is registered (Application not published)
- Renewed: Trade mark is due for renewal (Application not published)

Need help?
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For further information on this topic, visit our IP website. Make an enquiry or provide feedback on our website.

Download our app: [App Store](#) [Google Play](#)

Page 1 of 2

United States of America Patents

PATENTEC Patent & Trademark Attorneys

Level 11, 85 York St
Sydney, NSW, 2000
☎ 61 2158 9585
✉ mark@patentec.com.au

15 September 2017

Subject: Confirmation of the filing of your PCT Application
PCT Application: PCT/AU2017/051003
PCT Title: A modular photovoltaic louvered device
Our Ref: M104465

Dear Mark,

We confirm that your PCT application was filed under the Patent Cooperation Treaty (PCT) today.

Your PCT application has the following important details:

PCT Application Number	PCT/AU2017/051003
PCT Title	A modular photovoltaic louvered device
Applicant(s)	Mark Lyons
Inventor(s)	Mark Lyons
30 Month Deadline	13 March 2020
Priority date(s)	2016903719 and 2016904423

Documents Attached

A copy of each of the following documents as lodged at the Australian Patent Office (acting as Receiving Office) is attached:

- Request form and Specification as lodged. (Please review this and immediately advise any errors or omissions.)

We further confirm that a certified copy of the following priority applications are being lodged at the International Bureau:

- Australia (AU) 2016903719 and 2016904423

www.patentec.com.au

LEGALVISION

Confidential Communication
Email: jack@legalvision.com.au

21 February 2019
Our Ref: 2105000100

Jack Lyons
PO Box 118
Muswellbrook, NSW
2068, AUSTR

Patent Co-Operation Treaty Patent Application No. PCT/AU2018/00123
Applicant: Jack Lyons
Title: MULTIFUNCTIONAL SOLAR PANEL

Dear Jack,

We are pleased to report the filing particulars of the above PCT application, which are as follows:

P.C.T. Application Number: PCT/AU2018/00123

Filing Date: 14 Feb 2018

Claiming Priority from: 2016001061 (AU), 2016024980 (AU), 20169000371 (AU)

Countries Designated: See Appendix A

A copy of the specification as filed and International Status Report is also enclosed to complete your records, and we will forward the official Filing Receipt upon issuance. In the meantime, we have attached some forms that need to be filed to secure the PCT filing.

Forms to be completed

To complete filing requirements, we enclose:

- A Declaration of Inventionship, to be dated and signed by you.
- A Power of Attorney to be dated and signed by you.

We look forward to receiving an electronic copy of the enclosed documents (we do not need the original documents).

Publication and international search report

Details of the application will be published 18 months from the earliest priority date (not the September 2018). We expect in due course to receive an International Search Report (ISR) relating to the application. We will forward this to you on receipt and advise you of the further steps to be taken at that stage.

LegalVision LLP Pty Ltd (AU) 137 894 000
100 Harts Head, Pyrmont NSW 2009 | 2400 244 733 | legalvision.com.au
Lodged: 20180214 10:00 AM AEST
<http://www.pct.gov.au>

United States of America Trademarks

LEGALVISION

Confidential Communication
Email: jack@legalvision.com.au

21 March 2019
Our Ref: 21050025P00

Jack (Mark) Lyons
645 Cambridge Ave
Muswellbrook, NSW, 2030

United States Patent Application No.: 16/333,411
Title: A MODULAR PHOTOVOLTAIC LOUVERED DEVICE

Dear Jack,

Please find enclosed documents confirming the National Phase was entered before the USPTO for the above-mentioned application. The details are recited below:

Applicant: Lyons, Mark
Application No: 16/333,411
National Phase of International PCT Application No.: PCT/AU2017/051003
International Filing Date: 15/09/2017
Date of Entry into National Phase: 14 March 2019
Priority: AU2016903719 (15/09/16), AU2016904423 (28/10/16)

Documents enclosed for your records

- The Declaration of Inventionship as filed with the USPTO
- A preliminary amendment made at filing to bring the claims into conformity with US practice
- The Power of Attorney as filed with the USPTO
- USPTO issued filing and payment receipt

Information Disclosure Statement

As you may be aware, the rules of the U.S. Patent and Trademark Office specify that an ongoing duty of candor and good faith towards the Patent Office rests with the inventor, those associated with the inventor, and on each attorney or agent involved in the preparation or prosecution of the patent application to disclose to the Patent Office information they are aware of, which is material to the

LegalVision LLP Pty Ltd (AU) 137 894 000
100 Harts Head, Pyrmont NSW 2009 | 2400 244 733 | legalvision.com.au
<http://www.pct.gov.au>

Filing Receipt for Trademark/Service Mark Application for Registration on the Principal Register and Next Steps in the Application Process

Thank you for submitting your trademark application to the U.S. Patent and Trademark Office (USPTO). This filing receipt confirms your mark and serial number, describes next steps in the application process, and includes the information submitted in your application. Please read this receipt carefully and keep a copy for your records.

For an overview of important things to know after filing your application, visit our website to read the [After You File](#) page and watch video number 9 "After You File."

1. Your mark. SOLAR SHUTTERS (stylized and/or with design, MKR11441095-21100728, SOLAR_SHUTTERS, LOGO.jpg)
The literal element of the mark consists of SOLAR SHUTTERS. The color(s) orange and black is/are claimed as a feature of the mark. The mark consists of an orange sun design in the top left hand corner, the rays of the sun are stopped at slanted blades, next to the sun design are the words SOLAR SHUTTERS in black capital letters, the capital letters have horizontal stripes in the letters so that the letters appear to have clear horizontal gaps in each letter.

2. Your serial number. Your application was assigned serial number 88227867. You must refer to your serial number in all communications about your application.

3. What happens next – legal examination. Your mark will not be registered automatically. In approximately three months, your application will be assigned to a USPTO examining attorney for review. The attorney will determine if your application meets all applicable legal requirements, and if it doesn't you will be notified in an email with a link to the official Office action (official letter from the USPTO). Visit our website for an explanation of [application process functions](#).

If your mark includes a design element, we will assign it one or more [design search codes](#). We will notify you of these codes within the next few weeks and you can suggest that we add or delete a design search code from your file.

4. Keep your addresses current in USPTO records. We do not extend filing deadlines if you do not receive USPTO mail or email. If your postal address or email address changes, you must update the correspondence or owner's address using the [address forms](#) on our website.

5. Check your application status in our database every three to four months. To be sure that you don't miss an important email from us, and to avoid the possible abandonment of your application, check your application status and review your documents in our database, [Trademark Status and Document Retrieval \(TSDR\)](#), every three to four months.

6. Warning about private companies offering trademark-related services. Private companies may send you communications that resemble official USPTO communications. These private companies are not associated with the USPTO. All official correspondence will be from the "United States Patent and Trademark Office" in Alexandria, Virginia, and from emails with the domain "uspto.gov." If you are unsure about whether the correspondence is from us, check your records in our database, [TSDR](#). Visit our website for more information on trademark-related communications that may resemble official

**Filing Receipt for Trademark/Service Mark Application for Registration
on the Principal Register
and Next Steps in the Application Process**

Thank you for submitting your trademark application to the U.S. Patent and Trademark Office (USPTO). This filing receipt confirms your mark and serial number, describes next steps in the application process, and includes the information submitted in your application. Please read this receipt carefully and keep a copy for your records.

For an overview of important things to know after filing your application, visit our website to read the page and watch video number 9.

- Your mark, SUPERBRIGHT SOLAR (Standard Characters, mark .jpg)**
The literal element of the mark consists of SUPERBRIGHT SOLAR. The mark consists of standard characters, without claim to any particular font style, size, or color.
 - Your serial number.** Your application was assigned serial number 86214074. You must refer to your serial number in all communications about your application.
 - What happens next—legal examination.** Your mark will not be registered automatically. In approximately three months, your application will be assigned to a USPTO examining attorney for review. The attorney will determine if your application meets all applicable legal requirements, and if it doesn't you will be notified in an email with a link to the official Office action (official letter from the USPTO). Visit our website for an explanation of [application process timelines](#).
- If your mark includes a design element, we will assign it one or more [design search codes](#). We will notify you of these codes within the next few weeks and you can suggest that we add or delete a design search code from your file.
- Keep your addresses current in USPTO records.** We do not extend filing deadlines if you do not receive USPTO mail or email. If your postal address or email address changes, you must update the correspondence or owner's address using the [address forms](#) on our website.
 - Check your application status in our database every three to four months.** To be sure that you don't miss an important email from us, and to avoid the possible abandonment of your application, check your application status and review your documents in our database, every three to four months.
 - Warning about private companies offering trademark-related services.** Private companies may send you communications that resemble official USPTO communications. These private companies are not associated with the USPTO. All official correspondence will be from the "United States Patent and Trademark Office" in Alexandria, Virginia, and from emails with the domain "uspto.gov." If you are unsure about whether the correspondence is from us, check your records in our database, [Visit our website](#) for more information on trademark-related services.
 - Questions?** Please visit our [FAQ](#) page, or call us at 1-800-786-9199 and select option 1.

Serial number 86442463: Received Your Trademark/Service Mark Application, Principal Register

From: TEAS@uspto.gov
To: mj.nastri@yahoo.com
Date: Thursday, 23 May 2016, 11:20 am AEST


**Filing Receipt for Trademark/Service Mark Application for Registration
on the Principal Register
and Next Steps in the Application Process**

Thank you for submitting your trademark application to the U.S. Patent and Trademark Office (USPTO). This filing receipt confirms your mark and serial number, describes next steps in the application process, and includes the information submitted in your application. Please read this receipt carefully and keep a copy for your records.

For an overview of important things to know after filing your application, visit our website to read the [After You File](#) page and watch video number 9 "After You File."

- Your mark, SUPERBRIGHT POWER UNIT (Standard Characters, mark .jpg)**
The literal element of the mark consists of SUPERBRIGHT POWER UNIT. The mark consists of standard characters, without claim to any particular font style, size, or color.
 - Your serial number.** Your application was assigned serial number '86442463'. You must refer to your serial number in all communications about your application.
 - What happens next—legal examination.** Your mark will not be registered automatically. In approximately three months, your application will be assigned to a USPTO examining attorney for review. The attorney will determine if your application meets all applicable legal requirements, and if it doesn't you will be notified in an email with a link to the official Office action (official letter from the USPTO). Visit our website for an explanation of [application process timelines](#).
- If your mark includes a design element, we will assign it one or more [design search codes](#). We will notify you of these codes within the next few weeks and you can suggest that we add or delete a design search code from your file.
- Keep your addresses current in USPTO records.** We do not extend filing deadlines if you do not receive USPTO mail or email. If your postal address or email address changes, you must update the correspondence or owner's address using the [address forms](#) on our website.
 - Check your application status in our database every three to four months.** To be sure that you don't miss an important email from us, and to avoid the possible abandonment of your application, check your application status and review your documents in our database, [Trademark Status and Document Retrieval \(TSDR\)](#), every three to four months.

**United States of America
LLC**



**California Secretary of State
Electronic Filing**

LLC Registration – Articles of Organization

FILED
Secretary of State
State of California

Entity Name: Superbright Solar LLC

Entity (File) Number: 201906610078
File Date: 02/20/2019
Entity Type: Domestic LLC
Jurisdiction: California

Default Filing Information

- Entity Name: Superbright Solar LLC
- Business Address:
 - a. Initial Direct Address of Designated Office in California: 2618 San Miguel Drive #1521 Newport Beach, California 92660 United States
 - b. Initial Mailing Address: 2618 San Miguel Drive #1521 Newport Beach, California 92660 United States
- Agent for Service of Process: LEGALZOOM.COM, INC. (C2967348)
- Management Structure: All LLC Member(s)
- Purpose Statement: The purpose of the limited liability company is to engage in any lawful act or activity for which a limited liability company may be organized under the California Revised Uniform Limited Liability Company Act.

Electronic Signature:
The organizer affirms the information contained herein is true and correct.
Organizer: By: *Cheyenne Moseley*, Assistant Secretary of Legalzoom.com, Inc.

Use Article 600 on gov for online filing, searches, business records, and resources.

**South Africa
Patents**



REPUBLIC OF SOUTH AFRICA
REPUBLIC VAN SUID AFRIKA

PATENTS ACT, 1978

CERTIFICATE

In accordance with section 44 (1) of the Patents Act, No. 57 of 1978, it is hereby certified that:

LYONS, MARK JACK

Has been granted a patent in respect of an invention described and claimed in complete specification deposited at the Patent Office under the number

2016/00438

A copy of the complete specification is annexed, together with the relevant Form P2.

