

ersonal use only



ClearVue^{PV}

AGM PRESENTATION 2018
CLEARVUE TECHNOLOGIES LIMITED

Presented by: Victor Rosenberg, Executive Chairman – 30 November 2018

This presentation has been prepared and issued by ClearVue Technologies Limited (the “*Company*”) to assist it in informing interested parties about the Company and its progress which is current as at the date of this presentation (30 November 2018). This presentation is for information purposes only it should not be considered as an offer or invitation to subscribe for or purchase any securities in the Company or as an inducement to make an offer or invitation with respect to those securities. This presentation does not purport to contain all the information that a prospective investor may require in connection with any potential investment in the Company. You should not treat the contents of this presentation, or any information provided in connection with it, as financial advice, financial product advice or advice relating to legal, taxation or investment matters. No representation or warranty (whether express or implied) is made by the Company or any of its officers, advisers, agents or employees as to the accuracy, completeness or reasonableness of the information, statements, opinions or matters (express or implied) arising out of, contained in or derived from this presentation or provided in connection with it, or any omission from this presentation, nor as to the attainability of any estimates, forecasts or projections set out in this presentation. Neither the Company or its advisers have verified the accuracy or completeness of the information, statements or opinions contained in this presentation. This presentation is provided expressly on the basis that you will carry out your own independent inquiries into the matters contained in the presentation and make your own independent decisions about the affairs, financial position or prospects of the Company. The Company reserves the right to update, amend or supplement the information at any time in its absolute discretion (without incurring any obligation to do so). Neither the Company, nor its related bodies corporate, officers, their advisers, agents and employees accept any responsibility or liability to you or to any other person or entity arising out of this presentation including pursuant to the general law (whether for negligence, under statute or otherwise), or under the Australian Securities and Investments Commission Act 2001, Corporations Act 2001, Competition and Consumer Act 2010 or any corresponding provision of any Australian state or territory legislation (or the law of any similar legislation in any other jurisdiction), or similar provision under any applicable law. Any such responsibility or liability is, to the maximum extent permitted by law, expressly disclaimed and excluded. Nothing in this material should be construed as either an offer to sell or a solicitation of an offer to buy or sell securities. It does not include all available information and should not be used in isolation as a basis to invest in the Company.

Future Matters | This presentation may contain reference to certain intentions, expectations, future plans, strategy, revenue forecasts and prospects of the Company. Those intentions, expectations, future plans, strategy, revenue forecasts and prospects may or may not be achieved and may be “forward-looking statements”. They are based on certain assumptions, which may not be met or on which views may differ and may be affected by known and unknown risks. The performance and operations of the Company may be influenced by a number of factors, many of which are outside the control of the Company. No representation or warranty, express or implied, is made by the Company, or any of its directors, officers, employees, advisers or agents that any intentions, expectations or plans will be achieved either totally or partially or that any particular rate of return will be achieved. Given the risks and uncertainties that may cause the Company’s actual future results, performance or achievements to be materially different from those expected, planned or intended, recipients should not place undue reliance on these intentions, expectations, future plans, strategy, revenue forecasts and prospects. The Company does not warrant or represent that the actual results, performance or achievements will be as expected, planned or intended.

US Disclosure | This document does not constitute any part of any offer to sell, or the solicitation of an offer to buy, any securities in the United States or to, or for the account or benefit of any “US person” as defined in Regulation S under the US Securities Act of 1993 (“*Securities Act*”). The Company’s shares have not been, and will not be, registered under the Securities Act or the securities laws of any state or other jurisdiction of the United States, and may not be offered or sold in the United States or to any US person without being so registered or pursuant to an exemption from registration including an exemption for qualified institutional buyers.

Introduction



At ClearVue, we offer a powerful renewable energy solution that incorporates solar energy generation into transparent glass. ClearVue Technologies Limited (ASX: CPV) operates in the Building Integrated Photovoltaic (BIPV) sector which involves the integration of solar technology into building materials, specifically glass and building surfaces to produce localised renewable energy.

ClearVue's glass technology represents an untapped opportunity to use one of the worlds most used building materials for energy generation – clear GLASS

Our Mission & Motivation

- Our mission is to capture the energy that surrounds us through the use of innovative building materials. We believe that the future of energy is localised generation – energy generated where it is needed
- We are driven by green building goals and believe that our technology can assist building owners and developers achieve their own green and sustainability goals - including Net Zero buildings and even carbon negative buildings in some cases.



