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#### Listing Rule & Competent Person Statements





#### **ASX Announcements cited**

The following ASX Announcements are cited in this presentation

- 1.See ASX Release 7 April 2022 "Significant Increase in Measured & Indicated Resources at Cape Flattery Silica Project"
- 2. See ASX Results 28 April 2022 "Positive Metallurgical test work results achieved at CFS"
- 3. See ASX Release 15 June 2021 "Mining Lease Application lodged for Cape Flattery Silica"
- 4.See ASX Release 21 March 2022 "Cape Flattery Silica Pre Feasibility Study"
- 5. See ASX Release 30 August 2022 "MOU signed to explore off-take arrangements on CFS Project"
- 6. See ASX Release 10 November 2021 "Cape Flattery Silica Sand Project Production Target"

The statements in this presentation concerning Mineral Resource Estimates at the CFS Project are derived from ASX announcements 1, 4 and 6 above.

#### **Listing Rule 5.23**

The Company confirms that it is not aware of any new information or data that materially affects the information included in these original market announcements and, in the case of estimates of mineral resources or ore reserves and production forecasts and forecast financial information, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Statements concerning production targets and related financial information are derived from ASX announcements 3 and 5 above.

#### Listing Rule 5.19.2

The Company confirms that all material assumptions underpinning the production target and corresponding financial information continue to apply and have not materially changed.

#### **Competent Person Statement**

The information in this report that relates to the Cape Flattery Silica Project – Eastern Resource Area is based on information and modelling carried out by Chris Ainslie, Project Engineer, who is a full-time employee of Ausrocks Pty Ltd and a Member of the Australasian Institute of Mining & Metallurgy. The work was supervised by Mr Carl Morandy, Mining Engineer who is Managing Director of Ausrocks Pty Ltd and a Member of the Australasian Institute of Mining & Metallurgy and also by Mr Brice Mutton who is a Senior Associate Geologist for Ausrocks Pty Ltd. Mr Mutton is a Fellow of the Australasian Institute of Mining & Metallurgy and a Fellow of the Australian Institute of Geoscientists.

Mr Morandy and Mr Ainslie and Mr Mutton are employed by Ausrocks Pty Ltd who have been engaged by Metallica Minerals Ltd to prepare this independent report, there is no conflict of interest between the parties. Mr Morandy, Mr Ainslie and Mutton consent to the disclosure of information in the form and context in which it appears in this report.

The overall resource work for the Cape Flattery Silica Project – Eastern Resource Area is based on the direction and supervision of Mr Mutton who has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves".

#### **Cape Flattery Silica Sand Exploration Results**

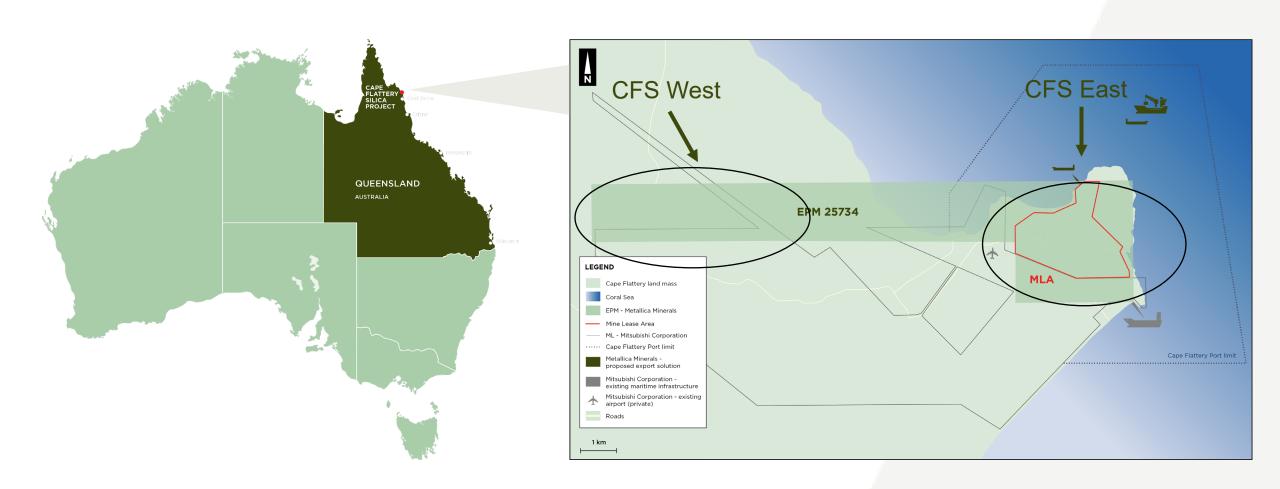
The information in this report that relates to the Exploration Sampling and Exploration Results is based on information compiled by Mr Patrick Smith, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy.