In testimony thereof, the seal of the Patent Office has been affixed at Pretoria with effect from the 28th day of June 2017

[Signature]
Registrar of Patents



Trademarks

FORM P7

REPUBLIC OF SOUTH AFRICA
PATENTS ACT, 1978
Complete specification
(section 30(1) - regulation 28)

Official number	Lodging date
2016/00438	20 January 2016
International classification	
H02S	
Full name of applicant	
LYONS, Mark Jack	
Full name of inventor	
LYONS, Mark Jack	
Title of the invention	
Solar shutters	

P78 NF, P.C.2A.4332/001

FORM P2

REPUBLIC OF SOUTH AFRICA REGISTER OF PATENTS PATENTS ACT, 1978

Official application No.	Lodging date: Provisional	Acceptance date
2016/00438	22	14-02-17
International classification	Lodging date: Complete	Deposit date
H02S	23 January 2016	28-06-17
Full name(s) of applicant(s)/Patentee(s)		
LYONS, Mark Jack		
Unit 88 The Strides, 23 Weaver Crescent, Umhlanga 4330, South Africa		
Applicant's address		Date registered
Assignee		Date registered
Full name(s) of inventor(s)		
LYONS, Mark Jack		
Priority claimed	Country	Number
	ZA	2015/01790
		20/04/2015
Title of invention		
SOLAR SHUTTERS		
Address of applicant/Inventor(s)		
Unit 88 The Strides, 23 Weaver Crescent, Umhlanga 4330 SOUTH AFRICA		
Address for service		
PFT Burger Attorneys (patent) trade mark attorneys 10 Mount Arisa Road, Umlanga Heights Durban, 4001 SOUTH AFRICA Reference No. PG/AA/0320/004		
Place of addition No.		Date of any change
First application base(s)		Date of any change

CONFIRMATION

Trademarks

SERTIFIKAAT VAN REGISTRASIE
REPUBLIC VAN SUID AFRIKA
Makelaar

CERTIFICATE OF REGISTRATION
REPUBLIC OF SOUTH AFRICA
Design Office

DEPARTEMENT VAN HANDEL EN NYWERHEID
DEPARTMENT OF TRADE AND INDUSTRY

Amptelike model No.: **A591600064**
Official design No.:

Volle naam van geregistreerde eienaar(s)
Full name(s) of registered proprietor(s): **LYONS, Mark Jack**

Artikele in verband waarmee model voorgestel gaan word
Article to which the design is to be applied: **SOLAR SHUTTERS**

Soort teken: **Deel A** **Deel F**
Type of design: **Part A** **Part F**

Datum van indiening: **20/01/2016**
Date of lodgment:

Uitvalingsdatum (waar van toepassing)
Revocation date (if applicable):

Voorbehoudingsdatum (waar van toepassing)
Priority date (where applicable):

94912916

Hierby word gesertifiseer dat:
(i) Die teken, waarvan in effent aanvaaring is, geregistreer is ten opsigte van die artikels ingesluit in bogenoemde klas en regulerende maatskaps die model voorgestel is, of 'n model voorgestel is wat nie aansienlik van die inhouderstelsel nie, ingesluit en behoudende dienooreenkomstige van die wet op modelle, 1993, is;

(ii) die registrasie geld vanaf die datum van indiening of die voorbehoudingsdatum of die uitvalingsdatum, welke datum ook al die vroeërste is en met hierdie "effektiewe datum" gereken word; en

(iii) die registrasie geldig is vir 'n tydperk van vyftien jaar in die geval van 'n model geregistreer in Deel A en ten jaar in die geval van 'n model geregistreer in Deel F vanaf die effektiewe datum en behoudende dat, wat by verandering van die jaar effektiewe datum en jaarlike daars.

This is to certify that:
(i) the design, of which a copy is annexed, has been registered in the above class and to which the design or a design not substantially different from the design has been applied, in pursuance of and subject to the provisions of the Design Act, 1993; and

(ii) the registration is effective from the above date of lodgment or priority date or revocation date, whichever is the earliest and which date is hereinafter referred to as "the effective date"; and

(iii) the registration is effective for a period of fifteen years in the case of a design registered in Part A and ten years in the case of a design registered in Part F from the effective date and subject to payment of renewal fees at the third year from the effective date and annually thereafter.

REGISTRAR OF DESIGNS
REGISTRATEUR VAN MOEDELLE

19.01.2017

REPUBLIC OF SOUTH AFRICA
CERTIFICATE OF REGISTRATION

2015/00953 **THE TRADE MARKS ACT, 1993**

I hereby certify, in terms of Section 29(2) of the Act, that subject to the terms and conditions specified herein the under-mentioned trade mark has been registered in the Trade Marks Office with effect from:

18 January 2016

The registration is for a period of 10 years from:

18 January 2016

Particulars of entry in the Register of Trade Marks:

2015/00953 in Class 9: Electricity generating photovoltaic cells and panels, photovoltaic cells for electricity generation, solar collectors for electricity generation, solar energy collectors for electricity generation, solar energy operating apparatus, frame shutters including photovoltaic cells, in the name of LYONS, Mark Jack, Unit 88 The Strides, 23 Weaver Crescent, Umhlanga, 4330, South Africa. Address for service: P.F.T. BURROER ATTORNEYS, 10 Mount Arisa Road, Umlanga Heights, Durban, 4001. P.O. Box 548, Durban, 4002. OOOEX 305 Durban.

SOLAR SHUTTERS

Registration of this trade mark shall give no right to the exclusive use of the word "SOLAR" or "SUN DEVICE" or the word "SHUTTERS", separately and apart from the mark.

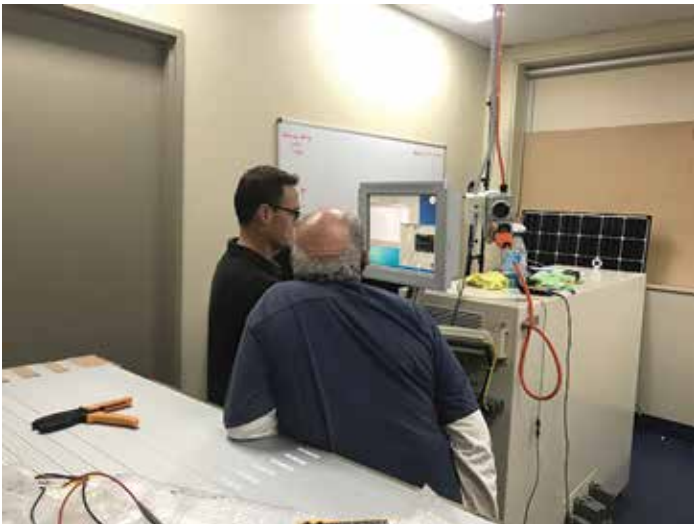
FILED: 18 January 2016

Signed and sealed at Pretoria this 20 day of February 2017

REGISTRAR OF TRADE MARKS

CSIRO

Testing our Solar Shutters and Solar Panels



10 Murray Dwyer Cct, Mayfield West NSW 2304
PO Box 330, Newcastle NSW 2300, Australia
T (02) 4960 6000 • ABN 41 687 119 230

2 November 2018

Our Ref: M0056

To whom it may concern,

On 11 October 2018 I measured the performance of two prototype photovoltaic (PV) devices brought to me by Innovative Technologies Pty Ltd, using our calibrated flash solar simulator (Spire 5600SLP). Standard Test Conditions were applied and the measurement procedure was consistent with the relevant standard IEC 60904-1. A less rigorous version of our normal procedure was applied (no temperature or spectral corrections), however the output power values (P_{max}) presented below are accurate to within an estimated uncertainty of $\pm 5\%$.

The first device was a plantation-style shutter (86×46 cm) with solar PV cells incorporated into the vanes. The shutter vanes were closed to create a pseudo-flat surface, which was placed cell-side-down on the solar simulator.

The second device was a flat PV module (102×48 cm) of conventional form factor.

Current-voltage curves and key performance parameters for the two devices are shown in Figures 1 and 2 below.

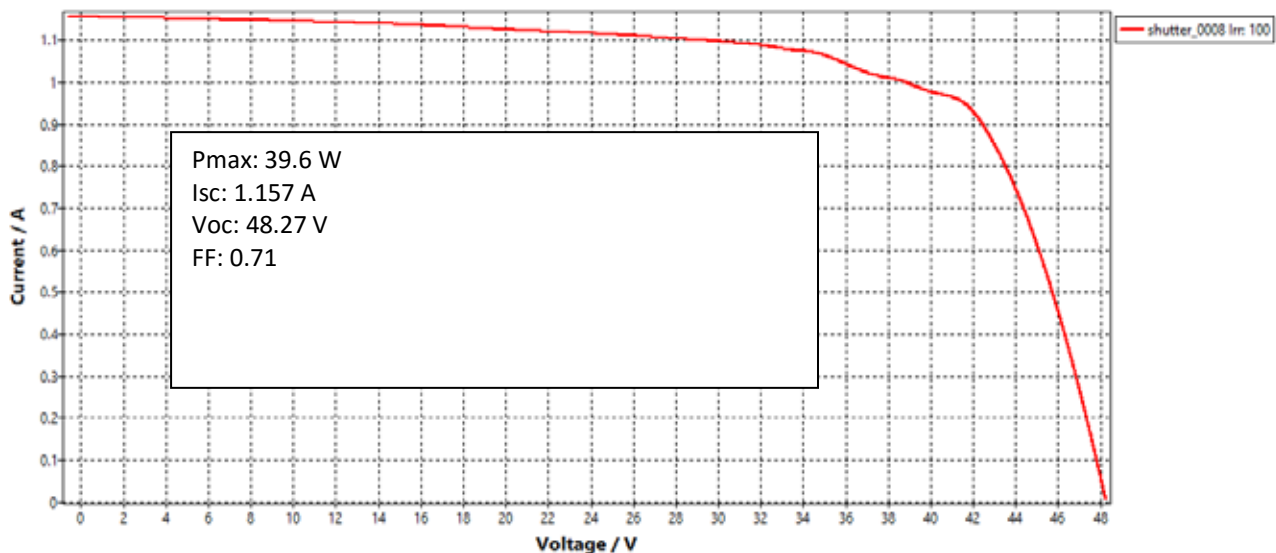


Figure 1 Results for Solar Shutter

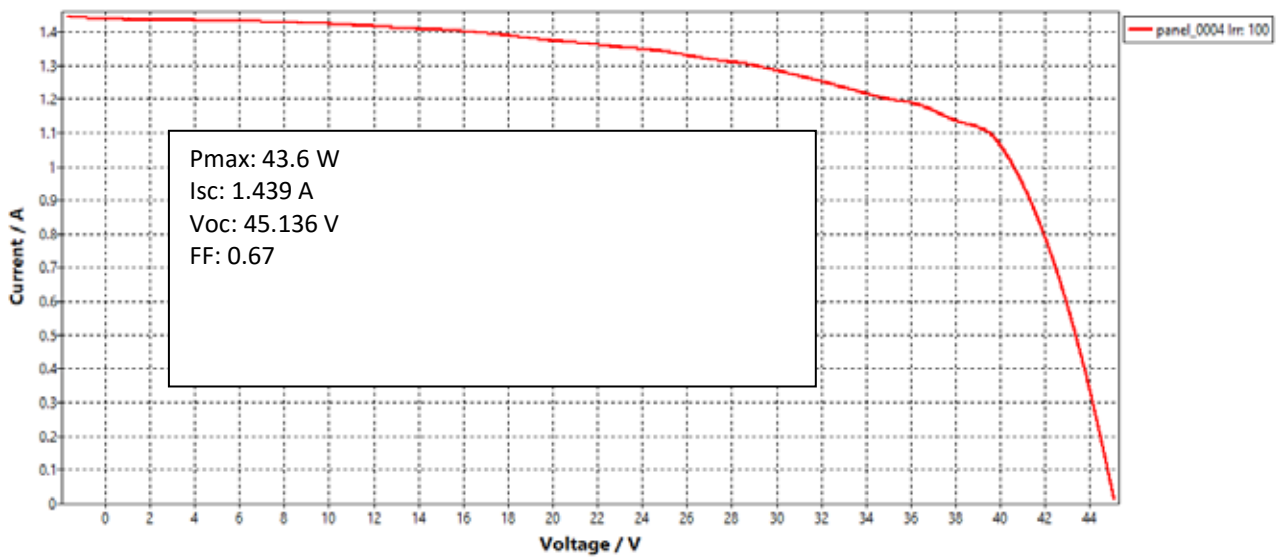


Figure 2 Results for Solar Module

The results presented above reflect the performance of the two devices brought to PVPL for measurement, and should not be assumed to reflect the performance of any other devices.