ClearVue Highlights



- ❑ Advanced building technology that uses ultra clear glass to convert sunlight into energy
- ❑ Global market opportunity
- ❑ Patented technology – 34 granted patents and 39 patent applications throughout the World
- ❑ Australian Government support – \$1.6m grant from the Australian Federal Government to build a grid-independent greenhouse in early 2019

Key Targets:	Key Specifications:
<ul style="list-style-type: none">❑ Agriculture and Horticulture	<ul style="list-style-type: none">❑ Ultra clear - up to 70% transparency (VLT/AVT)
<ul style="list-style-type: none">❑ Commercial and Residential	<ul style="list-style-type: none">❑ Power generating - 30 W/m² peak power (anticipated ≈ 50 W/m² possible through ongoing R&D)
<ul style="list-style-type: none">❑ Public Amenities	<ul style="list-style-type: none">❑ Insulating - U-factor 1.26 W/(m² °K)

Personal use only

Corporate Snapshot



- ClearVue secured \$5m through IPO and listed on the ASX on 25 May 2018
- High % of company shares are escrowed for 24 months – 39,026,956 million in total
- Tight free float with top 20 holding 60.5%

ASX Code: CPV	
Ordinary Shares	97,380,300
Options	54,598,024
Performance Shares	13,000,000
Market Capitalisation (Share price \$0.35 as at 16 November 2018)	\$34 million
GICS Classification	Capital goods

Board and Management



Victor Rosenberg	Jamie Lyford	Kim Harmer	Brett Tucker	Sean Rosenberg	Stuart Carmichael	Ivan Wu
Executive Chairman	General Counsel & Corporate Officer / Director	Chief Technology Officer	Company Secretary	Non-Executive Director	Non-Executive Director	Non-Executive Director
<p>Serial Entrepreneur. Globally recognised for his contributions to glass industry. Extensive business experience in senior management and sales.</p>	<p>IP and licensing lawyer with over 20 years experience. Previously worked in BHP, IT company ATOS and ran Western Australian Government Innovation Centre</p>	<p>Technology commercialization, research and development, production and innovation leadership. Over 20 years working in Schneider Electric in EMEA and Asia Pacific Currently on Advisory Board for IoTStream</p>	<p>Company Secretary to a number of ASX listed and private companies and has been involved in numerous public corporate transactions and acquisitions. A Chartered Accountant with a strong corporate and compliance background.</p>	<p>Member of the Institute of Chartered Accountants with over 10 years professional experience in finance, auditing and accounting of listed corporations</p>	<p>Member of the Institute of Chartered Accountants with over 20 years accounting and corporate finance experience. Currently Non-Executive Chairman of Schrole Limited (ASX:SCL) and Serpentine Limited (ASX:S3R) and Non-executive Director of De.mem Limited (ASX:DEM)</p>	<p>Corporate adviser to various private & ASX listed companies with over 20 years of corporate and commercial experience in the IT, resource and gas industries</p>

ClearVue's Research Partners



Edith Cowan University

ClearVue has partnered with Edith Cowan University (ECU) in Perth Western Australia since 2011 to develop the core IP that can convert a pane of glass into energy

ClearVue has entered into an exclusive agreement for contracted R&D for the development of ClearVue's core technologies.

