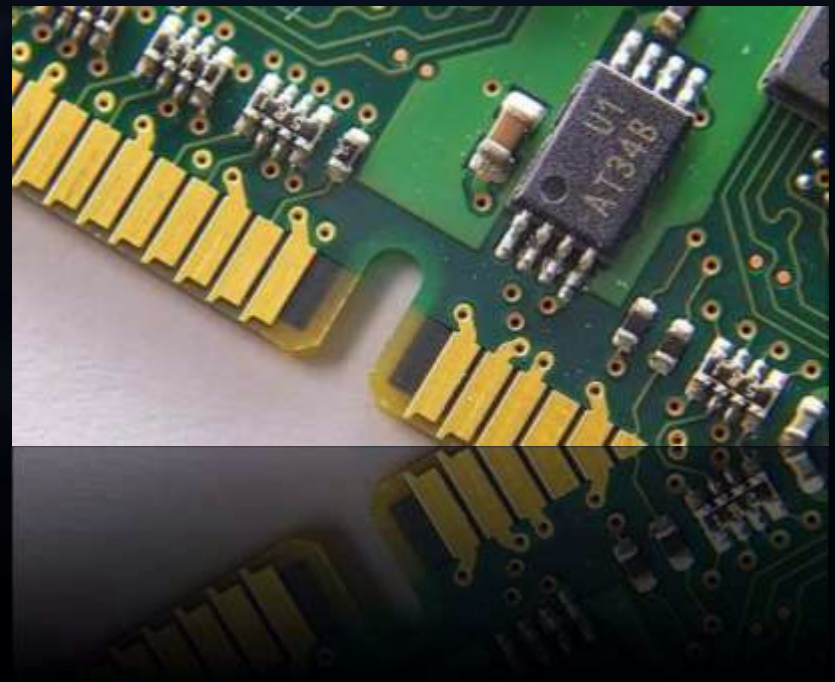
Lithium Universe LIMITED

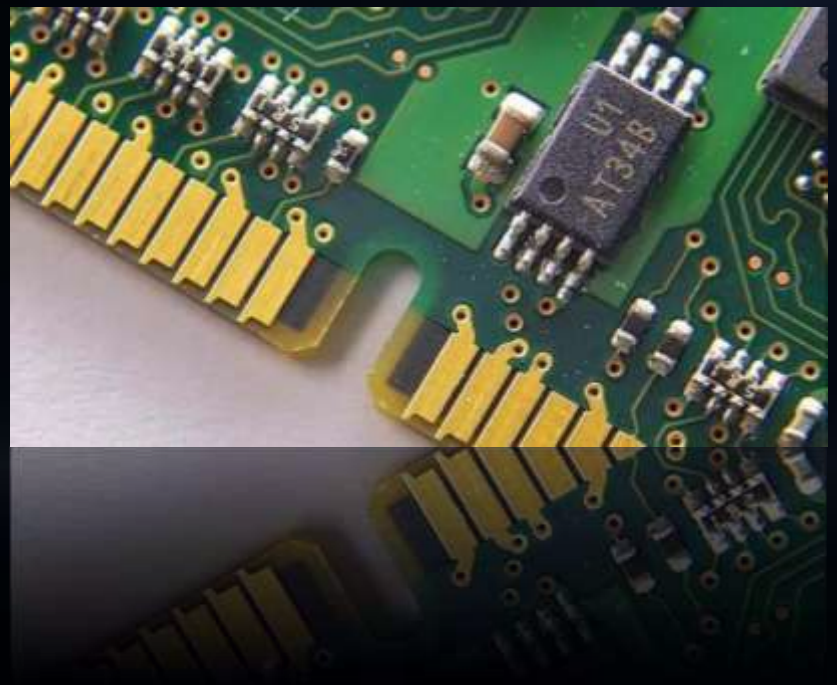
PRECIOUS METALS EXTRACTION
RECYCLING DIVISION

Silver Extraction from PV Recycling

Gold Copper Extraction from E Waste



GOLD COPPER EXTRACTION FROM E-WASTE



OUR E-WASTE PROBLEM

WHAT IS E-WASTE

- Discarded electrical, electronic equipment, computers, phones, and circuit boards
- Est 93.5 Mt to end in Land Fill
- Growing hazardous waste stream

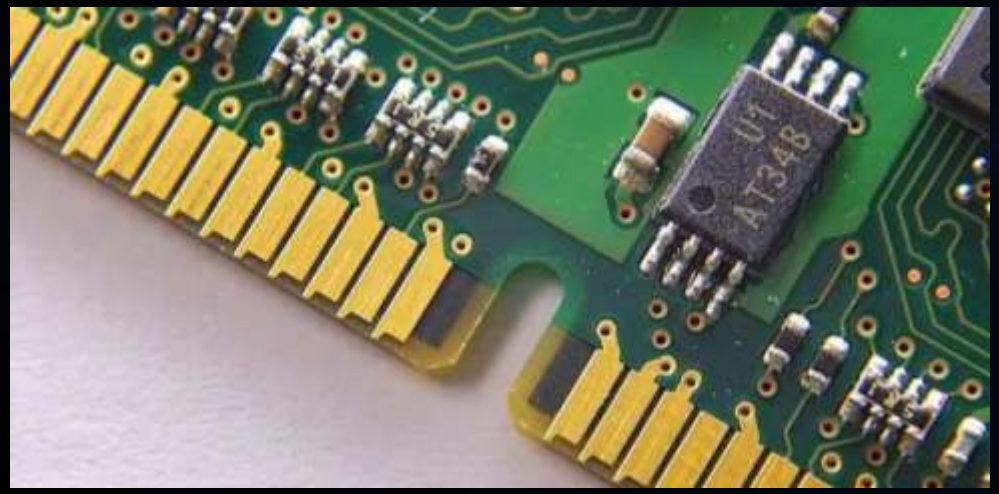
<20% ARE RECYCLED

- Rest are dumped in land fills
- Reason – complex metals and polymers – costly
- High temp smelting and chemical leaching
- Shipped to third world countries – combustion

TRADITIONAL E-WASTE SMELTING

- Proven large-scale industrial recovery technology
- Processes complex mixed electronic waste streams
- Operates at extremely high temperatures
- High energy use and carbon emissions
- Requires expensive smelting infrastructure
- Precious metals diluted into molten copper
- Multiple downstream refining stages required

GOLD COPPER IN CIRCUIT BOARDS

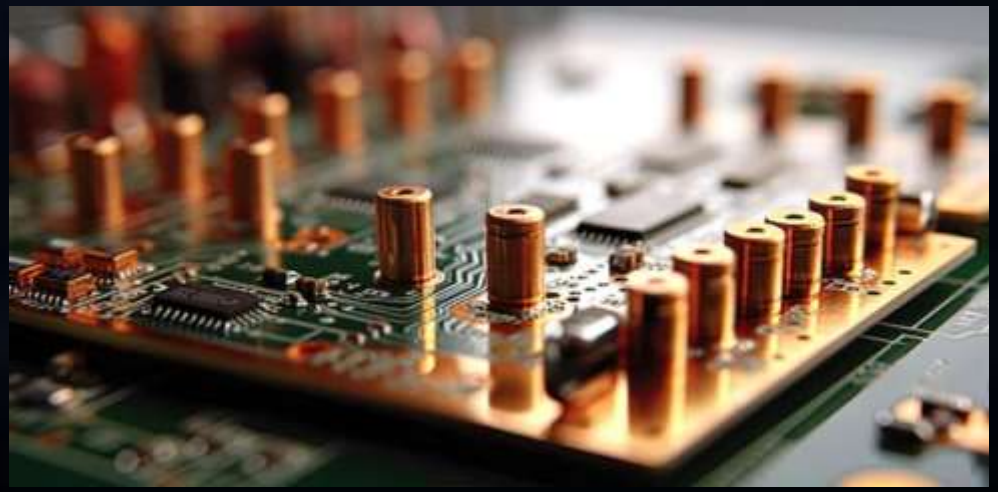


GOLD USE IN CIRCUIT BOARDS

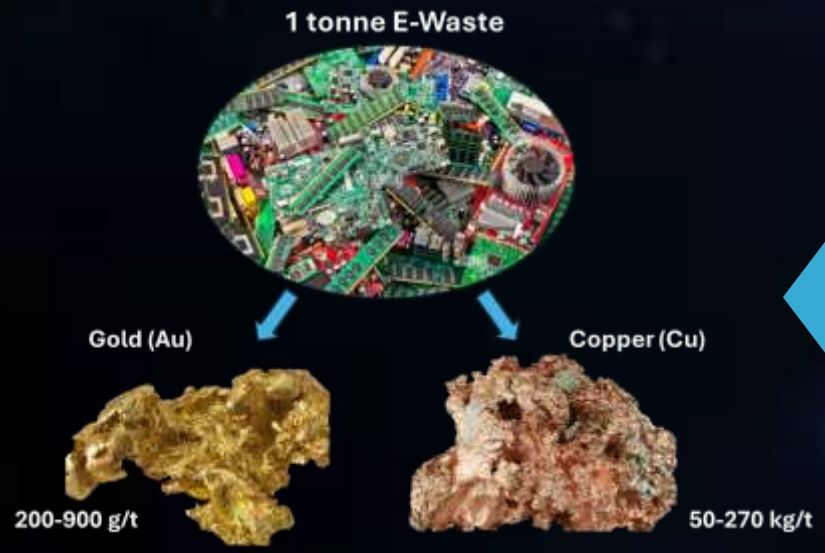
- Gold is applied to PCB edge connectors
- Contact pads, switch contacts and thin protective board coatings
- Fine bonding wires linking chips to their packages

