

Smart Energy

AN OFFICIAL SMART ENERGY COUNCIL PUBLICATION

A RENEWABLES-LED RECOVERY



VOLUME 40. ISSUE 158. WINTER 2020

Revitalising & decarbonising the economy
Stimulus Summit special
Heavy industry & renewables
Market performance during the pandemic
Green hydrogen developments
Tracking transformations

LONGI



PV sponsor for:
EXPO 2020
DUBAI UAE
CHINA PAVILION 中国馆



Hi-MO **4**

Reliability

Innovative Technology
20GW+ Production Scale

Hi-MO **4**

- ☛ Up to 450W
- ☛ 166mm mono wafers
- ☛ Half-cut Cell technology
- ☛ 30-year performance warranty

CONTENTS

Winter 2020 Volume 40 Issue 158



SMART ENERGY

is published by the
SMART ENERGY COUNCIL
 ABN 32 006 824 148
 Smart Energy ISSN 2206-1673
www.smartenergy.org.au

@SmartEnergyCncl
 @AustSmartNRG



SMART ENERGY COUNCIL

CHIEF EXECUTIVE

John Grimes
 PO Box 231, Mawson ACT 2607
admin@smartenergy.org.au
 1300 768 204

ADVERTISING, SUBSCRIPTION & MEMBERSHIP

Luke Shavak
 Australia & International
 Sales Manager
 0499 345 013
luke@smartenergy.org.au

Marianne Fang

China Country Manager
 +64 21 182 4699
marianne@smartenergy.org.au

SMART ENERGY EDITOR

Nicola Card
editor@smartenergy.org.au
nicola@smartenergy.org.au

CONTRIBUTORS

Katherine Brookes, Glenn Day,
 Leithen Francis, Warwick Johnston,
 Eytan Lenko, Whiskey Lu, Fiona
 Maguire-O'Shea, David Owen, Penny
 Parle, Anna Skarbek, Gabriel Wong,
 Lisa Zhang

MAGAZINE DESIGN & PRODUCTION

Mitzi Mann

COVER DESIGN & IMAGE

Leanne Tattersall,
 Novellus Graphic Design

Smart Energy was first published in 1980 as *Solar Progress*. The magazine aims to provide readers with an in-depth review of technologies, policies and progress towards a society which sources energy from the sun rather than fossil fuels.

Except where specifically stated, the opinions and material published in this magazine are not necessarily those of the Smart Energy Council. Although every effort is made to check the authenticity and accuracy of articles, neither the Smart Energy Council nor the editors are responsible for any inaccuracy. *Smart Energy* is published quarterly.



Front cover:
A renewables-led economic recovery provides all round benefits

SMART ENERGY COUNCIL

Forewords by CEO and Kelly O'Shanassy	2
Smart Energy Future portal	50
The ACT Smart Energy Hub	52
New members	61
Corporate Members	62
Membership services	63
Positive Quality	64

INDUSTRY ROUND-UP

News and views	4
Infographic: Tracking transformation	20
Notable quotes	47
Market intelligence delivered through webinars	48
Green hydrogen developments	54

2020 AND BEYOND

A renewables-led economic recovery	8
The remarkable PV market	26
ClimateWorks recovery options	32
Coping with COVID-19	56
Working from home	59

STIMULUS SUMMIT SPECIAL

Ross Garnaut and Energy Ministers	12
Business and environmental groups	16
Revitalising and decarbonising the economy	18
Heavy industry and renewables	22
Allume Energy: PV for public housing	28
Beyond Zero Emissions' Million Jobs Plan	30

INNOVATORS, PRODUCTS & SERVICES

Growatt's decade of growth	36
Stiebel Eltron: future proofing homes	38
Fronius reflects on operations	40
Risen Energy's bushfire aid	42
LONGi Solar's Hi-MO 4	43
Selectronic introduces Powertrain	43
JinkoSolar's Tiger Pro series	44
sonnen turns 10	44
Trina Solar's high power range	45
Sunbank & RateSetter's compelling proposition	45
S-5! rail free systems	46



Welcome



SMART ENERGY
COUNCIL
SOLAR. STORAGE. SMART ENERGY



*John Grimes, Chief Executive
Smart Energy Council*

WE HAVE RECENTLY FINISHED meeting with State and Territory Energy Ministers right across the country. Pressing them to fast track large-scale renewable projects, and transmission upgrades, so we can get a pipeline of new projects under construction as soon as possible.

The aim is to create thousands of construction jobs right across rural and regional Australia, boosting local economies across the country.

We have also been talking about the large-scale rollout of domestic energy storage systems, to shift solar energy use into times of peak demand and deliver benefits for all electricity users.

We are also keen to target energy intensive industries, such as aluminium smelting, as a priority industry and to make it more flexible while at the same time bank the benefits of cheaper large-scale clean renewable energy.

The thing that struck me during the discussions with Ministers was how proactive all governments were being in seeking out job creation opportunities that also deliver lower electricity prices and greater grid stability for all Australians.

Solar system installations create jobs, but the ongoing legacy is lower power bills for the life of the system.

Young families, retirees and small businesses across the country are eager to embrace solar and batteries, and the legacy is greater household and business electricity bill savings, which in turn is a boost for the entire economy.

Let's not squander this once in a generation opportunity to rebuild our economy and transition to the benefits of a low carbon future simultaneously.

Let's use the crisis to do what once seemed impossible.

Titanium
Partners



In my view

THERE ARE PLENTY OF GOOD REASONS to ensure a climate-positive recovery from the COVID-19 pandemic. The economic and jobs benefits alone justify a clean and smart recovery led by renewables from the wind and the sun.

But for me, the greatest reason is not economic at all. It's to protect the people we love.

Every single living thing depends on our natural world for clean air and water, soil that grows our food and feeds our bellies and beautiful landscapes to feed our souls. But our natural world is in real strife because of climate change and that means the people that we love are in strife too.

For years our leaders have pitted economic growth against cutting climate pollution. But if we destroy our climate, we harm ourselves. There is no choice between a healthy climate and a strong economy. We can have both by protecting our climate or neither if we destroy it.

Right now, our government leaders are gearing to bounce back to where we came from. But where we came from is pretty bad: deadly bushfires, crippling droughts and a dying reef all driven by planet-warming fuels like coal and gas. Let's not go back there.

Instead, we have everything we need to bounce forward – the solutions, the technology, the know-how and the capital to propel us to a clean, jobs rich, economically resilient future.



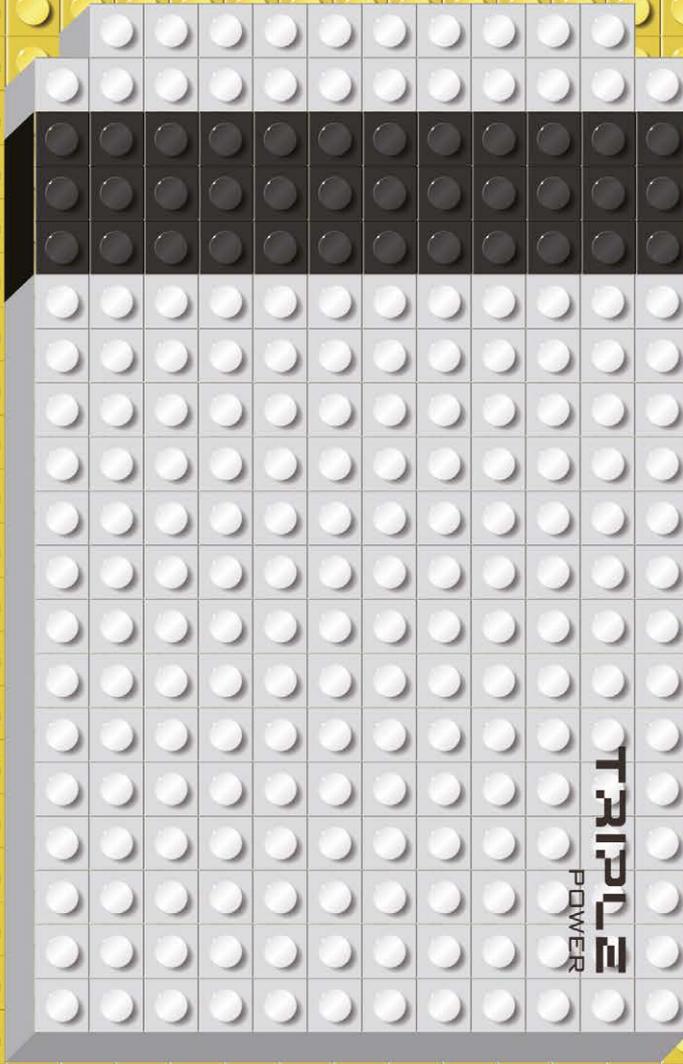
*Kelly O'Shanassy, Chief Executive Officer,
Australian Conservation Foundation*

We have just 10 years until climate change wreaks truly devastating impacts on all our lives. But we can do a lot in a decade. It took less than 10 years to put human footprints on moon dust. And when JFK launched the moon program, NASA had absolutely no idea how to do it. We have the answers in renewable energy.

A climate-positive recovery from the pandemic is our moonshot. Our mission. We will need everyone behind it.

So in these difficult times, any time you feel depressed about the state of climate politics, or sad about climate damage, or simply overwhelmed by the task before us, look someone you love in the eye and remember why we are all doing this.





NEW
T-BAT
S.B



Contact & Discover
New Battery Storage Solutions



Easy Installation



High Performance



BMS Built-in



UP to 23kWh

RAYSTECH
Your Trusted Solar Partner

REXEL

riDEAL
REXEL GROUP

John R. Turk
REXEL GROUP

RAA

TRADEZONE
Save time. Save money.
.com.au



www.solaxpower.com.au / Email:sales@solaxpower.com.au



The Australian Energy Market Operator is likely to revise its draft **2020 INTEGRATED SYSTEM PLAN** to reflect the longer life and significantly lower cost of battery storage, counterbalanced by far greater than assumed capital costs of infrastructure: new transmission links, pumped hydro and gas-fired generators. The share of renewables in the NEM could then reach 70 to 90 per cent by 2040, according to the updated modelling that has been welcomed by the wider renewable industry.

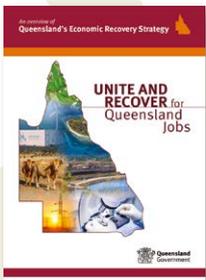


Tasmania's Liberal government has updated the state's Renewable Energy Action Plan and lifted its renewable energy target to **200 PER CENT BY 2040** by ramping up the state's hydro, wind and solar energy generation. The green state which is on track to become 100 per cent renewables by 2022 plans to shore up Tasmania's reputation as a renewable energy 'powerhouse' and help its northern neighbours reduce their emissions.



With up to \$56 million in federal funding to accelerate the Marinus (subsea) Link, more interconnection to Victoria and up to \$30 million for Tasmanian pumped hydro feasibility studies "Tasmania can be part of a national renewables-led economic recovery", says Stephen Davy of Hydro Tasmania.

Work on Australia's biggest solar farm, the **400MW DARLING DOWNS SOLAR FARM** is scheduled to commence in July. Publicly-owned generator CleanCo will buy 320MW of the output from farm owner Neoen.



Staying in Queensland, the state government has committed \$14.8 million in additional funding to support the **COPPERSTRING 2.0 PROJECT** to financial close. The project will deliver a 1,100 kilometre high-voltage transmission line connecting the North West Minerals Province with the national electricity market and lower energy costs for the region. "I just don't want to see the minerals, cobalt, copper, scandium and vanadium mined in

Queensland, I want to see the batteries manufactured in Queensland because that means more jobs in more regions," Queensland Premier Anastacia Palaszczuk said. The wider economic benefits are modelled at over 3,500 jobs in North Queensland and \$79 billion in economic uplift over 30 years.

The state government has also committed \$20 million towards construction of a **QUEENSLAND APPRENTICESHIPS CENTRE IN RENEWABLE HYDROGEN** at Beenleigh, south of Brisbane. It's the first of its type in Australia and one of the first in the world providing the practical skills needed for Queensland's emerging renewable hydrogen industry and will facilitate Queensland's aspiration to export sunshine to the world.

Infinite Blue Energy has unveiled an ambitious \$3.5 billion plan for New South Wales to transition from fossil fuel-based electricity to green hydrogen by 2027. Dubbed **PROJECT NEO**, the project will target 1GW of 100 per cent green hydrogen reliable baseload power using a combination of solar PV, wind turbines and hydrogen fuel cell technology. "The IBE vision is to show the world, first and foremost, that Australia has the technology, skills and entrepreneurial mindset to



be a true leader in the development of green hydrogen plants," CEO Stephen Gauld said. In the more immediate future IBE is investing \$300m in the Arrowsmith Hydrogen Project, a green hydrogen plant 320km north of Perth that will generate 25 tonnes of green hydrogen a day using solar and wind energy.

THE STAR OF THE SOUTH is the proposal for Australia's first offshore wind project. Located off the south coast of Gippsland, Victoria, the project is a joint development by Australian founders and Copenhagen Infrastructure Partners, a global leader in offshore wind. The project involves wind turbines and offshore substations in the ocean, subsea cables to transfer energy to the coast, a transmission network of cables and substations connecting to the Latrobe Valley and upgrades to ports.



In further moves, the Victorian Government has unveiled a \$15.3 million package of investments in renewable energy projects. Sports clubs and community halls will benefit from \$10.3 million for energy efficiency and affordability improvements, including solar installations on public buildings on crown land. A further \$4 million will fund energy efficiency upgrades for hot water systems and lighting in public housing high-rise properties across Victoria.

The package also includes \$1 million in grants to help regional communities deliver renewable energy projects including rooftop PV on childcare centres, community buildings and health facilities through the New Energy Jobs Fund.

SOUTH AUSTRALIA'S Liberal party Energy Minister Dan van Holst Pellekaan wants to fast-track a shift towards clean energy, stating "For me it's a firm goal. I want South Australia to be net 100 per cent electricity generation renewable by 2030."



BRING OUT THE ALPHA IN YOU

REACH NEW HEIGHTS WITH REC ALPHA!



CERTIFIED
SOLAR
PROFESSIONAL



SOLAR'S MOST TRUSTED



LET THE ALPHA IN YOU ROAR AND WIN A ROUNDTRIP FOR 2 TO SUNNY SINGAPORE!

8 months | 50kWp | 30 Installers

HOW DOES IT WORK?

The top 30 installers with the greatest volume (total kWp) of registered REC Alpha systems over the next eight months, will win.*

The time in Singapore includes an insightful tour of REC's production facility plus unique cultural experiences.

WHO IS ELIGIBLE?

All REC Certified Solar Professional installers in Australia and New Zealand are eligible for these sweepstakes.

HOW CAN I PARTICIPATE?

All you need to do is install REC Alpha panels and register the systems in the REC Certified Solar Professional Portal or in the REC SunSnap app. During registration, you will be asked to include the system for your participation in the sweepstakes. Click Yes and accept the T&C. Thats all!

GET IN ON THE EXCITEMENT

anzspp@recgroup.com

www.recgroup.com

*Minimum total volume to be considered: 50 kWp



DESPITE THE UPBEAT NEWS from across the states, large-scale solar and wind projects in Australia are faltering with a number of major international contractors and investors exiting the market on the back of connection congestion and delays, cost blowouts, absence of federal government support and the COVID crisis. Among the casualties: RCR Tomlinson, Decmil and John Laing. According to energy analyst group Rystad as much as 3GW of large-scale wind and solar projects could be delayed, with NSW the biggest loser with two-thirds of solar PV and wind projects yet to reach financial close in 2020. The report lists UPC, Neoen, Wollar Solar, Canadian Solar, Tilt and Goldwind as the most impacted.



THE FEDERAL GOVERNMENT'S NATIONAL TECHNOLOGY INVESTMENT ROADMAP

is designed to "help inform Australia's first Low Emissions Technology Statement" later in 2020 and become the cornerstone of the Long Term Emissions Reduction Strategy that will prioritise Australian investments in new and developing low emissions technologies.



In response to the roadmap Bioenergy Australia has launched a Clean Economic Recovery Package for government consideration as part of how the bio-economy can and is ready to play a key role in Australia's economic reset post-pandemic.

"This new and largely ignored industry in Australia could provide the perfect opportunity in transitioning fossil-based economies and struggling regional centres into thriving economic centres," Bioenergy Australia CEO Shahana McKenzie said.



Speaking at the SMART ENERGY COUNCIL AND RENEWECONOMY STIMULUS SUMMIT PROFESSOR ROSS GARNAUT

said the global downturn had placed pressure on coal-based generation which is experiencing very low prices in the wholesale market and the "natural economic thing" is for early closures of coal-fired power stations. In turn the economic crisis will lead to growth in renewable energy at the expense of coal, and the economist says we should not shirk from taking on debt to finance a green economic recovery from the coronavirus pandemic.

ACT Energy Minister Shane Rattenbury agrees the nation can't go back to normal and should focus on a clean and green economy after the virus. "A better normal does mean recovering from this pandemic, but in a way that doesn't just expose us to other global threats like climate change," he said. "If we escape COVID but don't deal with climate change we are stepping out of the frying pan and into the fire."

The Renewables-led Economic Recovery brought together government, industry and exports to discuss a vision for low-carbon economic recovery led by electrification and renewable energy. More than 3,500 people registered making this Australia's biggest ever online renewable energy event.

Read more on page 12.



The recovery from the COVID-19 crisis presents a once-in-a-lifetime opportunity to prime Australia to be a renewables-led powerhouse and to address climate change, says the **CLIMATE COUNCIL** in its report, *Primed for Action: A Resilient Recovery for Australia*.

Key findings:

1. Politicians have listened to expert scientific advice on COVID-19 and acted. It is urgent they do the same with climate change.
2. A resilient recovery from the coronavirus must prepare Australia for the next major threat – climate change. The potential for job creation in the renewables sector is substantial and can set our country up for the 21st Century.
3. Gas has no role to play in building a prosperous, resilient economy for the future. It is volatile, dangerous and unnecessary.
4. Australians are already living with dangerous climate change having experienced record breaking drought, the Black Summer bushfires and the third mass bleaching event of the Great Barrier Reef in the past five years.

Smart Energy is printed by Printgraphics whose green credentials include:



Printed using FSC® mixed source certified fibre by Printgraphics Pty Ltd.



POWER LEDGER is launching a rollout in what will be its largest project to date, following a deal with French energy retailer ekWateur in which more than 220,000 electricity meters across France will gain access to Power Ledger's new blockchain-enabled product Vision.



Households will be able to choose their own renewable energy mix and track it in thirty minute intervals, as well as choose a certified source and origin of the renewable energy purchased.

In the wake of COVID-19 carbon dioxide emissions could plummet by the largest amount since World War II according to the **GLOBAL CARBON PROJECT**. The researchers – emissions experts, earth scientists and economists – say the world's carbon output is on track to drop by more than 5 per cent year-over-year. That would be the first time emissions have stalled since a 1.4 per cent drop-off following the 2008 financial crisis



ESSENTIAL ITEMS What do toilet paper, pasta, rice and solar panels have in common? A rush on demand by homeowners in lockdown. According to one off-the-charts report, inquiries about solar and battery storage soared by 1500 per cent in the NSW Hunter and Newcastle regions.

Nathan Dunn of sonnen puts it: "The pandemic has brought a new lens into the psyche of consumers and they will be looking to become more energy self-sufficient after this period... the pandemic has given consumers the opportunity to reflect on the importance of being independent and being better prepared to manage their own needs."

GENESIS: In the 2009 sci-fi thriller *Contagion*, a bat drops a piece of a fruit which is eaten by a pig which is later captured and served up for dinner in a restaurant. The chef (who notably failed to properly wash his hands) unwittingly lets loose a fast-spreading virus among humans.

Scientists believe that COVID-19 may also have originated in bats. Deforestation will only increase the chance of another pandemic, some say, with bats and birds deeply stressed as a result of deforestation and climate change.

ELECTRIC VEHICLE UPDATE

The **WA WATER CORPORATION** which has committed to achieving zero net emissions from its operations by 2050 has purchased two Hyundai full electric Konas and plans to buy up to 40 more as part of its commitment to transition 40 per cent or more of its vehicle fleet to electric alternatives. The authority's commitment will trigger the second hand electric vehicle market in Western Australia, once the EVs reach the end of their lease.



The **CITY OF NEWCASTLE** and the **PORT OF NEWCASTLE** are installing two new public charging stations that will initially be free for users. Along with the two new charging stations, the Port of Newcastle has acquired its first four Hyundai Ioniq electric vehicles and plans to transition the entire fleet to all-electric vehicles.

GENERAL MOTORS AND LG CHEM have begun construction at the future site of the joint venture Ultium Cells factory in Northeast Ohio to mass-produce battery cells for electric vehicles. The two companies have invested \$US2.3 billion in the new battery cell assembly plant that is expected to create more than 1,100 new jobs.



BLOOMBERGNEF LONG-TERM ELECTRIC VEHICLE OUTLOOK forecasts an 18 per cent slump in electric passenger vehicle sales to a total of 1.7 million worldwide sales due to the pandemic, but believes EV sales will stay on track and account for more than half of all new passenger car sales globally by 2040, representing nearly one-third of the world's car fleet. Electric vehicles will also make up two thirds of all buses on the road by 2040, a quarter of light commercial vehicles, and about 47 per cent of two-wheelers, the report says.

REBUILDING THE ECONOMY AND REINVIGORATING THE SMART RENEWABLE ENERGY SECTOR

The coronavirus pandemic has upended lives and thrashed the economy. Businesses and employment levels are on a knife edge. What will it take to turn things around? The Smart Energy Council is spearheading a campaign for a renewables-led economic recovery and has found widespread agreement among the business sector.

THE YEAR 2020 has been like none other. The coronavirus has shaken the nation and pummelled the economy; across Australia businesses are on life-support and the still dazed, newly unemployed continue to line up outside Centrelink offices.

It's a crisis that demanded swift and decisive action by government and no time was lost. The Prime Minister and his cabinet hastily convened doctors, scientists, epidemiologists and other experts in a bid to devise strategies that averted the worst consequences of the pandemic for Australians.

Overnight the community had to come to terms with widespread reforms that were developed with breakneck speed and that brought out some of the best in Australian leadership. The National Cabinet comprising state Premiers and the federal government reacted on a scale and speed never seen before.

The response could not be more of a contrast to the dawdling approach – some would say denial – to the even greater threat posed by the catastrophic consequences wrought by the escalation of atmospheric emissions.

Former Prime Minister Malcolm Turnbull puts the incongruity of the disaster response down to timing, saying in the case of the virus the immediacy of it is "Quite confronting, it presents a very harsh immediate

reality" whereas climate change is more insidious and regarded as an issue that can be addressed by future generations.

Broadcaster Waleed Aly summed it up: "Climate change happens on time horizons the human brain doesn't grasp very well, and demands what we perceive to be large, long-term structural changes... the more warning we have, the harder we seem to find it to act." It's a risky proposition given the longer we linger the more drastic the consequences.

Rising to the challenge during times of crisis

Australia has much to be proud of in its management of the COVID-19 crisis and has so far warded off the worst-case scenario of thousands of deaths, John Grimes said. "The rapid response approach highlights the ability of our leaders, when they so choose, to listen and react to science in a way that mitigates risk and achieves the best outcomes.

"We now need to build on that bipartisan capacity to focus on today's three most pressing challenges: economic fallout from COVID-19, the slump in employment, and the rise in emissions."

The solution to all three, he says, can be found in a renewables-led recovery.

"It's time to lay the groundwork that averts the fossil fuel emissions-induced damage hurtling our way and capitalise on our endless and sustainable renewable resources.

"Our federal and state governments must seize the day and resolve to invest in a sweeping range of micro, small- and large-scale renewable energy projects including electricity transmission systems to accelerate the energy transition," he said.

"In the process this creates hundreds of thousands of long-term jobs and provides much needed hope for the thousands of hard-working Australians now finding themselves out of a job and in need of financial security."

The Smart Energy Council's broad vision is for every building to be a smart building, whether it is a school, hospital, public housing, council or essential services building, with rooftop PV and energy storage and EV charging stations, rollout of commercial and large-scale solar and energy storage, smart energy management, renewable hydrogen and large-scale renewables.