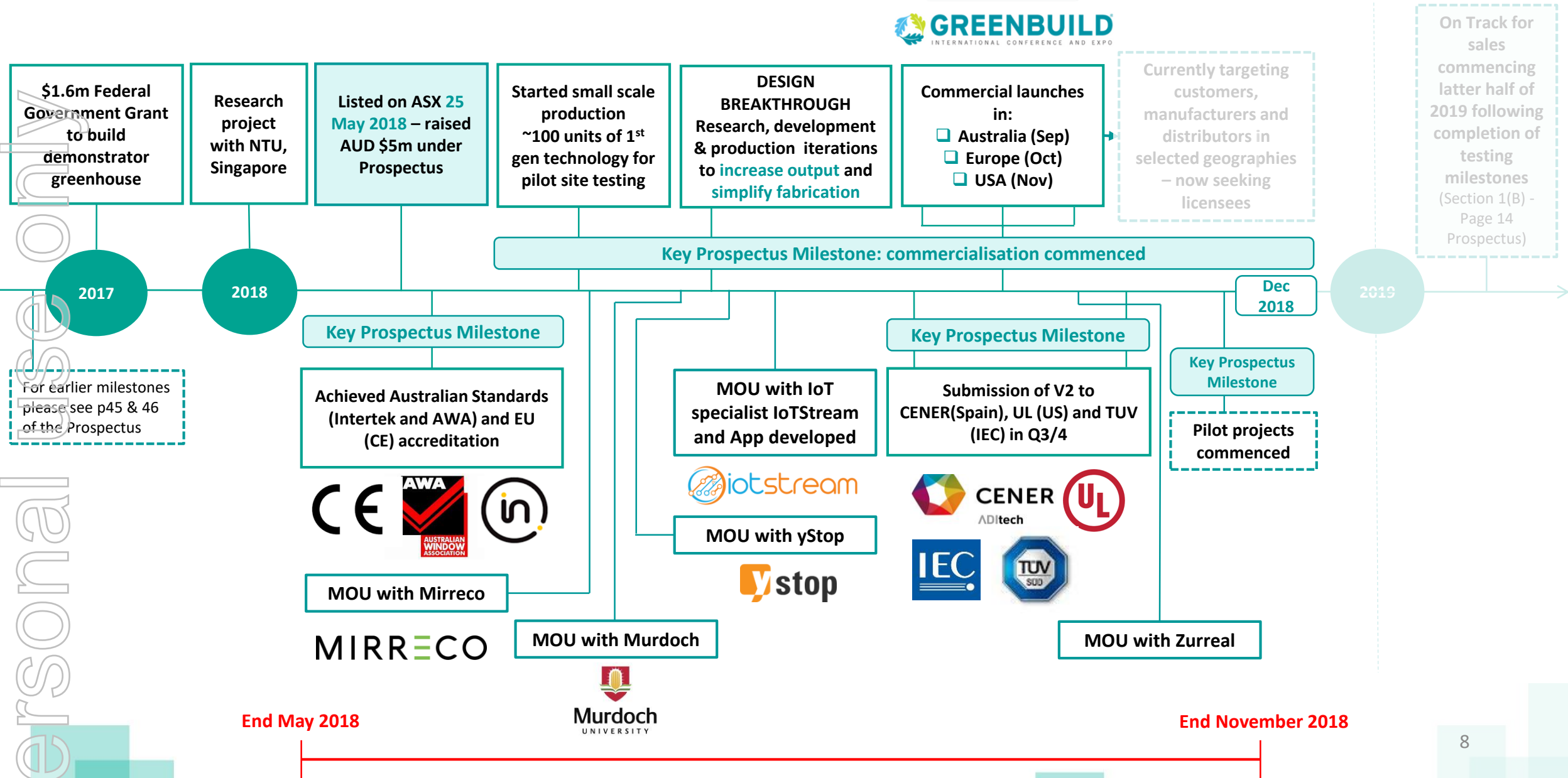


Nanyang Technological University

ClearVue has signed a collaboration agreement for with Nanyang Technology University (NTU) (Singapore) and Singapore HUI Alliance for Research and Enterprise Ltd research to explore printing of solar PV amongst other things.