Mr Smith is the owner and sole Director of PSGS Pty Ltd and is contracted to Metallica Minerals as their Exploration Manager. Mr Smith confirms there is no potential for a conflict of interest in acting as the Competent Person. Mr Smith has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Smith consents to the inclusion of this information in the form and context in which is appears in this release/report.

# Cape Flattery Silica Project Location







### Company Highlights







Cape Flattery Silica
(CFS) is 100% owned
by Metallica Minerals and
deemed a project of
Regional Significance



**46Mt Reserve high purity**Silica Sand
resource<sub>1</sub>



**Excellent internal Metallurgical test results received –**potential customer
acceptance underway<sub>2</sub>



CFS West Maiden Resource<sub>3</sub>



CFS project has a transport solution – located within Port Limit of Cape Flattery



PFS highlights strong positive, low Capex, low Opex and Reserve for 25 years production<sup>4</sup>



Booming production of Solar panels stimulates significant demand for high purity silica sand



MoU executed with Mitsui <sup>5</sup>

1. See ASX Release 7 April 2022 "Significant Increase in Measured & Indicated Resources at Cape Flattery Silica Project", 2. See ASX Results 28 April 2022 "Positive Metallurgical test work results achieved at CFS" 3. See ASX Release 3 March 2023 "Maiden Inferred Mineral Resource of 12Mt at 99.15% SiO<sub>2</sub>, 0.09% Fe<sub>2</sub>O<sub>3</sub> Estimated for CFS West Project" 4. See ASX Release 21 March 2022 "Cape Flattery Silica PFS – confirms excellent economics, 5. See ASX Release 30 August 2022 "MOU signed to explore off-take arrangements on CFS Project".

### Corporate snapshot





**Share Price** 

3.5c

(as at 20 March 2023)

Ordinary Shares 956.9m

Listed Options 179.6m \$0.06

Unlisted Options 21.7m

Market Cap \$35.4m

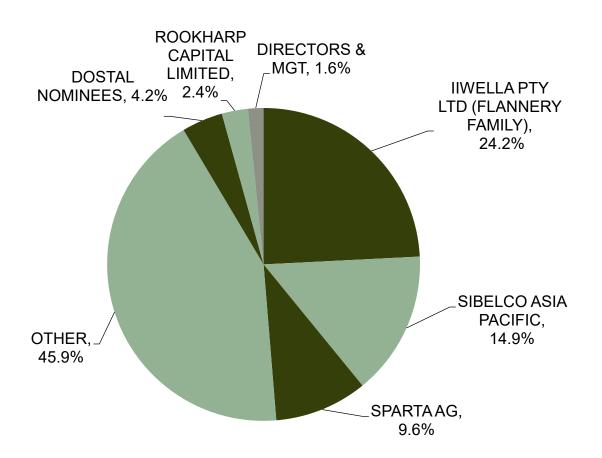
Cash

\$9.8m

(as at 28 Feb 2023)