Sincerely,

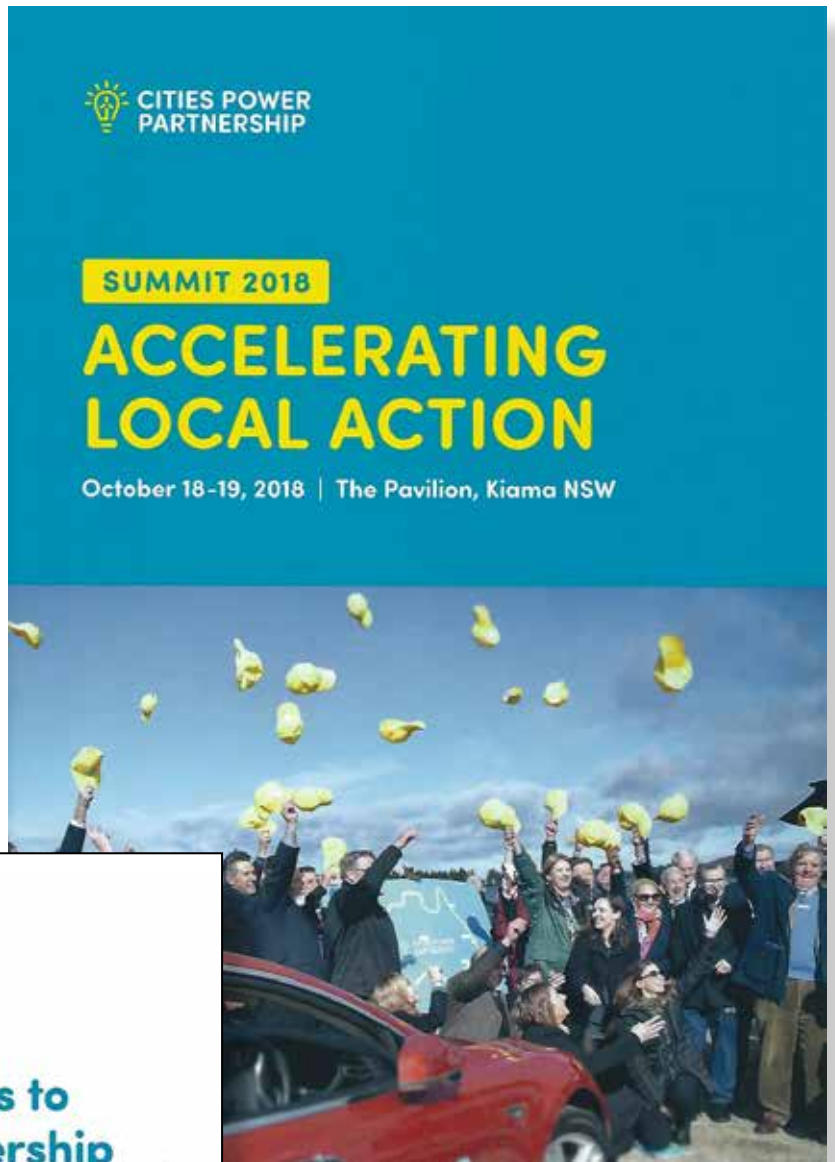
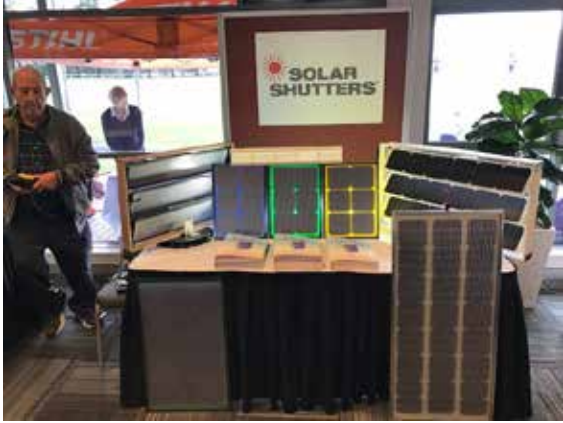
Chris Fell

Dr Christopher Fell

Principal Research Scientist | PV Performance Laboratory

Energy
 CSIRO

Cities Power Partnership SUMMIT 2018



Cities Power Partnership Summit 2018

Welcoming 100 Councils to the Cities Power Partnership

The CPP has had a knockout year, starting in July 2017 with just 35 local councils, we have grown rapidly to welcome 100 councils to the partnership, representing over 300 towns and cities and over 10 million Australians. This makes the CPP the largest climate and energy program for local governments in Australia.

The Cities Power Partnership Team

Our team is continuing to grow. We're here to support our member councils to accelerate their projects, raise their media profile and connect councils with financing:

-  **Alix Pearce**
Director
-  **Sonya Williams**
Grants & Funding Co-ordinator
-  **Tracey Armstrong**
Council Liaison Officer
-  **Fiona Ivits**
Media Advisor
-  **Victoria Fratin**
Media Advisor
-  **Jane Turner**
Project Officer

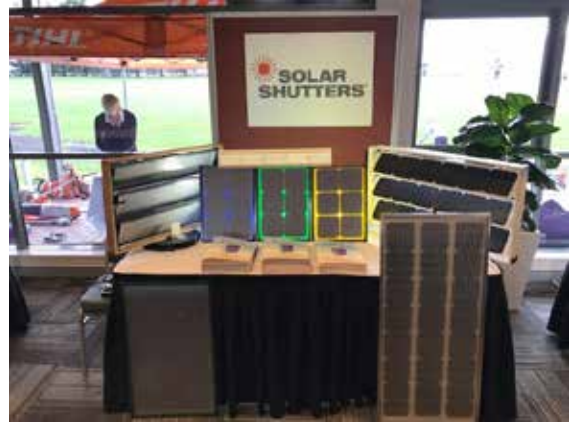
The Expert Advisory Panel

The CPP is grateful for the support of our expert advisory panel, who have guided us as the program has grown and judge the CPP annual awards. We look forward to their continued input and guidance over the year ahead.

-  **Professor Karen Hussey**
Climate Councillor and Director, Centre for Policy Futures, University of Queensland
-  **Shane Rattenbury MLA**
Minister for Climate Change & Sustainability, ACT Government
-  **Verity Mergan-Schmidt**
CEO, Farmers for Climate Action
-  **Cllr Damien Ryan**
Mayor Alice Springs Town Council, & Vice President, Australian Local Government Association
-  **Claire Painter**
CASE EQ Infrastructure Manager, Mercedes Banz Australia



Cities Power Partnership SUMMIT 2018



250+ Pledges From Our Member Councils

The results are in! CPP councils have submitted over 250 pledge items, outlining their commitments across renewable energy, energy efficiency, sustainable transport and collaboration. These wide-ranging commitments from local governments will make a

significant difference for the councils themselves and the communities they represent.

Impact in Our First Year

- > 100 member councils from around Australia (see Appendix A for listing). Our members range from capital cities like Sydney, Brisbane, Darwin, Canberra and Adelaide, to large regional towns like Bundaberg in Queensland and Alice Springs in the Northern Territory, to coastal hubs like Byron Bay in NSW and small rural shires like Strathbogie in Victoria.
- > 1600+ media items celebrating our trailblazing local councils and their achievements.
- > Hundreds of events, briefings and community engagement around Australia.

Award Winning Program

2018 NSW Green Globe Finalist, Climate Change Leadership, Cities Power Partnership.
2018 Third Sector Awards Winner - Alix Pearce, Campaign / Marketing Executive of the Year.

We would like to acknowledge the generous support of our 2018 Summit Sponsors and Exhibitors:

Renewable Energy Award Sponsor and Program Supporter



Host Sponsors



Carbon Neutral Supporting Partner



Energy Efficiency Award Sponsor



Networking Drinks Sponsor



Conference Organisers



Trade Exhibitors





Registered Office:

Level 2, The Waverley
79-85 Oxford Street
Bondi Junction, NSW 2022 Australia

Phone: 0475 556 319

Email: Jack@innotech.mobi

Website: www.solar-shutters.com.au

6 March 2019

Proposed Demonstration Site

The Council Of The Municipality Of Kiama Council

Scope of Work

Herewith the proposed Demonstration Site project details for our new technology Renewable Solar Energy products and applications for the Kiama Leisure Centre.

Solar Power Generation

65 KW of Renewable Solar Energy.

Solar Product Installations

1. **Solar Shutters** - replacing the existing non functional glass shutters in the Kiama Leisure Centre
2. **Superbright Solar Panels™** - suitable for attachment to both the rooftop or corrugated side wall panels of the Kiama Leisure Centre.

Option 1: Roof Attachment via our Connector Channel System - *subject to Independent Structural Engineers Report utilising our self-supporting 'Connector Channel System'

Option 2: Vertical Wall Attachment - suitable for attachment onto the corrugated side wall panels of the Kiama Leisure Centre.

Demonstration Site Report

Demonstration Site Project Report for 12-24 months after the installation, providing comprehensive details of solar power output for each product, data capture, data analysis, and products functionality and performance.



Kiama Council Benefits

The Kiama Council would be the first Australian Council to demonstrate our New Technology renewable solar energy products and applications, demonstrating the Kiama Councils commitment to advancing innovative renewable energy solutions for not only the benefit of the the Kiama Community but also as a leader in demonstration projects for all of the other Australian Councils and the Australian Government at large including NGO's that are interested in moving their businesses and building structures to a carbon neutral environment and significantly reducing their costs and dependence on grid electricity.

Knowledge Sharing

The Kiama Leisure Centre demonstration site would also serve as a powerful new technology solar energy showpiece that would attract positive publicity for the Kiama Municipal Council and the general public.

This working demonstration site would also serve to validate and share our products renewable energy detailed performance report information including electrical watt power output generation, live data feed and grid electricity costs savings.

We would make the demonstration site details and information freely available on our dedicated Demonstration Site website.

AusIndustry Matching Funding

My Expression of Interest with AusIndustry 'Department of Industry Innovation and Science' resulted in me being assigned a NSW Commercialisation Advisor Malcolm Donnell, we had a meeting on Friday 18th January 2019.

I demonstrated my prototype product samples during the meeting and discussed the interest from a number of the Government Councils at the CPP Summit in Kiama, including the Kiama Council and the Kiama Leisure Centre building structure would a perfect Demonstration Site for of the installation of our new technology Solar Products.

Malcolm said that if we did get the go ahead with the Kiama Council with a Project Contract Agreement, then there is the possibility that they would put in matching funding for the total costs involved. I would still need to go through the comprehensive documentation process with them and it would take approximately four to six months to be approved.

Projected Demonstration Site Costs

The projected installation costs for the Kiama Leisure Centre to generate 65KW of renewable solar energy output:



A. 60 x Solar Shutter® Units replacing the existing Glass Window Shutters

@\$495 per 1.0 Sqm. Unit

1 KW = 6 Units x 170 Watt

60 Units = 10KW

=\$29,700.00

B. 100 x Superbright Solar Panels™

@\$495 per 1.4 sqm. Panel

1 KW = 5 Panels x 200 Watt

150 Panels = 30KW

=\$74,250.00

***Includes Connector Channel System**

C. 100 x Superbright Solar Wall Cladding

@\$695 per 2.0 sqm.

1 KW = 4 Panels x 250 Watt

100 Panels = 25KW

= \$69,500.00

***Includes Connector Channel System**

Total Watt Output 65KW

Total Cost \$173,450.00

Plus Subcontractors

D. Accredited Installation Subcontractor costs = Approx. \$30,000 - \$50,000

E. Independent Structural Engineer Rooftop Report for the 'Superbright Solar Panels' utilising the 'Connector Channel System' = Approx. \$8,000 - \$12,000

Total Project Cost \$235,450.00

Key Market Size and Competitors vs Rooftop Solar

There are currently no competitors offering renewable energy 'Solar Shutters' in Australia, and in the world market we are only aware of one very fragile solar blind company that can only be installed inside a window without any expose to weather or wind.

Our Solar Shutters are extremely durable and weather proof constructed out of polycarbonate material which is twenty times stronger than the high strength glass used in conventional solar roof panels. Our 'Solar Shutters' and 'Superbright Solar Panels™' will withstand the strongest of Hail storms which have smashed conventional solar roof panels recently in NSW.

There are currently no competitors offering a product like 'Superbright Solar Panels™' and 'Superbright Solar Wall Cladding' in Australia or the world market. The uniqueness and advantages of our panels is that they can be installed on both horizontal roof and vertical wall surface areas. This is only achievable by installation using our specialised self-supporting and interconnecting 'Connector Channel System'.



The Australian Renewable Solar Energy Market size and potential

According to the 2016 Australian Population Census:

30.9 % of residential households are renters who are entirely locked out of solar, so therefore have no way of reducing their monthly electricity costs.

And of the 30.9% of renters, 12.7% live in Low Rise apartments and 13.1% percent live in High Rise apartments, therefore a total of 25.8% of Australians live in Apartments and have no access to renewable solar energy provided by conventional solar roof panels.

All apartment owners and renters also have no way of benefiting from renewable solar energy and high rise buildings and apartment rooftop space is extremely limited even if that space has rooftop solar it will never contribute a significant amount when divided by the number of units or apartments. Likewise business offices are also locked out from renewable solar energy.

Therefore the benefits of our solar products is that the Solar Shutters offer new technology window installation options, and these units can also be removed and take with renters should they ever need to move.

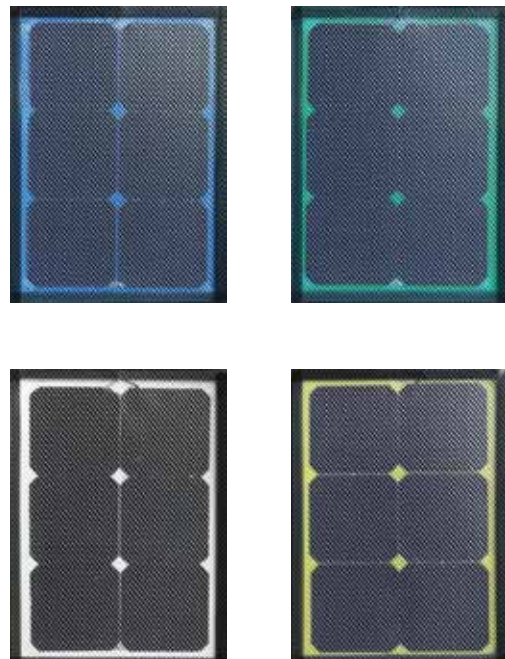
High-rise building body corporates can also now offer our 'Superbright Solar Wall Cladding' option as a method of generating additional solar power to the building as a whole which could then be allocated or divided into each unit or apartment for the benefit of all the tenants.

Proposed product to be installed:

Solar Shutters®



Superbright Solar Panels™





***Copy of Email Dated 22 October 2018**

Paul Czulowski
Manager Environment & Health
The Council of The Municipality of Kiama

Dear Paul

Good to meet you at the Kiama CPP Summit.

I would like to confirm that we did visit the Kiama Leisure Centre and our products are well suited to the Leisure Centre building structure.

We can therefore effectively offer you the following new technology renewable solar energy product options for the Kiama Leisure Centre Building:

1. 'Superbright Solar Panels™' for the rooftop surface area.

Our Solar Panels are generally half the weight of conventional solar roof panels as we do not use a top layer of glass. Our solar panels use a top layer of polycarbonate which is not only much lighter than glass but is also twenty times stronger and more durable than glass, therefore hail will not damage the solar panels.