Company Milestones



Product Launches

Glasstec – Oct 2018
Dusseldorf

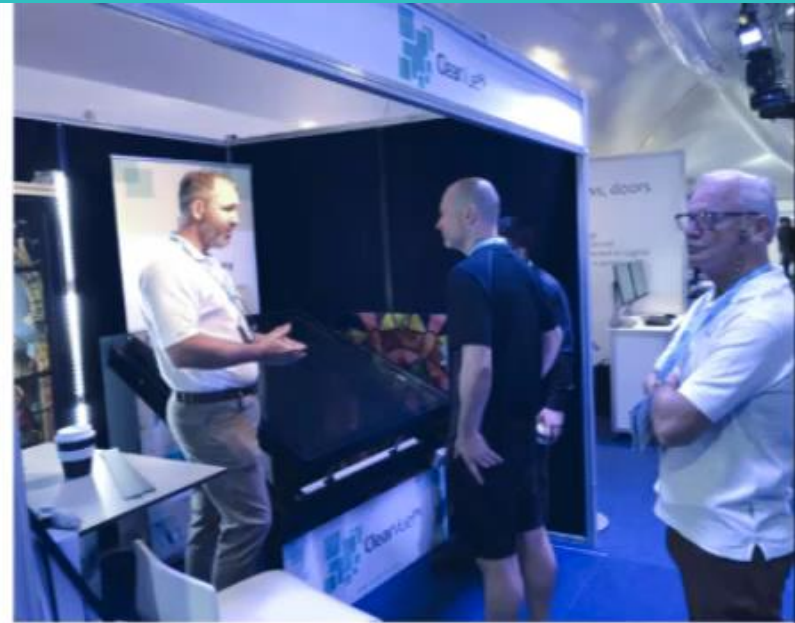


Fenestration - Sept 2018
Port Douglas

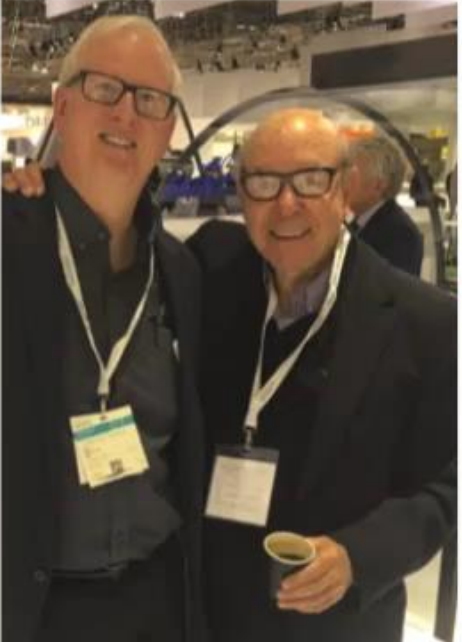


Greenbuild - Nov 2018
Chicago

Personal use only



ersonal use only





Personal use only

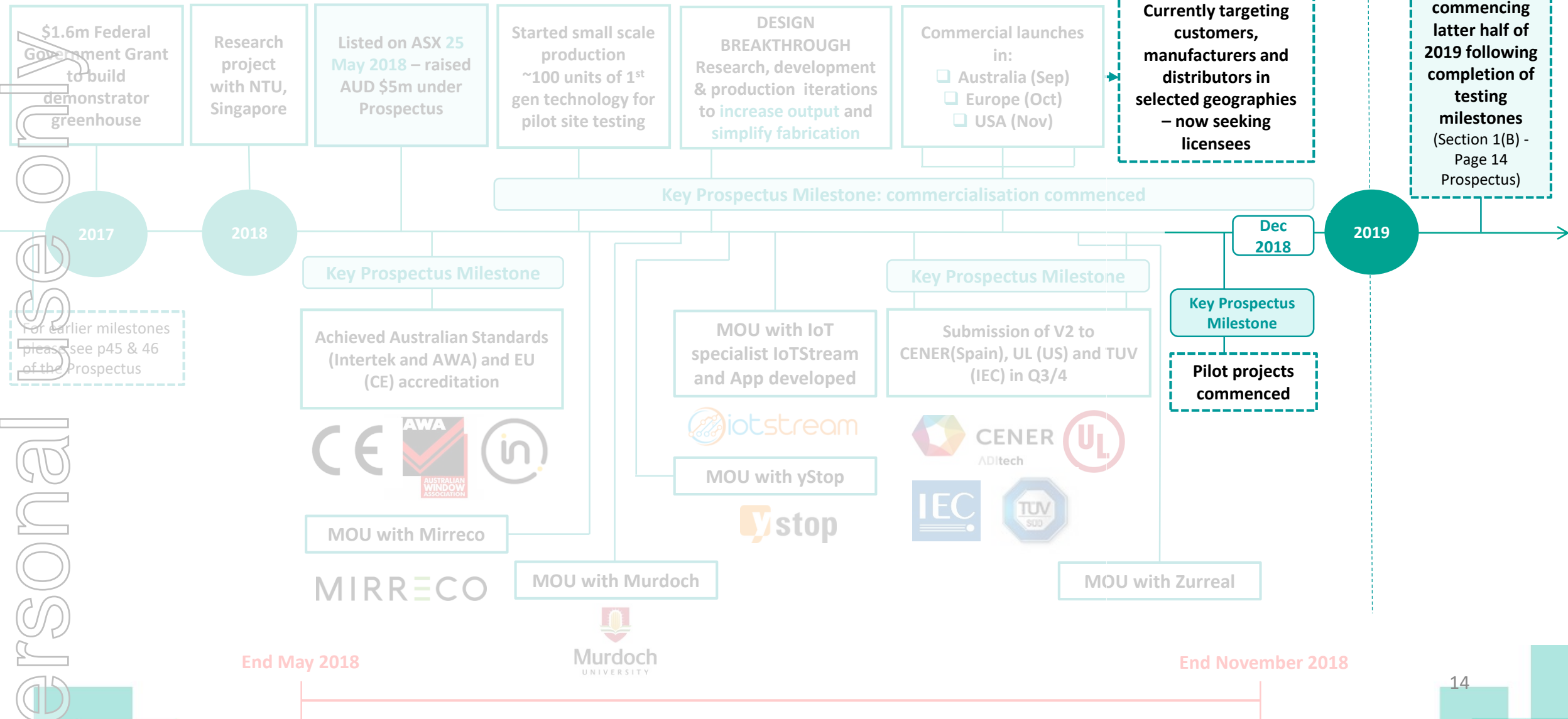


UL Testing for US Market commenced Q4



Personal Use

Company Milestones



Personal use only

Upcoming Milestones

On Track for sales commencing latter half of 2019 following completion of testing milestones (Section 1(B) - Page 14 Prospectus)

2019

- ❑ Complete the various demonstration/pilot projects the company has commenced
- ❑ Incorporate ClearVue's technology into a larger commercial building in Australia for the first time
- ❑ Complete and achieve **IEC** and **UL** accreditations by end Q2 2019
- ❑ Continue and complete commercialisation steps during 2019
- ❑ Continue discussions throughout 2019 with potential licensees for manufacture and assembly/distribution worldwide and seek to sign various licensees worldwide flowing from such discussions
- ❑ Continue R&D and product development work to ensure the company is well positioned as a global leader in building integrated photovoltaics and smart building materials