COPPER USE IN CIRCUIT BOARDS

- Backbone in all circuitry
- Used internal wiring, PCB layers, charging ports
- Connectors, battery terminals, inductors
- Small coils, electronic heat spreaders



URBAN MINING & EXTRACTION



GOLD AND COPPER IN E-WASTE

- Approx 200–350 grams of Au /tonne of E-waste
- Printed Circuit Boards – up to 900 grams Au /tonne
- Cu in E-waste ranges from 50–270 kg per tonne
- Significant silver, palladium and rare metals also recoverable
- E-waste represents one of the world's richest urban ore sources

URBAN MINING & EXTRACTION

GOLD MINE VS E-WASTE COMPARISON

- Approx. 200–350 grams Au per tonne of E-waste
- Typical gold mines average only 5–7 g/t Au
- E-waste grades can exceed mines by > 50 times
- Urban mining reduces dependence on new gold mines
- Lower environmental footprint than conventional mining
- Reduces landfill and hazardous e-waste accumulation
- Recovers valuable metals sustainably
- Domestic critical metal supply
- Faster permitting potential

DEMAND SUPPLY - GOLD & COPPER

GOLD

- Supply constrained, capital intensive, slow to permit and develop
- Total gold production = 5,000 tonnes per year
- At current price of US$4,500 /oz - 300 grams /t US$43,700 per tonne E-waste

COPPER

- Total Cu supply – 32-34 million tonnes
- Demand ~28-30 million tonnes per year
- Current LME price of copper – US$9,800 p/t
- Ave 160 kg/t in E-waste worth US$1,570 /tonne

TYPICAL E-WASTE RECYCLING PLANT

Source: FOR REC Italy

Output

Non-Ferrous

Iron

Plastic

Electronic Boards

Wires

Can purchase E-waste to feed into GCDE Technology

Gold & Copper Extraction GCDE

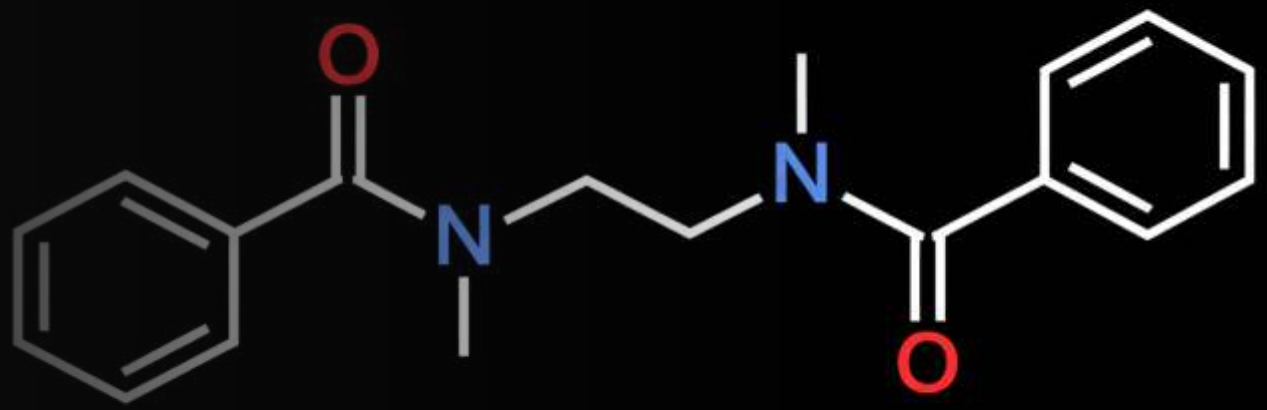
LU7 ACQUIRES GOLD COPPER DIAMIDE EXTRACTION (GCDE) TECHNOLOGY

- Agreement to acquire global rights
- New hydrometallurgical processes for e-waste recycling
- Ability to selectively extract gold and copper from E-Waste
- Prof Jason Love & Prof Carole Morrison
- Edinburgh University – School of Chemistry
- Patents (pending) Europe and USA
- EU shares in success – 2-3% Royality Rights
- Collaborative future research together

BREAKING NEWS

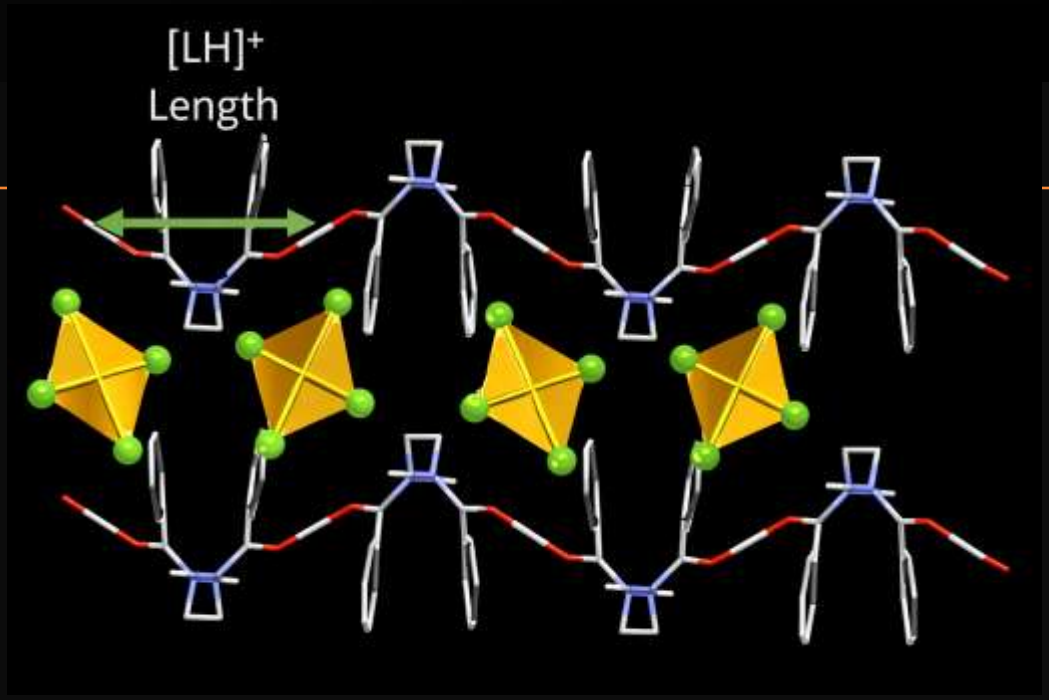
THE UNIVERSITY of EDINBURGH

- Organic compound – Amide Ligand
- Contains two coordinating amide donor sites
- Selectively binds Au^{3+} chloride complexes in solution
- Forms a stable gold–ligand coordination complex



DIAMIDE LIGAND

- Operates effectively in acidic chloride media
- High affinity for gold over base metals
- Minimal co-extraction of copper and iron
- Gold complex precipitates or transfers to organic phase
- Ligand can be regenerated and reused after stripping



GCDE TECHNOGY

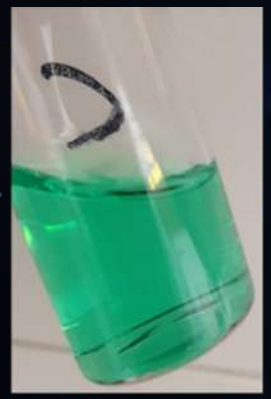
- Hydro-met process instead of smelting
- Uses a diamide ligand as a selecting agent
- Acts like selective “magnets” for Gold
- Circuit board metals are dissolved in acid (HNO3 HCL)
- Solution contains many metal ions and impurities

- Gold and copper - soluble chloride $AuCl_4^-$ $CuCl_4^{2-}$
- Diamide is added - selectively bind to the gold ion
- Diamide gold complex crystallizes, settles
- Gold complex filtered, washed and further refined
- Diamide reagent recovered for reuse multiple times