"A renewables-led recovery is a strong vision and it is time for government to make the investment

COVID-19 has shown there are no boundaries, not unlike the perils of climate change that are shared by all nations across the globe. Image Leanne Tattersall

and stimulate the market," John Grimes said, emphasising that rooftop PV provides twice the return: it creates employment and lowers electricity prices so households have more money to spend which in itself acts as an economic stimulus to the market.

"We can and must revitalise Australia's economy at the same time as we decarbonise. The smart energy industry is ready right now to deliver screwdriver and shovel ready projects that create new jobs and investment across the nation.

"History has shown that great leaders share a gift in turning a dire situation into a judicious opportunity. The time has never been more appropriate, we can simultaneously tackle the major challenges in front of us."

Smart Energy Council standpoints are supported by the findings of leading climate economist Nicholas Stern and Nobel prize winner Joseph Stiglitz who assert investment in action to mitigate climate change optimises economic growth from a stimulus perspective. Spending on new green energy projects generates twice as many jobs for every dollar spent, they say, compared with equivalent allocations to fossil fuel projects.

The Smart Energy Council has launched a new Renewables-led Recovery webpage which includes the list *10 Ways to Revitalise and Decarbonise Our Economy*, and information on other proposed government renewables stimulus packages.

10 Ways to Revitalise and Decarbonise the Economy at the Same Time

1. Turbocharge battery storage and battery manufacturing, by promoting state subsidised battery programs, that deliver savings to householders and act as a virtual power plant, delivering grid stability, savings to all electricity users and requirements for local battery manufacturing, assembly or other support.
 2. Public buildings become smart energy buildings
 3. Solar for public and community housing
 4. Fast-track big renewable and energy infrastructure projects (requests for tenders for up to 10 projects that can begin construction in next 6 months)
 5. 100% renewables for new major infrastructure projects
 6. Instant asset write-offs to electrify manufacturing and heavy industries
 7. North Queensland Clean Energy Development Bank
 8. Add value to lithium and cobalt mining
 9. Fast-track National Hydrogen Strategy with renewables to make Australia a renewable energy exporting Superpower
 10. Increase funding for CEFC and ARENA
- <https://www.smartenergy.org.au/a-renewables-led-economic-recovery>

Coalescing of opinions

Labor leader Anthony Albanese has urged the Morrison government to pursue a reform agenda that includes a boost for manufacturing and a new focus on infrastructure and climate change to aid the economic recovery from the coronavirus pandemic.

ACT Minister Shane Rattenbury foresees great opportunities in the post-COVID recovery phase, saying where there is willpower things can change fast. "We need a better new normal especially in the energy sector, we need to do things differently, to try new things and move flexibly and build greater sustainability.



During the pandemic recovery industry and lobby groups are calling on the government to listen to climate science and recognise the need to support climate solutions rather than back projects and industries that lock in or increase emissions

“In the wake of the COVID crisis people are now questioning what has been in the past. The community is more receptive to change and has been thinking about systems and lifestyles.”

Prominent business leaders and groups are on the same page as the Smart Energy Council and are calling for a smarter, renewables-led recovery.

“As Australia reboots its economy on the other side of this crisis there is remarkable potential for that economic recovery to occur through climate action,” the **Climate Council** says. “A gas-led economic recovery is poorly suited to the task at hand. A reorientation toward net zero emissions is a fundamental requirement of Australia’s COVID-19 recovery to deal with the two crises of economic recovery and climate change.”

Beyond Zero Emissions likewise declares climate action is vital for the economy and is launching its *Million Jobs Plan* that charts the as yet untapped employment opportunities in each business sector (read more on page 30), urging stimulus funds be invested in the “economy of the future”.

“The stimulus spending that will be required to rescue the economy presents both opportunities and threats. Our *Million Jobs Plan* shows we can get Aussies back to work while modernising our infrastructure and decarbonising the economy,” Eytan Lenko said.

The **WWF** has embarked on a three-month campaign centred on a renewable energy led recovery and stimulus in a bid to secure policy commitments that address the dual problems of emissions and the COVID crisis. (See the *WWF plan for 700 per cent renewables on page 16.*)

Anna Skarbek of Climate Works writes the Australian Energy Market Operator study makes clear that, within five years, Australia can run a power grid in which 75 per cent of electricity comes from wind and solar, and that measures these pathways involve are ideally suited to a stimulus package.

“By building charging infrastructure to support electric vehicles powered by renewables; encouraging investment in sustainable agriculture, fertiliser management and carbon forestry; deploying PV and battery systems across city buildings; or embracing any number of other ‘shovel ready’ solutions, Governments could create jobs and spur industry, while modernising the economy for the challenges ahead,” she said.

The Investor Group on Climate Change (IGCC) in its submission to the Bushfires Royal Commission called for an extension of the CEFC mandate to drive private investment in climate change resilience, saying failure by Australian governments to plan today for future damage from climate change will increase economic risks, costs and impacts across the community.

Chief Executive Officer Emma Herd said “As a trade-exposed, carbon-intensive economy, highly vulnerable to the physical effects of climate change, Australia must take steps to strengthen our climate change response in the face of warming temperatures and the associated impacts on our communities.”

The chorus of voices singing from the same song sheet extends across the globe

According to Steve Blume, board member of the **Global Solar Council**, industry associations in Asia, Europe and Italy have proposed several measures to get solar PV companies back to business post-COVID-19 and stimulate investment in clean power, with the world’s solar industry playing a critical role in post-COVID-19 recovery, creating growth and jobs, and contributing to a green economic recovery that protects the climate and ensures inclusive growth.

Recommended reading

Primed for Action: A Resilient Recovery for Australia outlines the Climate Council’s response to the COVID-19 crisis. As Australia reboots its economy on the other side of this crisis there is remarkable potential for that economic recovery to occur through climate action. A gas-led economic recovery is poorly suited to the task at hand. A reorientation toward net zero emissions is a fundamental requirement of Australia’s COVID-19 recovery to deal with the two crises of economic recovery and climate change.



BZE Million Jobs Plan – <https://bze.org.au/the-million-jobs-plan/>



COVID-19 climate lessons: Unprepared for a pandemic, can the world learn how to manage the bigger threat of climate disruption? by David Spratt and Alia Armistead of Breakthrough - National Centre for Climate Restoration, breakthroughonline.org.au

The GSC states that by placing the energy transition at the centre of the recovery, we can grow the world economy, create millions of jobs, and improve the lives of people everywhere. To facilitate this the GSC is calling for support in providing access to financing for the solar industry, boosting the deployment of large-scale projects and small-scale PV.

IRENA is reeling a similar line saying COVID-19 recovery packages that place renewables and solar energy at the heart of policies can set a path towards sustainable growth and prosperity, and that renewable energy must play a key role in economic recovery, ensuring sustainability and energy security, creating jobs and strengthening resilience to protect people’s health and welfare.

“No other industry can match such impact while simultaneously reducing global climate emissions” says IRENA in its *Coalition for Action 8-point Plan* calling on governments to develop stimulus packages required for rapid and sustained economic recovery.

A coalition of chief executives, politicians and academics in Europe agree on the need for action to address the fallout from the pandemic, saying it presents a timely opportunity to develop sustainable, resilient and dynamic economies. They are urging major investment in projects that will make the European Union a climate-neutral continent by 2050.

Global corporations endorsing the ‘green recovery’ include PepsiCo, Microsoft, Volvo Group, L’Oréal, Danone and IKEA.

Support for energy reform is found in less likely quarters. Rio Tinto, BP, Shell, Allianz, HSBC and the Energy Transitions Commission (working towards low-carbon energy systems) are calling for massive investments in renewable power systems, a boost for green buildings and green infrastructure, targeted support for innovative low-carbon activities and similar measures.

The groundswell of support for a more sustainable, renewables-led future from business and industry around the globe speaks volumes.

On the following pages we take a closer look at the key messages delivered by Australian business leaders and groups during the Smart Energy Council’s Renewables-led Stimulus Summit.

Aussie. Tough.



NEXT 7.7 MILLION² km



SunRise

RESIDENTIAL
ON-GRID HOMES

BlackMax

SHEDS, HOMES
& WEEKENDERS

S Series

REMOTE HOMES
& SMALL ENTERPRISES

DropBear

LARGE REMOTE HOMES
& SMALL TO LARGE
ENTERPRISES

BushPig

OFF-GRID FOR
REMOTE STATIONS,
INDUSTRIAL PROPERTIES
& LARGE RESIDENTIAL



☎ 1800 733 637 ✉ aussiemade@redearth.energy 🌐 redearth.energy



A RENEWABLES-LED ECONOMIC RECOVERY

Together with RenewEconomy, the Smart Energy Council staged Australia's biggest ever online energy Summit, an event that highlighted the level of interest and action in renewable energy across Australia among business leaders and parliamentarians.

The consensus: an expanded renewable energy sector can lift us out of uncertainty and into economic recovery. A coordinated strategy would deliver widespread benefits in manufacturing opportunities, along with jobs, greater sustainability, and self-sufficiency.

John Grimes and Giles Parkinson led the Summit.

"We can and must revitalise and modernise Australia's economy at the same time as we decarbonise. The smart energy industry is ready right now to deliver screwdriver and shovel ready projects, creating thousands of new future-proof jobs and investment across the nation. Australia can and should position itself as a global renewable energy superpower."

AUSTRALIA HAS TAKEN A BATTERING from the pandemic: one million jobs have been lost and the economy smashed. That is the bleak picture presenting the government which faces an enormous challenge as it attempts to rebuild the nation and support economic recovery after the impacts of the virus.

And government needs to get this right, John Grimes said, "Our foundation mission is to bring together the best ideas and brains to tackle hurdles and put us on the road to recovery, to build resilience and mitigate pressure and boost intergenerational investment."

Setting the scene for the Summit, **Giles Parkinson of RenewEconomy** added "We have reached an important juncture as we emerge from COVID-19, with different and important changes to the economy. The two important issues are: the low cost of renewable energy and storage that can replace existing technologies; and AEMO's pathway to 2025 and to 2040.

Pre-eminent economist **Ross Garnaut** addressed these matters telling the Summit's 2400 strong participants a robust Australian economy can be created by investing in clean technologies and embracing a low emissions economy, a trajectory that also strengthens Australia's long-term prospects.

It's time Australia took advantage of its wind and solar resources to transition to green manufacturing, using renewable energy to power industrial production of steel and aluminium for domestic and export markets, he said, noting the dramatic fall in the cost of transitioning to renewable energy.

"The biggest change over the past twelve years [since my last calculations] lies in the significantly lower cost of moving to zero emissions, much lower than my modelling anticipated back then," the leading economist said.

"Interest rates are now permanently very much lower than they used to be which will lead to an expansion of renewable power generation... so the cost of moving to zero emissions would be much lower."

Further, the costs of not achieving zero emissions and having to bear the consequential rise in global greenhouse gases and temperatures would be greater than the costs of making the adjustments.

According to Professor Garnaut, Australia's responses to the pandemic could hasten the closure of many coal-fired generators, with a reduction in demand and the increasing competitiveness of renewable energy.

"It is very unlikely that, without government intervention of a perverse kind, we will see investment in a new coal power," Professor Garnaut said. "The natural economic thing is for early closure of more coal generation in these circumstances.

"In my book *Superpower: Australia's Low-Carbon Opportunity* which tracks Australia's low carbon opportunities I examine what has changed, and science has not changed. But there have been large changes in the understanding and ethics of climate change... how our actions affect people a long way away," he said, emphasising the moral as well as environmental imperatives that stand before us.

Queensland's forward leap

The Summit coincided with a landmark announcement by **Queensland Premier Anastacia Palaszczuk** on what will become Australia's largest solar farm. The news follows the agreement between Queensland's CleanCo and French company Neoen for Western Downs to commence construction of the 400MW project in July.

This development shores up the State's ambitions for 20 per cent share of energy generation from renewables by year's end and target of 50 per cent renewable energy by 2030.

The Premier also reported the state's plans for a series of Renewable Energy Zones and the significant potential for renewable hydrogen production, capitalising on strong trading relationships with the potential to export hydrogen and "export Queensland sunshine to the world".

"In my view, Queensland is in a really strong position here... I am extremely



Professor Ross Garnaut



Qld Premier Anastacia Palaszczuk



Victoria is eyeing development of the southern hemisphere's largest offshore wind farm

Victorian Energy Minister Lily D'Ambrosio: keen to exploit smart opportunities

The state of Victoria is on a similar path. "We strongly believe that the transition to clean energy offers enormous opportunities to create jobs and drive economic growth, and we are taking action to identify and exploit those opportunities," Minister D'Ambrosio told the Summit, also emphasising the crucial role of renewable energy in restoring the economy during the COVID-19 recovery.

"Currently Victoria boasts 2500MW of renewable energy projects under construction, and the rate of residential PV uptake has risen sharply to now be on par with Queensland," she said.

The Minister also took the opportunity to introduce plans for 'Star of the South', Australia's first offshore wind project that could potentially supply up to 18 per cent of Victoria's electricity needs.

Located off the south coast of Gippsland, it will transform the market, create hundreds of jobs and provide a huge economic boost for the region, she said.

The project involves wind turbines and offshore substations in the ocean, subsea cables to transfer energy to the coast and a transmission network of cables and substations connecting to the Latrobe Valley.

The Minister added that Victorian renewable energy targets are underpinned by legislation which sends a clear and powerful signal to investors.

"Victoria has the legislative framework that allows investment in projects such as offshore wind, and with Victoria's excellent offshore wind resources presenting great advantages... we would be derelict not to allow investors to build," she said.



confident in the outlook for renewable energy in Queensland," the Premier told the Summit, also outlining plans for 190,000 solar panels on schools to power new air-conditioning units and rooftop solar systems at six shopping centres,

"As we further develop our [pandemic-induced] economic recovery plan, I'll be having more to say about how we support our infrastructure to unlock renewable energy zones in Queensland," the Premier told the Summit.

"This is a crucial industry for all states into the future, a fantastic resources and potential for thousands of jobs," Premier Palaszczuk said, crediting the input of the Smart Energy Council in the development of Queensland's reverse auction plan that will see an additional 3240MW capacity delivered from wind and solar plants.

"I see a future where renewables and new technologies support even more jobs in more industries across our regions."

ACT's Shane Rattenbury: a clear vision of a clean future

Climate change isn't going away, and it also presents serious ongoing threats to our health, to the economy, to the environment, and to future generations, ACT Minister for Climate Change & Sustainability Rattenbury told the Summit.

"If we escape COVID-19 but don't deal with climate change, we are exacerbating the situation. A 'better normal' means recovering from this pandemic, but in a way that doesn't just expose us to other global threats like climate change.

"We need to take the science in to account, and, as Professor Ross Garnaut says, unlock the enormous potential."



The ACT is now 100 per cent renewable energy and jobs growth in the Territory's renewables sector has grown 12 times faster than the national average, the Minister told the Summit.

"For states and territories, the initiatives required to reach zero emissions such as increasing renewable power generation, planting trees, electrifying transport and improving energy efficiency of buildings are economically sound approaches that both reduce the risk of climate change impacts, and strengthen economic competitiveness.

"These initiatives are a win-win.

They're an economically sound approach, where the benefits well outweigh the costs," Minister Rattenbury said.

Visit **Stimulus Summit: A Renewables-led Economic Recovery** website, with links to all presentations and PowerPoint presentations. The site also includes a handy link to websites of groups and associations advocating a renewables-led recovery. www.smartenergy.org.au

The Stimulus Summit was delivered by the Smart Energy Council in partnership with www.reneweconomy.com.au

South Australian Energy Minister Dan van Holst Pellekaan: pushing boundaries and scoring goals



South Australia's plan to fast-track the transition to 100 per cent renewables by 2030 was widely reported in media channels following the Stimulus Summit.

South Australian Energy Minister Dan van Holst Pellekaan said "For me it's a firm goal. I want South Australia to be net 100 per cent electricity generation renewable by 2030. That's what I work for every day."

The Minister won the hearts and minds of Summit participants by crediting the previous State Labor government for advancing South Australia's renewables sector to such an extent that the State now boasts the greatest number of renewable energy projects.

"We have \$20 billion worth of renewable energy projects on the go –

some of which are waiting for approval," the Minister said.

"South Australia leads the world with solar and wind integration into the grid, and what we must now do is show how it can work for consumers ... make electricity more affordable reliable for households and business."

The Minister referenced the State's \$13 million demand management project, declaring market demand at the micro- and macro-levels are important to the State which is also pushing for a local hydrogen production industry.

He also commented on the need for Australia to strengthen its energy and environmental policies in the post-pandemic world.

WA Energy Minister Bill Johnston: a new energy future

Addressing the Stimulus Summit from Western Australia was Energy Minister Bill Johnston who said the State did not follow "failed privatisation pathways" and still owns the electricity network which is the largest gentailer in the south-eastern connected system.

"Western Australia does not need COAG support for change, can prepare for high renewable content, and we have a strong agenda for new energy future," the Minister said in his upbeat address at the Summit.

To facilitate that the State's electricity sector is increasing the load of DER – distributed energy resources – in the system and recognises the importance of microgrids and stand-alone power systems especially in remote areas.

The Minister also noted the opportunities for miners to incorporate renewable energy "across the big brown land that is WA".

"Future generation will be renewable because that's now the lowest cost and we are hopeful the State can avoid having to build new transmission infrastructure," he said.



South Australia's Hornsdale Power Reserve. Image CEFC

"If we escape COVID-19 but don't deal with climate change, we are exacerbating the situation. A 'better normal' means recovering from this pandemic, but in a way that doesn't just expose us to other global threats like climate change. We need to take the science in to account, and, as Professor Ross Garnaut says, unlock the enormous potential."

During the Summit's Chat line some participants presented a somewhat less glowing picture of the Western Australia's trajectory, with **Former Greens Leader Christine Milne** condemning the escalation of emissions at the NW shelf through the ramped up operations of Woodside's offshore gas development facility at Scarborough.

Mega projects should not proceed, she says. "It makes no sense to throw a lifeline to big coal and gas polluters via black hydrogen if the aim is to meet the Paris Agreement to contain global warming to 1.5 degrees. There is no such thing as blue hydrogen, it is a fossil fuel rescue package, which is unacceptable."

Oliver Yates concurred, saying "Let's not build stranded brown / blue hydrogen assets as they tend not to go away, they simply get written down to remain competitive."

Speaking after the Summit to Smart Energy, **Matt Curry from Perth based lobby group Clean State** commented that without a State Renewable Energy Target Western Australia lacked a market signal to attract investment in new generation.

"All private investment in energy is going to other States with policies that support it and Western Australia is missing out on new jobs and cheaper energy... in my view the State government is failing on climate policy, and industry and jobs in renewables will suffer because of this."

COAG quorum?

The significance of four State Energy Ministers and one Premier being assembled at one event was not lost on the Summit organisers who quipped the Ministerial gathering constituted a quorum for a COAG energy meeting.

Following the successful Ministerial Session at the Stimulus Summit, the Smart Energy Council invited the Federal Energy Minister and all State Energy Ministers to participate in a two-hour online Energy Ministers' Summit on 5 August.

Read more important messages delivered at the Summit by business and community leaders on the following pages.



DYNESS Company

DYNESS is a high-tech company focusing on the research, development, and manufacturing of LFP (LiFePO4) energy storage solutions.

Currently DYNESS has two R&D centers and two production factories in CHINA. The R&D centers are set up in Xi'an city, Shanxi Province, and Yangzhou city, Jiangsu Province. Production factories are located in the two cities of Yangzhou and Taizhou, both in Jiangsu Province, in eastern China.

With strong R&D capability and production capacity, DYNESS has developed outstanding products in multiple energy storage fields and obtained a number of patents. All products of the company are produced in strict accordance with international standards, and have obtained CEC, CE, IEC, EMC, ROHS, UL and other certificates.

Dyness products are used across Europe, Oceania, Africa, South America and Asia, enabling thousands of end users to achieve energy self-sufficiency and energy independence, as well as contributing to the world's clean energy goals and providing notable relief to stressed energy grids.



Dyness battery solutions are unique.

- 01 **CEC approved and qualified for solar battery schemes:** Dyness battery are CEC approved and qualified for SA and VIC solar battery rebate scheme.
- 02 **More inverter options:** Dyness batteries are compatible with a wide range of hybrid inverters in the market. Including Goodwe Solis, Deye, Imeon, Growatt, Luxpower, Sofar, etc.
- 03 **Premium design and easy installation:** Dyness products offer a range of modular design, IP65, easy-installation solutions for on-grid & off-grid residential and commercial applications.
- 04 **Market proven quality products:** Dyness batteries are high-quality and great value products, which is reflected in the thousands of units sold globally in markets such as Europe, Brazil, Japan, and South Africa.
- 05 **The new HV Tower battery solution - Tower for one and three phase inverters:** Dyness is launching the High-voltage battery (200~700VDC) for the Australian and European markets.



- Email: sales@dyness-tech.com
- Tel: +86 029 8954 0338
- Web: <http://www.dyness-tech.com.cn>

BUSINESS LEADERS CHARTING A PATH TO A BETTER NEW NORMAL

The Stimulus Summit staged by the Smart Energy Council and RenewEconomy heard from leading organisations which each emphasised the need for action to simultaneously tackle emissions and economic recovery from COVID-19.



The path to 700 per cent renewables

World Wildlife Fund Energy Transition Manager Nicky Ison took a closer look at the scale of renewables required to achieve 700 per cent renewables by 2050, with 22.5GW additional build by 2050.

The installed capacity of the NEM is about 54.5GW, and AEMO's step change scenario in its Integrated Systems Plan is 2.35GW pa additional capacity to 2040, she said.

100 per cent renewables in stationary electricity requires 6GW additional annual capacity to 2030 (based on current rates) and for Australia to achieve zero fossil fuels we need to add 9.5-15GW new capacity each year to 2050.

The infographic illustrates the trajectory of the path to 700 per cent.

MAJOR SECTORS OF THE AUSTRALIAN ECONOMY can move to net zero emissions, in line with global goals to contain warming to 1.5 or 2 degrees, by accelerating investment in technological solutions already available and invented.

That was the clear message delivered by **Anna Skarbek** who shared findings of the **ClimateWorks** report *Decarbonisation Futures: Solutions, actions and benchmarks for a net zero emissions* during the Stimulus Summit.

"The report shows how net zero emission by 2050 can be achieved, and we found 1.5 degrees containment in Australia is achievable," Skarbek told the Summit.