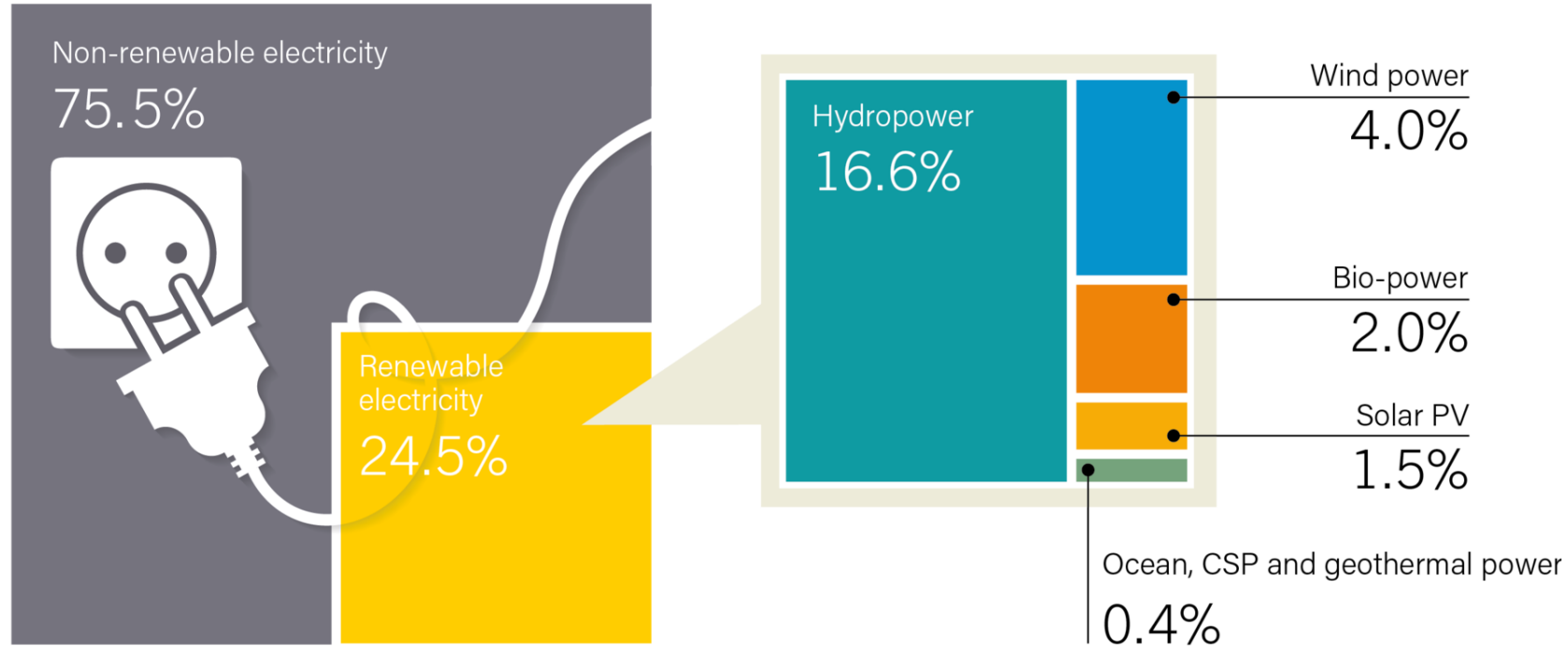


Worldwide Energy Generation

The sun's potential for power generation far exceeds that of all other renewable energy sources. However, solar power barely registers in the world's renewable energy portfolio with only 23,322 terawatt-hours (TWh) of a potential **≈750,000 TWh** available from solar*.

Presently solar generation accounts for only a fraction of a percent of total electrical output – much less than hydropower or wind energy, which until recently have been cheaper to produce.

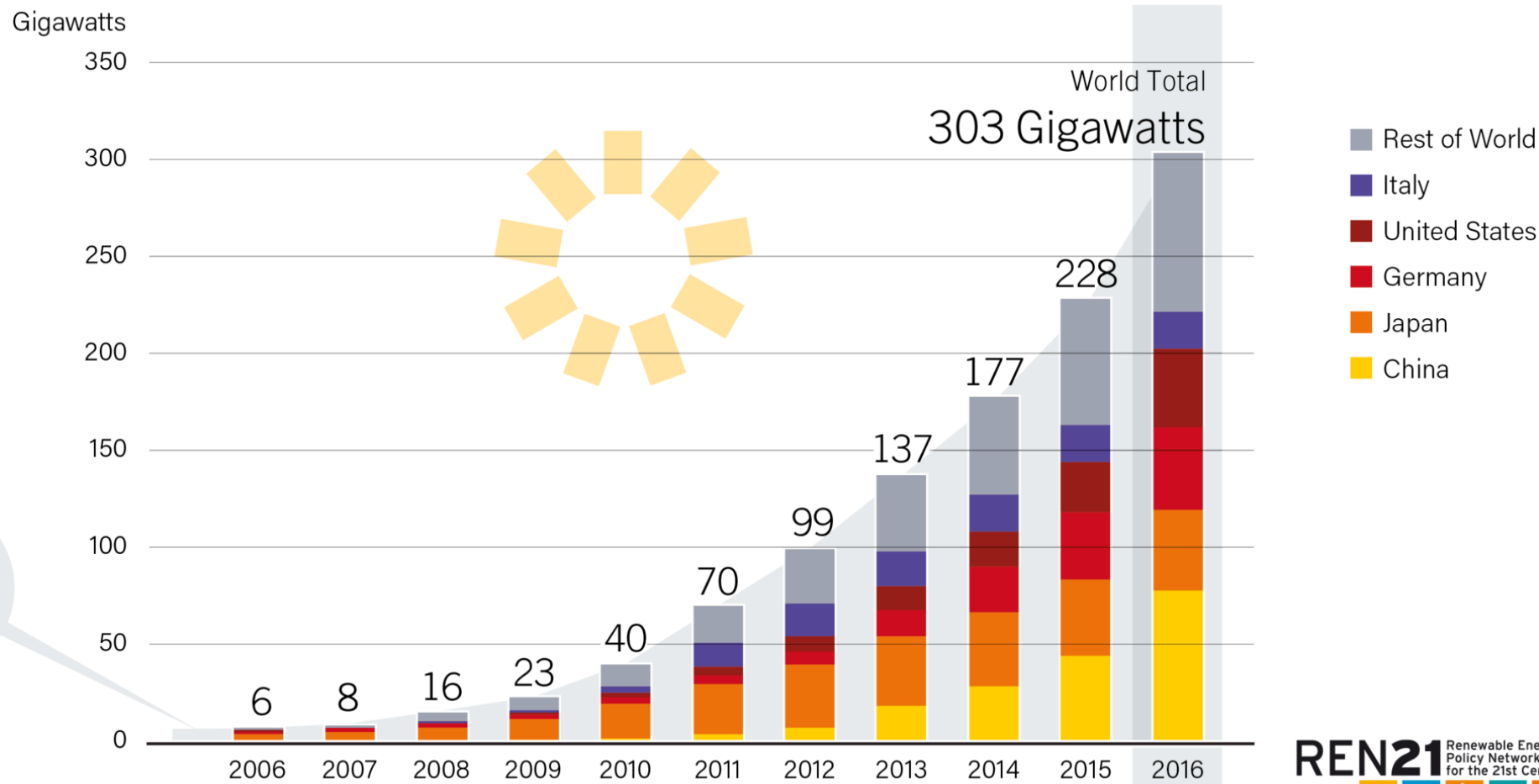
Estimated Renewable Energy Share of Global Electricity Production, End of 2016#