STAGE 1 – GOLD EXTRACTION

Separated E-Waste

Dissolve Metals with Aqua Regia



Solution contains Au and Cu

Add Diamide L Mix 1-2 mins

Gold is precipitated selectively

Wash solids with water, Recycle Amide L

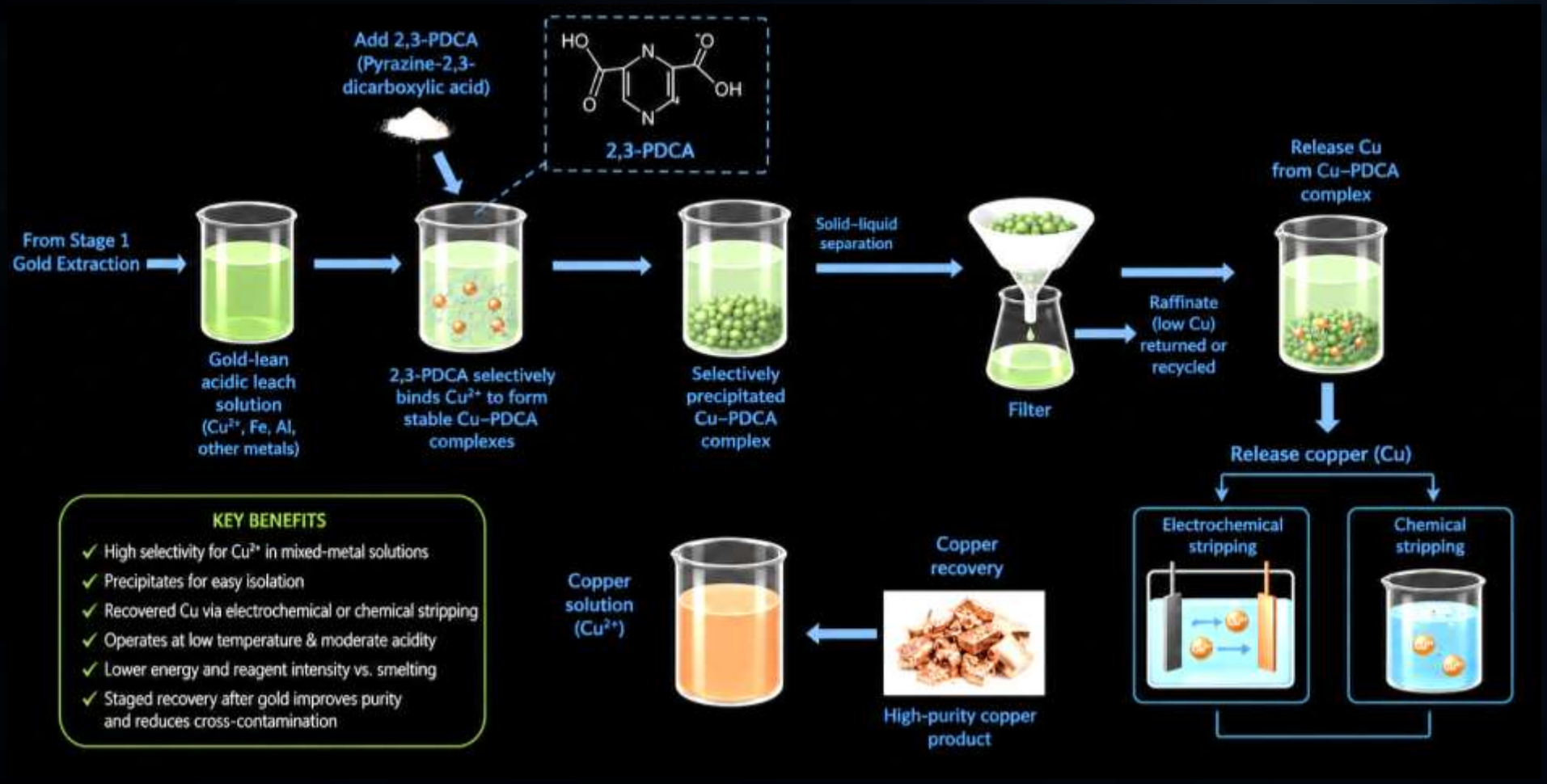
Pure Gold Solution

Reduce Gold to Metallic Form

Melt

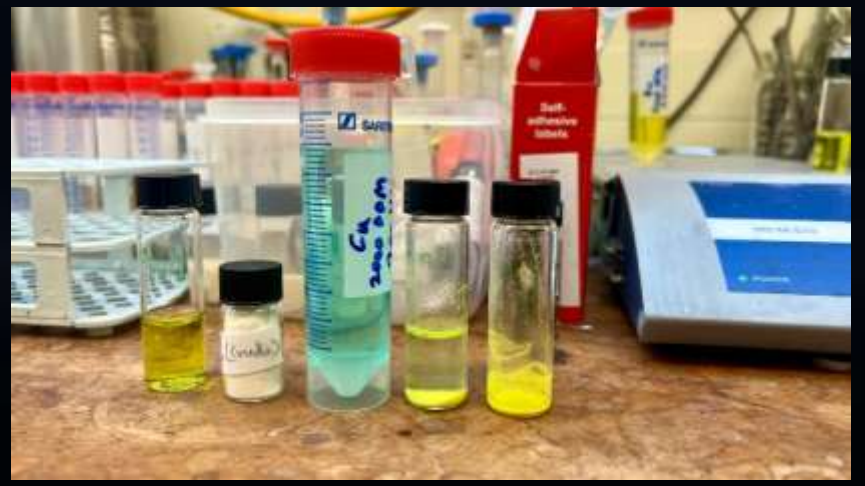
Gold Metal

STAGE 2 – COPPER EXTRACTION

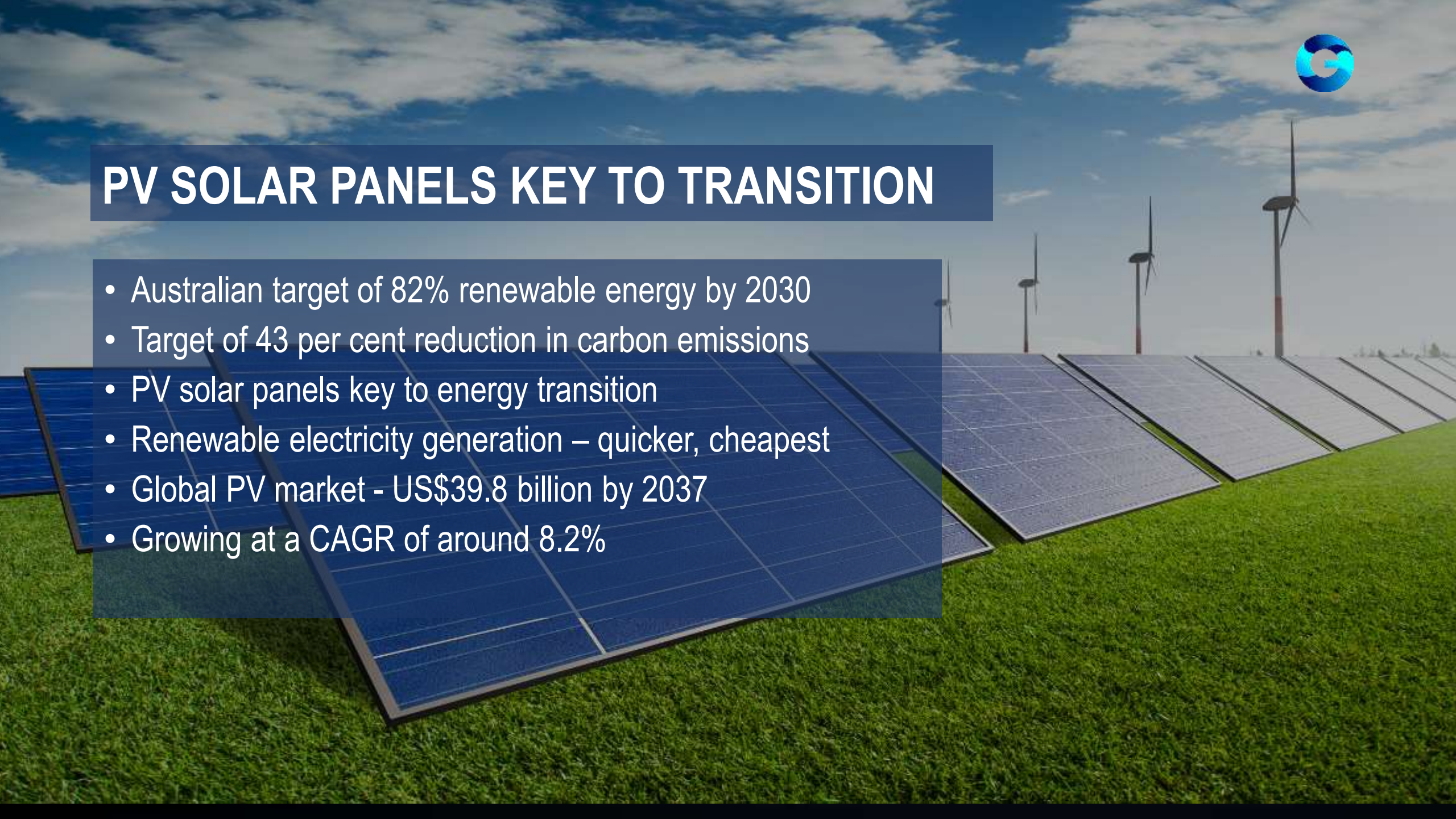


LU7 ACQUIRES GCDE TECHNOLOGY

- LU7 secured exclusive global GCDE commercialization rights
- Agreement signed with University of Edinburgh
- Patents pending in Europe and United States
- LU7 may commercialize and sublicense technology globally
- Edinburgh receives 2–3% revenue royalty payments
- License term extends up to 20 years
- Milestone payments linked to pilot and commercialization stages