"But the transition needs to speed up, with 'all-in' action by governments, businesses and ordinary Australians," she said. "Critically, these

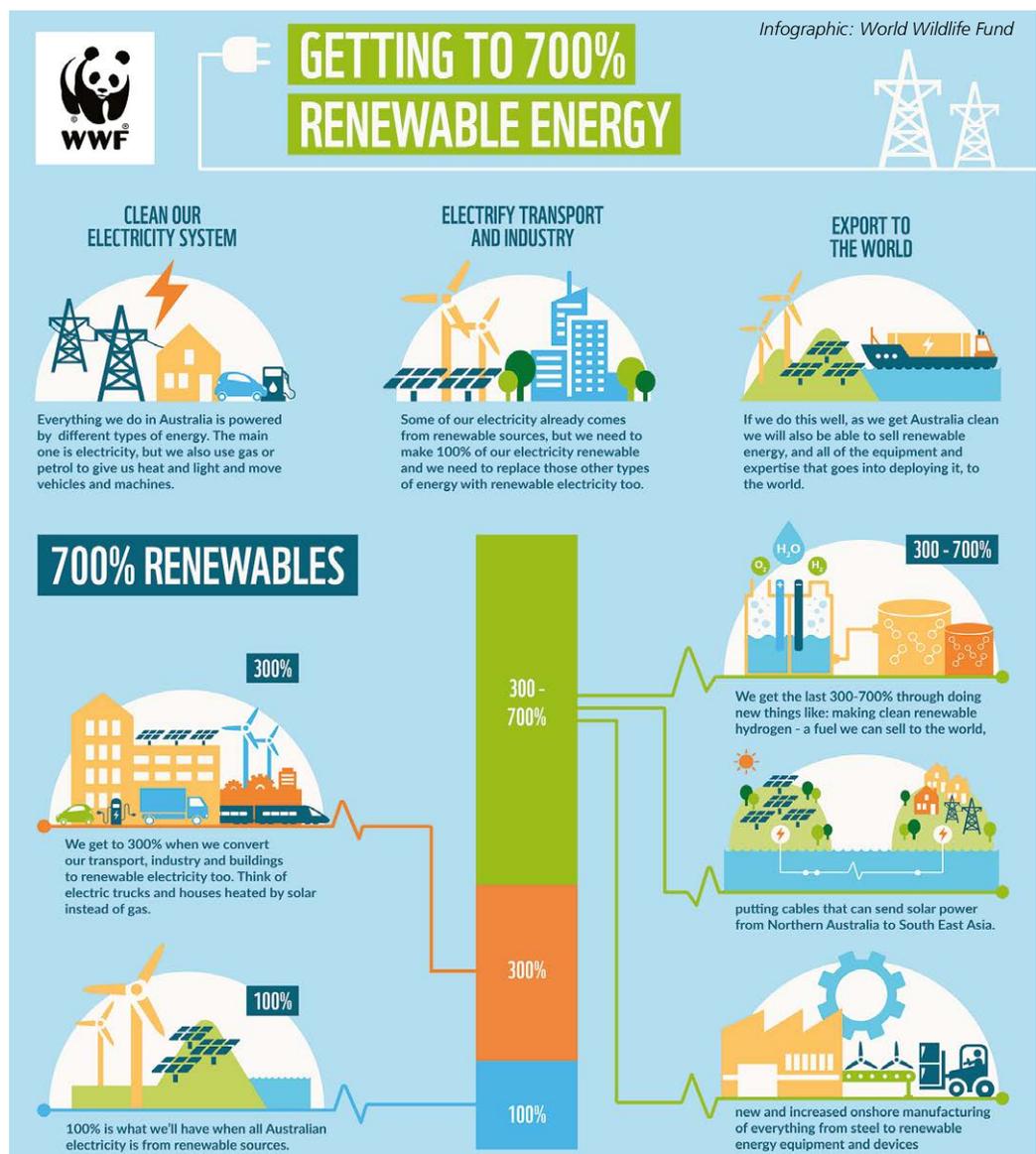
actions can support efforts to rebuild from the shock of the COVID-19 pandemic.

"The stimulus to recover from the pandemic will need exactly the sort of actions that are needed to address the climate crisis, too.

"If we get this right, we can meet Australia's international climate change commitments, create jobs in sustainable industries, and set ourselves up for a smoother and speedier shift to a zero emissions economy.

"The measures to address climate change that we identify in this report would not be anything like the economic shock we're experiencing at the moment."

Read the full report at www.climateworks.org.au also see page 32 for more from ClimateWorks.



SOLAR COASTER MAKING YOU SICK?

TAKE CONTROL WITH SUPERGREEN DIRECT!



- **Operating for over 10 years**
- **Franchises opened in 9 countries**
- **Winner of Entrepreneur Magazine Top 500 Franchise awards 2014, 2015, 2016, 2017**

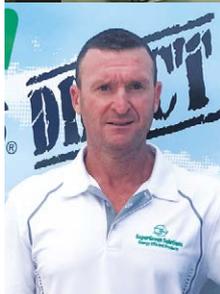
SuperGreen Direct is SuperGreen Solutions new mobile franchisee model. This condensed SuperGreen Solutions showroom on wheels offers an agile and low cost option for the franchisee to take the products directly to the customer so they can see the products first hand. They also make exhibiting at shows and expos a piece of cake.

GOODBYE RENT!

As well as differentiating yourself from the herd with this disruptive franchise, you're also free of expensive rent and increasing overheads. Coal fired power is slowly coming to an end with Solar, Battery Storage, energy efficient products and electric vehicles taking centre stage! SuperGreen Solutions has an innovative new angle that helps poise their franchisees to take advantage of a

wide range of energy efficient products for this new age of energy. SuperGreen Direct owners are able to Bundle a wide range of energy efficient products thus offer attractive discounted solutions, leaving competitors in the dust. Training, quoting tools & systems all included along with access to leading brand names such as:

- Tesla, Sonnen, LG & BYD Battery storage
- Canadian Solar, JA & LG Solar products
- Rheem, Apricus & Stiebel Eltron efficient water heating
- Fletchers & Bradford Insulation products
- Tesla, Solar Edge, E- Station EV Chargers



SuperGreen's winning business pedigree, formulas, systems and procedures have been tested, tried and proven in several markets globally and are ready for you to benefit from in your area. To find out more reach out for the local SuperGreen direct team.



Contact Sean today on **0481 167 423** or franchise@supergreensolutions.com.au

supergreensolutions.com.au

SuperGreen Solutions
Energy Efficient Products

The bottom line: electrify everything and generate the electricity through renewables. "Embed net zero emission into every sector's response; the technology is already there," Skarbek says.

*During the Summit the Chat line ran hot with hundreds of posts. This from **Stuart Butterworth**: "We have an awesome opportunity to make the great leap forward. A 'GREEN New Deal' does not look so wacky now."*

Smart Energy Council President Steve Blume commented Australia's electricity sector can reach 90 per cent renewable energy by 2030 and many other sectors can achieve a 55 per cent reduction in emissions by 2030. Transportation in particular can move fast to electrify.

Amanda McKenzie of the Climate Council and Kelly O'Shanassy of the Australian Conservation Foundation



Amanda McKenzie, Climate Council

addressed the urgent need to decarbonise.

O'Shanassy drew attention to the US ambitions expressed in the early 60s to reach the moon, and the need to start the space program from scratch. By contrast our energy system which has transition to renewables within ten years is well positioned given we already have all the technology, all the resources we need, she said.

So what's stopping us?

In a statement released the week following the Summit ACF chief executive Kelly O'Shanassy said 'Make sure recovery equips

us for future crises... Australia will struggle with future crises if it repeats the mistakes of the past when rebuilding from COVID-19."

As restrictions on movement relax and governments turn to recovery, the ACF warns against propping up dinosaur industries that cause climate change and destroy the natural environment – ultimately endangering the planet's life support systems.

"At this critical moment in Australia's history there is a serious risk our governments will be so determined to get everything back up and running quickly that we will repeat the mistakes of the past," O'Shanassy said.

Referencing the bushfire crisis and drought she noted The World Bank, the IMF, the International Energy Agency, Nobel Prize winning economist Joseph Stiglitz and others are urging governments' coronavirus recovery packages to simultaneously tackle climate change.

"We can take this moment to choose a different path that builds our economy, helps fix the climate crisis and creates a fairer, healthier and more resilient Australia for all, including our children and grandchildren," O'Shanassy said.

The ACF has also issued a step plan *Recover, Rebuild, Renew* that sets out ways governments can improve prospects as follows:

RECOVER by creating jobs by upgrading all publicly-owned buildings and operations so they are energy efficient and renewable, weatherproofing houses across Australia, building a residential and business battery storage program, and building electric vehicle infrastructure across the country.



Kelly O'Shanassy, Australian Conservation Foundation

REBUILD by establishing a National Environmental Fund to support wildlife and ecosystem recovery and long-term nature protection, creating conservation tax incentives and strong environment protection laws, boosting electric vehicles and sustainable transport supporting businesses to invest in solar and storage, and increasing investment in sustainable industries by reallocating fossil fuel subsidies.

RENEW by fast-tracking electricity transmission infrastructure for low cost, reliable clean energy, funding and supporting shovel-ready energy storage projects, including large-scale batteries and pumped hydro, supporting large-scale wind energy generation, expanding electric, public and active transport investment and manufacturing getting Australia exporting renewable energy to the world.

The ACF's remedial measures concerning renewable energy mirror those of the Smart Energy Council which is calling on government to fast track in the wake of COVID-19. See the 10-point plan on page 9.

Revitalising & Decarbonising the Australian Economy

Summit organisers were pleased to welcome industry spokesperson **Innes Willox of the Australian Industry Group** which represents more than 60,000 businesses.

Linking the two biggest economic challenges to hit Australia: restoring growth from the pandemic and cutting greenhouse gas emissions to net zero by 2050, Willox is calling for the two to be addressed simultaneously.

A smart move, he says, that will boost growth and put the country on a firm long-term footing.

"This is the first wave, other hits will come, pipelines will be impacted; the real impact is deep, sudden and brutal. It could take three to five years to recover," he said during his lengthy address at the Summit.

But if Australia pursues the right path through a series of green opportunities, the outlook becomes a lot brighter.

"There's a lot that we can do to rebuild stronger and cleaner," he said, listing a swag of opportunities from the move by heavy industry to run on renewable electricity and green hydrogen; supporting large- and small-scale energy storage projects; and backing local electricity generation and storage.



Innes Willox, Australian Industry Group

"If we get this right, we can meet Australia's international climate change commitments, create jobs in sustainable industries, and set ourselves up for a smoother and speedier shift to a zero emissions economy. The measures to address climate change that we identify would not be anything like the economic shock we're experiencing at the moment."

Wilcox also proposes an accelerated uptake of electric vehicles by the installation of charging points at strategic locations, the rolling out of smart meters, more mini-grids, and greater energy efficiency.

He was singing from a song sheet that resonated firmly with Summit participants and organisers the Smart Energy Council and RenewEconomy.

We will emerge differently from how we went in six week ago – play our cards right and we will be stronger, Wilcox told the Summit.

“The economic recovery from the virus and the transition required to meet net-zero emissions by 2050 are overlapping issues that should be taken on together.”

Renewables, Carbon Markets and infrastructure investment

The need to repair, restore and build economy, community and environment with net-zero transition policies was the focus on the address by **John Connor of the Carbon Market Institute**.

“Australia is staring down the barrel at three huge needs, the need to manage an economy, community and environment recovering from last summer’s bushfire crisis; the need to transition to a net-zero emissions economy, and the need to build an economy that’s more resilient and ready for pandemics such as COVID-19,” he said.

Almost 95 per cent of CMI member survey participants – including over a third from emission-intensive companies – think Australia’s current suite of climate policies do not sufficiently assist business in the transition to net-zero emissions.

“From Australia’s resources and the rudiments of climate and energy policy we can quickly evolve policies and build our economy back better ... we have abundant renewable and other energy resources that can manage the transition to zero if not negative emissions energy, transport and industry,” he said.

Connor referenced the potential for tens of thousands of jobs that renewable electricity can bring, with AEMO projections that the grid could handle up to 75 per cent renewables by 2025.

“As such improved renewables policy should necessarily be central to policy solutions – necessary but not sufficient,” he told the Summit.

“We can have a renewables led recovery but we need policy and investment to properly integrate land, climate and economic repair. We

“Australian governments, business and community have performed together admirably in response to the COVID crisis – we can do so again as we plan our recovery and our repair tasks responding to bushfire, climate and the COVID crisis. Good policy and carbon markets can funnel investment to the right places for a more resilient, regenerative and renewable economic recovery.”

need to locate net zero carbon goals across the economy. We also need to be careful to avoid perverse outcomes between sectors.”

To achieve this Australian governments need to take some key steps, including a nationally legislated long-term strategy with a goal of net-zero emissions by 2050.

“Australian governments, business and community have performed together admirably in response to the COVID crisis – we can do so again as we plan our recovery and our repair tasks responding to bushfire, climate and the COVID crisis.

“Good policy and carbon markets can funnel investment to the right places for a more resilient, regenerative and renewable economic recovery.”

Million and more

Eytan Lenko of Beyond Zero Emissions says Australia is at a crossroads and that a Million Jobs Plan can help restore the economy and fix many other matters in the process.

“We need to move towards self-reliance by electrifying infrastructure and powering it with cheap reliable efficient Australian sourced renewables. To do this we need to bring forward spending and encourage private sector investment,” Lenko told the Summit.

A trajectory that would bring widespread benefits, as outlined in the organisation’s Million Jobs Plan.

See pages 30 and 31 for more on the BZE Plan.

www.bze.org.au/the-million-jobs-plan

COBALTSOLAR ENERGY

1300 273 111

www.cobaltsolar.com.au

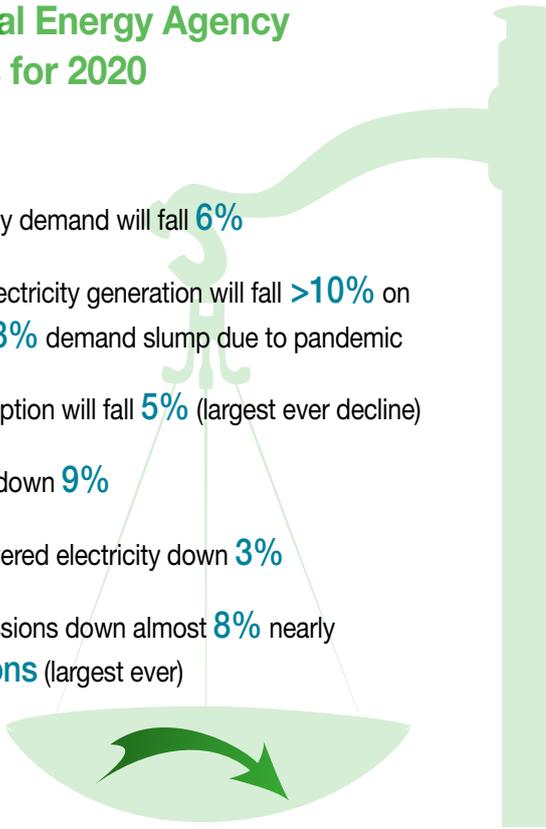
Icons: Fire, IP 67, Thermometer, Omega symbol, Solar panel, UV protection, Link

TRACKING TRANSFORMATION

International Energy Agency predictions for 2020

The falls

- Global energy demand will fall **6%**
- Coal-fired electricity generation will fall **>10%** on the back of **8%** demand slump due to pandemic
- Gas consumption will fall **5%** (largest ever decline)
- Oil demand down **9%**
- Nuclear-powered electricity down **3%**
- Carbon emissions down almost **8%** nearly **2.6 gigatons** (largest ever)



...and the global rises

- Solar and wind power generation rose to **9%** in the first quarter (up from **8%** Q1 2019)
- Renewables accounted for **28%** electricity generation Q1 2020
- **>100 GW** of solar generation capacity was added in 2019
- **~60 GW** additional wind facilities in 2019



Transforming energy systems

- Could deliver **2.4%** higher GDP than current rate, and
- Boost global GDP by **\$98 trillion** by 2050, also
- Investments in renewables would add **42 million** jobs globally



International Renewable Energy Agency

Making the smart switch

Lower costs of renewable energy generation

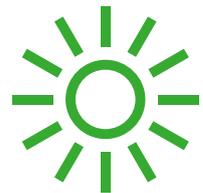
- If manufacturing industry switches to **100%** renewables it could save **\$1.6 billion** a year or slash bills by **23%**
- By 2050 manufacturers would slash energy bills by a third, **~\$2.2 billion** a year



The Australia Institute's Centre for Future Work

Solar power

- **2.4%** of global electricity is supplied from the sun
- 10 years ago = **20GW** global solar capacity (~1GW = rough output of large power station)
- By 2019 world installed solar power = **600GW**
- By end 2020 **105GW** global solar capacity is forecast



London-based research company IHS Markit



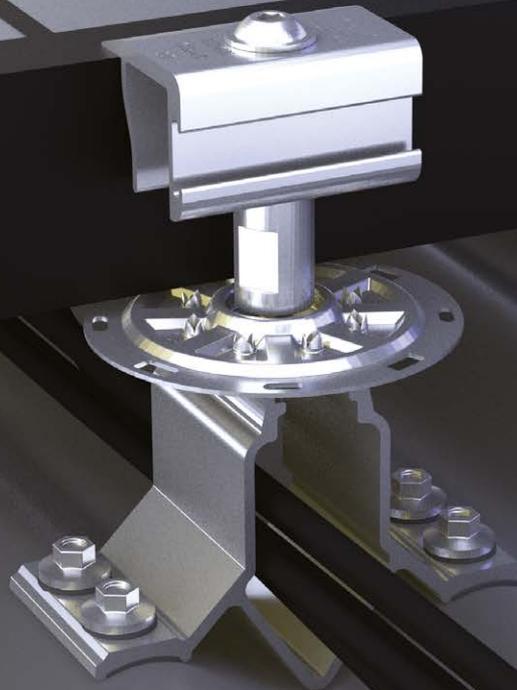
SMART ENERGY
COUNCIL

SOLAR, STORAGE, SMART ENERGY

SAVE TIME AND MONEY: RAIL-FREE!

PVKIT™ 2.0

- S-5!® Direct-Attach™ system - use with ANY S-5!® fixing
- Only two components
- 85% lighter weight
- 25% better load distribution
- No-cost electrical bonding
- Improves solar aesthetics
- Greater module placement flexibility



CorruBracket™ 500T PV

- Direct-Attach™ compatible
- Double-seal design
- Attach to structure OR sheet-only
- 100mm+ airspace promotes cooling
- 25mm N-S adjustment
- Pre-applied EPDM gaskets
- Lab-tested & proven holding strength

DON'T TAKE OUR WORD FOR IT. SEE WHAT OUR CUSTOMERS ARE SAYING:

"The PVKIT™ 2.0 is transforming the way in which PV is installed in the APAC region. Rail-less systems are the way of the future and will revolutionise the way modules are installed."

—Bernie Dombroski, Managing Director
Solar Partners NZ

Tested. Trusted. Engineered.
The Metal Roof Experts™



TEMPLATES TO TACKLE TODAY'S PREDICAMENTS

Can the National Cabinet rebuild and decarbonise Australia?

SIMON CORBELL OF ENERGY ESTATE ponders whether Australia can potentially develop a national cabinet such as the one [hastily] developed to deal with the threat of the pandemic.

How we respond to the critical challenge we face which is the decarbonisation of the Australian economy as part of an economic recovery package needs to be explored, he says.

How we can structure a national cabinet to deal with the task?

"The success of dealing with the pandemic has been driven by the clear and present danger to the health of the Australian population," the former ACT Minister told the Stimulus Summit.

The modelling released by the Australian government a few weeks ago demonstrated that without clear and immediate action to address the fundamental threat to public health in the nation, the consequences to our broader health care systems and well-being was very significant.

"This compelled all of the first ministers to come together in a framework that was quite unprecedented. It was an enhancement of the existing COAG framework which is evidence-based and focused on expert advice.

"They overcome much of the processes seen in COAG where so much of the energy meetings are focused on procedures rather than outcome, and that speaks to the first ministers."

Simon Corbell listed the key attributes for the National Cabinet's success during the pandemic thus:

- Evidence-led public policy focus
- A process that saw frequent and rapid information sharing and advice and coordination of Commonwealth, State and Territory actions, unlike COAG
- Coordinated but not uniform actions across States, with recognition of Federal and State/ Territory policy jurisdiction, and
- Reduced process and high levels of cooperation – less about agenda and formality and more emphasis on rapid decision making.

"The challenge is whether we can make that work when we look at the decarbonisation of Australia and the recovery from pandemic. We are dealing with long-term consequences.

"The impact of COVID-19 is immediate and short-term, whereas the impact of climate change is ever growing and incremental. The impact will only continue and be ever-increasing over time until we achieve zero emissions," said the architect of the ACT's 100 per cent renewable plan.

The risk we face is a return to business as usual in a 'gas fired recovery' and this is the wrong direction to take. It introduces new risks relating to price, emissions (flaring/fugitive), and supply chains of delivery of fuels.

"A transition to gas also means we reduces resilience to external shocks. A gas-fired recovery is neither sustainable nor regenerative – it does not give back to the environment or the economy in a way that is sustainable or does good."

Removing environmental red tape is necessary otherwise we risk biodiversity recovery and ecosystem services protection of water, air and food, he says.

"In short, a gas-fired recovery [as enthusiastically proposed by the Federal Energy Minister] puts us back on the path to decline and degradation."

Simon Corbell advocates the cabinet focus on the complementary forces of resilience and regeneration in the pathway to decarbonisation, a program that will benefit the economy, society and the environment.

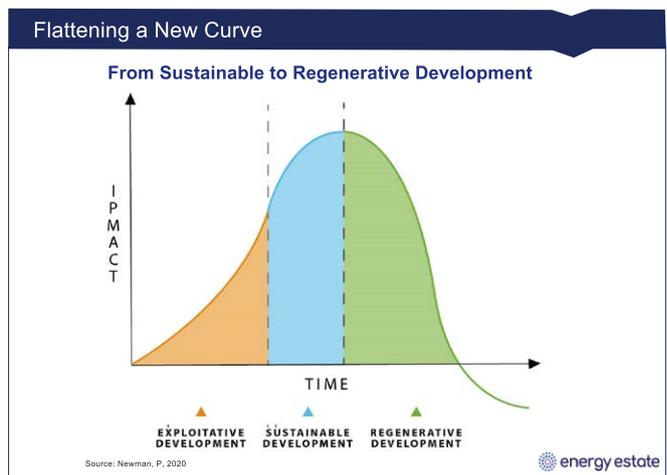
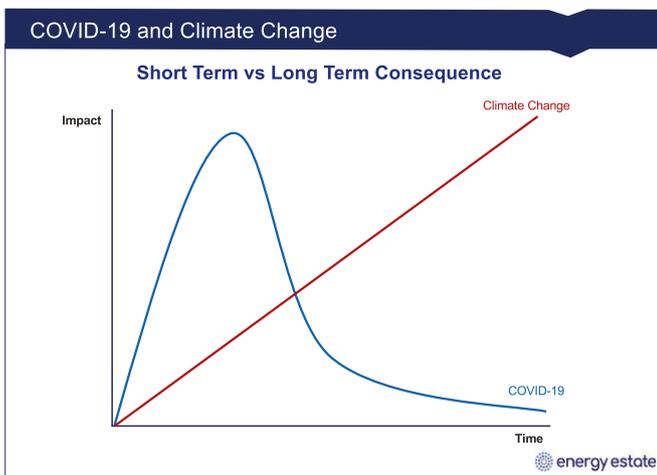
Resilience needs to be developed through supply chains, robust financial models, cities, communities and heavy industry.

Building a national focus on resilience is a unifying concept which reaches across climate change, the bushfire royal commission and rising global economic nationalism. The response to the bushfire royal commission is something governments will also have to address in coming months, as well as rising global economic nationalism and threats to supply chains and free trade that is so important to the Australian economy.

We have already succeeded in some of this and could adapt the National Disaster Risk Reduction Framework Investment Priorities to the task of decarbonisation and stimulate investment and regulatory decisions by targeting high priority local and national significant risks.

Investment in stimulus projects is designed to target broader outcomes

High emissions intensity in heavy industry and trade-exposed employment sectors could become the focus in broader outcomes, for example storage, export facility and clean water, and protecting existing industry and regional economies, extended supply chains, and updating inadequate transmission networks.





“The impact of COVID-19 is immediate and short-term, whereas the impact of climate change is ever growing and incremental. The impact will only continue and be ever-increasing over time until we achieve zero emissions.”

So there is something we could easily adapt to the task of decarbonisation in a bipartisan manner, the framework is there, Corbell said. This will lead to improved local employment, productivity, social connectedness and skills development. Investment helps limit future costs associated with climate change impacts.

The other key prong is Regeneration: in the choices we make not just to reduce climate impacts but work to regenerate the damage created focusing on outcomes.

The means to regenerate the environment and the economy can be delivered through a package of measures “that give back to the environment and economy – with the more invested in them, the more benefits”:

- Mega-scale and distributed RE projects that generate surplus electricity for low cost heavy industry processing and manufacturing, transport and new export markets
- Support for new technologies eg carbon absorbing cement, carbon negative plastics, biogenic building materials, and carbon negative landscaping
- Recharge depleted aquifers and rivers from urban water reuse and zero carbon desalination
- Restore soils and the nitrogen and phosphorus balance in bioregions through circular economy principles for urban and agricultural waste streams, regenerate biodiversity through biophilic habitats on buildings and carbon farming investments.

Examples of mega projects include the hybrid CSP Vast Solar plant – Australian technology enabling minerals processing at Mt Isa mines, and the Central Queensland Power project for a 2GW wind, solar and storage plant to support heavy industry.

“These types of regenerative projects are creating good and playing to our strengths in minerals and exporting capacity... it’s a shift from sustainable development to regenerative development,” Corbell emphasised.