* As at 2008 see: https://en.wikipedia.org/wiki/Electricity_generation#Production_by_country

See: REN21 Renewables 2017 Global Status Report

Solar PV Global Capacity*



*by country and region 2006 – 2016 –see: REN21 *Renewables 2017 Global Status Report*

Market Opportunity

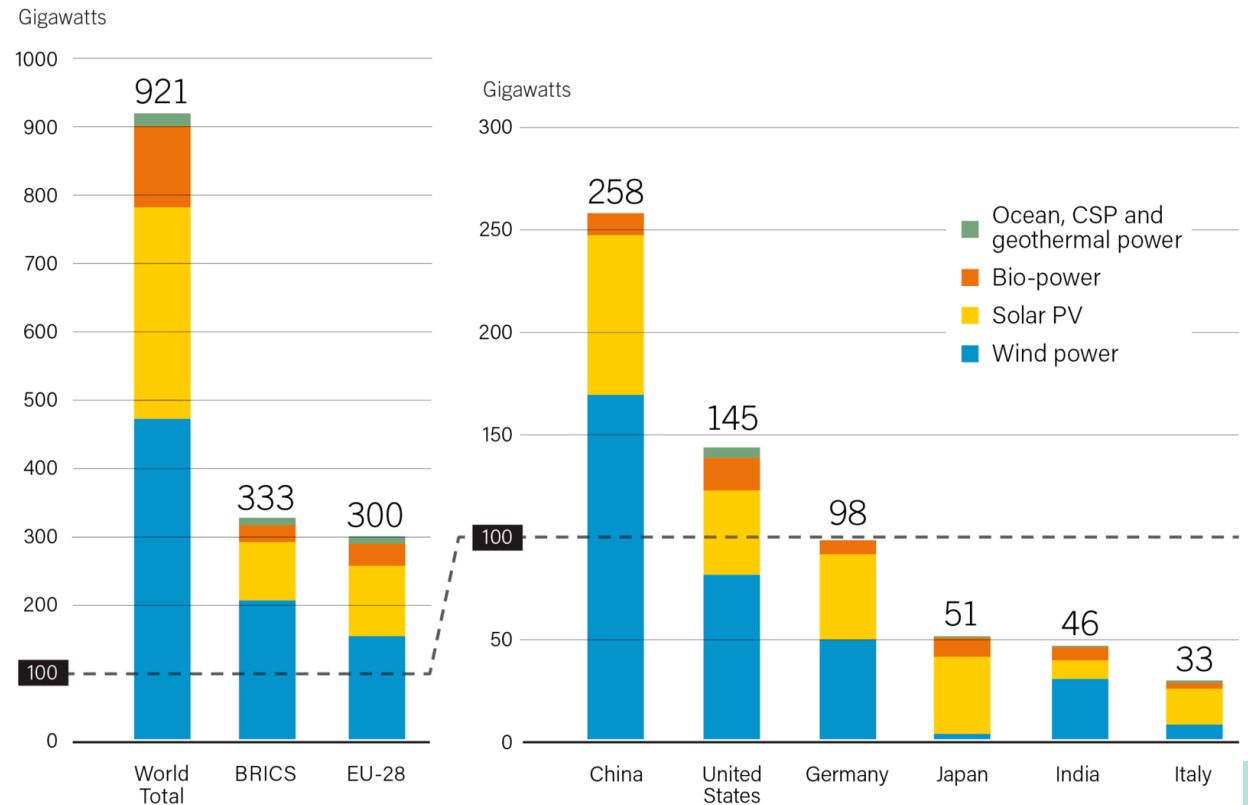
Traditional Roof Solar and PV Array Opportunity

- Worldwide growth of traditional photovoltaics has averaged 40% per year from 2000 to 2013
- Total installed PV capacity reached **303 GW at the end of 2016** with China having the most cumulative installations (78 GW)
- According to the latest “Global Solar Demand Monitor” from GTM Research, installations in 2018 will reach 82.5 gigawatts#. After that, annual installations are predicted to exceed 100 gigawatts each year until at least 2022.

All of these figures (and the stats on earlier slides) largely ignore the impact of BIPV!