SILVER EXTRACTION FROM PV RECYCLING

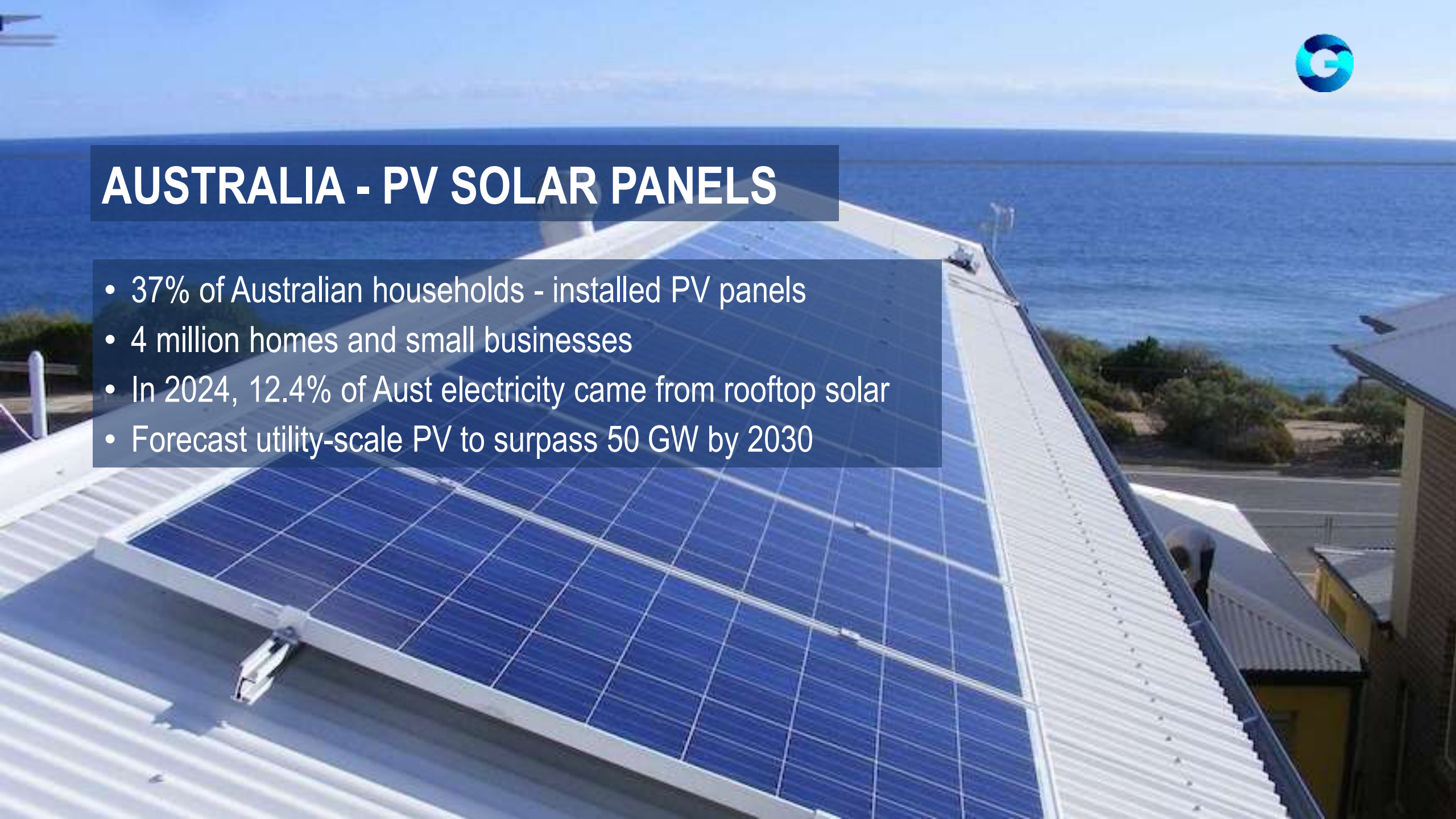


PV SOLAR PANELS KEY TO TRANSITION

- Australian target of 82% renewable energy by 2030
- Target of 43 per cent reduction in carbon emissions
- PV solar panels key to energy transition
- Renewable electricity generation – quicker, cheapest
- Global PV market - US$39.8 billion by 2037
- Growing at a CAGR of around 8.2%

AUSTRALIA - PV SOLAR PANELS

- 37% of Australian households - installed PV panels
- 4 million homes and small businesses
- In 2024, 12.4% of Aust electricity came from rooftop solar
- Forecast utility-scale PV to surpass 50 GW by 2030



THE PROBLEM TODAY

- Globally 60-78mt accumulated waste PV by 2050
- Australia 1 Mt end-of-life PV worth $1B by 2045
- Only 15% of PV cells today are recycled
- Rest ends up in LAND FILL
- Valuable silicon, silver, gallium & indium

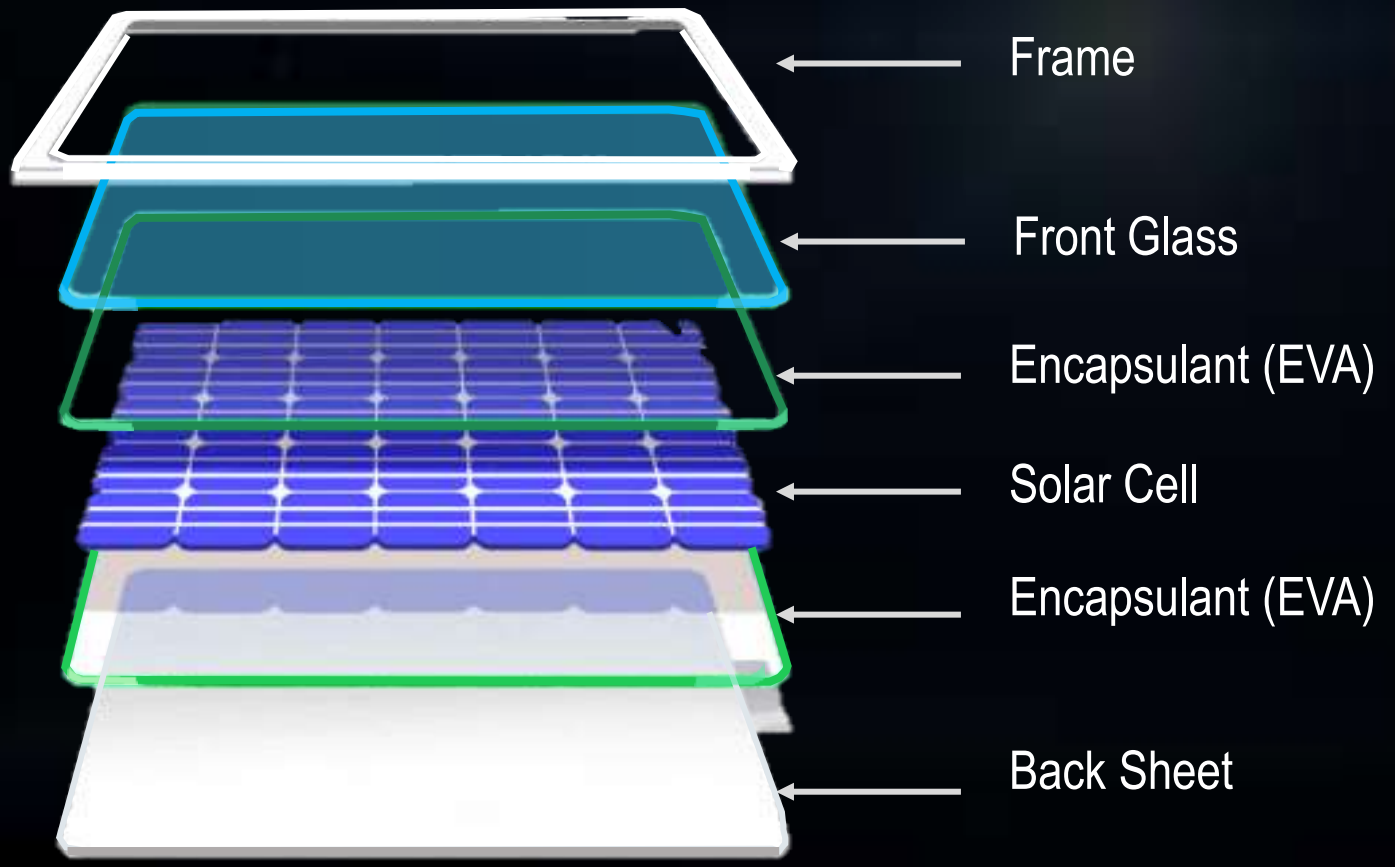
15%

SCRAPING VALUABLE SILVER

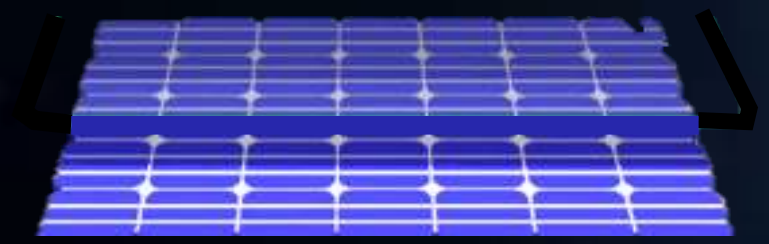
- About 20 grams of Silver – each PV panel
- Electrical contacts – flow of electricity
- “Fingers" (thin lines) and "busbars" (thicker lines)
- >A$67 of Silver in every panel