Our Solar Panels are also attached to the roof surface area or vertical wall surface area by way of our specialised 'Solar Panel Connector Channel System' which is attached flush against the roof or wall surface area.

The benefits of this specialised attachment system and method is that it eliminates the use of angled steel railings and fittings used to attach conventional roof panels. The other benefit is that the Connector Channel acts as an interconnected supporting structure that holds and supports the weight of the solar panels in the side attachment channel compartments.

2. 'Solar Shutters®' to replace the Glass Window Shutters.

Our Solar Shutters can perfectly replace the Glass Window Shutters that are currently located at both side lengths at the top of the vertical wall surface area of the building.

The benefits of installing our Solar Shutters is that besides generating renewable solar energy, the shutters are also fully functional and can be opened and closed for ventilation or to reduce the amount of sunlight entering the building structure.



3. 'Superbright Solar Wall Cladding' for the vertical side walls

Our Solar Wall Cladding can be attached to all of the vertical wall surface areas of the building structure by way of our 'Solar Panel Connector Channel'

The benefits of installing the 'Superbright Solar Wall Cladding' to both of the vertical length surface areas is that a significant amount of additional renewable solar energy could be generated by utilising these large surface area. One side of the buildings surface area would generate maximum solar energy for half of the day, until the sun is directly overhead, and then the other side of the buildings vertical surface area would generate maximum solar energy for the second half of the day.

Therefore in summary our specialised products and solutions can definitely generate a significant amount of renewable solar power and electricity for the Kiama Leisure Centre.



Innovative Technologies Pty Ltd

Australian Market Validation

A new study from the Australian National University school of electrical engineering says Australia could reach the equivalent of 100 per cent renewables by 2032, if the current rates of installation of wind and solar continued.

The research, led by Professor Andrew Blakers and Dr Matthew Stock, says the technology and infrastructure needed to support that amount of wind and solar can also be put in place within that time frame.

The most important thing the government of the day can do is to get out of the way, although it will need some considerable facilitation and co-ordination to get everything built and in place in time.

The ANU study says Australia is installing solar PV and wind 4-5 times faster per capita than China, Japan, the EU and the US, and is on track to reach 50 per cent renewable electricity by 2024 – far ahead of Labor’s federal target date of 2030, which the Coalition government describes as “reckless.”

Blakers says this has important implications for Australia. It would mean that not only would the electricity sector meet its “share” of the current Paris climate commitment within a few years, something that is already locked in, but could also meet the economy-wide target of 26-28 per cent reduction in emissions by 2030.

It’s important to note here that other experts question this assumption on economy wide emissions and whether this would be enough to deliver Australia’s weak Paris treaty emissions target, and they point out that Australia will be under pressure to increase its target in coming years.



Dylan McConnell @dylanjmcconnell · 31m

With respect to colleagues at ANU - the analysis released today suggesting the 'electricity sector is on track to deliver Australia's entire Paris emissions reduction targets five years early' (in 2025) seems not only internally inconsistent, but seriously flawed. IMHO



3



16



22



[Show this thread](#)

See this Tweet above from Dylan McConnell from the Climate and Energy College, and a response from ANU climate expert Frank Jotzo below which worries about complacency, particularly given that energy minister Angus Taylor reacted to the research by claiming it was proof the government was doing enough.

Jotzo writes in more detail here about the challenges facing Australia on emissions and what the government needs to do.



Frank Jotzo @frankjotzo · 3h

(4) In any case, it makes sense economically to now also act to reduce emissions in all other parts of the economy. It's an economy-wide goal. And once electricity is near zero emissions, the rest is where the issue is. It is not good to delay comprehensive action. 5/5

1 1 11

Show this thread

In any case the study's authors make the point that because of the low cost of renewables, it could do achieve its emissions reductions at little or no additional cost to business as usual.

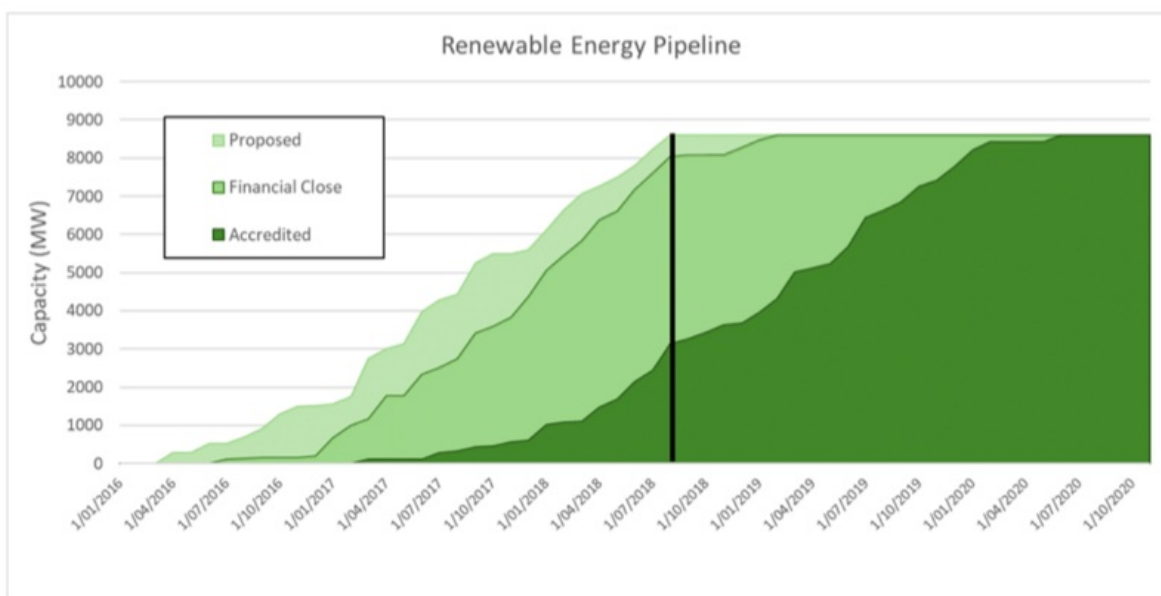


Figure 3: Actual and probable deployment of large (> 0.1 MW) systems in Australia based on CER data [7]. It can be seen from the graph that about 4,000 MW per year is currently being installed. This figure is available in an accompanying spreadsheet.

“There is a large PV and wind pipeline which augers well for continued deployment of PV and wind at rates above 6GW per year,” Blakers and Stock say in their report.

“We anticipate that this will continue for many years, provided that energy policy is not actively hindering development of renewables.”

That assumption that the government is minded to “get out of the way” and facilitate this deployment, is a very big “IF”.

The current Coalition government has done the opposite, and analysts warn that the industry risks “falling off a cliff” with the current government.

It engineered a capital strike and an investment trough from 2013 to 2016 by threatening to scrap the renewable energy target, and then finally reducing it. The current wind and solar boom has come despite the government's intentions, rather than because of it.

And it appears keen to repeat the dose.

Energy minister Angus Taylor insists there is already too much wind and solar in the grid, and his policies – the “big stick” proposal to control prices and force divestment, and the proposed tender for 24/7 power – are being criticised by virtually everyone for being rushed, ill-thought-out and likely to delay investment rather than encourage it.

Blakers says that because of the falling cost of solar PV and wind energy, it is now clearly below the cost of building a new coal or gas plant, and similar to the cost of some existing coal plants – an assumption that is also shared by the CSIRO and the Australian Energy Market Operator.

“The net cost of achieving deep cuts in greenhouse gas emissions is approximately zero,” the researchers say, although they note that large-scale renewable transition entails tens of billions of dollars to be spent in rural Australia.”

Blakers and Stock say that stabilising the electricity grid when it has 50-100 per cent renewable energy is straightforward using off-the-shelf technologies already widely used in Australia, including storage (pumped hydro and batteries), demand management and stronger interstate transmission (to smooth out the effects of local weather).

The ANU researchers have previously produced studies that illustrate how that can be done, and have also prepared detailed reports on the prospect of pumped hydro across the country.

Numerous projects – including Snowy 2.0, Tasmania's “battery of the nation”, and any number of smaller pumped hydro developments in Queensland, NSW, Victoria and South Australia – are on the drawing boards and having feasibility studies done.

“Most developing countries lie in the low-latitude sunbelt and can readily follow the Australian renewable energy path rather than go through a fossil fuel era – a bit like Africa skipping landline phones and transitioning directly to mobiles,” the researchers say.

“Renewable energy offers real hope for massive avoidance of greenhouse emissions and preservation of a livable planet.”

The ANU research notes that the current policy boost, the large-scale renewable energy target, will be met by 2020 (if not earlier), but deployment could still continue at rapid rates because:

Large-scale Generation Certificates (LGCs) will continue to be issued to accredited new generating capacity by the CER after 2020 out till 2030. (Although one has to question what value those LGCs will have).

Renewable investment opportunities are broadening beyond the wholesale market, with companies increasingly realising the economic and environmental credential benefits of renewable energy supply contracts.

For example, Sanjeev Gupta has announced that he will add 1GW behind the meter at the Whyalla steelworks and Sun Metals in Townsville has already installed 125 MW of solar generating capacity.

The price of wind and PV will continue to fall rapidly, opening up further market opportunities, as well as placing downwards pressure on electricity prices.

Increased deployment of electric vehicles in place of internal combustion vehicles and increased deployment of electric heat pumps in place of gas for water and space heating is expected to increase electricity demand.

Since nearly all new generation capacity in Australia is PV and wind, a sharp increase in demand is expected to be met by a large increase in the deployment rate of PV and wind.

Retiring existing coal power stations will be replaced by PV and wind.

“This paper demonstrates that Australia’s renewable energy industry has the capacity to deliver deep and rapid emissions reductions,” the authors say.

“Direct government support for PV and wind would help enhance industry capability but is no longer critical. What is crucial is government policy certainty that will enable the renewable industry to realise its potential to deliver deep emissions cuts.

“The most useful support that the government could provide is provision of high voltage interconnectors between states and to renewable energy zones (containing large numbers of PV and wind farms).

“This is akin to government provision of toll roads to resolve road traffic bottlenecks and the NBN to resolve internet traffic bottlenecks.

“Support for storage would also be very useful, for example through Snowy 2.0 or similar schemes.”

The scenario painted by ANU is based on capacity factors of 40 per cent for wind, just 21 per cent for solar (DC), and 15 per cent for rooftop solar. Blakers notes these are conservative estimates.

Behind-the-meter installations also play a crucial role, continuing at its current quick rates and accounting for around one-third of all generation by the early 2030s – again, this is quite consistent with other studies.

The ANU report says the techniques for balancing and managing a 100 per cent renewables grid are relatively straightforward, and not as expensive as many suggest.

"The cost of hourly balancing of the Australian electricity grid is modest: about \$5/MWh for a renewable energy fraction of 50%, rising to \$25/MWh for 100% renewables," it says.

"Thus, the cost of the required storage and transmission is considerably smaller than the cost of the corresponding wind and solar farms. Australia's coal power stations are old and are becoming less reliable, and transition to a modern renewable energy system can improve grid stability."

Australia leading the green building sector

A new global report has revealed our nation is leading the world's green building sector, with further growth predicted in the next three years.

The World Green Building Trends 2018 SmartMarket Report, released by Dodge Data and Analytics, indicates support for the green building sector is growing globally, with organisations across the construction industry shifting towards more sustainable materials and practices.

It noted third-party certification systems, such as the Green Building Council of Australia's (GBCA) Green Star rating system, were being used to make buildings perform more efficiently, yielding both commercial and environmental gains.

The report states the drivers for green building in Australia are noted as market demand, client demand and improving occupant health and wellbeing.

"Australia is also notably higher than the global average for each of these factors, demonstrating the sway they have on encouraging the green building market in this country," said the report.

More than 2000 industry stakeholders across 86 countries, including architects, engineers, contractors, owners, consultants and investors, were surveyed for the report, including GBCA members.

According to the report, 94% of Australian respondents are involved in green building projects, and the majority (67%) report at least a moderate level of green activity, with a 30% share or more of their work in the sector. Notably, 46% of respondents reported more than 60% of their projects were in the green building space, the highest of any country, and 64% expected by 2021 the majority of their work would be in green building.

GBCA chief executive officer Romilly Madew said the results were a testament to the continued commitment and leadership of the Australian property sector to sustainably transform the built environment.

"Australia's green building sector is



"Australia's green building sector is continuing to innovate and is leading the world."

GBCA chief executive officer Romilly Madew

continuing to innovate and is leading the world," said Madew.


"The GBCA and its Green Star rating system continue to support the industry to set and maintain ambitious sustainability standards and provide guidance in the delivery of better outcomes on the ground for building owners, tenants, users and the broader community.

Madew added that 2018 has been monumental for the GBCA. In October, the GBCA certified their 2000th Green Star project.

"Understandably, commercial property continues to perform strongly in the adoption of green building in Australia

driven by world-leading investor and market demand. 37% of Australia's office space is now Green Star certified.

"Investor demand to effectively manage climate risk and meet ambitious carbon reduction targets continues to be a major driver for green building. Increasingly though, there is a realisation of the wider social and economic benefits from a holistic approach to sustainability, for example improvements in health and wellbeing, amenity and liveability.

"The GBCA will continue to work with government and industry to ensure Australia continues to realise the benefits of its global leadership as evidenced in this report." 

'Records falling everywhere': solar panel demand goes through the roof

By Peter Hannam

3 November 2018 – 12:00am



For Amit Narang, an IT expert working for NSW Health, the choice to put solar panels on his roof was partly to cut carbon emissions but mostly because the financials had become conclusive.