#(originally forecast at 104 gigawatts but downgraded due to reduced activity in China)
 * BRICS – the emerging national economies of Brazil, Russia, India, China and South Africa.

Renewable Power Capacities in World, BRICS*, EU-28 and Top 6 Countries - 2016



Market Opportunity

Global Glass Market

Global Building Flat Glass
4,700M sqm



Global
Technical App.
Flat Glass
405M sqm



Global
Automotive
Glass Product
395M sqm



Global Glass Market Suppliers



❑ Total Glass Market Size 5,500 sqm pa in 2011 (NSG Group and the Flat Glass Industry Report 2011).

❑ The construction glass industry is predicted to reach **USD \$111 Billion** by 2020 (Technavio)

❑ Global green building expected to double by 2018 (World Green Building Council)

ClearVue's Opportunity

Market Drivers

US\$310 Billion

investment into clean energy in 2014+ 16%



5,500 million
square metres of glass
produced each year

€ \$23 Billion

Value of the flat
glass market



37%
increase in global
energy demand

Sources:

United Nations, Climate Spectator, NanoMarkets

Forbes - china-leads-the-world-in-renewable-energy-investment report July 2012

<http://www.climatespectator.com.au/news/uk-track-hit-2020-green-energy-targets-decc>

http://www.rechargenews.com/business_area/politics/article323311.ece

The Building Integrated Photovoltaics Opportunity

- ❑ Global market for building-integrated photovoltaic (**BIPV**) technologies was USD **\$2.4 billion** in **2016**
- ❑ Market to grow to USD **\$4.3 billion** by **2021** (with a compound annual growth rate (CAGR) of 12.2% for the period 2016 to 2021).

Source:

<https://www.bccresearch.com/market-research/energy-and-resources/building-integrated-photovoltaics-markets-report-egy072C.html>

ClearVue's Business Model



ClearVue will derive revenues from:

- ❑ **Direct sales** (initially) – by sale and supply of the Company's assembled products direct to distributors and licensed channel partners worldwide. The company will also continue to sell technology/product components to its licensees;
- ❑ **Licences** - the Company intends to charge a fee to manufacturers and distributors for the right to manufacture or distribute and sell the ClearVue product; and
- ❑ **Royalty payments** - the Company intends to charge a flat royalty fee per sqm of ClearVue glass/technology sold by a manufacturer or distributor business, with the rate to be determined.

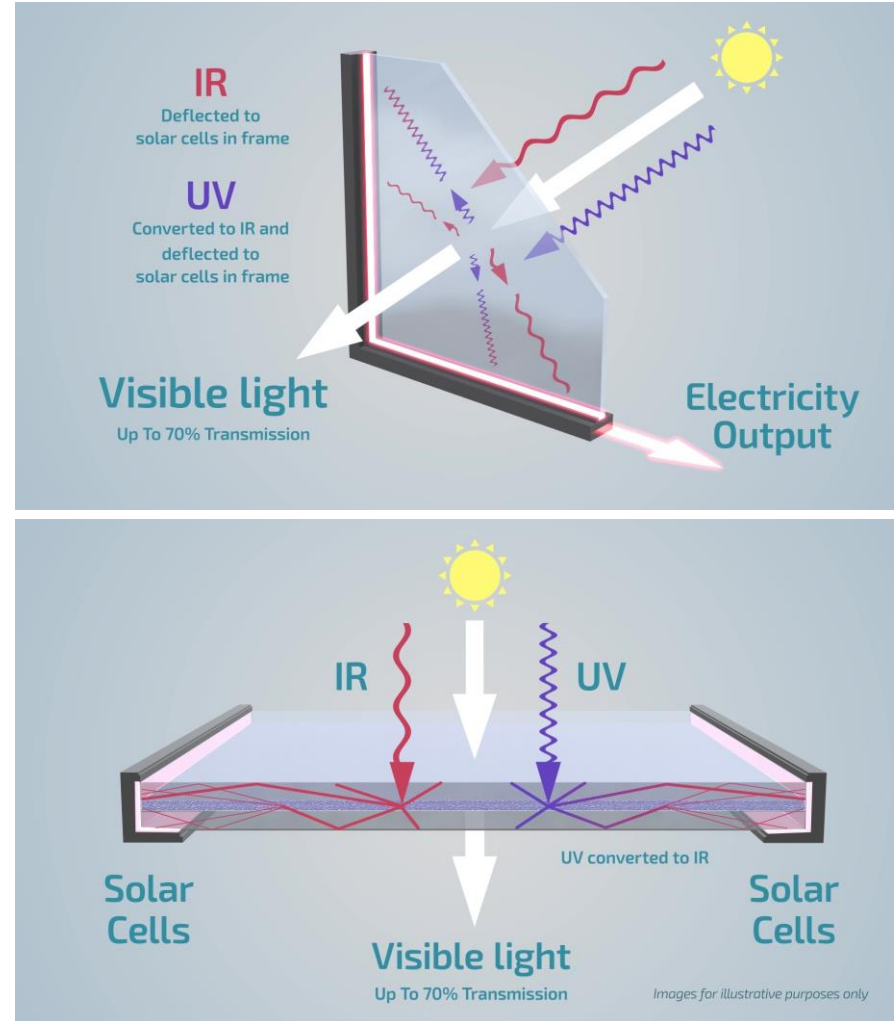
Personal use only



ClearVue's Technology

An overview of ClearVue's technology

- Visible light (VIS) passes through the glass
- Micro & nano particles interact with Ultra Violet (UV) radiation which is down-converted to longer wavelengths and scattered along with Infrared (IR) light to the edges of glass
- IR is collected by PhotoVoltaic (PV) cells - Produces electricity
- Reduces heat and blocks damaging UV and IR radiation
- Insulation properties reduce heating and cooling costs
- ClearVue has extensive IP protection on its technology and products



ersonal use only

Click on blank screen on left to play video.