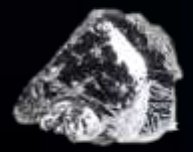

“Australia is about to be hit by a Tsunami of Solar Waste”
(International Energy Agency)

PV SOLAR CELL



CRITICAL METALS LOST FROM INEFFICIENT RECYCLING





Silicon

(Semiconductor)

Silver

(Electrical Conductivity)

Gallium

(Energy Efficiency)

Indium

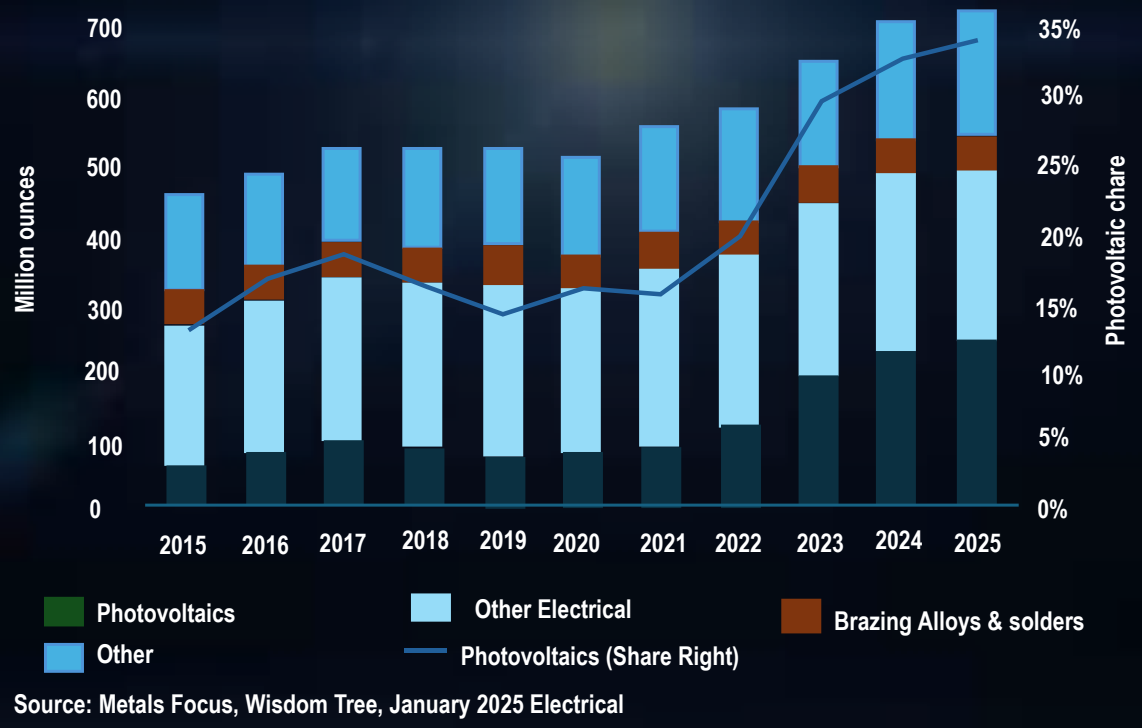
(Energy Absorption)

In Fact, the Silver that's contained inside Solar Modules equates to in its totality, Australia's Biggest Silver Mine"

(Australia Smart Energy Council)

SILVER MARKET

- Record demand 680 million ounces in 2024
- Industrial demand surged by 7%
- Growth is expected to carry beyond 2025
- Photovoltaics and AI as the fastest-growing drivers



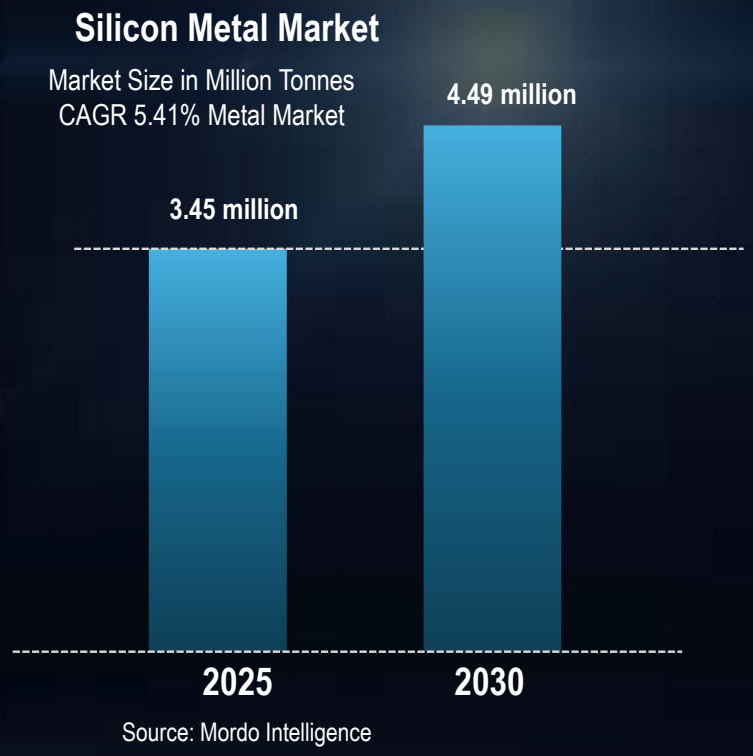
Source: Metals Focus, Wisdom Tree, January 2025 Electrical

SILVER PRICE RESPONSES

- Demand has started to outstrip supply
- Market deficit 118 mil oz
- Significant silver price increase
- US$15/oz in 2018 to US$73/oz 2025
- 380% increase since 2018
- Silver recovery from recycling will become increasing important

SILICON MARKET

- 3.45 million tonnes in 2025
- 4.49 million tonnes by 2030 growing at CAGR 5.41% pa
- Solar panels projected highest growth rate of 7% til 2029
- Silicon dominance in semi-conductor material in solar cells



TRADITIONAL PV RECYCLING

- Shredding and grinding PV cells
- EVA (binder) is removed by high temperatures
- EVA removed by toxic acid chemicals
- Low value glass applications – insulation, buildings
- Low silicon and silver recovery
- Due to complexity, high cost, poor yields