"We felt we could recover the costs in four to five years," Mr Narang said on Thursday, hours after a 6.5-kilowatt photovoltaic system was installed on his home in The Ponds, in Sydney's west. "You're also saving the environment."

By his calculation, the family's annual electric bill will dive from \$1400 to \$400, a compelling enough case that has two colleagues looking to take a similar plunge into PV.

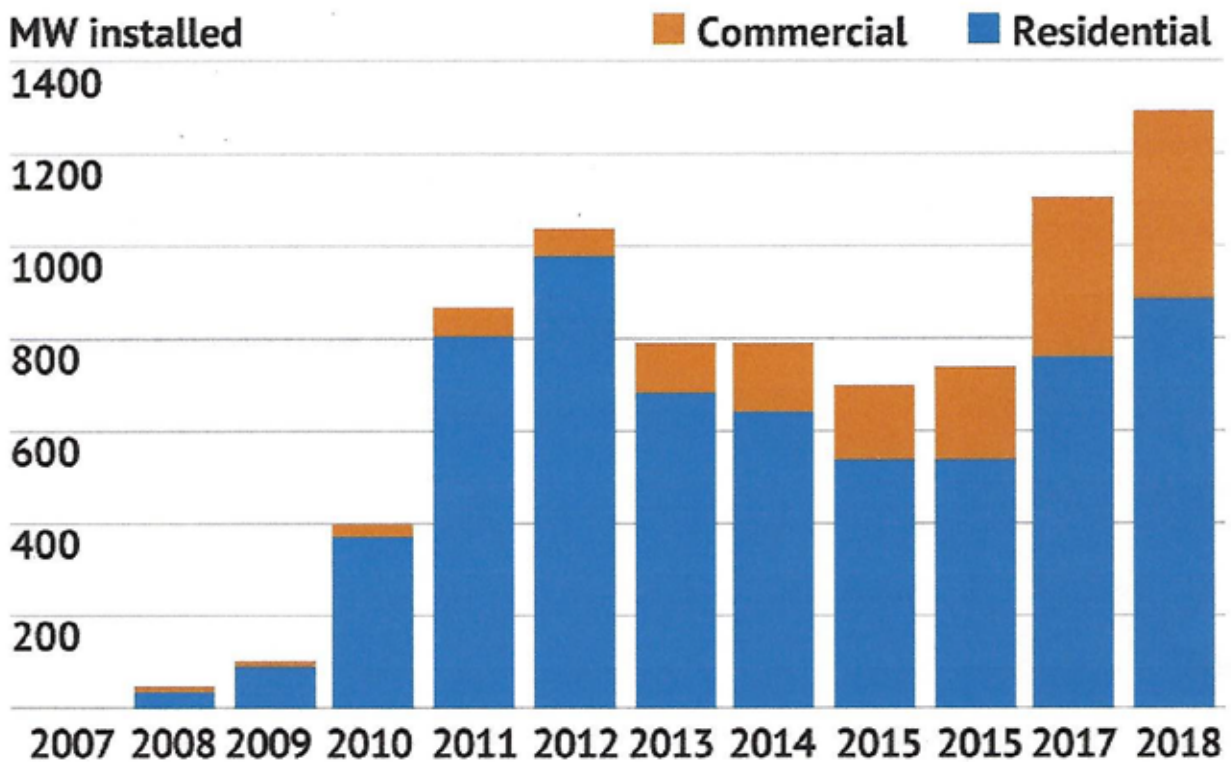


Going up: The Narang family get their solar panels installed by More Green Energy on their home in The Ponds, in Sydney's west, this week. [CLICK HERE](#)

And why not? With power prices doubling in a decade, and with few signs of retreating and panel prices sinking, "you'd be mad not to put solar on", said Renate Egan, an associate professor at the University of NSW. "It's become super-competitive."

Add in federal energy policy uncertainty after the demise of the federal government's National Energy Guarantee and consumers are keener than ever to take control of their electricity.

Rooftop solar installs per year



NB: 2018 is to October. Installs will increase by end of year.

Source: Australian PV Institute

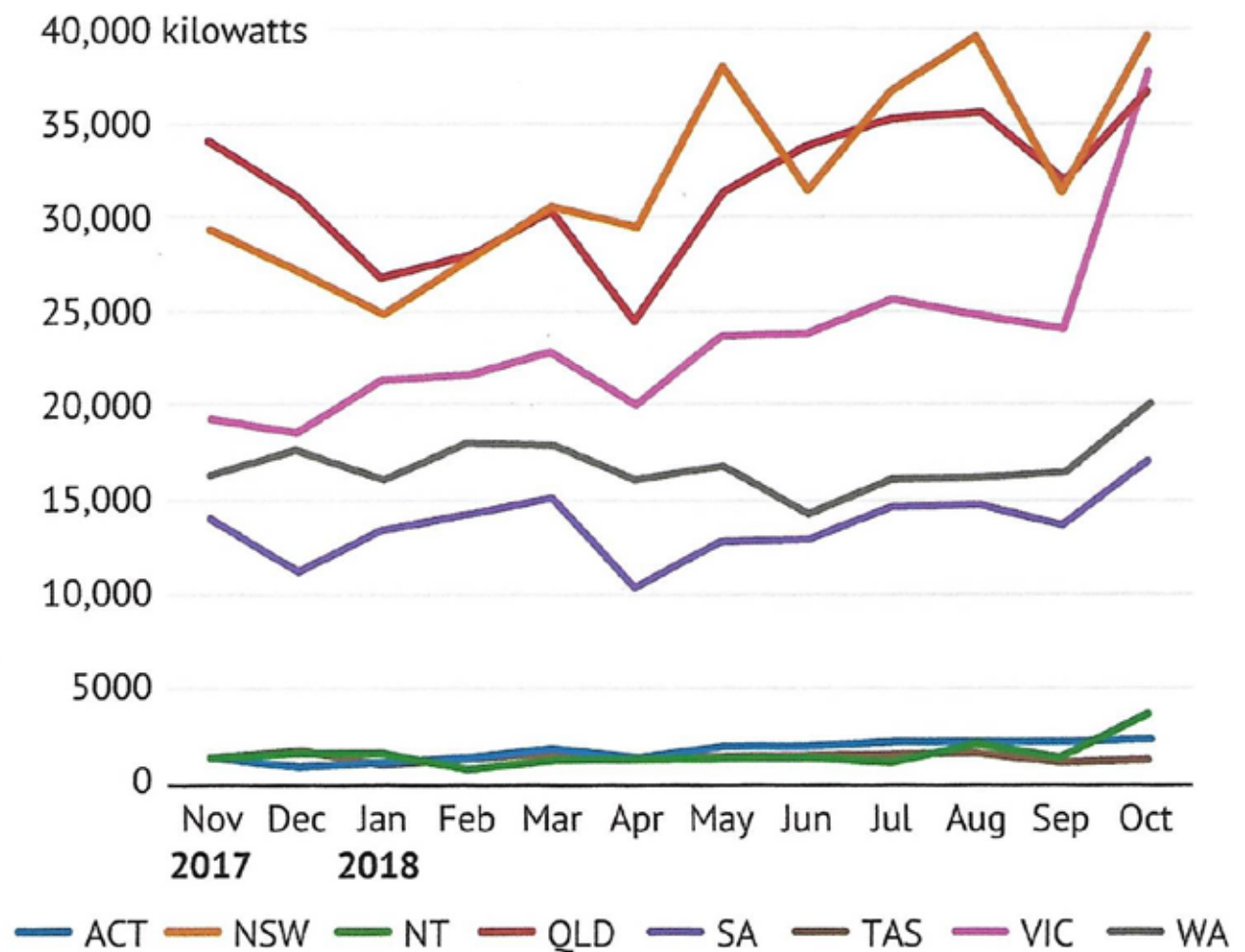
Last month saw a spike in installations in Victoria and NSW, with both overtaking Queensland. All three topped 35 megawatts of new capacity. Nationwide, the 158MW of rooftop solar added in October eclipsed all previous months and ensured 2018 would easily top other years.

"There are records falling everywhere," Warwick Johnston, managing director of SunWiz, said.

The Victoria government's [pre-election pledge in August](#) to pay the upfront costs for as many as 650,000 PV systems in the state provided extra fuel to that state's solar rocket.

Victoria out-surges other states as solar booms

Installed capacity per month



Source: SunWiz

Adding in large-scale solar farms that are springing up across the nation, Australia connected 1560MW of PV in the September quarter alone. That total exceeded the capacity plugged in during all of 2017 – itself the previous record year – according to Dr Egan.

Total national PV solar installations

MW installed
10,000

Reported total at Sept 2018: >10,131MW

7500

5000

2500

0 2001

2010

2018

Source: Australian PV Institute

For Laurent Wiseman, who in July got a 5.7-kW system installed as part of an [Inner West community energy](#) group in Sydney, the experience has been enhanced by the accompanying technology that helps run his Rozelle home more efficiently.

"I've been blown away" by an app that includes revealing how much energy his air-conditioner uses, the property manager said. "It teaches the kids the right things, including sustainability."



Fair dinkum Prof Ray Wills
@ProfRayWills

There's never been a better time to install solar,
not installing it now means you are not saving money

Add 5kw #solar to home
\$5k to \$200k mortgage
Add \$80/m saving to repayment
Save 5.5y, \$38k
±0.25% loan cut

Interview @9NewsPerthyoutu.be/_v56D41hcr8
#fairdinkumpower

1:38 PM - Nov 1, 2018

33 32 people are talking about this

Gavin Gilchrist, the community group's project manager, said a mix of motivations was behind the spurt in solar demand.

For some it is "to make a statement" about climate action, while others like the reduced reliance on large electricity retailers that are disliked as much as banks. Having PV costs halve in seven years helps too, Mr Gilchrist said.

The standard advice is to install as large a PV system as possible, using accredited installers. (See [SolarQuotes for a cheat-sheet](#) on how to start your research.)

Based on the available subsidy being linked to inverter size, that translates into a typical new PV system reaching 6.6kW. Tristan Edis, director of analysis at Green Energy Markets, said: "That reflects the economies of scale and the decline in the price of panels relative to labour."



Lots more roofs to cover: Solar PV penetration rates still lag in Sydney and Melbourne. NICK MOIR

Consumers are also gearing up systems with an eye on future purchases of batteries – to store excess electricity rather than export it to the grid as feed-in tariffs dwindle – and electric cars.

As many as 17 per cent of PV owners now include batteries, pushing storage orders nationally towards a record 30,000 units this year, SunWiz's Mr Johnston said.

About one in three customers for More Green Energy – the firm that installed the Narangs' system – are opting for more expensive inverters allowing their systems to be "battery ready", director Manan Tailor said.

Advice is mixed, though, about whether the additional cost – about \$900 – is worthwhile. Unless the household is planning to add batteries in the next year or so, it may make sense to wait for inverter prices to fall further, Mr Gilchrist said.

By the end of 2018, about 2 million households will have panels and huge potential remains.

Just 29 per cent of suitable homes in NSW have PV and 27 per cent in Victoria, according to SunWiz.

Firms such [SunTenants](#) are springing up to assist renters, while [Allume](#) is helping apartments and small businesses join the fray.

About one-third of households are tenants "who are entirely locked out" of solar, Bjorn Sturmberg, founder of SunTenants, said. Renters can pay, for instance, \$20 more a week in rent to defray the panel costs but save \$40 in power bills.

For apartments and shop owners, the challenge is often having many stakeholders. Allume's technology splits bills for solar PV and "allows everyone access", founder Cameron Knox said.

Innovative Technologies Pty Ltd

US Market Validation

Case Study

April 30 2018 - The US Department of Energy (DOE)

Solar Energy Technologies Office (SETO)

The U.S. Department of Energy (DOE) Solar Energy Technologies Office (SETO) supports funding opportunities on photovoltaics, concentrating solar power, system integration, technology to market, and soft costs projects.

"Graphic films could make solar panels more appealing to customers" By Kelly Pickerel / April 30, 2018

Company receives a \$1 million grant from the Department of Energy's (DOE) SunShot Initiative Award.

"A new solution could help secure deals when potential solar customers see modules as eyesores. Sistine Solar produces a graphic film called SolarSkin that installers place on high-efficiency solar panels to blend the modules with the roof. Red Spanish tile roofs can now go solar without the noticeable blue and black rectangles installed on top. The solar installer could instead attach a SolarSkin film that mimics the same red tile design and brings a higher level of aesthetics to the project."

"Salama said solar panels with SolarSkin lose between 1.8 and 3% in efficiency. A 19% efficient module may become 16% efficient" Its a small thing to lose considering the aesthetics gains the customer receives."

"The SolarSkin also pushes the solar panel prices up by 5 to 10% Salama said. Customers may be willing to pay for aesthetics."

"We want solar to become mainstream, we want to find a way to make a product more appealing and get homeowners emotionally excited about solar, and do it in a way that most people can afford." Furthermore our patented self-supporting 'Connector Channel' Installation System will demonstrate and validate how effective this new technology installation method can overcome installation barriers of the conventional methods of angled steel frames for any horizontal roof or vertical wall surface area.



The Urban Developer

Tuesday, December 11, 2018



°C

Australia ▼

SUSTAINABILITY STAFF WRITER WED 16 MAY 18

Solar Panels Are Now Mandatory on All New Homes in California



Once a luxury reserved for wealthy, green-leaning homeowners, solar power is fast becoming a mainstream energy source, with the United State's largest solar market,

California, leading the way.

A long-standing trendsetter and leader in clean energy, California has voted to implement compulsory standards so that all new homes will require solar power.