In response to a query fielded by **Giles Parkinson** about the adoption of a national cabinet structured for and applied to health to issues of climate change and energy, Corbell said

“The key is a shift away from process thinking – we have too much by way of procedure we feel we have to meet before making an actual decision. Energy ministers, as we saw this morning, generally agree on things and what we need to do is shift toward outcomes – if we do that there is real potential.”

In a similar vein **Jonathan Upson of Canadian Solar** later commented that the Morrison government is succeeding with bipartisan policies based on the science of COVID-19 ... “And they would continue to gain popularity with the electorate if they adopted policies based on the science of climate change.”

To which he added: “Voters who are paying taxes to achieve the necessary future surpluses want and deserve stimulus measures that enable new investment and jobs, reduce air pollution, lower electricity prices and respond to the climate crisis.”

Heavy Industry and Renewable Energy benefitting each other

Aluminium smelting is notoriously energy intensive: the electricity required to make a single kilogram of aluminium could power an average house for most of a day. And consider the magnitude consumed with Australia’s annual aluminium production of around 1.5 billion kilograms.

In a Summit address that generated enormous interest, **Simon Holmes à Court** outlined the opportunity for Australia’s four aluminium smelters that are “choking on their emissions and struggling under the weight of uncompetitive prices arising from a decade of politicised mismanagement” to pursue a more financially viable and sustainable future.

The solution lies in retrofitting machinery in a manner witnessed during a trip to Trimet’s aluminium smelter in Germany, he says. Trimet is testing

SPOTLIGHT ON SUSTAINABILITY

EnPot technology, developed by New Zealand company Energia Potior, to turn its smelters into a 'virtual battery' and delivering gigawatt-hours of flexible capacity.

The technology which is best described as enhanced temperature regulation via an insulated, heat-exchanger jacket enabling whole potlines – the row of electrolytic cells used in the production of aluminium – to operate indefinitely within a range 25 per cent below to 25 per cent above their normal operating point, has reportedly increased production efficiency by 7.8 per cent.

Importantly too, the retrofit has created a new grid services business, with the production line capable of compensating for fluctuations in the power grid, making it easier to manage intermittent renewables.

Voila, energy-draining aluminium smelters are transformed into grid-balancing supremoes.

Most of this demand 'swing' can occur instantly, providing a highly valuable service to the grid, much like the Tesla megabattery in South Australia that has been profitably providing for almost two years, said Simon Holmes à Court who is Senior Adviser, Energy Transition Hub.

Unless strategic action is taken, Australia's four aluminium smelters will disappear, taking thousands of jobs with them. And a massively valuable grid stabiliser opportunity will be lost.

Simon Holmes à Court reminded us that capping global warming to 1.5°C requires every coal-fired potline in the world to be repowered or shut down well before 2050.

"With our unparalleled clean energy resources, technology and leadership, Australia and its smelter workers can emerge on top.... we just need to cross a chasm to throw aluminium a lifeline," he says.

Read *Australia's aluminium sector is on life support. It can and should be saved* by Simon Holmes à Court in *The Guardian* of October 31, 2019.

Revitalising North Queensland

Among other Summit highlights **Oliver Yates of Bronze Boar Investments** emphasised the "fantastic asset" that is North Queensland, an area unlikely to see a resurgence in its otherwise bustling tourism and education sectors until a COVID-19 vaccination is developed.

It is an area that has the potential to become a major growth engine for diversified Australian exports. Near term project opportunities could involve around \$15 billion of capital investment and create more than 8,000 construction jobs and more than 7,000 enduring and diversified jobs when the facilities are in a steady state of operation, says Yates who co-authored the *Future North* report.

The report calls for the establishment of a new North Queensland Development and Diversification Fund, based on the hugely successful Clean Energy Finance Corporation.

Visit www.smartenergy.org.au to view the *Future North* plan in full.



Smart Energy Monitoring & Load Control Products



algodue
ELETTRONICA

smappee

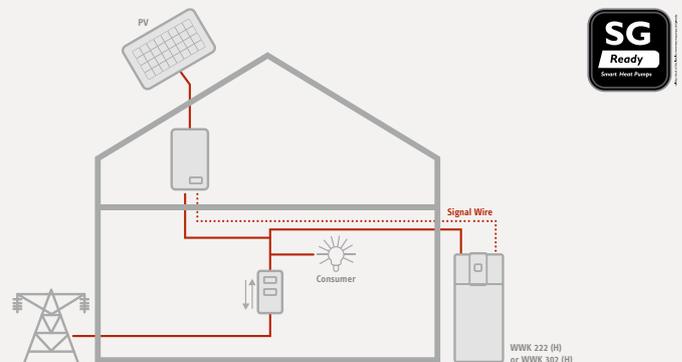
A perfect match: Solar PV and STIEBEL heat pumps

STIEBEL ELTRON's range of air and ground source heat pumps are SmartGrid ready and can be connected to an Energy Management System – ensuring you get the most out of your solar energy. Learn more at www.stiebel-eltron.com.au/solar-pv-ready.



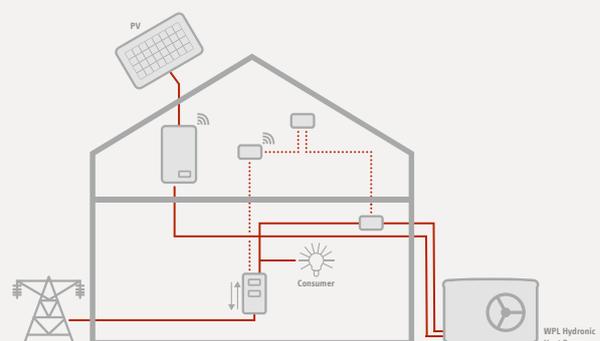
SG READY IMPLEMENTATION

The SmartGrid Ready implementation of connecting the STIEBEL ELTRON heat pump allows for a higher water temperature – the tank acts like a thermal battery.



FULL EMS IMPLEMENTATION

A full Energy Management System implementation provides the best holistic solution for connecting the STIEBEL ELTRON heat pump to a solar PV system – reducing consumption from the grid.



THE PV MARKET: SUNNY SIDE UP

As the pandemic took grip doubt descended on the solar and storage industry: what did the future hold? How would the lockdown impact demand? Industry analysts report some reassuring trends.

“On the whole, people are anxious, but solar and storage are well-positioned compared to other sectors of the economy.”

Geoff Bragg,
Sunman Solar

THE LOOMING THREAT of the virus sent warning bells ringing: would homeowners shut their doors to solar and storage installers? Were we about to enter a bleak new period of inertia as the pandemic played out?

Two months on and we can breathe a bit more easily. Clearly the market has experienced a few ups and downs but on the whole it has remained relatively buoyant. And, dare we say it, the outlook appears positive.

Initial signs were not so encouraging. Early in April Green Energy Markets surveyed installers and found inquiries had plummeted between 25 and 50 per cent. However April 2020 proved to be the nation’s second-best month on record for newly installed SGU (small scale) capacity. All up 237MW, a 56 per cent increase on April 2019.

More specifically, STCs representing 30,603 PV systems and 237MW of capacity were submitted in April, and STCs representing 6,124 SWH systems were submitted in the same month.

Caution was expressed, however, due to the lag in STC data, and GEM’s Tristan Edis predicted weaker performance in May and June as the impact of COVID-19 is felt.

But fast forward to late May and the market still continued to defy the odds.

Industry analyst **Warwick Johnston of SunWiz** presented the good news during a recent Smart Energy Council webinar, displaying a series of charts depicting the buoyancy of the market.

“Looking at the data you would say COVID-19 has had no impact, the market is on trend and it’s a strongly trending market. We are still posting excellent levels. Leads (tracked by SolarQuotes) fell before a strong rebound and are at far higher levels than last year.

“But leads are one thing, sales another. We don’t have a perfect view on what’s happening with sales,” he conceded.

“And we are hearing a considerable variation in experience from company to company. Some are shutting their doors, while others are having record revenues.”

Links: www.sunwiz.com.au/sunwiz-australian-solar-pv-market-data-insights (Insights) and www.sunwiz.com.au/open-solar-services
The full recording can be viewed at www.smartenergy.org.au

The storage market

In other interesting developments, **James Sturch of sonnen** reported a record 25 per cent increase in accredited storage installations during the two weeks to May 22.

“It’s been a scary few months with lots of unknowns but what we are seeing is that if people can fix their energy bills then they will. People want resilience and independence and a safety net from a financial perspective.

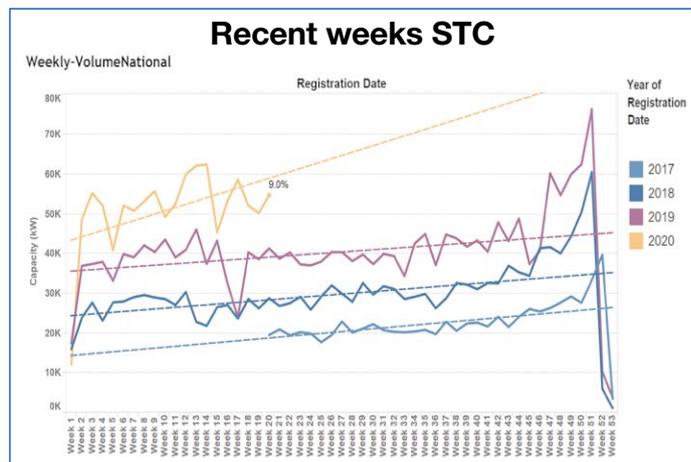
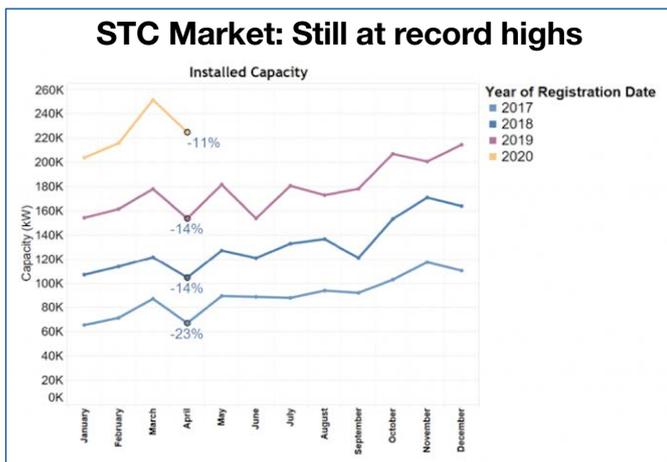
“The COVID-19 process has been remarkable,” he said, agreeing with a remark by John Grimes about the emergence of a new category: resilience and self-sufficiency.

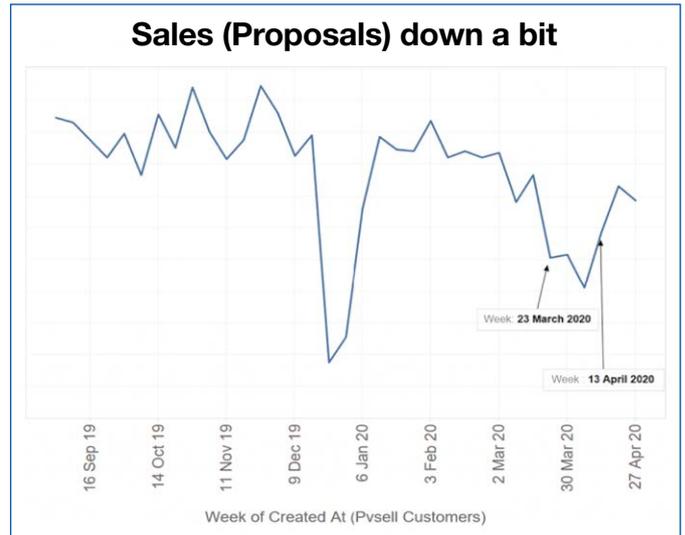
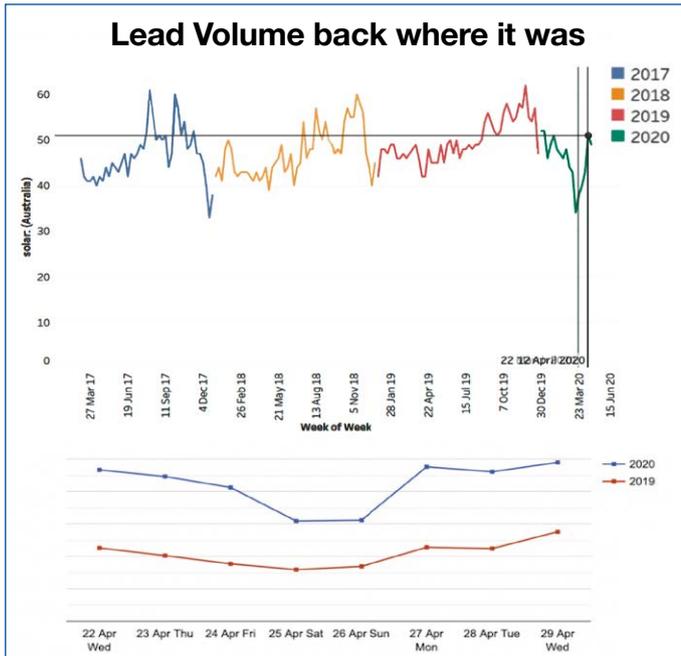
Sturch believes today’s residential storage market mirrors that of PV ten years ago. “Back then the financial return was not justified. That changed with feed in tariffs then incentives, and the massive influx in solar brought costs down.”

Early adopters of energy storage systems make decisions based on emotional reasons rather than financial, he said, and in the middle market range incentives tend to be the driver toward mass adoption.

“What we are finding now is that people are viewing their lives and assessing what is important to them and what they value, so there is a bulge in the early adopter phase, they want energy security.

“There is a fundamental change in how people look at life.”





Market intelligence from Warwick Johnston can be found at: www.sunwiz.com.au/sunwiz-australian-solar-pv-market-data-insights and www.sunwiz.com.au/open-solar-services

Business is humming along for **Andy McCarthy of Gippsland Solar** who told *Smart Energy* “In terms of the storage market, this time last year we were installing two battery systems a week, now it’s up to seven or eight each week.

“But for many it still may not be feasible just yet, and we are not pushing it... we are keeping those potential customers on our mailing list as part of the soft sell approach we take.

“The pandemic has not been a problem for us, we just have to look at new ways to finance but people have been installing for the stick not the carrot, that is rising electricity prices.

“COVID-19 is not going anywhere and in fact there are more pronounced benefits with more people at home and spending increased time at home during daylight hours.”

He is now investing heavily in marketing and communications.

“We will come out even stronger on the other side of coronavirus. We have a clear vision of where we will be and renewable energy plays a big part with a greater awareness of the environment and sustainability, and the need to rebuild the economy from the ground up.

“Environmentally and financially it makes sense to invest in renewable energy, and people get that.”

Great value and incentives

Liam Ricketts of solar distributor **Supply Partners** echoed Andy’s sentiments, noting the hospitality and tourism sector had really suffered but electricity is an essential service.

“We are in one of the best industries to be in during these times and there are lots of financing options for customers. We are not shutting down. Continue to market your business and present strong marketing messages. Communication is key.

“We can still prosper, and a key area of potential growth could be commercial solar, particularly the 100kW-plus segment thanks to the latest increase in the federal government’s tax break on capital purchases [the instant asset write-off up to \$150,000 for qualifying businesses].

“It is a good news story – commercial scale is looking good, 100kW system at \$100,000 with a \$25,000 write off makes it very attractive.”

Talk to customers about the value of the system, he said remind them that there is currently this really generous federal government incentive. The message to business needs to be, ‘I just got a tax write-down on my



Andy McCarthy of Gippsland Solar

Shout out to Victorian Energy Minister

Lily D’Ambrosio who tweeted: “There has never been a better time to get solar panels on your home. You can save up to \$890 per year on your bills. And while we’re staying at home, you will save even more, as you’ll be using energy while power is being generated on your rooftop during the day.”

solar system and now it's saving me money'. And if you're not offering a finance package it's a good time to think of that. Now is the time to offer customers a finance package.

Broadcasting the \$\$ savings from rooftop PV

Recently released state-by-state case studies by **SolarQuotes** indicates the average Australian homeowner loses upwards of \$1,400 per year by not switching to solar.

Solar expert **Finn Peacock** suggests installers present the clear-cut case to customers, saying "Get the message out to those who are sitting on the fence or even unaware of the financial savings they can benefit from being under a solar rooftop, taking into account state incentives and bill savings.

"And with COVID-19, the microscope has never been more focused on household bills than now."

Solar Quotes has released a solar and battery video series that can be used to help homeowners make educated decisions around investing in solar. <https://bit.ly/SolarVideoSeries>

Additional Resources developed by SolarQuotes:

Suburb Solar Footprint: <https://www.solarquotes.com.au/location/>

Predict Your Solar Bills: A calculator that helps you predict your bills with solar and/or batteries.

Solar & Battery Calculator:

<https://www.solarquotes.com.au/solar-calculator/>



*Finn Peacock,
SolarQuotes*

"We are in one of the best industries to be in during these times... We have to remember that we're selling a product that saves people money. There's very few products like that. Remember this and keep marketing. Communication is key."

Liam Ricketts, Supply Partners

Allume Energy: Transforming public housing

Alex Marks of Allume Energy is advocating a 'high impact' stimulus initiative through rooftop solar on public housing.

An initiative, he said, that would create more than 5000 direct jobs which is comparable with million dollar mega road infrastructure projects, targets low income and vulnerable households and reduces annual greenhouse gas emissions by as much as 2 MT CO₂.

"The combined rooftop capacity of these dwellings – public housing owned and operated by state and territory governments, and community housing which is provided by not-for-provided providers across the country – is about 1.6GW, the size of a large coal-fired power station," he noted.

With that in mind Allume Energy has developed the SolShare, touted the world's first behind-the-meter distribution system that allows a single solar installation to be shared by multiple customers in the same building, and provides the hardware to solar installers so they can open new markets for rooftop solar: apartment buildings, multi-tenant office buildings, shopping centres and social housing.

Speaking to *Smart Energy* later, Alex revised the data upwards. "Solar Citizens now believes the number of jobs created in doing 1.6MW of rooftop solar on social housing is 8,000, based on the industry figure of five full time employees per MW. This data seems legit to me and would include all the other solar installer staff, not just the on-the-

The benefits of Rooftop Solar for Social Housing



- GFC stimulus
- Delivery capacity
- 20+ year life
- Low-income & vulnerable HH
- 5,000 jobs in installation
- Abate 2.3 Mt CO₂ every year



ground installation teams doing 2,000 hours per year, which is what my estimate was based on.

"Rooftop solar for social housing creates more jobs per dollar invested than big construction projects, reduces electricity bills for hard-hit families for two decades, and will reduce emissions by over 2 million tonnes per year.

"Allume Energy's technology can make sure all families in social housing get access to solar, not just those in detached homes."

www.allumeenergy.com.au

Established. Reliable.
Here for the long run.

EVERY \$1 DOLLAR SPENT WITH HARVEY NORMAN COMMERCIAL DIVISION BUSINESS REWARDS 

EQUALS 1 QANTAS POINT
Approved program. Customers only. Terms & conditions apply.

10 UP TO 10 YEAR FINANCE AVAILABLE NOW

YOUR GOVERNMENT SUBSIDY IS WAITING!

Why choose us:

- We only use selected fully CEC Accredited installers!
- Up to 25 year warranties!
- Highly subsidised LED Lighting upgrades available now!
- Range of work from 5kW up to 500kW
- Integrated Monitoring System with every Inverter
- Bonus monitoring panel of a 50" screen for all systems over 50kW
- New dwellings
- Factory units
- Warehouses
- Retail stores
- Solar farms
- Airports

Noted press of problems with other solar companies:

"More than 700 Solar Installation Companies have gone bankrupt or stopped trading in the past 8 years"
The Daily Telegraph, 15 Sept 2019

"Thousands of Aussies unable to get help with Orphan Systems"
The Daily Telegraph, 15 Sept 2019

"A quarter of Residential Installations are faulty"
Clean Energy Regulator, 2019

Our brands



Panels	Inverters	Batteries
		
		
		

Accreditations / Memberships

 CLEAN ENERGY COUNCIL APPROVED SOLAR RETAILER

 Supply Nation MEMBER

Harvey Norman Accreditations

 Master Builders Association New South Wales

 MASTER BUILDERS AUSTRALIAN CAPITAL TERRITORY

 HIA

Don't delay, get in touch with us today! ▶ 1300 948 283
▶ harveynormancommercialsolar.com.au

WITH GREAT THREATS COME CHOICES, VERY REAL CHOICES

Eytan Lenko of Beyond Zero Emissions steps out the road to recovery which accelerates the transition to renewables while generating hundreds of thousands of jobs.



Eytan Lenko, Chair of Beyond Zero Emissions



REBUILDING NATIONAL ECONOMIES after the blight of war, economic collapse and national disasters is far from a radical concept. Today, right now, Australia is at an unprecedented crossroad. Governments across the country, State and Federal, are investing hundreds of billions of dollars trying to keep our economy alive and Australians in work.

With great threats come choices, very real choices, about how stimulus money is spent and how we might seize this threat to our national economy and the health and wellbeing of the population to future proof our economies. To rebuild our national infrastructure, to get people back into work, to upskill the workforce and put in place measures that will have real, meaningful benefits – beyond our own lifetimes.

We have been here before, but perhaps never with such dual threats as tanking economies and an impending climate crisis. After the Second World War, the Snowy Hydro Scheme saw many, many thousands of the unemployed and returned military personnel employed to build a piece of nation-building infrastructure that continues to deliver benefits to Australians and the Australian economy. With great leadership, Australians can overcome huge challenges and thrive.

The choice is stark. Do we want to rebuild our economy as it was? Dirty, non-competitive, based on last century’s technologies and energy intensive. Ill-equipped for the great upheavals that are already unfolding. An economy already threatened by inertia,

“The time is now to retool, reskill, futureproof and rebuild our battered economy. We have the technology, we have the people and all we require now is the political will.”

political and climate inaction and the impacts of climate change.

Or do we want to take the opportunity to set ourselves up for the next seventy years as we did after World War Two or the United States did to overcome the Great Depression? Projects which changed the course of our national stories.

Bright minds and a brighter future

From a coalition of some of the smartest minds across industry, business and academia, a bold plan is emerging for a million jobs, Australian jobs. Jobs created by modernising our infrastructure and decarbonising our economy. A structural shift that would change our economy, retool our workforce, diversify and empower industry and set this country up for a better future.

Let’s bring forward spending that would happen anyway over the next 10-20 years with a focus on well-paying jobs and private capital participation.

Overview

Activity	Jobs
Fast-track renewable energy & transmission	100,000 – 150,000
3 million ‘Zero Energy Bill’ buildings	320,000 – 400,000
Modernising and expanding Australian manufacturing	220,000 – 300,000
100% Renewable mining	10,000 – 30,000
Recycling - 100% recovery of materials	25,000 – 35,000
Electrified transportation	50,000 – 100,000
Land restoration and carbon farming	40,000 – 60,000
Community led initiatives	> 100,000



"From a coalition of some of the smartest minds across industry, business and academia, a bold plan is emerging for a million jobs, Australian jobs. Jobs created by modernising our infrastructure and decarbonising our economy."



The roof of the Beef and Beach (pub) in Lennox Head NSW

Jobs, jobs... and more jobs

Let's accelerate new energy transmission and storage projects. This will unleash an abundance of cheap, clean energy with Australia becoming a global renewable energy superpower. Ten new transmission lines across the country would create over 8,000 jobs and set us up, like the Snowy Hydro Project, for long term economic, social and environmental gain.

Let's fast track deployment of renewable energy in renewable energy zones and deliver more than 10,000 jobs spread across regional areas, where they are desperately needed.

A national housing retrofit program would create three million 'zero energy bill' homes and 350,000 jobs. This would also require a large-scale training program which would create tens of thousands of jobs in its own right. Even better it will pay itself back through the reduction in the cost of living for millions of Australians; reducing some of the income pressures many are under.

The time is now to build electrified transport infrastructure such as electric bus fleets with localised and regional manufacturing, creating many thousands of jobs. Land restoration to help fragile ecosystems

THE MILLION JOBS PLAN

Beyond Zero Emissions is working with communities and partners around Australia to finalise a post-COVID economic recovery 'The Million Jobs Plan' that will pave the way for Australia to become an International economic powerhouse and a renewable energy superpower in the decades to come.