Initial Dismantling

Mechanical Breakdown

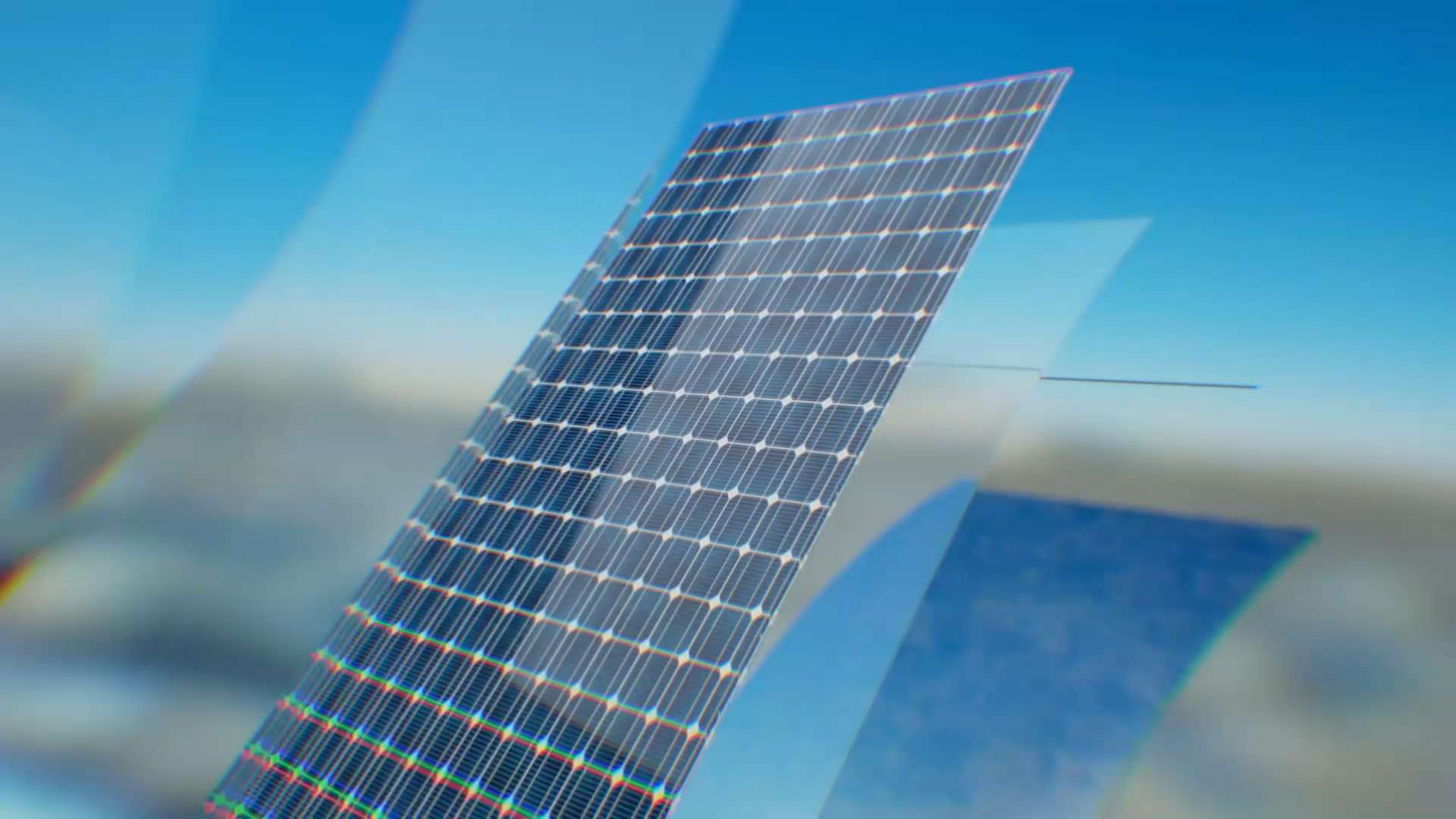
Material Extraction

LU7 PV RECYCLING TECHNOLOGY

- Microwave Joule Heating Technology (MJHT)
- Jet Electrochemical Silver Extraction (JESE)
- Layer by layer separation
- Preserves materials in cleaner separable form
- High value products instead of waste

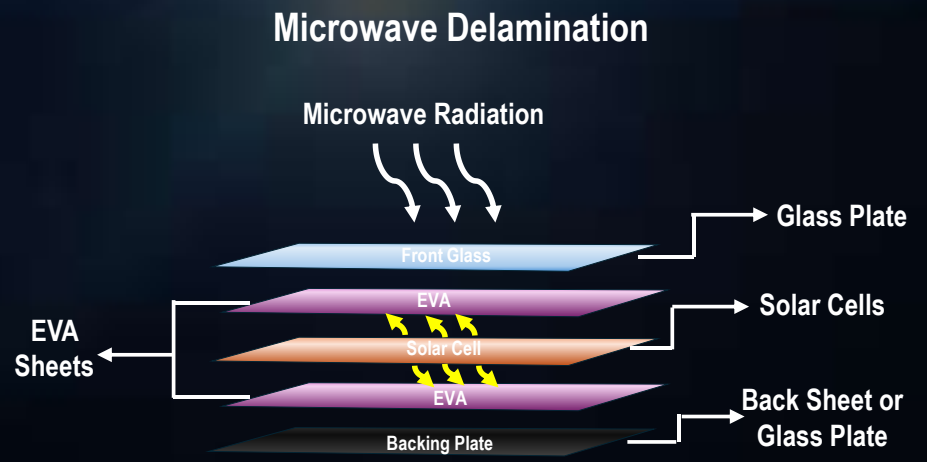
MACQUARIE University
SYDNEY·AUSTRALIA

Lithium Universe LIMITED



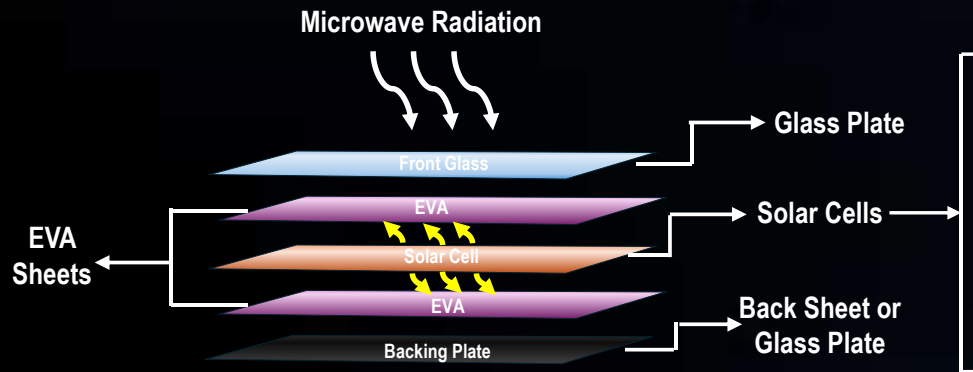
MICROWAVE DELAMINATION

- Microwave Joule Heating Technology (MJHT)
- Utilizes Microwave Technology
- Selectively heat and delaminates PV cells
- Glass panel instead of crushed glass
- Silicon sheet instead of crushed powder
- High value products instead of waste

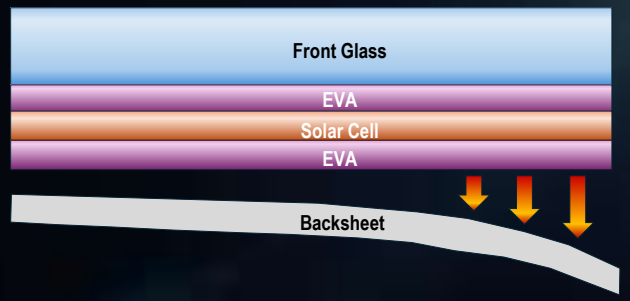


MJHT SELECTIVE DELAMINATION

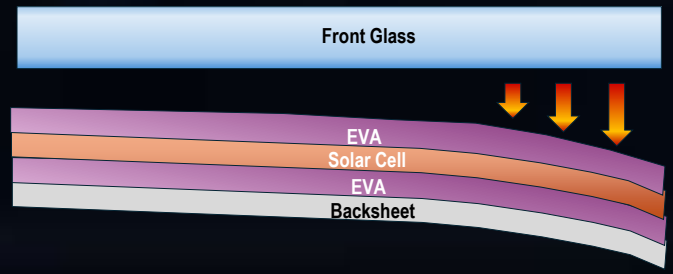
Microwave Delamination



Back Sheet Delamination

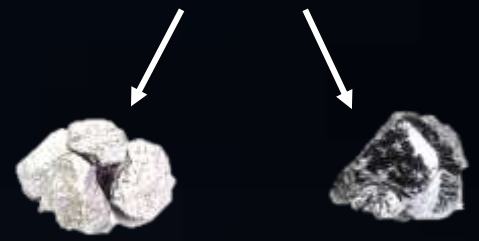


Front Glass Delamination



Clean Glass Sheet to be Reused

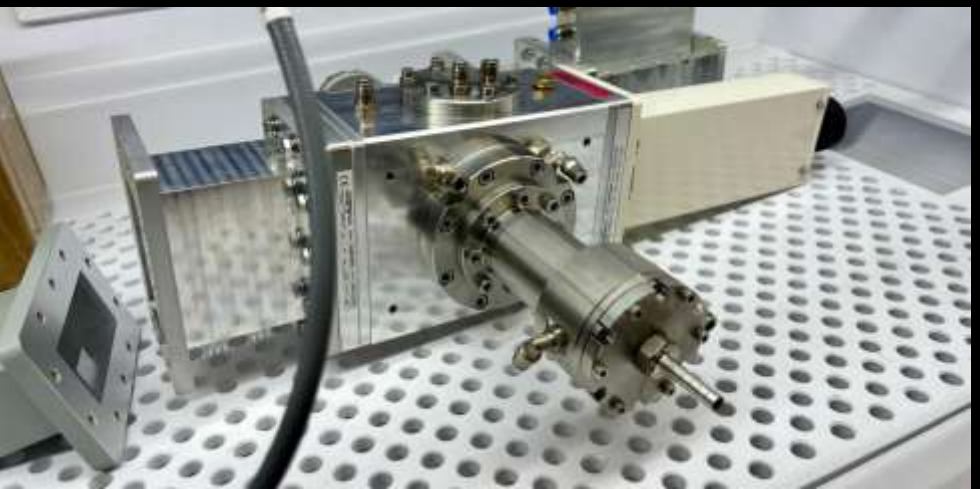
Silicon Wafer for Silver Extraction & Silicon Recycling