The new requirement, signed off unanimously by the California Energy Commission, has the potential to cut energy usage in new homes by more than 50 per cent.

The building code will be approved in mid-2019 and will apply to all houses, low-rise condos and apartment towers receiving building permits after January 2020.

Exceptions will be homes shaded by trees or neighbouring buildings, or when the home's roofs are too small to accommodate solar panels.

The California Energy Commissioner Andrew McAllister said the new standards would not only help Californian buildings perform better but would also contribute to a reliable grid.

“The buildings that Californians buy and live in will operate very efficiently while generating their own clean energy,” McAllister said.

“They will cost less to operate, have healthy indoor air and provide a platform for ‘smart’ technologies that will propel the state even further down the road to a low emissions future.”

Related reading: [Solar Power Installed at a Record](#)

Rate in Australian Homes



Solar Installation

While this is a boost for the solar industry, critics warned that it will also drive up the cost of buying a house by approximately US\$10,000 (AUD\$13,370) and possibly effect existing infrastructure.

Bloomberg analysts described the decision as “admirable but misguided”, arguing that the standard could overwhelm solar power production that grid operators are already grappling with.

The utility industry is trying to determine how to manage a system where homes are putting electricity onto the grid during the day and consuming it at night.

Providers have been preparing for the proliferation of solar by studying its impact on the electric grid, with tests like a net-zero community developed in Fontana, east of Los Angeles.

The energy commission said the standards would

cut greenhouse-gas emissions by 529,000 metric tonnes of carbon per year, while saving residents money over time.

Related reading: [Tesla Solar Roofs Ready for Market](#)

Solar shares have surged in wake of the decision. Currently, just 20 per cent of new single-family homes built in the Golden state includes solar power.

The new requirement will increase the annual number of rooftop solar installations by 44 per cent with California averaging 80,000 new homes every year.

“This is a very bold and visionary step we’re taking today,” said David Hochschild, one of five members on the appointed energy panel.

“We will be the first state to adopt the ‘zero-net-electricity’ standard. We will not be the last.”

The Energy Commission also approved the 2018-2019 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP), which invests in alternative and renewable fuel and advanced vehicle technologies.

Now in its 10th year, the program has invested more than US\$750 million (AUD\$1 billion) in 615 projects covering a broad spectrum of alternative fuels and technologies.

Innovative Technologies Pty Ltd

Extreme Weatherproofing

A very common question asked is can solar panels withstand hail?

Recently on the 22nd December 2018 Sydney had a severe hail storm, and this question was emphatically answered with hundreds of roof mounted solar panels being completely smashed beyond repair, and needing to be replaced.

The end resulted was that the home owners who had included their solar panels in their home and contents insurance policies had to put in insurance claims with a waiting period of several months before needing to get new solar roof panels re-installed, and of course also having to pay the insurance claim excess resulting in an increased premium and often with the additional installation costs and downtime.

The unfortunate home owners that did not include their solar panels in their home and contents insurance policies lost their total solar panel investment.

Extreme weather conditions are becoming more common in Australia and globally due to global climate change, and so it is expected that severe hail storms will become a more frequent weather event.

The cheaper brands of Solar Roof Panels are made from plate glass which is easily smashed in light or moderate hail storms.

The more expensive brands of Solar Roof Panels are made from safety tempered glass which is approximately six times (6x) stronger than regular plate glass.

'Superbright Solar Panels'™ **'Solar Shutters'**® and **Superbright Solar Wall Cladding** are made from polycarbonate material layers which are approximately twenty times (x20) stronger and more smash resistant than the expensive solar panel brands that use safety tempered glass.

Therefore it makes commercial sense to install the 'Superbright Solar Panels' on both roof top and wall cladding applications as well as the 'Solar Shutters' on the outside of the windows and to enclose external balconies, both providing extreme weatherproof protection.

Innovative Technologies Pty Ltd

Product Manufacturing

We have established the most efficient and cost effective method of manufacturing our different products whilst also being able to ensure our products quality control and trade secrets.

The only components of the '**Solar Shutters®**', '**Superbright Solar Panels™**' and '**Superbright Solar Wall Cladding**' that will be imported are the Photovoltaic Solar Cells, with supplier options from China, USA and Japan.

All of the other construction materials and component suppliers are available in Australia, and will be custom made, moulded or extruded as to our specifications.

We will setup a Product Assembly Operation in Australia where all of the different product components from different suppliers will be physically put together to create the finished products.

We have developed the most efficient method of component assembly, including our own method and process of Photovoltaic Solar Cell lamination onto our polycarbonate construction material.

Thereafter all of the finished products will be individually tested and packaged ready for our storage and delivery.

The Product Assembly Operation will require a full time Operations Manager and three or four full time semi-skilled workers. Therefore a total of four or five employees will be required.

The ongoing monthly expenses will therefore include workers salaries, factory rent and electricity.

Innovative Technologies Pty Ltd

Value Proposition

Value is determined by the following:

1. What is the cost of the customers problem?

Savings on average of around 50% on annual electricity bills.

2. What are the benefits of solving and alleviating the problem?

Overcoming limited roof space and suitability for conventional solar roof panels, currently not available to business offices or residential tenants. New renewable solar installation options and products utilising vertical window space, balcony's and vertical wall cladding.

3. What does the market value as the solution to the problem?

The cumulative commercial potential and value of these new renewable solar solutions for business offices and warehouses, residential apartments and high-rise buildings.

When you add up all of the above facts, you understand the potential value of these new commercial solutions. Therefore the products premium pricing of approximately 15% when directly compared to conventional solar roof panels is secondary relative to providing renewable solar energy generation opportunities that are currently not available to a large percentage of the business and residential market.

Therefore the untapped market opportunities and affordably can easily be incorporated into the current 'Solar Finance Packages' readily available in the market.

Commercial successes have demonstrated that its always about positioning. When there is a strong product, a strong brand, solving limited installation options to for renewable solar power generation then the value proposition represents high value and in most cases pricing is not a barrier to commercial success.

Australian Wholesale/Trade Prices

Product	Panel Area	Watt Output	Trade Price
Solar Shutter	1.0 sq. M	170 W	Au \$450 per sq. Metre (Exchange Rate 9.5)
Superlight Panel	1.1 sq. M	170W	Au \$395 per sq. Metre (Exchange Rate 9.5)
	1.4 sq. M	222W	Au \$495 per sq. Metre (Exchange Rate 9.5)
	2.0 sq. M	310W	Au \$695 per sq. Metre (Exchange Rate 9.5)
Superbright Panel	1.1 sq. M	170W	Au \$450 per sq. Metre (Exchange Rate 9.5)
	1.4 sq. M	222W	Au \$550 per sq. Metre (Exchange Rate 9.5)
	2.0 sq. M	310W	Au \$750 per sq. Metre (Exchange Rate 9.5)

Product Power Output

Product	Panel Area	Watt Output	
Panel size 1	1.1 sq. M	170W (1000 divided by 170) = 5.88	1Kw is 6 panels
Panel size 2	1.4 sq. M	222W (1000 divided by 222) = 4.50	1Kw is 5 panels
Panel size 3	2.0 sq. M	310W (1000 divided by 310) = 3.225	1Kw is 4 panels
Solar Shutter	1.0 sq. M	170W (1000 divided by 170) = 5.88	1Kw is 6 Framed Units

Company Directors

Mark Jack Lyons

Mark Jack Lyons has been an entrepreneur since 1994 (24 years) when he designed and developed the automated computer software program and published the first computerised horse racing form guide in Australia called the 'Compu Racing Informer'. The automated computer software program was a commercial success.

He has thereafter gone on to develop numerous digital publications, specifically and commercially successful:

1. The Business Services Directory - Endorsed by Premier Bob Carr
2. The Sydney Taxi Directory - Endorsed by Premier Bob Carr
3. Interactive Hair Design - Sold through TVSN and 500 Newsagent and 'Borders' Retail outlets throughout Australia and New Zealand.
4. Help Emergency Response mobile app - commercialised in South Africa through an information technology partner company 'Octagon Point' and currently under white label license agreements with private security companies.

In the last three years Jack has been directly involved in the concept, design and prototype development of the following renewable Solar Products:

1. Solar Shutters
2. Superlight Solar Panels
3. Superlight Solar Wall Cladding
4. Superbright Solar Panels
5. Superbright Power Unit

Jack has also put together all of the Intellectual Property patent material, 3D Drawings and 3D Prototype Product Component Prints.

Jack has been Managing Director of all the above Business Ventures, directly involved in the daily business management, business development, business strategy and business marketing.

Jack has only outsourced or sub-contracted specialised expertise, skills and employees when required.

Business References are attached hereafter.

Geoffrey Lyons

Geoffrey Lyons has an engineering and technical drawing background.

He started a company called 'Coastal Chemical Corporation' in South Africa which was a great commercial success for over thirty (30) years before emigrating to Australia in 1984.

Coastal Chemical Corporation employed one hundred and twenty two (122) people and manufactured over one hundred different products, exporting to numerous countries including Australia.

Geoffrey developed a ballistic polymer compound material that can be moulded into any shape, and successfully commercialised in South Africa under the name of 'Matrix Armor Protection' currently manufactured under license in South Africa.

The website can be viewed: www.matrixarmorprotection.net

Geoffrey is highly skilled at the technical drawing and physical building of product prototypes and has been directly involved in the building and testing of the 'Solar Shutters', 'Superlight Solar Panels' 'Superlight Wall Cladding' and 'Superbright Solar Panels'

Business References are attached hereafter.

Mark Jack Lyons



Senator the Hon Michaelia Cash
Minister for Employment
Minister for Women
Minister Assisting the Prime Minister for the Public Service

Reference: C15/112304

Mr Mark Jack Lyons
12/5 Roseville Avenue
ROSEVILLE NSW 2069

Dear Mr Lyons

Thank you for your email dated 24 September 2015 regarding Innovative Technologies' Emergency Response Mobile Phone application and how it may be used to contribute to the prevention and reduction of domestic violence.

As you may be aware, \$12 million has been allocated as part of the \$100 million Women's Safety Package to work with states and territories to trial the use of innovative technology to keep women safe. We need to explore new options for protecting women, and the better use of technologies has the potential to increase perpetrator accountability and improve the safety of women and their children experiencing violence.

We have received overwhelming support and interest from organisations and individuals to participate in the technology trials. Implementing this initiative is the responsibility of the Minister for Social Services, the Hon Christian Porter MP. I have provided him a copy of your email and my response for his information and consideration.

As this is a joint initiative with states and territories, you may wish to provide a copy of your proposal to the New South Wales Minister for Women and Minister for the Prevention of Domestic Violence and Sexual Assault, the Hon. Prudence Goward MP. You can contact her office by email on office@goward.minister.nsw.gov.au.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Michaelia Cash'.

MICHAELIA CASH

15 / 10 / 2015



The Hon. Pru Goward MP

Minister for Mental Health
Minister for Medical Research
Assistant Minister for Health
Minister for Women
Minister for the Prevention of Domestic Violence and Sexual Assault

M16/122

Mr Jack Lyons
Managing Director
Innovative Technologies Pty Ltd
Email: jack@innotech.mobi

18 FEB 2016

Dear Mr Lyons

Thank you for your correspondence regarding an Emergency Response Mobile Application to support victims of domestic and family violence.

I commend your innovations, in particular those that support women to be safe and free from violence. The NSW Government has investigated the use of technology in the fight against domestic and family violence and this has led to ongoing investments in the Aurora smartphone app, as well as the use of SOS duress alarms in the Staying Home Leaving Violence program.

The NSW Government is continuing to work to improve ways in which technology may be used to enhance people's safety, and will engage with the wider community to deliver an integrated approach to using technology to address domestic and family violence.

The NSW Government is committed to ending domestic and family violence, and my appointment as the first Minister for the Prevention of Domestic Violence and Sexual Assault, demonstrates the Government's commitment to tackling violence against women. The government is taking a whole-of-community approach to respond to, and prevent domestic violence.

Last year, the Premier and I announced a \$60 million package to target perpetrators and support women, men and children who have experienced domestic and family violence. The package includes:

- New Police Domestic Violence High-Risk Offender Teams to target perpetrators and reduce the rate of reoffending.
- Domestic and Family Violence Suspect Target Management Plans that will put offenders on notice.
- Mandated Behaviour Change Programs to make perpetrators address their behaviour.
- An increase in crisis accommodation support.
- A stronger response to sexual assault with an increase in the number of qualified Sexual Assault Nurse Examiners in high-risk rural and regional communities in NSW.

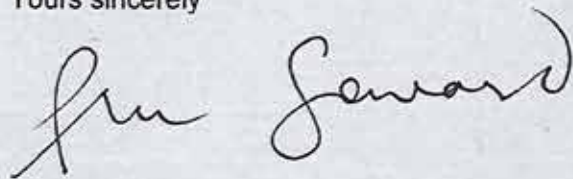
In addition, the NSW Government has developed the nation's first Domestic Violence Disclosure Scheme pilot. Under the scheme, a person who has concerns about his or her partner would be able to make an application to the NSW Police for information on whether their partner has a history of such violence.

The NSW Government is developing a Domestic and Family Violence Blueprint to improve responses to victims and perpetrators of domestic and family violence in NSW. To inform the development of the Domestic and Family Violence Blueprint, the Government has sought feedback about what works in the current system and possible areas of improvement through a public consultation process. Feedback received through the consultation will help inform the next stage of domestic and family violence reform in NSW.

For further information about these and other NSW Government Domestic and Family Violence initiatives, please visit www.women.nsw.gov.au.

Thank you again for bringing this matter to my attention. Should you wish to discuss this matter further, please contact Women NSW on, 9461 7100 or via email at womennsw@moh.health.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Pru Goward', written in a cursive style.