The plan will create employment, modernise infrastructure and reduce greenhouse gas emissions.

BZE has been joined by a range of leading Australian and international voices on its Advisory Board, including Malcolm Turnbull, Ross Garnaut, Richard Dennis, John Grimes, Paul Gilding, Cristina Talacko, James Tilbury and Martijn Wilder.

recover from the devastation of the bushfires would see over 20,000 jobs created.

Australia's industrial base is out-dated, inefficient and dirty. We were already on the brink of losing our aluminium industry before the crisis. Using stimulus spending to electrify industry will pay huge dividends, create new markets and realise the vision of Australia becoming the natural home for energy-intensive manufacturing.

Our aluminium smelters can be upgraded to flexibly ramp up or down to run off renewables, giving them extra sources of revenue and guaranteeing long-term security for their workers. Green steel produced with hydrogen is fast becoming a worldwide race with many countries investing in new infrastructure.

Why should Australia be left behind when we can have access to the world's cheapest hydrogen?

These are practical, sensible and economical steps that we can, and must, take.

The costs are affordable. The benefits for all of us, our kids and grandkids, are enormous.

The time is now to retool, reskill, futureproof and rebuild our battered economy. We have the technology, we have the people and all we require now is the political will.

Beyond Zero Emissions is one of Australia's most respected and awarded energy think-tanks. Its upcoming Million Jobs Plan will show how the Australian economy can thrive through a clean COVID-19 recovery program.

*BZE welcomes new volunteers at all times.
www.bze.org.au*

"Let's accelerate new energy transmission and storage projects... unleash an abundance of cheap, clean energy with Australia becoming a global renewable energy superpower."

WHY IT DOESN'T MAKE ECONOMIC SENSE TO IGNORE CLIMATE CHANGE IN OUR RECOVERY FROM THE PANDEMIC

By Anna Skarbek,
CEO at ClimateWorks
Australia, Monash
University



IT WILL BE TEMPTING for some to overlook the climate change challenge in the rush to restart the economy after the pandemic.

Federal energy minister Angus Taylor has flagged he wants to develop Australia's gas-fired power to help boost the economy. And conservative political strategist Sir Lynton Crosby recently argued business survival is more important than environment, social and governance matters.

In the United States, the Trump administration is reportedly contemplating a coronavirus rescue package tailored specifically to oil and natural gas producers, while the Chinese government is trying to stimulate its economy by allowing polluters to bypass environmental regulations.

But the pandemic is not a reason to weaken the commitments to net zero emissions. In fact, climate action is a vital protection against further global shocks, especially as governments plan their post-pandemic stimulus packages.

The economic shock from climate change

The devastation the virus has inflicted is a reminder of our vulnerability and the importance

of prevention and mitigation. It's a point bolstered by fresh evidence about the scale of economic shock we might face if we fail to meet the targets of the Paris Agreement.

A major study published in *Nature Communications* last month put a dollar value on the cost of climate inaction. If we don't prevent the planet warming, we can expect a bill of between US\$150 trillion and US\$792 trillion by 2100. That's up to \$1,231 trillion in Australian dollars.

The predicted 'global shock' would be even more financially catastrophic than coronavirus.

The research, however, also points out some good news. The limitation of global warming to 1.5°C would deliver a corresponding boost, with the global economy growing by US\$616 trillion compared to inaction.

Big businesses on board

The economic cost of the shutdowns imposed to address the coronavirus pandemic have not been compared to the value of the lives saved.

Climate change action, on the other hand, has repeatedly been found to pass traditional cost-benefit tests. The solutions are known to already be available and effective if deployed in time.

What's more, new research – with Nobel prize winner Joseph Stiglitz and leading climate economist Nicholas Stern at the helm – shows climate mitigation actions deliver maximum economic growth multiplier benefits from a stimulus perspective.

It found spending on new green energy projects generates twice as many jobs for every dollar invested, compared with equivalent allocations to fossil fuel projects.

Climate action, then, is vital for the economy. That's why a remarkable list of business leaders have just added their names to a call for stimulus funds to be invested in what they call 'the economy of the future'.

This includes chief executives, chairs and senior executives from major organisations including Rio Tinto, BP, Shell, Allianz and HSBC, together with the Energy Transitions Commission (a global group of companies and experts working towards low-carbon energy systems).

They're urging for massive investments in renewable power systems, a boost for green buildings and green infrastructure, targeted support for innovative low-carbon activities and other similar measures.

“Spending on new green energy projects generates twice as many jobs for every dollar invested, compared with equivalent allocations to fossil fuel projects. Climate action, then, is vital for the economy.”

Hornsedale Power Reserve in South Australia Image CEFC





AUSTRALIA'S WASTE IS NOT BEING WASTED

**Household waste
powering 185,000
homes per day**

Today, roughly **three quarters** of household waste in Australia is sent to a highly engineered landfill where it is converted into renewable energy. This is significant because it means our nation's landfilled waste is not being wasted a second time.

Landfill Biogas Waste-to-Energy, pioneered in Australia by LMS Energy, produces enough green electricity from landfill to power 185,000 Australian households each day while also abating more than 6 million tonnes of greenhouse gases per annum.

LMS ENERGY

- > THE NATION'S MOST EXPERIENCED BIOENERGY COMPANY
- > 100% AUSTRALIAN OWNED AND OPERATED
- > FULL IN-HOUSE BUSINESS MODEL (INCL. LOCAL MANUFACTURING)
- > 38 YEARS INDUSTRY EXPERIENCE
- > 27 LANDFILL BIOGAS WASTE-TO-ENERGY FACILITIES
- > 4 LANDFILL SOLAR FARMS
- > 65MW'S OF BASELOAD RENEWABLE GENERATION CAPACITY
- > 35 MILLION TONNES OF EMISSIONS ABATEMENT



“Major organisations are urging for massive investments in renewable power systems, a boost for green buildings and green infrastructure, targeted support for innovative low-carbon activities and other similar measures.”

As the economic fallout from #COVID19 prompts governments to spend trillions of dollars on recovery packages, demands are growing worldwide to ‘recover better’ by investing in low-carbon.

In Europe, a coalition of chief executives, politicians and academics is calling for major investment in projects to make the European Union the ‘world’s first climate-neutral

continent’ by 2050. They say the need for state intervention in the wake of the pandemic provides an unparalleled chance to build economies that are sustainable, resilient and dynamic.

Representatives of global companies have signed the ‘green recovery’ platform. These include PepsiCo, Microsoft, Enel, E.ON, Volvo Group, L’Oréal, Danone, IKEA and more.

Technology is getting better

Boosting the economy with climate action is a message our recent research from ClimateWorks Australia reinforces. It shows how we can achieve the Paris targets with technologies already available.

But we can only do it if government, business and consumer decisions support the accelerated

Ultra high power. Ultra high bankability.

Up to 450W of power with some of the strongest financials in the industry.

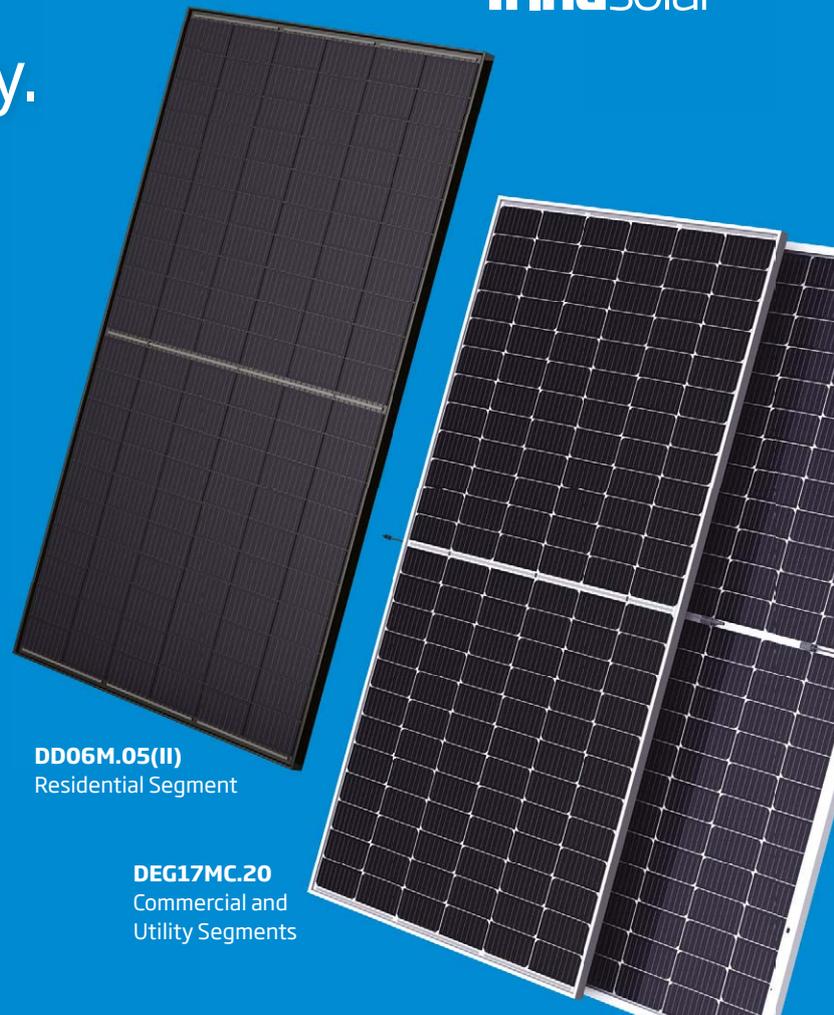
Since 1997, Trina Solar has set the benchmark in the solar industry, serving over 100 countries and regions worldwide. In 2019, 100% of the industry experts who took part in the BNEF’s bankability research rated Trina Solar as fully bankable for the fourth year running. In 2020, our total module shipments exceeded 50GW confirming Trina as the undisputed industry leaders. We offer 30 years warranty, low degradation, 450W Ultra High Power with MBB and half-cell technologies power. So to find out how you can take your investment into the future with Trina Solar, contact us today or visit our website.

E: australia.sales@trinasolar.com

P: +61 1300 874 627

www.trinasolar.com/au

Trinasolar



DD06M.05(II)
Residential Segment

DEG17MC.20
Commercial and
Utility Segments

deployment of these technologies, and only if we roll out mature zero-emissions technology solutions more quickly across all sectors (not just electricity), and invest in development and commercialisation of emerging solutions in harder-to-abate sectors.

Across all sectors of the Australian economy, technology provides opportunities to decarbonise, and has rapidly improved.

For example, advances in lithium ion technology mean high-tech batteries cost only a fifth of what they did ten years ago. So it's easier and cheaper to store electricity than ever before – even as renewables now offer a consistently cheaper source of generation than fossil fuels.

Innovations like that have changed the game. A new Australian Energy Market Operator study makes clear that, within five years, Australia can run a power grid in which 75% of electricity comes from wind and solar.

A clean stimulus package

Measures these pathways involve are ideally suited to a stimulus package. Governments could create jobs and spur industry, while modernising the economy for the challenges ahead.

How? By building charging infrastructure to support electric vehicles powered by renewables; encouraging investment in sustainable agriculture, fertiliser management and carbon forestry; deploying PV and battery systems across city buildings; or embracing any number of other 'shovel ready' solutions.

Through this pandemic we've witnessed how people have learned new approaches and switched mindsets almost as quickly as the COVID-19 pandemic lockdowns and social distancing restrictions began.

Just as we're remembering to wash our hands more than we used to, coming out of the pandemic, it will pay to be more attentive about remembering to choose the zero-emissions option at every step.



We stand at a crossroads. If government stimulus packages around the world favour carbon-intensive practices and miss the moment to modernise and decarbonise, we will lock ourselves into a warming future. If, however, we rise to the challenge, we can use

the recovery from one crisis to simultaneously address another.

This article first appeared in The Conversation and is reprinted under creative commons licence.

IEC 62109&AS 4777.2 Certificate Approval

Solis-1P(7-8)K-5G

Leading Features:

- Over 98.1% Max. efficiency
- Compact and lightweight
- Wide voltage range and low startup voltage
- Dual MPPT design with precise MPPT algorithm
- Integrated Export Power Manager[EPM]
- Friendly and adaptable connection to the grid

Solis 5th GEN Residential PV Inverters

— Reliability Safety Capacity



w: ginlong.com | w: solisinverters.com.au

t: +61(0)3 8555 9516 | e: sales@ginlongaust.com

A DECADE OF GROWTH AND INNOVATION: GROWATT'S AUSTRALIAN STORY

AUSTRALIA'S THRIVING SOLAR PV MARKET over the past ten years has been fertile soil for solar technology companies from across the world. Many of today's world leading solar companies that were in operation in Australia a decade ago are still in the market. Fierce competition has edged out those that were weaker or failed to adapt to market demands and technical trends. Companies however that continuously provide excellent products and services remain in operation.

Growatt, which was founded in 2010, exported its first load of inverters to Australia when the PV market was taking off. Over the years, the company has grown into a global leader.

A decade ago, a first generation Growatt inverter, the 5000MTL, was installed in a residential PV system in Adelaide. That system was recently expanded, and two Growatt state-of-the-art inverters were added and now sit alongside the existing inverter.

It's a story that nicely illustrates product reliability as well as brand loyalty, said Lisa Zhang, Growatt marketing director.

"It's really interesting when a 10-year old inverter meets the new," she said. "When we compare the inverters, we can see the development of PV inverters over time. At a glance, we can see the difference in size and design."

Ten years ago the first generation inverter 5000MTL weighed about 24kg, but now it's been upgraded to the new generation inverter MIN 5000TL-X with weight reduced by 55 per cent to around 10.8kg, she explained. In addition to that, the new inverter is 40 per cent smaller than the original.



New X generation inverters added to a Growatt system installed ten years ago

Although the new inverter is compact and small, it has a much higher efficiency of 98.4 per cent. And users can have a better experience with the latest and more modern inverter as it comes with OLED display and touch button that can last over three million clicks. Safety features have also been added to MIN 5000TL-X, which has Type II SPD and optional AFCI for protection.

"As the industry strives to lower LCOE for solar power, module companies are using advanced technologies to enable higher power of the modules. In accordance with the trend, Growatt is continuously improving rated current and oversizing capability of the inverters," said Zhang.

In Australia, Growatt has shipped more than 320,000 inverters, many of which have been in operation for several years.

According to reports by IHS Markit and Wood Mackenzie, Growatt ranked among the top 10 global PV inverter suppliers in 2019. Early this year, Growatt was awarded Top Brand PV Seal 2020 by EuPD Research, recognising its leading position in the country in terms of reliability, market penetration, brand awareness and satisfaction.

When asked about the main factors for Growatt's success over the past decade, Zhang pointed to the company's dedication to innovations, focus on market demands and industry trends, and a commitment to product reliability and excellent service.

"These have been the drivers behind Growatt's fast and robust growth for the past ten years," she said, adding the company anticipates Australia's solar market will continue to evolve.

Growatt Battery Ready Inverter

As LCOE of solar and battery costs are driven down, an increasing number of people will gain their energy independence. It's a trend noted by Growatt which quickly responds to the market.

Last year at All-Energy Australia, the company launched its new battery ready inverter, MIN 2500-6000TL-XH.

"This PV solution is future proof," said Zhang. "The inverter has a battery interface which can be easily extended to a storage system at a later date, and will reduce retrofit cost. It is ideal for homeowners who are looking to convert their rooftop PV systems into solar storage systems in the future."

As Australia moves towards clean energy generation in the years to come, technology advancements will bring more product innovations to the PV market. Australian households will benefit from the developments, and of course, leading global PV companies like Growatt will continue to grow along with Australia's solar PV market.

www.ginverter.com.au

powering tomorrow
Growatt



MIN 2500-6000TL-XH

FUTURE READY SMART HOME



Future-Proof
Battery Ready



Safe & Reliable
Type II SPD, AFCI Optional



Easy Maintenance
Online Smart Service



Better User Experience
OLED Display and Touch Button



Aerospace Grade Material
Light and Flame-Retardant

Re|store

Your green innovation.
Your energy output.
Your PV performance.

Are you looking for long-term security as a manufacturer or investor in renewable energy projects? We help you eliminate your technical risk while protecting your balance sheet and long-term investments in PV or energy storage.

Munich Re offers a reliable PV Warranty Insurance - safeguarding stable performance of solar assets for 25 years.

Let your business grow with our green insurance solutions.
www.munichre.com/gts

NOT IF, BUT HOW

Munich RE 

FULL STEAM AHEAD FOR STIEBEL ELTRON

With a long history and strong reputation in German engineered energy efficient hot water, heating and ventilation products, Stiebel Eltron needs little by way of introduction. But how are things shaping up in a world that has been shaken up?

THE DESIRE AMONG HOMEOWNERS to 'future proof' their homes has always been welcomed by home heating and cooling manufacturer Stiebel Eltron, and demand is only set to strengthen in the months and years ahead as people become more conscious of their energy use and patterns.

As Glenn Day told *Smart Energy*, the mission of Stiebel Eltron is to promote energy-efficient hot water, heating and cooling appliances and compete with centralised gas plants, which are less efficient with energy and water, and cannot be offset by renewables.

"We are keen to promote the 'future of electric' message as much as we can and transition from gas powered systems. What we are finding now, despite the global upheaval caused by the pandemic in recent months, is interesting: there is continued strong community support for energy efficient appliances," the National Sales Director said. "To a large extent it is business as usual for us despite the unusual times.

"Our product range is deemed an essential service, people need the basics of hot water and home heating and cooling, and we continue to provide just that."

More on that hot topic later, however it is fair to say that market turmoil is not an unfamiliar concept to the family-owned company that has been around for almost a century and in that time has successfully traded and continued to expand throughout the Great Depression, numerous recessions and the Second World War.

Australian operations

It wasn't until 1995 the company entered the then fledgling Australian market.

The challenge 25 years ago was the market for heat pumps was not mature enough in Australia but that has changed, particularly during the past seven years, says Glenn Day, who believes the momentum will continue.

"The continued strong uptake of PV and possibility of a two-sided electrical market will act as drivers of self-generation of energy for self-consumption. Our hot

water and air source heat have advantages under that system and in the future with demand management and a two-sided grid these solutions will be even more popular. That is due to the energy savings, operating outside of peak times and possible extra revenue from exported energy."

Renewable technologies demand and drivers

Stiebel Eltron's traditional electronically controlled compact decentralised electric water systems have long been popular for apartments and offices, however during the past 10 years Stiebel's renewable products range has become increasingly popular. More homeowners are installing air source and ground source heat pumps for hot water loads as well as heating and cooling. Hydronic heating systems have also surged in popularity.

The ease of operating these solutions from rooftop PV or self-generated energy at the consumer's home is also boosting demand, and homeowners relish the prospect of drawing little or no energy from the grid.

An Internet Service Gateway connected to the heat pumps enabling PV to optimise load to storage tanks for use when it's not sunny or windy increases the systems' benefits.

"The market drivers have not just been from consumers who want to future proof their homes but also from government standards, and various state and federal incentives. The Renewable Energy Target has of course facilitated the uptake of heat pumps through the supply of STCs.

Stiebel Eltron's domestic heat pump range WWK was designed to meet all climate zones in Australia and can receive STCs all around the country as well as [energy efficiency programs] VEECs in Victoria and REES in South Australia.

But some policies and schemes are outdated and require an overhaul, according to Day, in particular





Victoria's new build 6-star requirement for homes which he says makes it almost impossible to install a heat pump and still favours gas.

"Some clients have built a new completely self-sufficient home using PV and the heat pump package, only to have to then pay a \$1500 consultant's fee to prove that the heat pump would satisfy the 6-star requirement using the information of the product from the VEEC site on energy savings... it is frustrating and counterproductive."

Victoria's surge in PV uptake will require these types of solutions to help with solar soak, said Day, who also commented on the need for BASIX in NSW to be amended to take into consideration a holistic solution for demand management and solar soak for possible complete home comfort.

Navigating the different state regulations and standards is clearly one of the challenges facing the company. During a visit to Australia a Stiebel Eltron company director commented it was harder dealing with the Australian states and different rules than it was dealing with the entire European Union.

Another quandary arises from the lack of federal incentives with the end of the renewable energy target and lack of a replacement, and how government will in future provide some sort of comparison for people to assess savings is the question, Day says.

"We believe that moving forward an MEPS (minimum energy performance standard) may be suitable to help with a future market so consumers know about how to express independently tested COP (co-efficiency of performance) and sound levels, just for starters.

European versus Australian dynamics

The larger air- sourced and geothermal heat pumps for heating, cooling and hot water form just a small, early adopters' market in Australia. That's in stark contrast to Europe where, since 1976, the technology has been installed in the majority of new homes being built.

European markets are more advanced due to energy savings and emissions regulations, coupled with fuel insecurity. In January this year the German government took another step forward by adopting a climate package that promotes the replacement of old oil and gas heating systems and is promoting the use of efficient heating systems in new buildings through generous incentives.

Germany's subsidy program has led to an increased use of renewable energies and heat pumps for heating, with Day saying it is currently helping the company and wider heating industry to maintain stable levels of sales, even during the coronavirus crisis.

The world during the pandemic

To date the impact of COVID-19 on demand for Stiebel Eltron products has been negligible. During a recent Smart Energy Council webinar Glenn Day told the audience that given hot water is an essential service, and with most industry tradespeople still working, it was all but business as usual; global production remained at full capacity and sales have maintained momentum. "Our procurement staff have done a great job in securing parts and continuing the supply chains across Europe.

And it's to our advantage that we manufacture many of the components used in systems including electronic boards and evaporators," he explained.

Countries have adapted during the lockdown. For example sales in Thailand are predominantly via wholesalers and 'bricks and mortar' outlets, but with total lockdown there has been a marked shift to online sales. A similar scenario has unfolded in the United States.

"In Germany and the UK and to a similar extent in Australia, because people are unable to go out for a beer or to restaurant or on holidays they are instead choosing to renovate the house or tackling projects they might have had on hold. And the Germany subsidies are helping us do very well in that market."

Timing of some aspects has been a bit less fortuitous, with Stiebel Eltron investing heavily in improvements and upgrades to showrooms that normally showcase products but that, for today, customers are unable to visit on foot.

"However we continue to create interest as well as demand by targeting projects and canvassing project developers, and with our long history and strong reputation people continue to approach us. We gain a considerable amount of customers through our website conducting product searches and we back that up by proactively securing and educating engineers in the market about solutions," Day said.

News reports highlight the widespread resurgence in household self-sufficiency manifest in growing herbs and vegetables, preserving food and a trend toward comfort items including baking, Day notes.

"The popularity of home-generated energy is also on the rise – so is interest in us and our solutions. We have good reason to be optimistic about our future."

"However our managing director is hopeful governments don't take their eyes off the need to address carbon emissions while dealing with the COVID-19 crisis. otherwise that will put us back in time.

"They must not lose sight of energy and efficiency targets otherwise we will have another crisis and it won't be COVID-19 but global warming."

Stiebel Eltron is a Platinum member of the Smart Energy Council.

www.stiebel-eltron.com.au/projects

www.stiebel-eltron.com.au/acleafocus

www.stiebel-eltron.com.au/decentralised

Stiebel Eltron's product range

STIEBEL's hot water heat pumps harvest natural energy from the air to efficiently create hot water around the clock.

Hydronic heating systems: water warmed to the desired temperature passes through pipes laid beneath the home's floors and its heat radiates upwards into rooms.

Air source heat pumps use energy in the air to produce warmth and hot water.

Geothermal (ground source) heat pumps use the energy harvested from the ground to efficiently provide hydronic heating, cooling and even hot water.

FRONIUS REFLECTS ON A DECADE OF OPERATIONS DOWNUNDER

As Fronius Australia marks its tenth year in operation, the team reflects on some of the early challenges in Australia and looks forward to a bright future.

BELOW: Derek Butterworth from SAE Group took home the world's only golden Primo, to be installed at the Living School, Northern Rivers, NSW, a new progressive co-learning school looking to develop a rapid solar charging station for the school's future solar buses

FRONIUS HAS BEEN SELLING into the Australian market since 2000, officially opening the doors to its Australian subsidiary in Tullamarine, north of Melbourne in November 2010. Since then, Fronius inverters have been recognised for their quality, reliability and innovation.