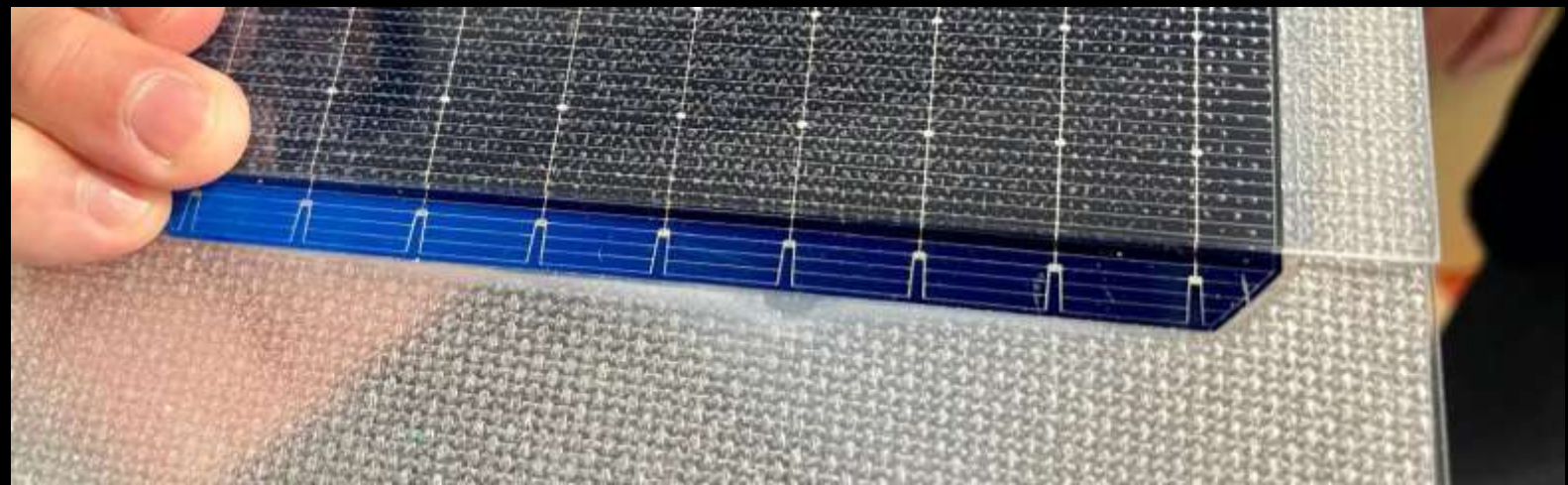


Silver (High Purity)

Silicon (High Purity)


Dinesh

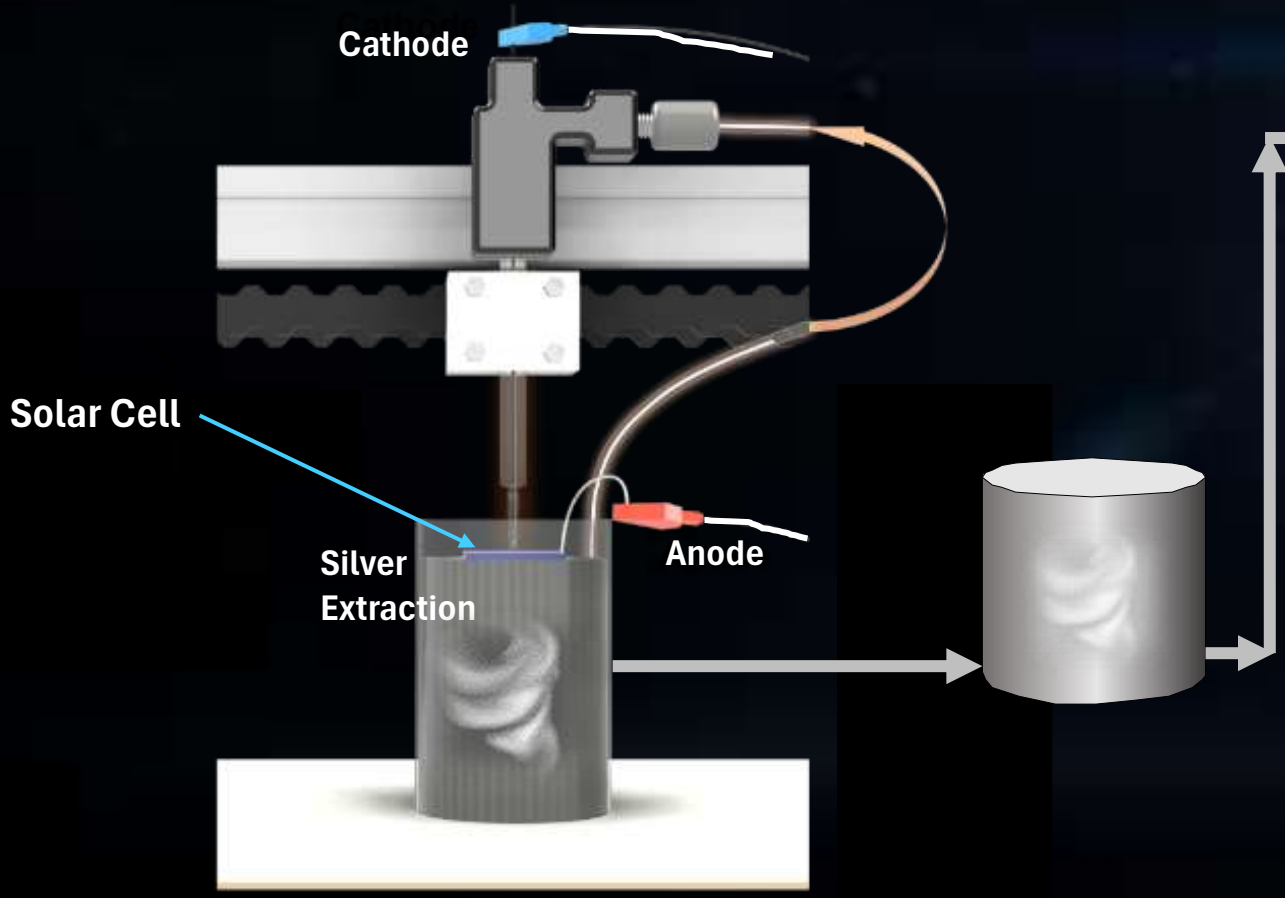




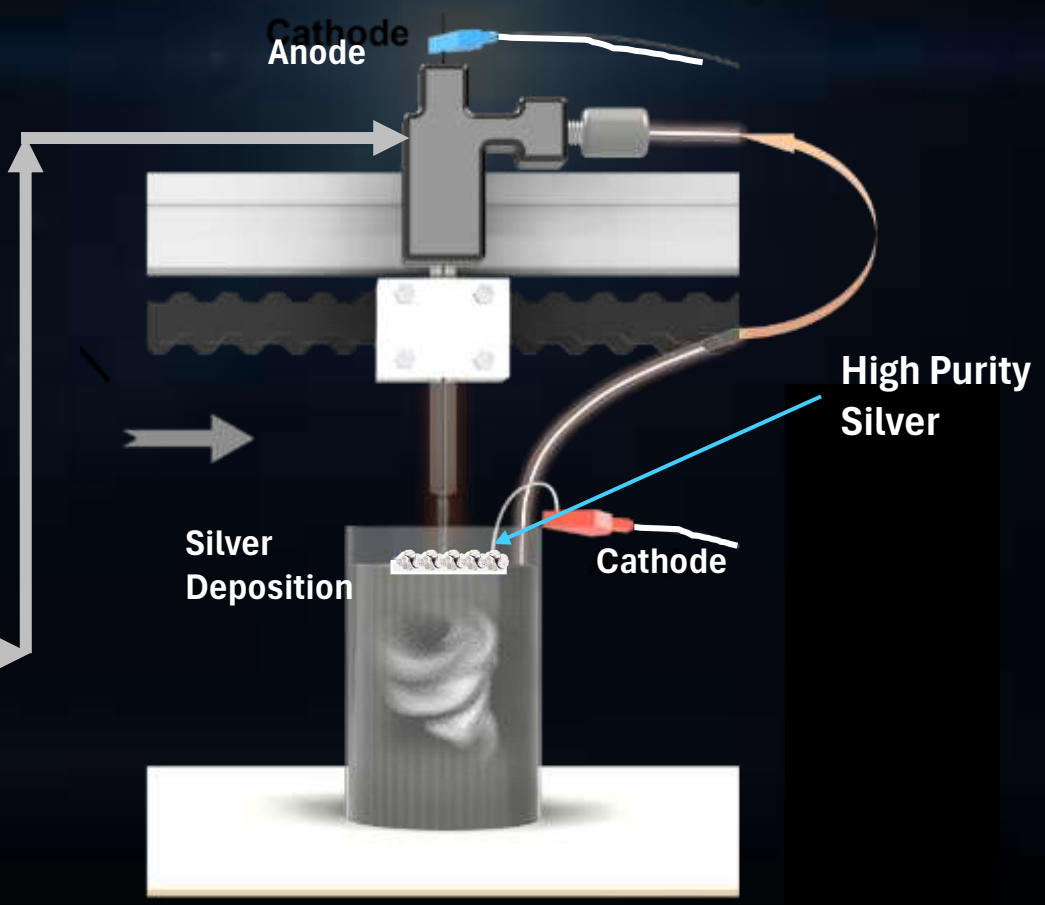
SILVER EXTRACTION

- Jet Electrochemical Silver Extraction (JESE)
- Uses electrochemical low-voltage jet to selectively extract silver
- Silver dissolves into dilute nitric acid electrolyte
- Leaves aluminum and other impurities behind
- High purity silver metal recovered from electrolyte via electrochemical deposition