Pru Goward MP



Premier of New South Wales
Australia



PREMIER WELCOMES THE SYDNEY TAXI DIRECTORY

Taxi drivers and their vehicles are rapidly becoming an important source of information for the growing number of visitors to Sydney.

As a result taxi companies have taken action to provide quality information to taxi drivers and their passengers. With the 2000 Olympics fast approaching, tourists and business travellers need instant access to information about our city.

The Sydney Taxi Directory offers drivers and passengers information on locations of accommodation, entertainment, tourist attractions, foreign representations and other points of interest in and around Sydney.

This user-friendly, informative directory will enhance the quality of service in Sydney's taxis and make travelling through this dynamic city an even more pleasant experience.

On behalf of the people of New South Wales I extend a warm welcome to all our visitors and trust you have an enjoyable stay in Sydney.

A handwritten signature in cursive script, reading "Bob Carr".

Bob Carr
Premier



Premier of New South Wales
Australia

The Editor
Business Services Directory

26 July 1995

Dear Sir

Business travellers account for a significant part of Sydney's tourism market. Their busy schedules demand easy access to information about the services our great city has to offer.

The Business Services Directory provides a valuable accessory for doing business. It contains listings of important contact points for business people such as government departments, trade consulates, business centres, essential services and other useful information.

Being free of charge and available from a wide range of accommodation establishment, the Business Services Directory shows the business traveller that Sydney is ready to do business.

I congratulate the Informer Publishing Group for developing the Business Services Directory and extend a warm welcome to all business travellers to Sydney.

Yours sincerely

A handwritten signature in black ink, appearing to be 'Bob Carr', written over a wavy line.

Bob Carr
Premier



TWIGA Services and Logistics (Pty) Ltd

60 Sovereign Drive
Route 21 Corporate Park
Irene
0157
Pretoria

Fax: 086 620 7216

The Managing Director
Gremarol Pty Limited
P.O. Box 409
Edgecliff
NSW
2027

22nd January 2012

Dear Mark Jack Lyons,

RE: LETTER OF INTENT

This letter formally confirms our agreement and intention to establish a business arrangement with your company Matrix Armour Protection and, where necessary with Gremarol Pty Limited, to market and sell your products within a mutually agreed business agreement.

Our intention is to develop an exclusive relationship with Matrix Armour Protection wherein three companies, as explained below, act as marketer and, where required, distributor for Matrix Armour Protection and its products in agreed market territories.

Our interest and intention is to use the following companies for specific areas of the African market:

- Twiga Services and Logistics (Pty) Ltd – for the rest of Africa excluding South Africa and East Africa;
- Impala Services and Logistics Limited – for the East African market as defined as Uganda, Rwanda, Burundi, Kenya and Tanzania; and
- RoE International – for the South African market.

Twiga Services and Logistics (Pty) Ltd is a registered South African company with two shareholders, namely Damian de Lange and Andre Mouton, holding 50% of the shares each which currently has contracts in West, East and Southern Africa to supply military/security clients with various products and services. Twiga Services is registered with the National Conventional Arms Control Committee to enable the supply of any controlled or dual-use items to military and security clients.

Impala Services and Logistics Limited is a Ugandan registered company with three shareholders wherein Damian de Lange and Andre Mouton hold 30% of the shares each. Impala Services currently has contracts to supply the Ugandan Ministry of Defence with various products and services.

Twiga Services and Logistics (Pty) Ltd: Reg No 2010/003113/07

Directors: *A. Mouton, *D.M. de Lange

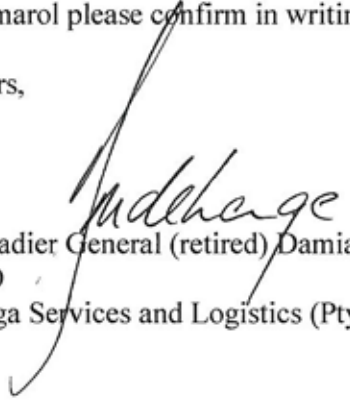
*Executive Directors

RoE International is a 100% black owned company with two shareholders and is registered in South Africa to supply various products and services to the military, security, policing and protection market sectors. RoE International is registered with ARMSCOR thus able to supply directly to the South African National Defence Force and the South African Police through the ARMSCOR acquisition process. RoE International has a Broad Based Black Economic Empowerment certification.

As expressed above this Letter of Intention serves to formally indicate our expressed interest and desire to find an appropriate business agreement that enables our companies to market and sell Matrix Armour Protection's product range in defined territories on an exclusive basis within the necessary confidentiality and business share agreements.

Should this Letter of Intention find agreement with Matrix Armour Protection and Gremarol please confirm in writing.

Yours,


Brigadier General (retired) Damian de Lange
CEO
Twiga Services and Logistics (Pty) Ltd

May 24th, 2012

Mr. Mark Jack Lyons

Matrix Armor Protection (Pty) Ltd

We wish to invite you to Plasan Sasa Ltd., for a visit at our plant on Kibbutz Sasa.

We are pleased to confirm May 31st, 2012 for our scheduled appointments to discuss the
Prototype Development of a new PLV concept.

We confirm that you will bring with you to the meeting the Matrix Armor Material samples to
show at Plasan. The requested samples are as follows:

- 1 x 410 mm x 410 mm x 10 mm Matrix Composite Panel which contains; a steel core /
ceramic and polymer composite and woven fiber.
- 1 x 250 mm x 250 mm x 25 mm Matrix Polymer Panel which contains; a steel mesh and
polymer composite.
- 4 x small Matrix Composite material swatches which contain; ceramic and polymer
composite.

Kind Regards,



Mr. Michael Piha

Marketing & Business Development Manager

SA BULLET RESISTANT GLASS CO

PTY LTD. 1983/008671/07

200 Eloff Street Extension, Wemmer, Johannesburg, 2001. ☒ 260254 , Excom 2023 SOUTH AFRICA
FAX (011) 493-2031 ☎ (011) 493-6663/4 Email: sabrg@global.co.za <http://www.sabrg.co.za>

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- ◆ Resistoglas®
- ◆ Resistoglaze®
- ◆ Resistodecor®
- ◆ Resistosol®

Matrix Armor Protection(Pty Ltd)
Attention Marc Lyons

30 July 2012

By Email

Dear Mr Lyons

Following our discussion we are interested in forming a joint venture with yourselves relating to your particular motor vehicle security and ballistic windows.

As you are aware our manufacturing facility is in Johannesburg and we have a national reach for you to rely on if needs be.

Our manufacturing capability extends to many different types of product capable of satisfying the many applications that may be required. One of our strengths is that we are capable of customising our products to suit client requirements. We have an in- house development division that can assist with customisation.

Should you have the need we will be willing to work with you in this proposed venture.

Yours faithfully

H. Franks

Hilton Franks
Managing Director



1191 1263 1 1263 2/3

DIRECTOR: H.FRANKS,B.PROC.(RAND)



DALIA STANLEY & CO
Fine Art Valuers, Consultants & Auctioneers

8 July, 1997.

**The Directors
Informer Publishing Group
P.O. Box 696
Bondi Junction
NSW Australia 2022**

Dear Sirs,

RE: Auction Visual Projection Presentation

This is to thank the Informer Publishing Group Pty Ltd for your very professional digital slide show presentation for our Fine Art Auction on 1 June 1997, at 5 Fairfax Road, Bellevue Hill and at our City Gallery at 9-15 Alberta Street on 29 June.

We found the service provided by the group was highly professional and most effective in marketing the wide range of Fine and Decorative Art items auctioned.

We plan to continue using this service on an ongoing basis and would recommend it to others.

**Yours faithfully
Dalia Stanley & Co Pty Ltd**

**Dalia Stanley
Director**

Racing West



13/02/95

Mr M Lyons.
Compu Racing Informer.
P.O.Box 162.
Vaucluse.
NSW 2030.

Postal Address
P.O. Box 1460
Osborne Park
Western Australia 6017

Compu 'Racing Informer'

Dear Sir,

As a fellow publisher who provides information to the general public I am only too aware that it is imperative that any information to be presented, must be in the most simplest manner possible. With your publication 'Racing Informer' you have managed to present the essential information in a 'user friendly' manner that can only be considered by the average punter as a breath of fresh air amidst the formguide publications.

The inclusion of Perth racing would also improve the viability and versatility of your publication and yet again could provide a marketing edge over your direct competitors who it appears are loathe to include such information. Considering the NSW TAB turns over more on Perth races on many Saturday afternoons than the whole of the WA TAB, one can only wonder what they would turnover if they had some real information.

Having already I am sure donated a considerable amount of time to your publication, and having gone through a similiar 'birth of a publication' experience myself, I can only recommend that you continue to improve on your concept, as I am sure that it is only a matter of time before your publication crosses the line a clear winner.

Yours Sincerely



David Morgan
Editor

played at the 1973, 1977 Maccabiah Games, has give first grade cricket

ted this season with first XI, but failed to make hile scores. Now he is like-to coaching Ajax Maccabi is.

N FOOTBALLERS

who follow or occasionally on Lane's American Foot-on-ABC (late night) televi-keep an eye out for a few rers.

one is Californian Perry is the first Jewish quarter-drafted by the National eague in some 30 years. n auspicious debut for the cons in the Hall of Fame game in Ohio.

ie Falcons line-up is defen-in Bill Goldberg, who is in season.

wn Jewish player is Harris all-pro offensive lineman n Francisco 49ers. He is in



season and has been a e his rookie year.

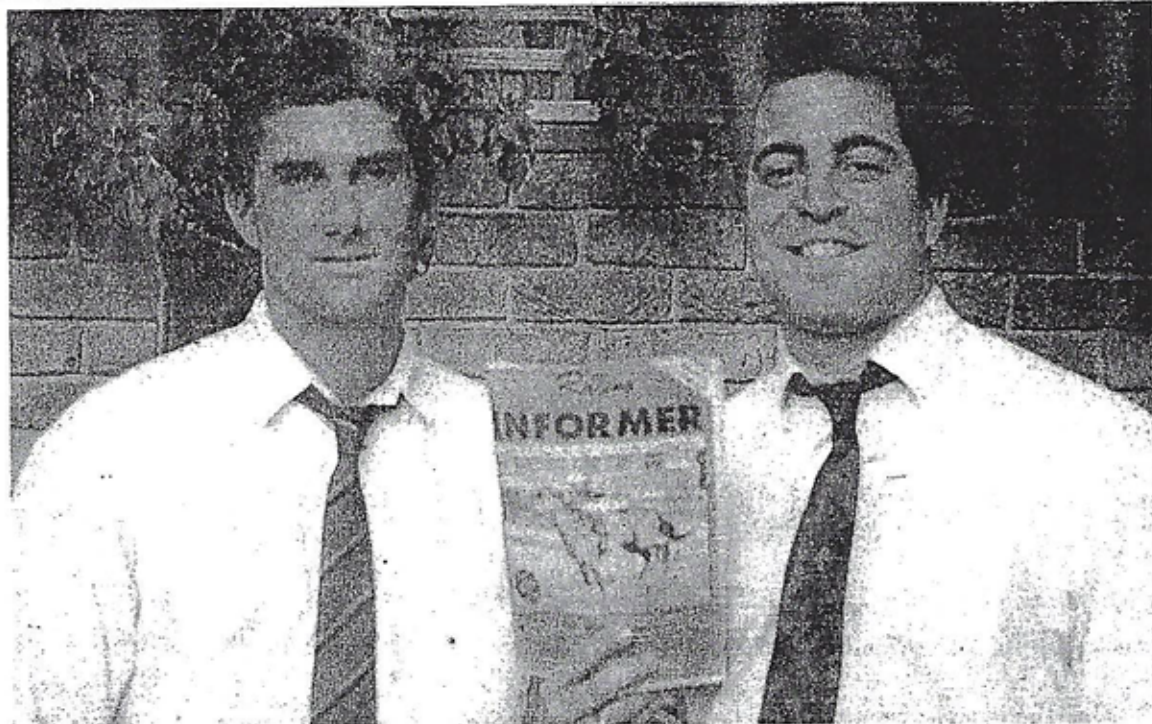
re is Brent Novoselsky, a ht end who is in his sev-with the Minnesota Vikings, team's starting centre is reiber.

the five other clubs as played for during his 11 e professional ranks is the icago Bears.

urth year with the Pitts-elers is Ariel Solomon, ng tipped to take over the in the starting line-up.

dler, a rookie free agent ck with the Philadelphia is another claim to fame. ncle is the noted musician or Arthur Fiedler.

Jewish involvement e Buffalo Bills head coach , who is aiming to take the in unprecedented fifth per Bowl — and win the first time — and Joe coach of the Dallas Cow-g backs, who is aiming at secutive win in the Super



Mark Lyons (left) and Andrew Hyman.

Easy-to-read form guide, but you have to pick the winners

Mike Golland

THERE USED to be a newspaper seller on the corner of King and Castlereagh streets who drew the attention of passers-by with the shout of "all the winners in today's editions".

What he implied was that the newspapers were telling the punter what horse was going to win; what he was really saying was that the papers listed all the runners entered for that day's racing ... it was up to the punter to make the choice.

In those days newspapers gave very little form information other than to list the horse's previous effort.

Today, with the aid of computer technology, those who like a punt have a wealth of information at their finger-tips. Form guides list almost everything, but what the animal had for breakfast!

Even the hobby punter who regularly places a TAB bet understands it is important to know if the horse selected likes to run in the dry or the wet, has a particular affinity to one racecourse or another, or even if it goes better for this or that jockey.