"When we first opened in Australia everyone was excited and relieved to have a local subsidiary," recalled Solutions Manager, Rod Dewar, "Solar was going well, tariffs and rebates were high so it was a busy time. It was also challenging because while our IG products were optimal for the European market, the Australian market was facing some unique installation and climate challenges.

"Without the subsidiary here for training and a general lack of industry experience at the time, many imported Fronius products over the previous decade were installed incorrectly. Additionally the market was moving towards transformerless inverters."

Fronius responded in 2011 by releasing the IG TL. "It was very installer-friendly, easy to install with new, innovative communication features, and the 5kW version sold well.

"But then there was a change in regulation ASNZS5033 that restricted voltage on residential roofs to 600 volts instead of 1000 V. That made that inverter extremely difficult to configure and was a major set-back for us."

Managing Director Keshia Noronho commented "Those challenging early years gave us the backbone we needed to be successful in the ever-changing solar industry. I believe the success of Fronius Australia rests not only on having a great product, but also the value placed on great service and strong partnerships that was built up among the team in those early years."

With a new snap-in design and remote monitoring features, the release of the first Fronius SnapInverter in 2013, the Fronius Galvo, turned the tide for Fronius in Australia.



"Monitoring was more of an add-on in those days, and would have cost anywhere up to \$1000 to install. Initially, the Fronius Datamanager Card was going to be an add-on but the Australian subsidiary saw the need for it to be inbuilt, making it one of the first Wi-Fi cards inbuilt as standard," Rod Dewar explained. "People started getting more interested in monitoring then, and it really helped installers from a service and maintenance point of view.

"The inbuilt DC isolator also helped with inverter popularity as it made installation easier and safer with less connection points. But it was with the Fronius Smart Meter that Fronius really started paving the way for solar as we know it today. This made energy management possible for the first time."

Late last year the one-millionth SnapINverter rolled off the Fronius production line in Sattledt, Austria. To mark the occasion, Fronius sent three golden inverters to its biggest markets: Germany, Brazil and Australia.

It was a milestone for Fronius Australia, being recognised as one of the most important markets for Fronius globally.

Fronius Australia ran a competition to find a worthy home for this significant inverter, and the lucky recipient was SAE Group (which integrated a lot of the vision of 24 hours of sun into their entry) who also scored a trip to Fronius' headquarters in Austria to tour their state-of-the-

art production facilities and visit Intersolar Europe. According to Keshia "Martin Hackl (Head of Solar) and Walter Stockinger (Head of R&D) were taken by the idea of the golden inverter finding its home in a school focused on the environment and a green future, with generations to come learning about solar and other ways we can achieve 100 per cent renewable energy supply such as e-mobility."

What's next for Fronius in Australia?

The Symo GEN24 will be the first cab off the rank in the widely anticipated new line-up of products from Fronius, to be available in Australia from late Q3/early Q4.

Keshia Noronho believes the GEN24 Symo 10kW inverter will be very popular in the small commercial and residential spaces. Providing true three-phase back up, the GEN24 Symo will allow small commercial premises to factor storage into their PV system designs, further enabling a decentralised energy supply and making use of commercial roof space to support the national electricity grid.

Additionally, large three-phase homes with high energy demand will now have an efficient solution with high storage capability.

Fronius is a Platinum member of the Smart Energy Council.
www.fronius.com



POWERFUL ARGUMENTS FOR VARTA STORAGE SYSTEMS!

www.varta-storage.com.au

For Resellers

- ▶ Perfect retrofit to many of the 2 million existing solar homes
- ▶ Sell to your existing customer base who trust you
- ▶ Don't pay for new leads
- ▶ German made quality
- ▶ The right size – fit for purpose

For Installers

- ▶ Simple install direct to switchboard
- ▶ Single compact integrated inverter and battery
- ▶ No need to replace inverter on existing systems
- ▶ Won't void current equipment warranty
- ▶ No upgrade of equipment to meet new standards

**FOR MORE INFORMATION
PLEASE CONTACT US.**

VARTA Storage GmbH
Colin Gillam | Australian Regional Manager Energy Storage Systems
+61 431 010 323 | colin.gillam@varta-storage.com

PRODUCTS and SERVICES

RISEN ENERGY (AUSTRALIA) is supplying its solar panels to communities affected by the deadly Australian bushfires as part of an agreement with pre-fabricated solar technology company 5B.

The announcement follows Risen's earlier contribution of its 400W Jaeger Plus series panels which assisted in an initial display and test site established by 5B.

As part of the bushfire initiative, solar and battery solutions will be deployed by 5B in various communities across Australia alongside the Resilient Energy Collective, a move that is in line with Risen's intention to become more involved in local Australian communities and that will heighten awareness of the benefits of green energy systems.

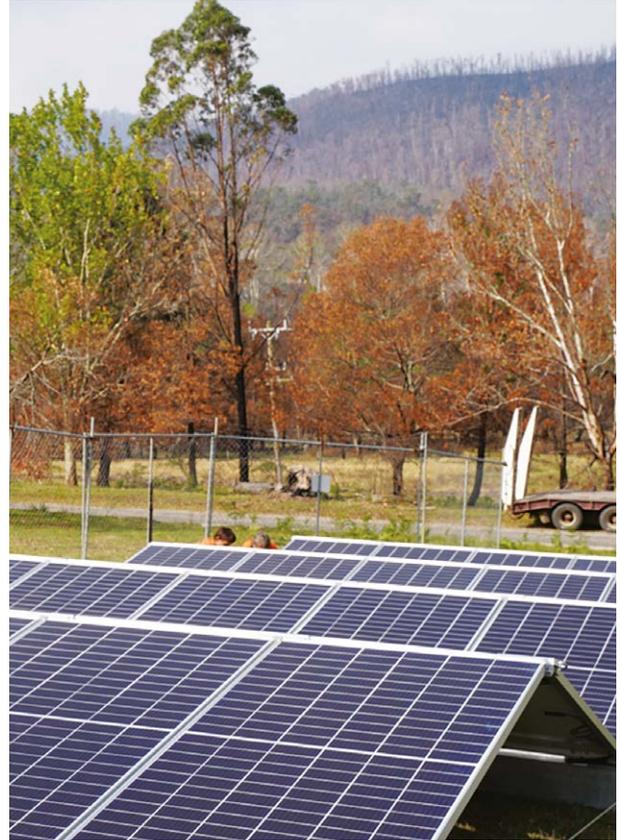
General Manager of Risen Energy (Australia), Eric Lee added that Risen was intrigued by 5B's pre-built, re-deployable solar array MAVERICK system and felt that Risen's high technology panels would be well-suited to this innovative system.

Rhett Evans, Chief Technology Officer at 5B, commented on Risen's ability to respond rapidly and decisively with local stock and support, saying the product range and build quality was a good match to their prefabricated array systems.

Risen's Jaeger plus series launched into the Australian market in 2019 and are the first range of panels featuring 9 bus bars, 158.75 mm wafers, half cut cells. Their 400W high efficiency panels have found success in utility and rooftop applications.

In further developments, Risen will be releasing two new panels in the market in 2020, their heterojunction (HJT) panels and 500 Wp+ PV modules made with large, 210 mm M12 wafers.

Risen Solar Technology Australia is a Gold member of the Smart Energy Council. www.risen.com



Information, views and technical details on this page supplied by Smart Energy Council Member



polyglot^{group}

Helping Renewable Energy Businesses **Grow** Globally



Permanent Recruitment



International Team Transfers



Project & Contract Staffing



Payroll Outsourcing



HR Advice



Technical Translations



thepolyglotgroup.com

LONGi hosted an innovative digital launch to introduce its new **LONGi Hi-MO 4** modules to distributors and installers in Australia. Three expert staff members presented on the commercial, technical and logistic considerations of the new Hi-MO 4.

The new M6 Mono PERC wafer, developed by LONGi, creates higher density yield from the same area as previous wafer configurations. For the first time this wafer technology will be available for residential and commercial and industrial installers and distributors in Australia when they switch to use the new Hi-MO 4 modules.

The slides at right provide technical insight.

Zane Zhou, Head of C&I, LONGi Australia explained that the innovative design and exceptional technical performance of the Hi MO 4 will increase site yield for customers while at the same time lowering BOS costs for installers.

The product webinar was hosted by David Owen, Director, Clean Energy Marketing Services and PV-Tech who commented "LONGi's communication strategy to launch (their new module) digitally in Australia was inspired and shows their commitment to innovation in technology and business operations."

LONGi Australia opened a Sydney-based office last year and the team has recently grown under the helm of Stephen Zhang, Managing Director, LONGi Australia.

LONGi Solar is a Platinum member of the Smart Energy Council
www.longi-solar.com.au

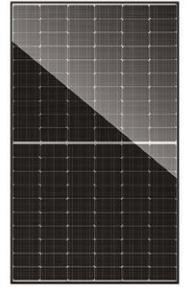
Straight forward Selling points Hi-MO 4 now 370Wp

Most important Residential product of the year!

Reasons:

- Higher cell efficiency - 20.3% efficiency → Value
- Low degradation (First year 2%, 84.95% at year 25) → Quality
- 1200mm leads + MC4 EVO2 → Standard Design
- 12-year warranty → Peace of mind
- Faster installation vs using 330W to get to 6.66kW → Max \$ return
- Perfect for light Commercial jobs as well → Flexibility

• **First 370W module using 60cell in a half cut configuration available the on market!**



Australian-owned manufacturer **SELECTRONIC AUSTRALIA** has launched a new technology capability called Powerchain, to create energy storage systems of up to 240kW and up to 480kW of managed AC coupled solar, using its SP PRO bi-directional inverter.

Powerchain allows the linking of up to four SP PRO single phase battery inverters per phase, via simple RS485 communications cables between each SP PRO. Using Powerchain technology, existing SP PRO Series 2 systems can now have a power upgrade, however all SP PROs need to be the same model.

Powerchain installations are simple, requiring no hubs, no current shunts, no complex wiring, and can be used in single-phase, dual-phase or three-phase systems, off-grid or grid connected.

Powerchain is already a proven technology, with multiple test sites across Australia using the technology, including an entire island resort off the

coast of Queensland which uses Powerchain with a 360kW solar panel array to replace the 300 litres of diesel being used every day, all the way down to a luxury houseboat using up to 120kWh of power each day through a Powerchain system comprising two SP PRO inverters.

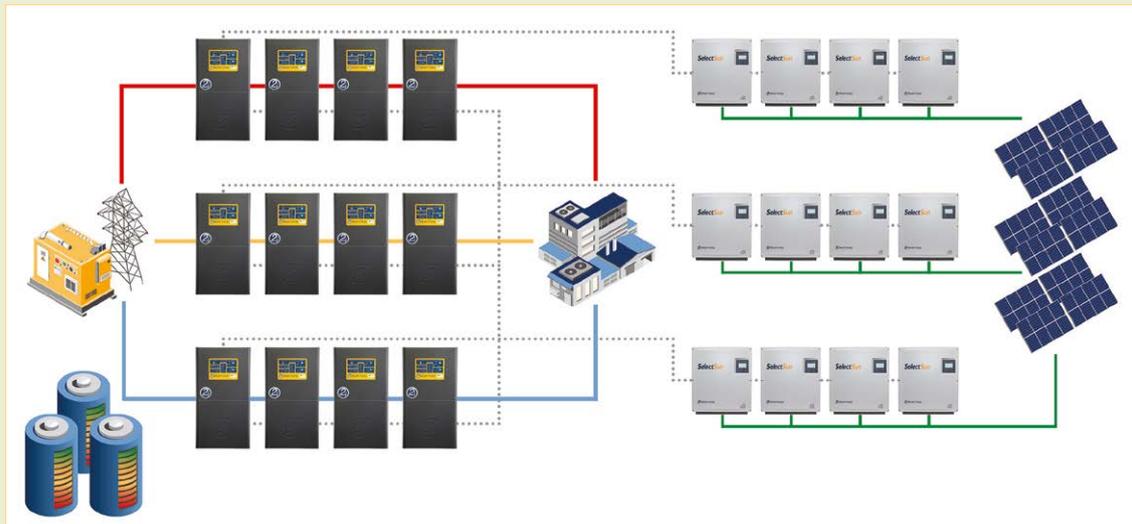
Martin Broda, Head of Research and Development for Selectronic commented, "Both myself and members of the R&D team were involved in the creation of the first SP PRO inverter, so it gives us a lot of pride and satisfaction launching Powerchain to the

market after years of development to ensure that it is easy to set up and is the most reliable paralleling technology available."

A colleague with no technical background asked to set-up and configure a Powerchain system using the SP LINK software managed it in under a minute.

Visit www.selectronic.com.au for more information and to obtain Powerchain via the latest SP PRO firmware and SP LINK software.

Selectronic Australia is a Platinum member of the Smart Energy Council.



PRODUCTS and SERVICES

JINKOSOLAR recently launched its 2020 flagship Tiger Pro module series through a virtual product launch in a live broadcast around the world.

The Tiger Pro module series showcases multiple solar power efficiency innovations across three flagship models.

The module series can generate maximum power output of up to 580Wp, which are 40 per cent higher than current mainstream products installed in utility projects. All the high energy density modules use innovative multi-wire 9BB and TR tiling ribbon technology to reach

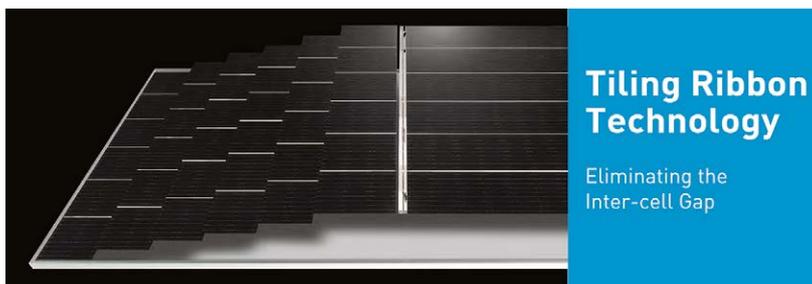
significantly improved performance with conversion efficiency up to 21.6 per cent.

In addition to their power generation performance and output temperature coefficient, other advantages of the Tiger Pro module series include lower power attenuation rate (at 2 per cent for the first year) and better open-circuit voltage.

The series is slated for mass production in the third quarter of 2020.

Kangping Chen, JinkoSolar's Chief Executive Officer, commented "The global PV market is rapidly moving towards high-performance modules to reduce system costs and initial upfront capital investment, so it was time to consolidate our competitiveness by leveraging our ability to rapidly begin mass producing cutting-edge products."

JinkoSolar Australia is a Silver member of the Smart Energy Council. www.jinkosolar.com



sonnen is celebrating its tenth anniversary, marking a decade's progress to support the clean energy grid of the future. The German company was ahead of its time at the outset, the sonnenBatterie was a revolutionary idea when rooftop PV systems were designed simply to export all excess electricity generated back to the grid. Battery storage systems were barely on the radar.

"When we started sonnen, our vision was for every household to become a clean, small power plant. The sonnenBatterie was ahead of its time when the market for a home battery did not exist. We had no competition and we had no customers either," said founder and CEO Christoph Ostermann.

Today the company is one of the world's largest manufacturers of energy storage systems, employs over 700 people in nine locations worldwide and is one of the largest manufacturers of smart energy storage systems; globally, more than 50,000 households have installed a sonnenBatterie.

sonnenBatteries are manufactured in Germany, North America and Australia, and in a novel turn of events South Australia's sonnen plant

has been exporting product to Europe as a result of pandemic-induced factory disruptions.

Some of sonnen's innovations include: the sonnenCommunity that combines all of sonnen's customers who can participate in producing, storing or sharing their energy with others; a new VPP software platform for a new energy system that connects electric devices to form a virtual power plant; and – for German residents only – sonnenNow, a package that is available which allows customers to rent a PV system and sonnenBatterie for a monthly fee, and sonnenDrivem an all-inclusive-subscription for a brand-new electric car for six months to trial.

sonnen launched in Australia in 2016 and expanded its investment in late 2018 with a manufacturing plant in South Australia. The presence in Australia will serve for future expansion plans should sonnen decide to export home batteries to the Asia Pacific region.

sonnen was acquired by Shell New Energies on 1 March 2019 and continues to operate as a wholly owned subsidiary of Shell.

sonnen is a Platinum member of the Smart Energy Council. www.sonnen.com.au



TRINA SOLAR has launched a new range of solar panels in Australia that delivers more than 500W of power from the front surface, significantly more power than previous modules available.

The first two modules in the new range that Trina Solar is launching in Australia are the Duomax V bifacial double-glass and the Tallmax V modules.

Tallmax V module delivers up to 505W power and up to 21.1 per cent module efficiency, while the Duomax V bifacial module delivers up to 505W front-side power and up to 21 per cent module efficiency.

Duomax V is a bifacial module so it can also collect solar energy at the backside of the modules which means additional power gain for end-customers.

Trina is a pioneer in manufacturing glass/glass structure PV modules bringing decades of manufacturing experience into the new 500W bifacial product.

The panels deliver more power because each panel incorporates 210mm diameter silicon cells. The larger cell size enables higher area of active light capture, resulting in higher current output. The 150 cells in each panel consist of high efficiency monocrystalline PERC cells and include a combination of leading solar technologies optimised to boost panel efficiency up to 21 per cent, a higher power output.

Design features include multi-busbar technology which minimises internal resistance losses within the PV module, resulting in better low-light performance. In addition, a highly engineered PV technology is incorporated in the product design that makes it possible to reduce the gap between each cell, therefore, enabling higher overall module efficiency which facilitates balance of system (BOS) cost savings.

Trina Solar senior country sales manager Govind Kant said: "We are already receiving enquiries and accepting orders from customers. Customers can order the Duomax V and Tallmax V modules now and deliveries to Australia will start in this year's third quarter. We expect to reach 5GW of global manufacturing capacity for the new modules towards end of 2020."

Trina Solar Australia is a Gold member of the Smart Energy Council. www.trinasolar.com



Govind Kant of Trina Solar has amassed a wealth of industry intelligence

Solar energy provider **SUNBANK SOLAR** has launched a partnership with **RATESSETTER** to help Australian households impacted by COVID deal with bill shock.

The offer means households can have either solar panels and a solar battery installed or, for those with existing panels, a solar battery installed, with no upfront payments for six months. Importantly, the offers sees the first six months covered without additional payments bolted on following the six month period.

Sunbank Solar Chairman Rod Woolley said although banks and other sectors have announced payment holidays they still require additional payments down the track.

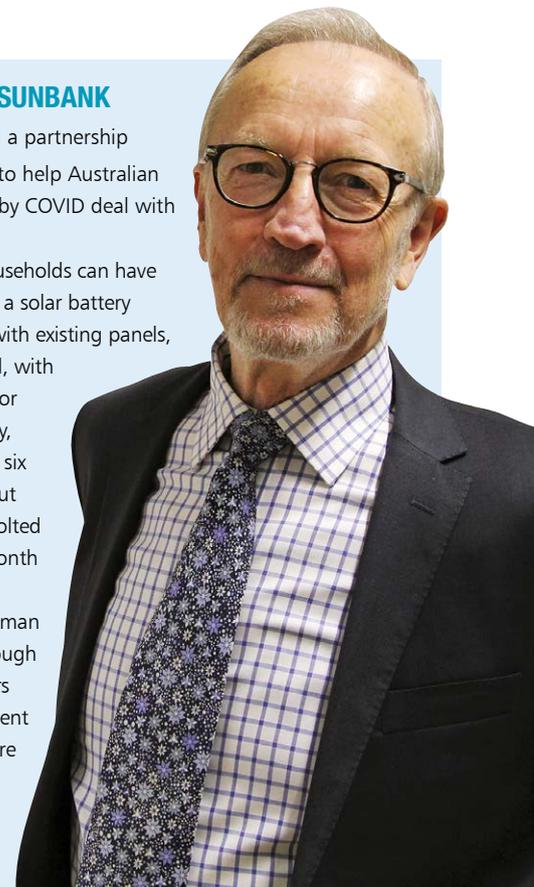
"This offer by contrast, is revolutionary because Sunbank Solar Chairman Rod Woolley Sunbank Solar will cover the first six months' payments," he said.

"It's a game-changer for households. It's been complex to put together, but we've done it to make sure more households can quickly access solar and get immediate relief on their power bills, without any upfront expenses and paying nothing for six months."

There's been a lot of talk about bill shock. Households across the country will be bracing themselves for the jump that is likely to come in their quarterly electricity bill following a couple of months of lockdown, he said, with energy costs "going through the roof".

Louis Edwards, Head of Renewable Energy Finance, RateSetter, believes this to be the industry's first true payment holiday green loan.

The Smart Energy Council welcomes RateSetter as a Platinum member, www.ratesetter.com.au, www.mysunbank.com.au



INSTALLING PANELS WITHOUT RAILS: YES IT CAN BE DONE

S-5! solar attachment solutions can be found on some of the world's largest buildings including the corporate headquarters of Apple, Google, IBM, NATO and NREL. Here in Australia the technology has been used on five Costco stores, and the company is eyeing up more opportunities in the region.

HAVE YOU EVER HEARD of installing solar panels without rails? Well, it is possible, and S-5! Metal Roof Innovations first created the new market and its own category of engineered, manufactured metal roof attachments in 1992. In the years since, S-5! has been used to mount more than 2GW of metal-roof solar arrays globally.

The US-based company recently introduced its solar attachment technology to the Australian market, doing away with the need for anodised aluminium rails and facilitating more cost-effective and less complicated installations with its PVKIT™ 2.0 fastening system.

Vice President of Research & Development, Dustin Haddock, is leading S-5!'s efforts in Australia and throughout the region. He has been working with installers and EPCs to increase awareness of its PVKIT which provides a rail-free approach on standing seam, concealed-fix and exposed-fix metal roofs.

Featuring just three components, the US-made PVKIT enables solar installers to fix solar panels directly onto the metal roof with S-5!'s clamps and brackets. The PVKIT's pre-assembled components considerably reduce installation time and cost for PV mounting by eliminating the need for an elaborate rail system, while also providing better load distribution into the roof and substructure.

"Having been in the business for nearly 30 years, S-5! understands the load carrying capabilities of a metal roof and sees little need for the PV industry's convention of using rails on metal roofs," says Haddock.

"In most cases, there is no need to put a rail on a roof because the ribs, corrugations or seams can carry loads just as rails do, so the PVKIT marries the modules directly to the roof. We have only to lay modules in landscape orientation – 90° to the roof's own inherent rails."

Site visit

Haddock conducted a site visit in New Zealand with one of its solar installers and distributors who recently completed a project using the PVKIT. He and Bernie Dombroski, Managing Director of Solar PartnersNZ, an S-5! distributor, spent two hours with installer, Lightforce Managing Director, Luke Nutting and his team laying down modules and explaining how to fix the modules.

"We just used our first S-5! rail-less system on a 100kW commercial solar job in Auckland," said Nutting. "Once we got a hang of how the system worked, which was picked up very quickly by the whole team, we were installing rows of 17 panels in around 21 minutes, that's one module every 74 seconds.

"This sort of efficiency and speed is absolutely game changing for the solar industry – not only does it dramatically increase labour efficiency, but it delivers around 20 per cent cost savings on rail framing and 85 per cent reduction in weight. The installation team was blown away with the system and never want to use rail ever again!"

Lower added load is helpful as an existing building may not have been designed to carry much additional weight. Haddock says that the S-5! mountings result in a weight of roughly 1.5kg/kWp compared with 8-10 kg/kWp for a railed mounting structure, not to mention 25 per cent more uniform wind and dead-load distribution.

"Another advantage is simplicity of installation," says Haddock. "Whereas most rail systems require 8 or 10 components, S-5! requires only three. The 'direct-attach' method also enables greater flexibility in module layout and placement.

"Still another facet is the storage, transport and jobsite logistics costs and hassles of traditional rail mounting. With S-5! on a residential job of 6-8 kWp, all mounting goods can go to the site and up the ladder in a bucket along with all the tools needed for the install – just a gun and one or two driver tips."

S-5! manufactures its products in the US in its own ISO-certified manufacturing facility and has distributors in Sydney, Melbourne and Hamilton: Rapid Systems Solutions (RSS), owned by No. 1 Roofing and Building Supplies, MAK Fastener Specialists, and Solar PartnersNZ.