SILVER EXTRACTION



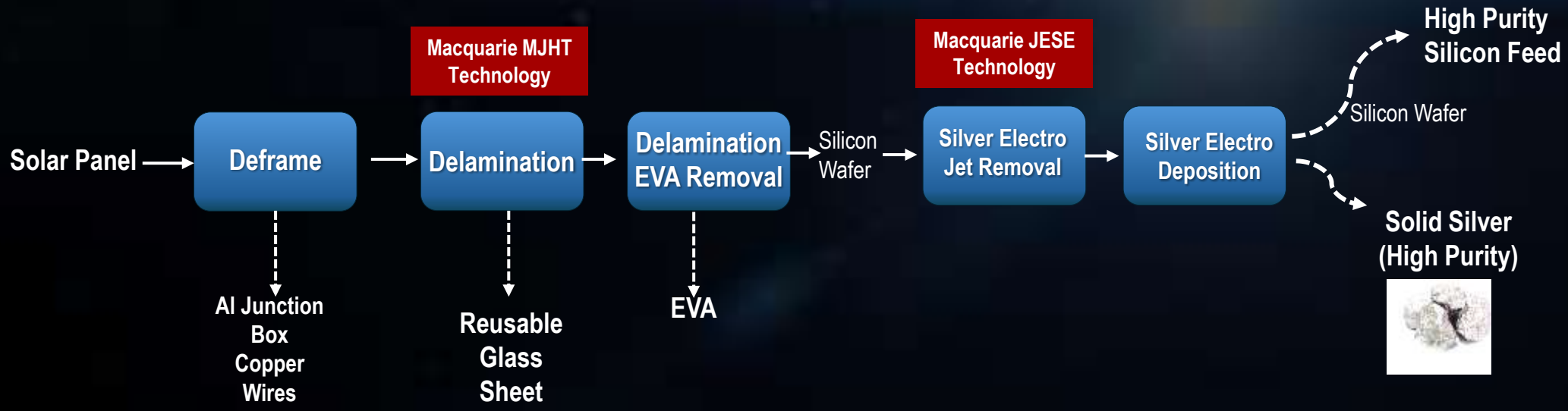
SILVER DEPOSITION



ACHIEVEMENTS

- Silver removal leaves impurities – adjust voltage
- Silver deposited at the same process
- Recoveries better than 95%
- 96% purity of silver deposited
- Dopants can be cleaned off silicon wafer
- Silicon wafer high purity for direct reuse
- All high value separate products

RECYCLING TECHNOLOGY



MICROWAVE JOULE HEATING TECHNOLOGY (MJHT)

Artist Impression

JET ELECTROCHEMICAL SILVER EXTRACTION (JESE)

Artist Impression

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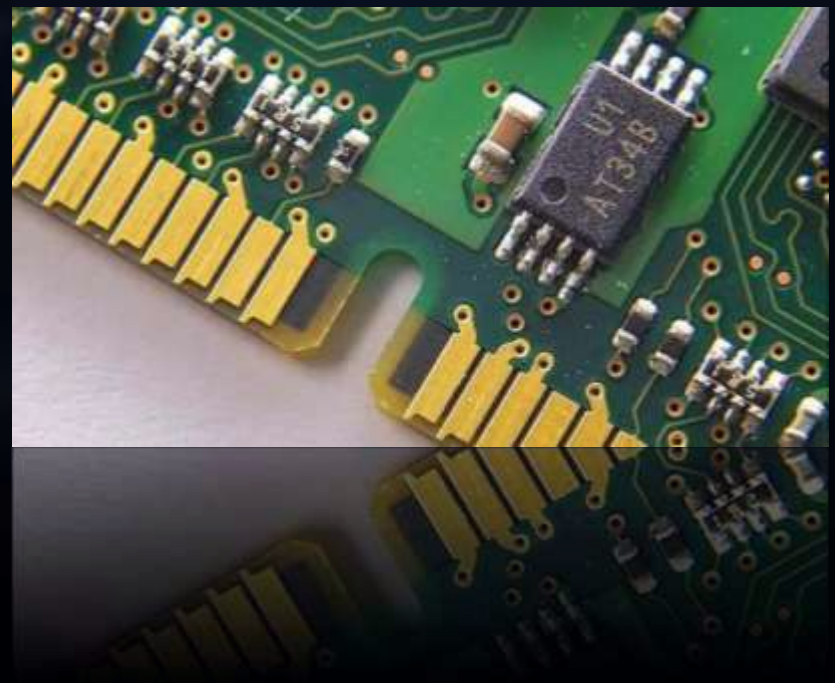

CAUTIONARY STATEMENTS

Information Required by Listing Rules

The Becancour Lithium Refinery Definitive Feasibility Study (PFS) does not rely upon estimated ore reserves / and or mineral resources. The spodumene concentrate feedstock for the proposed refinery has been assumed to have been purchased directly from spodumene miners currently producing spodumene concentrates or marketing agents or traders currently purchasing spodumene concentrate and selling to the downstream processors. Accordingly, the JORC Code is not relevant to this study nor are Listing Rules 5.16 and 5.17 to the extent to which they relate to matters concerning JORC.

Forward Looking Statements

This release contains "forward-looking information" that is based on the Company's expectations, estimates and projections as of the date on which the statements were made. This forward-looking information includes, among other things, statements with respect to studies, the Company's business strategy, plan, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations. Generally, this forward looking information can be identified by the use of forward-looking terminology such as 'outlook', 'anticipate', 'project', 'target', 'likely',' believe', 'estimate', 'expect', 'intend', 'may', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. Persons reading this news release are cautioned that such statements are only predictions, and that the Company's actual future results or performance may be materially different. Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the Company's actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking information. Forward-looking information is developed based on assumptions about such risks, uncertainties and other factors set out herein, including but not limited to general business, economic, competitive, political and social uncertainties; the actual results of current development activities; conclusions of economic evaluations; changes in project parameters as plans continue to be refined; future prices of metals; failure of plant, equipment or processes to operate as anticipated; accident, labour disputes and other risks of the chemical industry; and delays in obtaining governmental approvals or financing or in the completion of development or construction activities. This list is not exhaustive of the factors that may affect our forward-looking information. These and other factors should be considered carefully, and readers should not place undue reliance on such forward-looking information. Neither the Company, nor any other person, gives any representation, warranty, assurance or guarantee that the occurrence of the events expressed or implied in any forward-looking statement will actually occur. Except as required by law, and only to the extent so required, none of the Company, its subsidiaries or its or their directors, officers, employees, advisors or agents or any other person shall in any way be liable to any person or body for any loss, claim, demand, damages, costs or expenses of whatever nature arising in any way out of, or in connection with, the information contained in this document. The Company disclaims any intent or obligations to or revise any forward-looking statements whether as a result of new information, estimates, or options, future events or results or otherwise, unless required to do so by law.

Cautionary Statement

The DFS is based on the material assumptions outlined including that it has been completed in accordance with AACE Principles to a Class 5 level with a nominal level of accuracy of ± 35%, that the financial forecasts rely upon the purchase of third party spodumene concentrate as the feedstock for the plant. The DFS referred to in this announcement has been undertaken to assess the potential technical feasibility and economic viability of constructing and operating facilities capable of producing battery grade lithium carbonate for use in lithium-ion batteries from those units of operations and provide baseline financial metrics to consider future investment decisions.

The Definitive Feasibility Study (PFS) is based on the material assumptions. These include assumptions about the availability of funding. While Lithium Universe considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the DFS will be achieved. To achieve the range of outcomes indicated in the DFS, funding of in the order of US$600 million will likely be required. Investors should note that there is no certainty that Lithium Universe will be able to raise that amount of funding when needed. It is also likely that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Lithium Universe's existing shares. It is also possible that Lithium Universe could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the project. If it does, this could materially reduce the Company's proportionate ownership of the project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the DFS