All this information is now available in the daily press, in specialised publications and in official race club books.

The latest addition to the form guides is *Computa Racing Informer* — a weekly publication by two former South Africans Mark Lyons and Andrew Hyman.

Lyons, 32, a one-time pupil of Durban's Carmel Jewish Dayschool, has been interested in horse racing since he was a five-year-old and went to the stables to see his father's horses.

In Sydney for the past four years, Lyons found that making "an informed" bet wasn't as simple as it should have been.

With Hyman, he developed a computer program which allowed him to display the form guide in an easy-to-read format.

"It is the most technologically advanced horse racing form guide in Australia today," Lyons said this week. "All the details that a punter would want to know about every horse's last 10 starts are shown in a format that is very user-friendly, making it easy to study and assess every horse's chances in the race."

Computa Racing Informer is published every Friday and is proving more popular than the daily press text-style of information that is very time-consuming to read, Lyons said.

The magazine takes its information from the reliable AAP Racing Services, the organisation which supplies form details to the daily newspapers.

At the moment *Computa Racing Informer*, with its full form for the metropolitan races in Sydney, Brisbane, Melbourne and Adelaide, is only available in Sydney and some NSW country areas, but Lyons and Hyman have plans to publish in Victoria and Queensland.

If there is one drawback to the publication, it is the absence of the jockeys for interstate races. This is caused by the early print deadline, but is not uncommon in this type of form guide in newsagents every Friday.

Lyons has also devised a computer program which comes up with three form guide tipping selections. One is a Star Form, another is Informer Top Four and the third is Highest Rating Computer Score.

"We are not in the business of trying to tip winners," Lyons said, "but with so much information available, it was an obvious adjunct to the form guide."

"And we've been pretty successful and made many punters very happy, judging by the congratulatory faxes we've received in recent weeks," he said.

But, like the paper seller shouted, *Computa Racing Informer* has all the winners — but it is still up to the punter to pick the one to put the "hard-earned" on!

COMPUTA
Racing

New!!
Unique!!

INFORMER

The Ultimate Easy-to-Study Formguide



UPDATE

NOW MORE
INFORMATION
IN DETAILS OF
LAST 10 RUNS

- ▶ Limit Weights
- ▶ Weights of 1st, 2nd and 3rd horses
- ▶ Career Wins
- ▶ Win / Place Percentages
- ▶ Prize Money won
- ▶ Also new "RACE HEADER" summation - featuring Star Form assessments

SATURDAY 19TH NOV

FULL DETAILS - 4 CENTRES

- ROSEHILL - Sydney
- CAULFIELD - Melbourne
- EAGLE FARM - Queensland
- CHELTENHAM - Adelaide

- ▶ Full details last 10 runs
- ▶ Computer rating scores
- ▶ Performance summaries
- ▶ Expert selections
- ▶ Winners!!

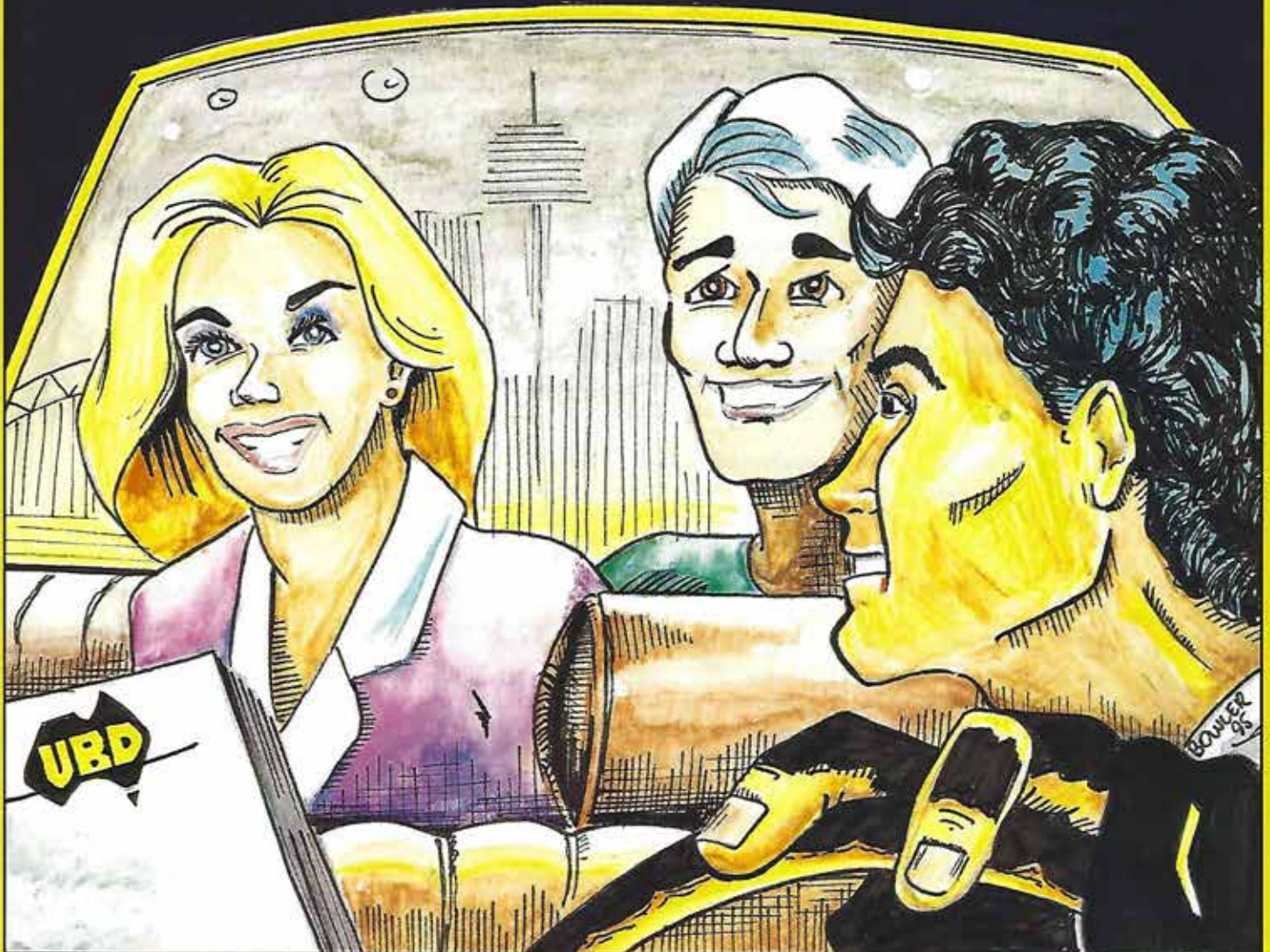
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June 25, 2008

Mr. Jack Lyons
Creative Multimedia Productions Pty Ltd
Level 5, 203-233
New South Head Road
Edgecliff, NSW 2027

Dear Jack:

Thank you again for calling on me and it was great visiting with you over the phone.

Since our conversation, we have reviewed the website and product as a group and are even more excited about the opportunity. WOW! It's not often that new, digital technology has such an easy consumer application, with such broad appeal.

We are working on a preliminary project overview with a few creative thoughts and some general direction. I will also include a preliminary budget and e-mail it to you along with a few different payment/partnership options.

Enclosed is a **DEMO DVD** with segments and samples of our work. **Every** product on the DVD is in **national rollout today**. You'll find everything from the higher end, "soft sell", to the gadget and gizmo "yell and sell" with Billy Mays. I trust you'll find our production values, experience and successful track record in the industry, to be worthy of further consideration.

Please review the information and I look forward to talking again very soon.

Thank you for your consideration.

Sincerely,



Scott Opfer
Opfer Communications, Inc.
417-864-5000 Ext. 202 Office
417-773-2000 Cell
opfer@opfer.com



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13th December 2010

To whom it may concern

Dear Sir/Madam

RE: Market opportunity for Matrix Armour

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I personally feel that there is a great potential in the South African market for Matrix Armour Protection.

Regards,

A handwritten signature in black ink, appearing to read 'Wayne Marais', written over a horizontal line.

Wayne Marais
Business Development Manager – Austrade
Johannesburg
South Africa

Australian Trade Commission (Austrade)
PO Box 784802, Sandton 2146
10th Floor, The Forum, Cnr Maude & 5th Streets, Sandton, Johannesburg
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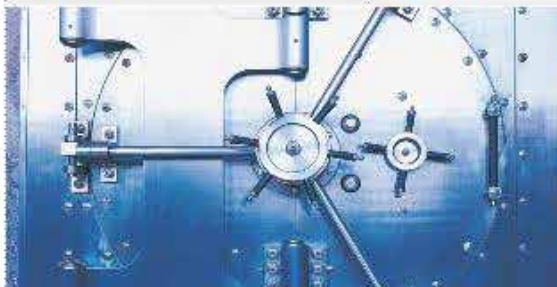
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MATRIX PROTECTION UNIT [MPU]





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TO WHOM IT MAY CONCERN.

Mr. G.H.L. Lyons was employed by us from the 3rd March 1952,
to the 31st July 1956, as the Buyer for our group of companies.

He resigned from our employment in order to take up a new
business interest.

His work has always been entirely satisfactory to us and
we have the highest respect for his character.

We wish him every success in his future career.

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HOYLE STREET, SHEFFIELD, 3

(HEAD OFFICE: 11 PARK LANE, LONDON, W.1)

TELEPHONE:
SHEFFIELD 25134

OUR REF. _____

YOUR REF. _____

EXPERIMENTAL STATIONS OF
MECHANICAL WORKING DIVISION
STEELMAKING DIVISION
STEEL CASTINGS DIVISION

10th January, 1952.

Mr. Geoffrey L. Lyons.

Mr. Geoffrey L. Lyons has been employed in these laboratories, as an Engineering Laboratory Assistant for the six months prior to his taking up an appointment overseas.

During that time he has proved himself to be a most useful, intelligent and conscientious member of the staff of these laboratories and has shown himself unusually able, not only to grasp the essentials of a piece of work given him, but also to carry it out conscientiously and without detailed supervision.

I have no hesitation, therefore, in recommending him to any engineering employment which falls within his capabilities.

Signed...



R. B. Sims.
Senior Investigator and
Head of Rolling Mill Laboratories.

RBS/DJC.

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Jacobs 4026
Telephone 48 5410
Telex 6 21281 SA

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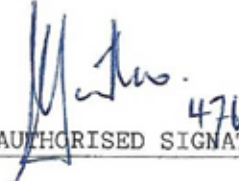
GEOFFREY HYMAN LOUIS LYONS PASSPORT NUMBER D1108293 AND
MARK JACK LYONS PASSPORT NUMBER C595347A


We have pleasure in introducing Mr G.H.L Lyons and Mr M.J Lyons who has been associated with this Institution since 1961. Mr G.H.L Lyons is the Managing Director of a large Chemical Corporation Company and is reliable and trustworthy gentleman who will not commit himself beyond his means.

We understand from Mr Lyons that they intend either a Joint Venture or a Manufacturing Operation in Australia and we have no hesitation in recommending the Lyons to yourselves.

Should you need any further information please do not hesitate to contact us.

Yours faithfully


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*Netherlands subject/Nederlander

**British subject/Brit

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13th December 2010

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Business Development Manager – Austrade
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TO WHOM IT MAY CONCERN

GEOFFREY HYMAN LOUIS LYONS

This serves to introduce Mr Lyons who has been known to the writer for almost thirty years as a client. He is possessed of outstanding business acumen and a deep sense of dedication, perseverance and commitment which have manifested themselves in the success he has achieved over the period he has been in business. In latter years he has been assisted by his son, Mark J. Lyons, as Project Manager.

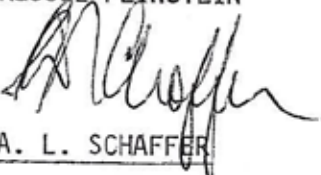
In 1957 he joined a virtually insolvent business and was able to restore it to a state of solvency. He thereafter diversified the business activities and now concentrates on industrial chemicals, solvents and other associated lines. In order to reflect the nature of the business activities, the company trades as "Coastal Chemical Corporation (Pty) Limited". The company and its subsidiaries do a combined turnover of R10 000 000 and are housed in land and buildings belonging to the group.

In addition, Mr Lyons and his brother are equal partners in a property owning group, the properties of which have a potential market value exceeding R2 000 000.

The group has been successful in replacing imported products on a medium scale with locally manufactured materials and on the other side of the coin has been active as exporters as a result of Mr Lyons' success in finding export markets throughout the world.

We believe that he has the right form of motivation to succeed in any undertaking to which he puts his mind and attention.

Yours faithfully
KESSEL FEINSTEIN



A. L. SCHAFFER

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May 24th, 2012

Mr. Geoffrey Lyons

Matrix Armor Protection (Pty) Ltd

We wish to invite you to Plasan Sasa Ltd., for a visit at our plant on Kibbutz Sasa.

We are pleased to confirm May 31st, 2012 for our scheduled appointments to discuss the
Prototype Development of a new PLV concept.

We confirm that you will bring with you to the meeting the Matrix Armor Material samples to
show at Plasan. The requested samples are as follows:

- 1 x 410 mm x 410 mm x 10 mm Matrix Composite Panel which contains; a steel core /
ceramic and polymer composite and woven fiber.
- 1 x 250 mm x 250 mm x 25 mm Matrix Polymer Panel which contains; a steel mesh and
polymer composite.
- 4 x small Matrix Composite material swatches which contain; ceramic and polymer
composite.

Kind Regards,



Mr. Michael Piha

Marketing & Business Development Manager

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