OR play from:

<http://www.clearvuepv.com/products-solutions/technology/>

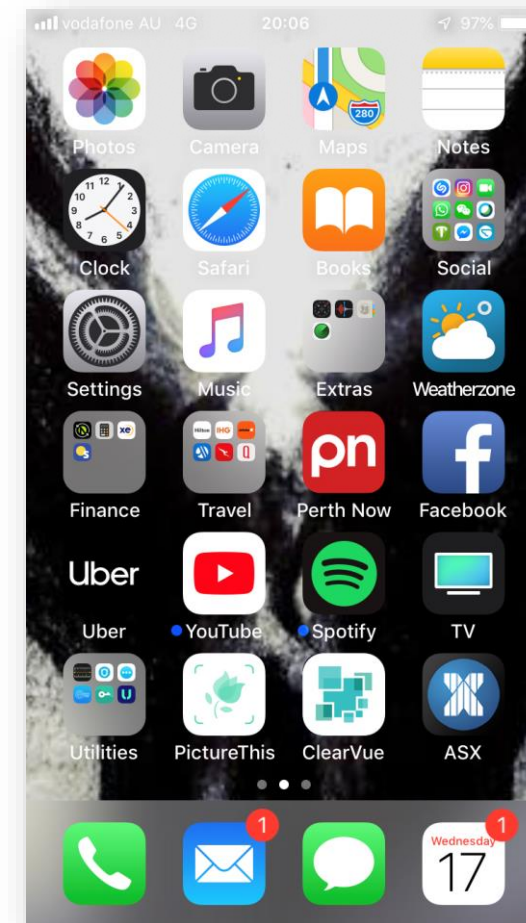
Product Opportunities



Personal use only

Smart Window Solutions

(Monitoring, sensors and IoT integrations)



Personal use only

Commercial & Residential Applications



large market opportunity – at the moment demand for BIPV solutions is limited by product characteristics
- no high energy performing and architecturally accepted transparent colourless products except from ClearVue

- ❑ By 2025 there will be more than 29 mega cities with 10 million plus people*
- ❑ Buildings can be a significant source of their own energy needs
- ❑ Insulation properties reduce heating and cooling costs
- ❑ Building owners obtain a faster payback from energy generating structures
- ❑ Skylights are the fastest new window market globally

* Source: UN Report on World Urbanisation & World Energy Outlook Report 2014



Public Amenities & Agriculture



Free energy in public places, e.g. libraries, or charge your mobile phone at a bus stop

Provide energy in developing countries in public buildings such as schools without large plots of adjacent land needed for solar arrays

Awnings, Atriums, Skylights, Road barriers

Waste management services and water purification

Powering IoT sensors and building electronics

Food and food security is a global multi billion dollar industry. Key markets are China, Europe and USA.

Technology presents opportunity for self powering greenhouses



Personal use only

Summary



In the **six (6) months** since listing on the ASX on 25 May 2018 the Company has achieved the following:

- ❑ Australian standards (Intertek) certification testing completed and EU certification (CE) on ClearVue window
- ❑ Design breakthrough to simplify product manufacture and increase market opportunities
- ❑ Product certification commenced for US market (UL) and for EU (IEC)
- ❑ Production commenced on glass units for use in pilot projects and for trade shows
- ❑ MOUs signed with:
 - ❑ Mirreco for supply of glass for use with their hemp-based building system and hemp-based eco mini homes. Demonstration eco mini home progressing;
 - ❑ Murdoch University as a site for the CRC-P funded greenhouse and for working with MU plant science researchers to demonstrate CV greenhouse performance;
 - ❑ yStop for using ClearVue in bus shelters and outdoor advertising opportunities in WA;
 - ❑ IoTStream for integration of IoT solutions with ClearVue's glass – whitelabel app prepared for use with ClearVue product installations; and
 - ❑ Zurreal for integration of ClearVue glass with Zurreal's art glass for niche architectural and advertising applications.
- ❑ Major product launches at trade shows in Australia (Fenestration 2018 – Pt Douglas - Sept), Europe (Glasstec 2018 – Dusseldorf - Oct) and North America (Greenbuild 2018 – Chicago - Nov)
- ❑ Pilot projects commenced
- ❑ Licensing discussions commenced (Worldwide) flowing from the trade shows

Questions?

Thank you for your attention – any questions?



info@clearvuepv.com



www.clearvuepv.com



facebook.com/clearvue/



linkedin.com/company/clearvuepv/



+61 8 9220 9020



ClearVue^{PV}

ersonal use only