S-5! is a Platinum member of the Smart Energy Council. For more information visit www.s-5.com

BELOW: 250kWp of S-5! direct attach mounting system in a short-bed pickup



Information, views and technical details on this page supplied by Smart Energy Council Member

A NEW ORDER

"We've convened national cabinets, rapidly created economic initiatives, enacted new regulations, and elevated the leadership status of experts and scientists. That's a methodology we should carry over into the post COVID world, and we should use it to urgently respond to climate change."

Shane Rattenbury, ACT Energy Minister



"The stimulus to recover from the pandemic will need exactly the sort of actions that are needed to address the climate crisis, too."

Anna Skarbek, ClimateWorks

"Moving quickly to net zero emissions will be good for Australian employment and income."

Professor Ross Garnaut



"Sorry to be the harbinger of denial disappointment, but there is every reason to expect that the virus crisis will strengthen and accelerate the imperative to transition to a low-carbon world by mid-century,"

Former Liberal Leader John Hewson



"We are in a moment where a range of things are possible which weren't possible before, where a renewables-led economy and recovery processes are now on the cards for Australia. We have an opportunity to craft the future we want to see for Australia."

Amanda McKenzie, Climate Council

"The energy industry that emerges from this crisis will be significantly different from the one that came before."

IEA executive director Fatih Birol



We import \$29 billion oil each year, most of which is used for transport. Every vehicle we divert to electric reduces that cost and when powered from renewable electricity offers huge emission savings.

Smart Energy Council President Steve Blume



"Investing in new gas generation now is like buying a fleet of hummers for your delivery business because petrol prices are low."

Jonathan Upson, Canadian Solar



"There's going to be a new debate about re-industrialisation in Australia in the years ahead. And in particular, how we do it powered by renewable energy."

Former Treasurer Wayne Swan



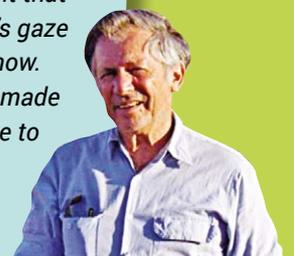
"We are in the critical decade. It is no exaggeration to say that what we do regarding emissions reductions between now and 2030 will determine the quality of human life on this planet for hundreds of years to come, if not more."

Christina Figueres, former executive secretary of UN Framework Convention on Climate Change



"My research suggests the current growth rate of carbon dioxide emissions is faster than those which triggered two previous mass extinctions, including the event that wiped out the dinosaurs. The world's gaze may be focused on COVID-19 right now. But the risks to nature from human-made global warming – and the imperative to act – remain clear."

Andrew Glikson, Earth and paleo-climate scientist, ANU



WHAT'S GOING ON

MID-MARCH 2020 seems a long time ago. But it was just three months ago that the threat of the pandemic was fast taking grip and unravelling life as we knew it. No longer could we go about our normal daily routines. We were entering a bizarre new and surreal chapter. Lives were upended.

And when the lockdowns began to take effect we watched in horror as friends and relatives in tourism, hospitality, arts and entertainment lost their jobs. As shoppers went about stockpiling bathroom products, hand sanitisers, pasta and rice.

Widespread disruption and uncertainty are generally accompanied by the need for knowledge.

There were more pandemic posers than answers: about the nature and spread of the virus, the impact on health and a million more questions about how to adapt our lives and work practices while observing safety protocols.

In a bid to address many of the issues – and alleviate some of the anxiety – the Smart Energy Council hastily convened a series of webinars delivered via the user-friendly Zoom platform.

Drawing on the expertise of industry specialists, the range of webinars provided much needed clarification and understanding. And, happily for the smart energy industry, there were a number of positive early signs. Rather than fall victim to the new world under the virus, a countercyclical trend was taking hold.

Community dynamics

The positive trend arose from a series of key aspects: electricity is an essential service; and during times of uncertainty people seek greater self-sufficiency, whether it's planting vegetables and herbs to generating power from the rooftop.

More people were spending increasing time at home and became more conscious of their spending, in particular their energy bills, **Wayne**

Smith from the Smart Energy Council noted. Homeowners stuck indoors were increasingly aware of their surrounds and focused on home improvement. They also had more time to research the merits of PV systems.

Plummeting superannuation funds also played in favour of an industry that bolsters energy security while providing one of the best financial returns.

Sam Craft of NRG Solar suggested early on that the focus in customer communications needs to be on creating self-reliant solutions for families they can enjoy now and in the future.

Geoff Bragg of Sunman Solar agrees, saying rooftop PV presents a compelling proposition for households; financial returns are both immediate and long term, and the community needs to be made more aware of this.

This is an industry that can thrive, **John Grimes** said, we can buck the trend against an economic recession, however the government could ramp up incentives for homeowners, and with more people now working from home there is a compelling case for more solar and storage installations. "Greater incentives would help restore the economy, reduce household power bills and employ more people. That is our vision."

It's a vision that in the broader context of energy efficiency,, emissions reductions and the economy is widely shared among business, environmental and lobby groups.

Read more on a Renewables Led Recovery at www.smartenergy.org.au

The Smart Energy Council's webinar series covered a range of topics from Infection control, protection and recovery; State of the Market: household, commercial and large scale; Global Review of COVID-19 Impacts; Virtual Power Plants; Public Buildings; Capital raising for projects and more.

And recognising the need to communicate with fellows in the industry, virtual cocktail hours staged by the Smart Energy Council connected members across Australia from the comfort of their own home.





IMAGE FERNANDO ZHIMINAICELA FROM PIXABAY

Government support programs

The government introduced a series of incentives that have eased the burden on business and communities and made solar and storage more accessible for the average household.

The value of the government's business tax instant asset write-off which allows businesses to immediately write off depreciable assets was presented by **Angela Hicks of KPMG**.

In summary: For businesses with annual turnover less than \$500m (up from \$50m); **Eligible assets:** depreciating assets first used or installed ready for use between 12 March and 30 June 2020; Each asset acquired for less than \$150k (up from \$30k).

A second opportunity: Asset incentive program for assets first used or installed ready for use between from 12 March 2020 to 30 June 2021.

The key issues for the smart energy industry were listed as:

Investment in commercial solar systems provide immediate, up front benefits; payments can be deferred under payment plans with no need to start repayments for six months.

It's a compelling business proposition: company power bills are slashed and there are significant cash flow benefits. And as John Grimes said: "Now is a good time to put feasible projects on the table: businesses can install solar and storage, benefit from savings and not repay a single dollar for six months. Cash flow can be invested in business. Get all the benefits up front."

Government programs fall into three categories:

1. Support for individuals and households
2. Support for businesses and employers
3. Flow of credit

Accounting and tax expert **Geoff Campbell, Nexia Australia - Canberra Office** detailed the range of support for businesses and employers in a bid to preserve jobs and avoid a deep recession.

Among them JobKeeper, the nation's largest ever economic stimulus package, with payments of \$1,500 a fortnight for staff laid off since 1 March 2020, for businesses with turnovers of less than \$1 billion per annum whose turnover falls 30 per cent.

Geoff Campbell also spelt out:

"During times of great uncertainty the importance of communication and clarification cannot be overestimated. People seek guidance and reassurance as well as a sense of connection with others."

Business cash flow boost: Government will automatically provide a PAYG refund to businesses with a \$50 million turnover cap by refunding tax withheld on employees salaries to \$50,000. This became applicable after lodgement of the April BAS.

Borrowing money to stay afloat: The government will lend businesses up to \$250,000 over a maximum of three years.

Short term exemptions / banking procedures lifeline: In a bid to keep businesses trading the government is acting as guarantor on 50 per cent of defaulted loans, with the unsecured loan from the bank to put into business

Payroll tax: Many state governments are refunding payroll tax on the previous quarter.

ATO assistance (must be applied for, not granted automatically) includes:

- Delaying by four months BAS income tax assessments
- Those on quarterly BAS can change to monthly cycle for quicker refunds
- Income tax instalments can be frozen to help businesses remain open
- Tax rates may be reduced

NB: Refer to individual State and Territory government programs for businesses and households

Also see www.smartenergy.org.au for more specific and updated information from States and Territories.

All webinar recordings are available at www.smartenergy.org.au

TOWARD A SMART ENERGY FUTURE

Working with the Lord Mayor's Charitable Foundation, the Smart Energy Council has developed a plan to demonstrate how the transition to a zero-carbon economy is technologically and economically viable and show how a smart energy future, including the export of renewable energy, presents extraordinary employment and economic opportunities for Australia.



SMART ENERGY FUTURE is the progressive initiative of the Smart Energy Council and the Lord Mayor's Charitable Foundation to accelerate the transition to zero carbon emissions as a major response to the climate change emergency.

Smart Energy Future centres on two major initiatives, a *Smart Energy Future* online portal, and a *Smart Energy Future Summit* to be held some time this year.

Smart Energy Future portal

www.smartenergy.org.au

This specially branded site will outline a powerful, positive message on Australia's smart energy future.

The portal will provide reader-friendly information on Australia's smart energy future including information on household solar and battery storage, commercial and community solar and storage, large-scale renewable energy projects and action on climate change.

It will also feature smart energy and climate change information resources, infographics, memes and images along with interactive maps of commercial, community and large-scale renewable energy projects, including information on regional employment and investment.

Negative emissions projects, carbon farming, sequestration and soil carbon will be showcased, as well as links to leading organisations, projects and news articles and online events.

Smart Energy Future Summit

The *Smart Energy Future Summit* will be a significant national event and an anchor for the project that will bring together activists, academics, analysts, entrepreneurs, policy makers and civil society leaders to highlight the economic and trade benefits of a transition to a zero-carbon future.

The event will present high calibre speakers including CEOs of leading Australian companies and non-government organisations, foremost academics in the field and leading renewable energy project developers and visionaries.

The Summit will particularly focus on building a connection between civil society and the renewable energy industry.

"We will highlight companies that have committed to significantly reducing their emissions and smart energy businesses that are making that transition a reality and will put a spotlight on Australia's biggest renewable energy infrastructure projects, which have the potential to modernise the Australian economy," John Grimes of the Smart Energy Council explained.

"This will be a high-profile national event, which we will use as a springboard to talk about the climate emergency and the need for a national smart energy transition plan to move to a zero-carbon economy."

The 2020 Summit will also focus on storytelling and public communications, building a strong narrative that Australia can and must be a smart energy powerhouse.

"This is about jobs in regional communities, building a new smart energy manufacturing industry and a strong export industry based around renewable energy hydrogen and services," John Grimes said.

"This is about a speedier transition to a zero-carbon economy that delivers jobs in regional communities, builds a new smart energy manufacturing industry and a strong export industry based around renewable energy hydrogen and services."



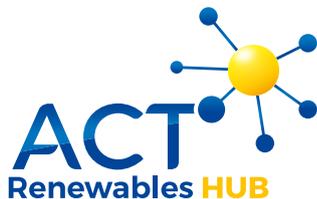
The Lord Mayor's Charitable Foundation works to inspire philanthropy throughout the wider community to influence and support positive social change. As a leader in the philanthropic sector, it is not afraid to be innovative and it encourages the exploration of new solutions to tough social and environmental problems. The Foundation has provided thought leadership on many of the issues facing the community, responding to changing community issues as needs have changed. Key program areas include Homelessness & Affordable Housing, Education & Employment, Environment & Sustainability, and Healthy & Resilient Communities.



The Foundation was a key supporter of the May 6 Stimulus Summit hosted by the Smart Energy Council.

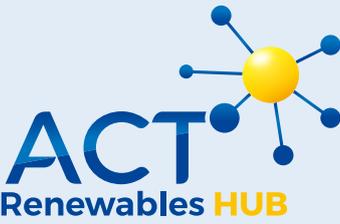
The Smart Energy Council would like to acknowledge the generous support of the following companies which sponsored the series of COVID-19 webinars

Thousands of listeners tuned in to the COVID-19 webinars that presented market intelligence and anecdotal evidence at a time of industry disruption and confusion. Again, our gratitude to:



ACT'S HUB OF ACTIVITY

The ACT Renewables Hub is helping bring parties together and enhance the ACT's renewable energy sector. The Smart Energy Council which is now managing the Hub has kicked off the year with a range of workshops and meetings that are spawning industry connections.



The ACT Renewables Hub is an initiative with the ACT Government as part of its industry development strategy to grow the renewable energy ecosystem. Funded via the \$12m Renewable Energy Innovation Fund, the Hub commenced operations in 2016 and has since helped accelerate several innovative start-ups.

THE ACT RENEWABLES HUB which runs a series of workshops and networking events is on a mission to facilitate collaboration between academics, researchers, government, entrepreneurs, startups, SMEs, investors, individuals and international organisations with offices in the ACT.

"We have set out to create purposeful events that provide the opportunity for productive conversations and positive outcomes for participants, whether it is learning more about industry technologies or the possibility of forming some sort of joint endeavour," said Project Leader Alethia Barceinas, the main liaison between the Smart Energy Council and the ACT Government.

An example of a productive meeting involved a subsequent project partnership between two progressive companies.

"A staged introduction that took place during an event arranged by the ACT Renewables Hub subsequently developed into a business partnership," Alethia explained. "The two parties concerned are David Keightley of Ecospectral and Bhavin Suthar of ADS Solar who joined forces to deliver transformational energy solutions to buildings."

Ecospectral BRIM System and ADS Solar provide an integrated solution that adapts and optimises building energy usage. The technology uses Ecospectral's IoT sensing and control solution that uses a sensing system called BRIM to collect and process real time data in buildings 24/7. The system tracks and monitors energy, fine grained occupancy, temperature, noise and light tracking and HVAC.

"This is one great example of what being part of the ACT Renewables Hub involves; it can open the door to some valuable business opportunities," Alethia Barceinas said.

Some of the events staged before the lockdown took effect:

- The Smart Energy Council introduced its Board members to the ACT community through the extended community of <2 Degrees Renewables Innovation Hub.
- The Smart Energy Council, in partnership with the Canberra Innovation Network, organised a collaboration workshop focused on building an impactful virtual Renewables Energy Hub in the ACT. The well-subscribed event featured keynotes by renewables expert Simon Corbell and the Smart Energy Council's John Grimes.

Simon Corbell commented: "What makes the city of Canberra so special is that it is small enough to get things done, and big enough to scale up. That, along with the Territory's strong track record in advancing renewable energy, is why the virtual renewable hub in Canberra is so beneficial – it has the opportunity to connect this small, yet powerful community."

Virtual meetings and networking

Alethia explained the focus of the ACT Renewables Hub is now on developing the best means of staying connected online such as a LinkedIn Group www.linkedin.com/groups/12401102/, online events using innovative tools like Hopin and regular virtual catch ups.

With the new branding of the ACT Renewables Hub (previously the <2 Degrees Renewables Innovation Hub) Alethia is also developing the digital communications channels which include a new website, social media and online platform.

Want to know more or be included on the database for upcoming events and news from the ACT Renewables Hub? Contact Alethia Barceinas on 0452 414 070 or alethia@smartenergy.org.au

Bhavin Suthar (second from right) from ADS Solar meets David Keightley (right) from Ecospectral during a meeting hosted by the ACT Renewables Hub



SUNMAN

SOLAR SPECIALIST



eArche

Australia's first lightweight solar panel

NON-PENETRATION ULTRA LIGHT



Aesthetics



Easy Install



Leading
Warranty



Lightweight



Performance

1300 090 187

sunman-energy.com

HYDROGEN HIGHLIGHTS

THE CLEAN ENERGY FINANCE CORPORATION

has earmarked \$300 million for hydrogen projects through its **Advancing Hydrogen Fund** and will work alongside ARENA in supporting eligible projects through its \$70 million **Renewable Hydrogen Deployment Funding Round** announced in mid-April to fast-track the technical and commercial viability of large-scale hydrogen production using electrolysis.

Applications using electrolyzers sized 10MW or larger will be preferred. Two or more hydrogen projects will be supported, with the aim of starting construction as early as 2021 in the program that could result in some of the world's largest renewable hydrogen deployments to date.

As well as investing \$70 million into a new funding round, ARENA has in recent months announced support for Yara Fertilisers, Dyno Nobel and Queensland Nitrates in their quest to explore the use of renewable hydrogen to produce ammonia at their large, regional facilities.

The federal government has selected hydrogen as a priority in the **Technology Investment Roadmap**, with the first economic goal of 'H2 under \$2'. If hydrogen can be produced at scale for \$2 per kilogram or less, it would be cost competitive with natural gas and other alternatives in the energy grid.

Reason to cheer if it were not for the federal government's stated support for hydrogen generated not just from renewables but also coal and gas using carbon capture and storage technology.

In what is described as a "cautiously optimistic" scenario, the **National Hydrogen Strategy** forecasts that Australia's hydrogen industry could generate 7,600 jobs and \$11 billion in additional GDP by 2050.

DEMAND FOR HYDROGEN exported from Australia is estimated to be in excess of three million tonnes each year by 2040, delivering around \$10 billion per annum to the economy.

BloombergNEF however asserts Australia would benefit more by using hydrogen within the country to produce green steel, fertilisers and alumina for export rather than becoming a hydrogen exporting superpower.

The report found the falling cost of making hydrogen from wind and solar power offers a promising route to cutting emissions in fossil fuel-dependent sectors of the economy such as steel, shipping and cement.

It found clean hydrogen could be deployed for decades and cut up to 34 per cent of global greenhouse gas emissions from fossil fuels and industry, at a manageable cost, provided policies were enacted to facilitate the technology and drive down costs.

BNEF found that renewable hydrogen could be produced for \$A1.30 to \$A2.60 a kilogram in most parts of the world before 2050; however Australia, capitalising on abundant solar resources, could potentially see delivered costs 20-25 per cent lower.

INDUSTRY ANALYST MCKINSEY foresees the "decade of hydrogen" and a halving of production costs by 2030, with renewable hydrogen cost competitive across several sectors including commercial vehicles, long-range transport, industrial heating, residential heating and cooling.

"At a time when there is much attention on investment and employment opportunities to help reinvigorate our economy, it is clear that hydrogen has an important role to play."

Ian Learmonth, CEFC



A LARGE HYDROGEN ELECTROLYSER ALONGSIDE THE STANWELL CORPORATION POWER STATION

in Rockhampton is one step closer to reality, having attracted ARENA funding. The study will explore whether it is technically and economically feasible for Stanwell to produce hydrogen at scale using a 10MW or larger electrolyser. Electricity will be supplied by renewables through a power purchase agreement or large-scale generation certificates from renewable energy sources.

A range of commercial pathways for renewable hydrogen will be assessed, including liquid ammonia, compressing the hydrogen for sale as a gas, and use in a gas turbine or fuel cell to generate electricity.

The electrolyser could improve system security by participating in Frequency Control Ancillary Services markets or providing Fast Frequency Response to the grid.



"In the years ahead, it will be possible to produce green hydrogen at low cost using wind and solar power, to store it underground for months, and then to pipe it on demand to power everything from ships to steel mills," said Kobad Bhavnagri who heads up BNEF's industrial decarbonisation division.





ANGLO AMERICAN, BHP, FORTESCUE AND HATCH

have teamed up to expedite the production of renewable hydrogen, stating “The goal is to identify opportunities to develop green hydrogen technologies for the resources sector and other heavy industries.” The group has set its sights on overcoming barriers to the adoption of green hydrogen technologies and encouraging “innovative applications”.

WESTERN AUSTRALIA'S STATE-OWNED WATER CORPORATION

together with Perth-based Hazer Group is embarking on an ‘Australian first’ project to produce renewable hydrogen and graphite from the Woodman Point wastewater treatment plant in Munster south of Perth. The biogas (predominantly methane and carbon dioxide) from the sewage will produce 100-tonnes a year of fuel-grade hydrogen and 380 tonnes of graphite. The hydrogen could find its way to vehicle fuel and chemical feedstock and the graphite in production of lithium-ion batteries, water purification and advanced materials.

Staying in the west, gas distributor ATCO’s Clean Energy Innovation Hub in Perth is producing green hydrogen from its on-site solar panels to blend with natural gas and test in domestic appliances.



THE DEPARTMENT OF INDUSTRY, SCIENCE, ENERGY AND RESOURCES

has released an online survey on a hydrogen certification scheme, a standardised process of tracing and certifying where and how hydrogen is made, and the associated environmental impacts (for example, greenhouse gas emissions).



The survey is open until 22 June 2020. www.industry.gov.au

THIRSTY WORK

- The coal industry guzzles 383 billion litres of water per year
- 653 litres of water to produce one tonne of coal
- Water consumed by coal mining and coal-fired power in NSW and Queensland is about 383 billion litres a year, similar to household water needs of 5.2 million people
- Typical 1000MW power station uses same amount water pa as ~700,000 people
- Energy generated from sun and wind uses 120 times less water than coal for same amount of electricity

The Australian Conservation Foundation

ACROSS THE GLOBE

FROM NUCLEAR TO HYDROGEN Mid-March saw the completion of the 10MW solar-powered Fukushima Hydrogen Energy Research Field (FH2R) project that allegedly can produce 1,200 Nm³ of hydrogen each hour. The plant in Japan is powered by a 20MW solar farm and is supplemented by grid power, according to Toshiba Energy Systems & Solutions Corporation.

Hydrogen is slated to play a big role at the **BEIJING 2022 WINTER OLYMPICS** with Air Liquide supplying hydrogen equipment and building a hydrogen refuelling station to serve fuel cell vehicles during the 2022 Games.



COAL TO HYDROGEN Construction has commenced on a new \$A309 million solar-powered electrolysis project in northwest China. Touted by Chinese coal miner Baofeng Energy the world’s largest solar-powered hydrogen plant, it is designed to produce 160 million cubic metres of hydrogen and 80 million cubic metres of oxygen each year.



THE INTERNATIONAL HYDROGEN AVIATION ASSOCIATION

has been launched to promote technical advancements in the hydrogen aviation sector, with members including specialised aviation companies, consultants, drone manufacturers, government organisations, aircraft OEMs and operators, ground support equipment suppliers and others.



UBIQUITOUS H2 “Hydrogen can be used in all our existing appliances. It can be used for heating houses, it can be used for driving cars, it can be used for flying airplanes. And all of this will not require substantive changes in our infrastructure,” says German Energy Agency MD Kristina Haverkamp.

COPING IN THE MARKET DURING COVID-19

How extensive has the disruption been on the market in recent months? Here a few companies tell us what they have experienced.

LONGi: A smart new way of doing business

AS A RESULT of the outbreak of COVID-19, LONGi reported some stoppages at some of their facilities in China after the Spring Festival holiday in February. Since mid-March, all facilities have been operating effectively and as a result, the company is maintaining its shipment guidance for 2020, according to Wang Ying Ge, Head of Global Marketing.

In common with most manufacturers, LONGi took swift action to implement measures to prevent infection across its facilities by distributing masks, strict disinfection protocols, temperature tests several times per day at their facilities, and staggering working and meal hours.

“As a result, none of our nearly 40,000 employees worldwide has been identified with COVID-19,” Wang Ying Ge told *Smart Energy*.

“LONGi has an integrated manufacturing model with production across numerous regions in China and other countries. This, coupled with our strong local presence in markets like Australia, means that there has been little to no impact for LONGi customers as we continue to provide timely delivery for all orders,” he said.

However travel restrictions enacted due to COVID-19 threw a spanner in the works across the globe. Conferences were cancelled and exhibitions postponed.

Stephen Zhang, Managing Director, LONGi Solar Australia provided insight into the company response, saying “When the Smart Energy

Council was forced to cancel its exhibition in April, we realised we would have to do something novel to launch the Hi-MO 4 family of products so we created a fully digital webinar exclusively for LONGi partners.

“The webinar allowed us to speak in real-time with our customers and address questions... it was invaluable and a good counterbalance to the social distancing rules that made it difficult for us to meet with our clients as we normally do.”

David Owen, founder PV-Tech and Director of local marketing solutions firm Clean Energy Marketing Services, helped LONGi Australia realise their customer webinar and commented positively on LONGi’s data sharing and candid responses to questions.

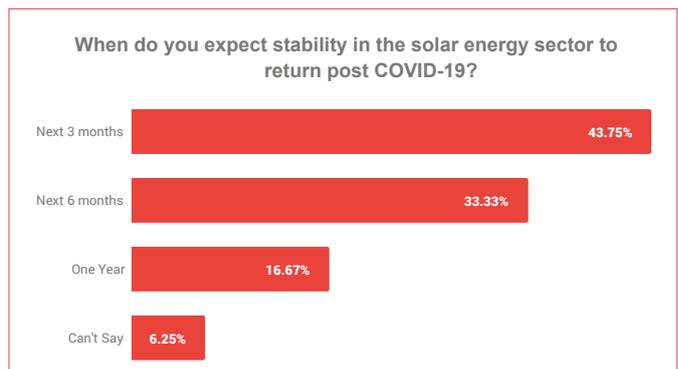
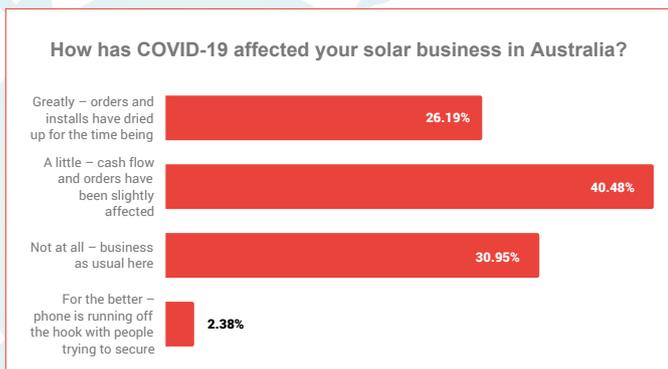
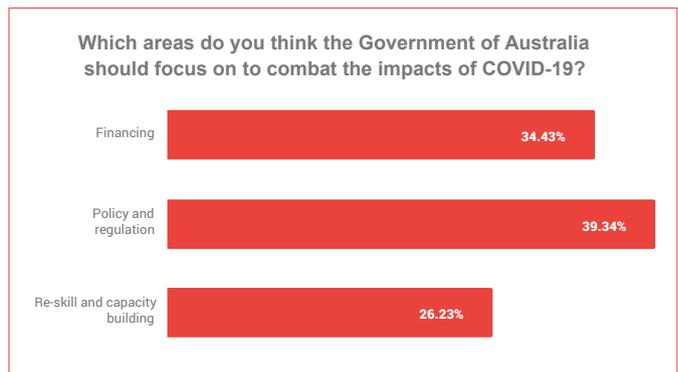
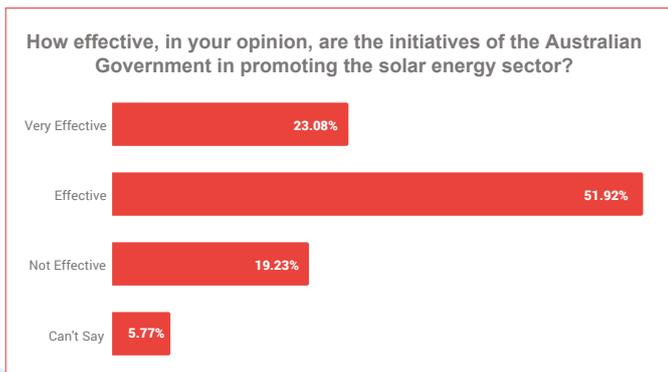
“LONGi Solar is among many overseas component suppliers struggling to come to terms with how to conduct business across the solar supply chain in Australia with social distancing in place and closed international borders,” he said.

Of the 82 who attended the LONGi webinar, the majority (84 per cent) were installers and distributors and 5 per cent media. An interactive poll produced some interesting – possibly unexpected – findings.

As many as 73 per cent of the installer and distributor audience thought the Australian government’s initiatives in promoting the solar energy sector were effective or very effective while a separate poll showed 65 per cent thought policy and regulation were the biggest opportunity for improvements to help the industry. Nearly half of the audience (45 per cent) said they expected the solar industry to stabilise over the next three months.



Wang Ying Ge, Head of Global Marketing, LONGi Solar



Graphics: David Owen and LONGi Solar Australia

Trina Solar: a fluid situation

TRINA SOLAR began putting measures in place in response to the pandemic in January, and very quickly established an online platform for reporting, tracking and analysing daily health conditions.

“So far (as of 30 April) there are no cases of COVID-19 among our staff worldwide. but the situation is very fluid,” Trina Solar president for Asia Pacific, Helena Li told *Smart Energy*.

Measures include daily temperature checks and stepping up the frequency of disinfection and ventilation in all offices and production plants, face masks for all staff and families, and Trina also implemented travel guidelines and a mandatory 14-day quarantine for employees returning from areas of concern.

Teams around the globe are being encouraged to take additional measures, such as rotating office teams to limit contact and letting staff work from home where possible.

Trina Solar is in the coastal province of Jiangsu more than 500km away from the epidemic epicentre of Wuhan. Jiangsu province has less than 1,000 cases (as of May 5).

“Our manufacturing facilities, which are mostly in Jiangsu, were impacted in late

January but it was less significant as it coincided with the Chinese New Year holiday when we normally reduce production anyway. The government then extended the holiday period by a few weeks.

“But once the holiday period was over, we ramped up production again and were back



Trina Solar president for Asia Pacific, Helena Li

to normal production volume from March onwards,” Helena Li said.

Trina continues to deliver product shipments on time to its four warehouses in Australia and is closely following new requirements with regards to sea freight such as the 14-day quarantine.

“We have seen no major impact on sales as yet in the first and second quarters, because C&I and utility-scale projects that were already well progressed are proceeding, although in the second-half some projects, mostly likely residential and C&I, will be delayed depending on when the pandemic situation abates.

“But next year we are hopeful the market will rebound as the fundamentals are still good. Our orderbook is still very solid, people and businesses want to adopt solar energy to help the environment and to reduce the cost of electricity.”

However in terms of the impact of the global pandemic on sales, there is no doubt that it is putting a dampener on global economic growth, she commented. The economic slowdown is already evident in first quarter global GDP figures and will be evident in the second, third and fourth quarter as well.

sonnen: maintaining near normal production

TO A LARGE EXTENT sonnen has been protected during the pandemic, being able to source most of the components for the manufacturing of sonnenBatteries within Australia.

“And we had a sufficient lead time for parts to be delivered for our manufacturing requirements,” Nathan Dunn told *Smart Energy*. “We are able to maintain the production of sonnenBatteries during this period while keeping the health and safety of our employees a priority,” he said, listing the social distancing protocols, proper hygiene resources implemented to reduce risk to the local production and logistics team, also enabling the flexibility for staff to work from home when required.

According to sonnen, demand for home batteries remained consistent in the lead up to COVID-19.

“Early indications have pointed to households who are spending more time at home are researching how they can achieve energy self-sufficiency and we believe this will spur the demand for home batteries in the next six to 12 months.

“Many of our existing customers are seeing a change in their energy usage patterns. Working from home has affected their daily usage profile and as such, many of them are looking to maximise their energy value. This has also led to our additional focus on targeting retrofit markets.”

Educating the market on how to generate, store and use their own clean energy through home storage is more relevant than ever with the increasing search on self-sufficiency and energy security.

sonnen anticipates the buying cycle for home batteries to be extended by several months as some customers may look to defer significant investments for their homes until the Australian economy recovers.

“In the next six to 12 months, I hope we will see businesses and our economy getting back to normal,” Dunn said.

“COVID-19 has been a bump on the road but it’s also been a stark reminder how we need to support each other to get on a path towards recovery quickly.”



Nathan Dunn, CEO sonnen Asia Pacific

AC Solar Warehouse

GRANT BEHRENDORFF OF AC SOLAR WAREHOUSE reported few if any stock delays, “We only had a few product problems but all up I’d say we are 95 per cent as normal and the majority of our stock is from China.

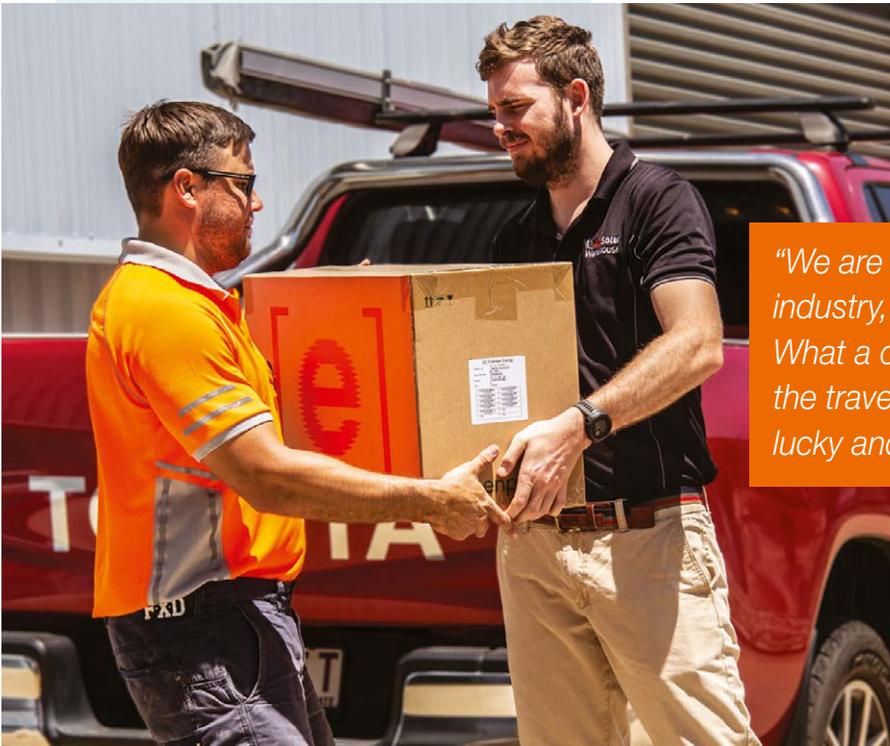
“Overall there has been minimal disruption, most stock items are unaffected. We’ve come out the other side now and generally kept up with supplies.”

Demand from businesses dipped a bit in April he said, but that is a seasonal trend... “really nothing catastrophic, simply in line with what would be expected.”

Speaking to installers Grant heard that residential leads and sales went a bit quiet in April but the commercial market remained steady and strong.

“The message from installers is that leads dried up a bit during the worst of lockdown so sales were down a bit but they have returned to previous levels. Some have had a hiccup, some not.”

“We are extremely lucky to be in this industry, and all my employees say so. What a contrast with the devastation of the travel and tourism sector. We are very lucky and also very appreciative.”



“We are extremely lucky to be in this industry, and all my employees say so. What a contrast with the devastation of the travel and tourism sector. We are very lucky and also very appreciative.”

JinkoSolar joins COVID-19 fight

CHINESE SOLAR MODULE MANUFACTURER

JinkoSolar donated a million items of personal protective equipment to the European and Asian countries currently battling the spread of the novel coronavirus and would be receptive to appeals from hospitals.

The Shanghai-based company shipped the first of 50,000 units with the help of Chinese local authorities, the Red Cross and other charities.

The move followed JinkoSolar’s RMB12 million (\$1.69 million) donation to a fund set up by the Red Cross to help medical and health care workers on the front line of the battle against the coronavirus in the Chinese provinces of Zhejiang, Jiangxi and Shanghai.

Appreciation

A BIG THANK YOU to our friends at Sungrow who, during a time of critical shortages, supplied thousands of protective face masks to the Smart Energy Council and Sungrow business partners.

During Smart Energy Council Webinars these companies reported their experiences

Rex Wang of Growatt: There was a slight shortage of manufacturing workers in China at the outset however supplies are back to normal and Growatt’s technical support is in full operation.

Victor Chen of Alpha ESS: After some minor stock issues we will be back on track by June and our product is available through our warehouses.

Rod Scott of Selectronic: Back in February Australia was at risk in all supply lines but now it is back to business as usual. Selectronic has lots of stock; all staff in sales and marketing are working from home and others in production are observing strict protocols. **But what this shows us is that as a country we need to try and increase manufacturing and production here in Australia.**

Andy Chang of One Stop Warehouse: We have remained open for business and are observing social distancing in the office and the warehouse. We normally carry six to eight weeks’ stock and have plenty of inverters in stock (both one and three phase). We have not had any redundancies and we are hiring more staff.

Glenn Day of Stiebel Eltron: Global production remains at full capacity; hot water is an essential service.

Dougal Gillman of Fronius: European manufacturing has faced its challenges and there were some Austrian factory closures however global supply remains intact with all components coming in. Logistics are taken care of with vessels booked for the next four months.

Michael Rush of Canadian Solar: It’s business as usual minus the unfavourable Australian dollar exchange rate.

WILL WFH BECOME THE NEW NORMAL? FOGO REPLACE FOMO? EVERYDAY BLURSDAY?

For many workers the home office is a new concept. To others it's BAU. We canvassed colleagues and friends to piece together the following suggestions.



TRANSFORMING A COMFY PERSONAL SPACE into a productive office zone can present a few challenges. Although we've had ten or more weeks to adapt to the 'new normal', there's always room for improvement. So, if you haven't already:

The setting

- Isolate yourself if you are in a busy/noisy house, even if it's in a corner of a room, away from distractions, facing a blank wall rather than a window overlooking the garden that always beckons
- Get dressed properly each day so you feel you are at work
- Establish a routine – get into your home office first thing and clock up a few hours, set time schedules and a routine
- Ensure your office appeals! Tidy, a place to look forward to stepping into. With the right lighting,

printer, back-ups and accessories, USB microphone. (An L-shaped desk is much more conducive to organisation/productivity than a circular table.) Treat yourself to a new teacup or tea pot, a vase of flowers, google home assist (speaker) for background music or to help with the odd calculation or fact.

- Figure out your most productive time and get to work! For some that may mean a 4am start, and
- Make time for walks around the block to reinvigorate the brain's oxygen supplies.

Stepping around school kids studying at home

- Stick to normal school/work daily routine, including kids' bedtimes
- Remember to be quiet even when you are on a break - not all times line up, someone else might be in a meeting

A whole new lexicon has emerged. Among our favourites:

Corona-coaster – the see-saw emotional equivalent of the solar-coaster

Covid-5 – a weighty 'condition' resulting from too much sitting, eating and drinking... fattening the curve with an extra 5kg padding

Covidiot – your guess

The elephant in the Zoom – a colleague broadcasting from a messy kitchen/bedroom, or looking more like a cave man/woman (lapsed grooming); pesky dogs' incessant barking

FOGO – fear of going out, but which day it is anyway? Blursday again?

Quarantinis – cocktail hour concoctions

Quarantunes – playlists for self-isolation

WORKING FROM HOME

- Get some screen-free time and fresh air at lunch/after school
- Continue to do homework and chores after school

Struggling with motivation?

One of the best antidotes is a checklist. Or multiple checklists itemising tasks for completion by the day of the week, priority or complexity.

Be sure to tick off completed jobs; a stepping-stone to the deadline or goal.

Tackle the toughest task first – it may not be as hard as you think and it's "Like a sack of coal has been removed". Relief mixed with empowerment.

Hook up with 'inspirational others' who sustain high spirits and mitigate feelings of isolation.

Missing the buzz 'n hum of the office?

Background natter on talkback radio (lowest volume) can help, or tune in to some sort of upbeat music from your spotify playlist. For some, jazz is uplifting, keep up with the beat!

Too busy to leave your desk to exercise?

Do your home exercises while tuned in to webinars, you can still hear what's going on.



Our furry four-footed friends: one of the biggest distractions. Walk dogs early so they tire out and are more likely to happily snooze most of the day. Try and establish a routine around this.

Pandemic panic

Having covid related nightmares? Scary or vivid dreams have become common as our brains try and process the changes in our world. Get up and write out a new checklist, tidy the kitchen, declutter the study – the morning will feel a lot brighter.

Be thoughtful of others: During the early days of lockdown life became a bit surreal and scary. Your colleague does not respond immediately to a request or email? Keep things in perspective, unlike COVID-19 it probably is not life-threatening.



Lighter

More efficient

10 Years warranty

Australia's Best Value Inverter



SOFAR
1.1k~3.3kTL-G3

Single-Phase
Single-MPPT

- 1.4** 1.4 DC overload
- IP65** IP65 ingress protection
- 97.7%** Max. efficiency up to 97.7%

- Light weight**, quick and easy to install
- 0** Built-in zero export function
- Smart monitoring**, RS485, Wifi/Ethernet/GPRS(optional)

Warm Welcome

The Smart Energy Council would like to welcome the following new members:



SMART ENERGY
COUNCIL
SOLAR, STORAGE, SMART ENERGY

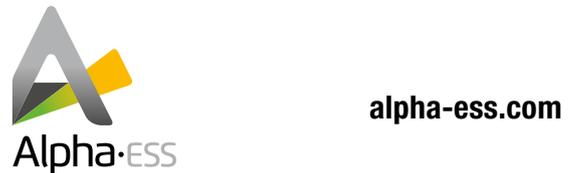
PLATINUM MEMBERS



GOLD MEMBERS



TITANIUM PARTNERS



If you would like to speak to any of these companies or find out more about membership with the Smart Energy Council please contact Luke Shavak, Australia & International Sales Manager on 0499 345 013 or email luke@smartenergy.org.au

Want to reach thousands involved in smart energy?

GIVE LUKE A CALL

DID YOU KNOW? *Smart Energy* magazine is read by more than 20,000 industry professionals. Our readers include: PV solar designers and installers, large-scale solar project contractors, manufacturers and wholesalers, energy retailers, government representatives of all levels, trainers, consultants and industry thought leaders.

If you would like to boost your presence among the smart energy community across Australia, contact Luke Shavak.

Luke can also help you to highlight your brand at the industry's leading show, the **Smart Energy Conference & Exhibition**, which takes place in Sydney.

Demand at residential and commercial scale remains strong and the smart energy industry continues to advance at a rapid rate. Luke is here to help more companies right across the supply and manufacturing chain to capitalise on more opportunities.



Contact Luke on 0499 345 013
or luke@smartenergy.org.au

Smart Energy Council Corporate Members

For full listing of Smart Energy Council Members see www.smartenergy.org.au

Platinum Members



Gold Members



Silver Members



Bronze Members

Aztech Solar	Crystal Solar Energy	global-roam	Q-Cells Australia	Solar Hub	Velocity Energy
B and R Enclosures	CSA Services	Lendfin	Renewable Energy Traders	Solar Wholesalers	Victron Energy B.V.
BSA	Ecoult	Master Instruments	Australia	Solargain	WINAICO Australia
CleanPeak Energy	Emerging Energy Solutions	Natural Solar	Reposit Power	Solastor	X-Elio
Clean Technology Partners	Energy Ease	Off Grid Energy	Revolusun power	SuperGreen Solutions	Zeromow
	Future X Group	Onsite Energy Solutions	Solar Choice	Todae Solar	Znshine

Become a Member Today smartenergy.org.au



SMART ENERGY
COUNCIL
SOLAR, STORAGE, SMART ENERGY

About us

The Smart Energy Council is the peak body of the smart energy sector in Australia. We are a not for profit, membership-based organisation with over 1,200 members nationwide, consisting of companies and individuals operating in this rapidly expanding industry.



HYDROGEN AUSTRALIA
A DIVISION OF THE SMART ENERGY COUNCIL

We are passionate and independent. Our deep understanding of and connections with our members and industry ensures that we deliver results for the smart energy industry and the community.

Support the driving force of Smart Energy

The Smart Energy Council:

- Fights hard for smart energy policy
- Provides actionable market intelligence
- Creates valuable networking and introductions
- Delivers high quality training and professional development
- Promotes your business and brand

We represent companies across the Smart Energy spectrum including: solar, solar hot water, storage, energy management, electric vehicles, hydro, wind energy, hydro, bioenergy, ocean energy, geothermal, hydrogen, co- and tri-generation and hybrid and enabling technologies.

We also represent smart energy customers and consumers and provide expert advice to governments and the public.

As the national voice for smart energy the Council is committed to high-quality, long-term smart energy solutions for all Australians.

“The Smart Energy Council has the key people, experience, demonstrated effectiveness, and industry and government network and relationships, to rate as one of the top industry bodies in Australia and globally.”

– John Hewson, Former Liberal Party leader, financial and economic expert

Become a Member Today

Don't sit on the sidelines. Become a Member and play an active role in driving industry quality, safety, and smart national energy policy.

For further information please contact:

Luke Shavak, Membership Sales
Email: luke@smartenergy.org.au
T: 0499 345 013

Learn more smartenergy.org.au



SOLAR INDUSTRY Positive Quality™

THE SMART ENERGY COUNCIL'S Positive Quality™ program sets rigorous standards that ensure manufacturers who achieve and maintain high standards are singled out and recognised.

Prominent panel maker **JinkoSolar** meets those high standards and proudly displays the Positive Quality™ logo, a symbol of manufacturing excellence, which sends a signal of confidence to consumers.

Participating manufacturers are fully recognised, consumers enjoy peace of mind and the industry's reputation is strengthened, delivering **Positive Quality™** for all. Australian consumers and businesses can have confidence in the quality of the solar panels they are installing by looking out for the **Positive Quality™**.

The Smart Energy Council developed the program because the generic appearance of panels makes it difficult to determine good from bad,



unless an identification mark denotes otherwise. A logo that signifies superior quality.

The **Positive Quality™** program admits and endorses manufacturers that are independently tested and verified through plant visits. The initial assessment consists of a company's entire manufacturing processes undergoing independent and intensive inspection and testing.

This is carried out by the Smart Energy Council's specially appointed **Positive Quality™** specialists in a three step process: Certification check and compliance with IEC and Australian standards; Factory inspection with a 60-point check; and a Product quality check: appearance, IV, EL, Hi-Pot, and leakage current.

Positive Quality™ participants' premises are then inspected at random every 12 weeks to ensure the continuity of those high standards. All solar PV manufacturers of high quality can participate.

**** JinkoSolar has been recognised as Top Performer in PVEL/DNV GL 2020 PV Module Reliability Scorecard for the sixth consecutive year.****

POSITIVE QUALITY™
Continuous Quality Assurance

By displaying the Positive Quality™ logo solar companies convey high standards in panel manufacturing to industry and consumers

JinKO Solar
Building Your Trust in Solar

Contact Positive Quality™ Manager Luke Shavak on 0499 345 013, email luke@smartenergy.org.au or visit www.smartenergy.org.au

WINTER advertising content

ADVERTISER	PAGE	WEB ADDRESS
Cobalt Solar	19	www.cobaltsolar.com.au
Dyness	15	www.dyness-tech.com.cn
Enphase	Inside Back Cover	www.enphase.com/au
Harvey Norman	29	www.harveynormancommercialsolar.com.au
LMS Energy	33	www.lms.com.au
LONGi	Inside front cover	http://en.longi-solar.com
Munich RE	37	www.munichre.com/gts
Polyglot Group	42	www.thepolyglotgroup.com/au/industries/renewable-energy/
REC	5	www.recgroup.com
RedEarth Energy Storage	11	http://redearth.energy
S-5!	21	www.S-5.com
Sofar Solar	60	www.sofarsolar.com.au
SolaX Power	3	www.solaxpower.com.au
Solis	35	www.solisinverters.com.au
Stiebel Eltron	25	www.stiebel-eltron.com.au/solar-pv-ready
Sungrow	Outside back cover	www.sungrowpower.com
Sunman	53	www.sunman-energy.com
SuperGreen Solutions	17	www.supergreensolutions.com.au
Trina Solar	34	www.trinasolar.com/au
Varta	41	www.varta-storage.com.au
Vista Power Technologies	24	www.vpt.com.au

Higher Power AC Solar

Introducing the
new Enphase IQ 7A™
microinverter

Designed for solar
modules up to 465 W



Available
for order in
July 2020

The new IQ 7A micro augments the IQ family with support for 60-cell and 72-cell modules (or the half-cut cell equivalent), targeting high-power residential and commercial solar applications:

- Peak output 366 VA
- Easy to install – standard AC wiring practices
- Built-in rapid shutdown
- Smart grid ready

Learn more at enphase.com/au

 ENPHASE®

SUNGROW

THE WORLD'S MOST BANKABLE INVERTER BRAND

N



No.1 supplier in financed projects
100% bankable

Source: BloombergNEF

100_{CW}⁺

Deployed
Worldwide

15%⁺

Global Market
Share

NO.1

Largest
PV Inverter
R&D Team

60⁺

Countries with
Sungrow
Installations

20⁺

Years in the
Solar Industry