Debt Nil

Top 20 shareholders hold 66.8% of Register



### Pre-Feasibility Study outcomes<sub>3</sub>







#### Listina Rule 5.23

<sup>\*</sup> The price assumption is for a 'low iron' silica sand product suitable for solar PV cover glass manufacturing (FOB-Cape Flattery Port)

<sup>+</sup> Capital development costs include a 15% contingency (\$9.6m)

<sup>3.</sup> See ASX Release 21 March 2022 "Cape Flattery Silica PFS – confirms excellent economics'

## Definitive Feasibility Study





- > DFS due to be completed end of Q2 2023
- > High quality team of consultants:
  - Study Manager Turner & Townsend Jukes Todd
  - Mineral Processing Mineral Technologies
  - Non-Process Infrastructure WAVE International
  - Geology Ausrocks
  - Marine infrastructure WGA
- > PFS Capital costs and minor changes to project layout may result in increase in CAPEX
- > Preferred transhipping provider negotiations underway
- > Updated pricing forecast report currently underway

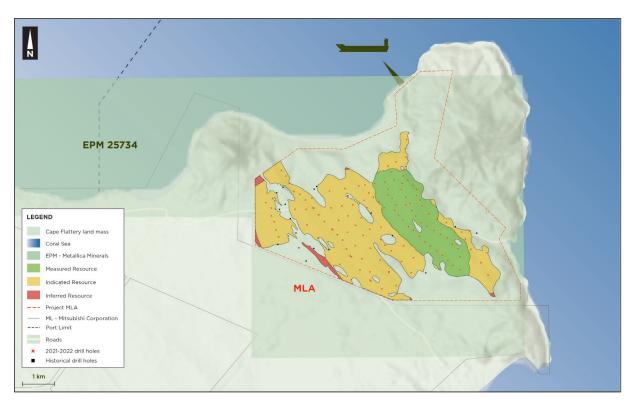


### JORC Resource<sub>1</sub> & Ore Reserve





Ore Reserve Category	Tonnage Mt	SiO <sub>2</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	TiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub>	LOI%	Waste Mt	Silica Sand Mm <sup>3</sup>
Probable Reserve	46	99.18	0.12	0.14	0.11	0.19	2.6	28.76



CFS Project – Distribution of the various Resource categories

- > High purity silica sand resource of 52.2Mt @ 99.18% SiO<sub>2</sub>
- > 144 Drill holes completed
- > In-situ SiO<sub>2</sub> averages 99.2% at an 98.5% cut-off grade

Resource Category	Measured	Indicated	Inferred	Total
Silica Sand (Mt)	16.7	35.2	0.3	52.2
SiO <sub>2</sub> (%)	99.29	99.15	99.26	99.18
Fe <sub>2</sub> O <sub>3</sub> (%)	0.10	0.13	0.14	0.12
TiO <sub>2</sub> (%)	0.13	0.14	0.12	0.14
LOI (%)	0.17	0.19	0.23	0.18
Al <sub>2</sub> O <sub>3</sub> (%)	0.08	0.13	0.16	0.11
Density (t/m³)	1.6	1.6	1.6	1.6
Silica Sand (Mm³)	10.40	22.00	0.2	32.60

See ASX Release 7 April 2022 "Significant Increase in Measured & Indicated Resources at Cape Flattery Silica Project"

# Cape Flattery Silica's contribution towards the Queensland Resource Industry Development Plan







Acknowledgment of Country – "we are members of Hope Vale community"



Transition to lowcarbon economy – produce high purity Silica Sand



Protect the
Environment – small
footprint, no chemicals &
TLO endorsed PRCP



Build a sustainable workforce – indigenous employment target of 40%/Total project employees = 110



CFS can be Australia's next silica sand exporter

– royalties delivered to

Queensland and TLOs



**ESG** – build & maintain world class credentials



Queensland exports a new economy (critical) mineral to Asia

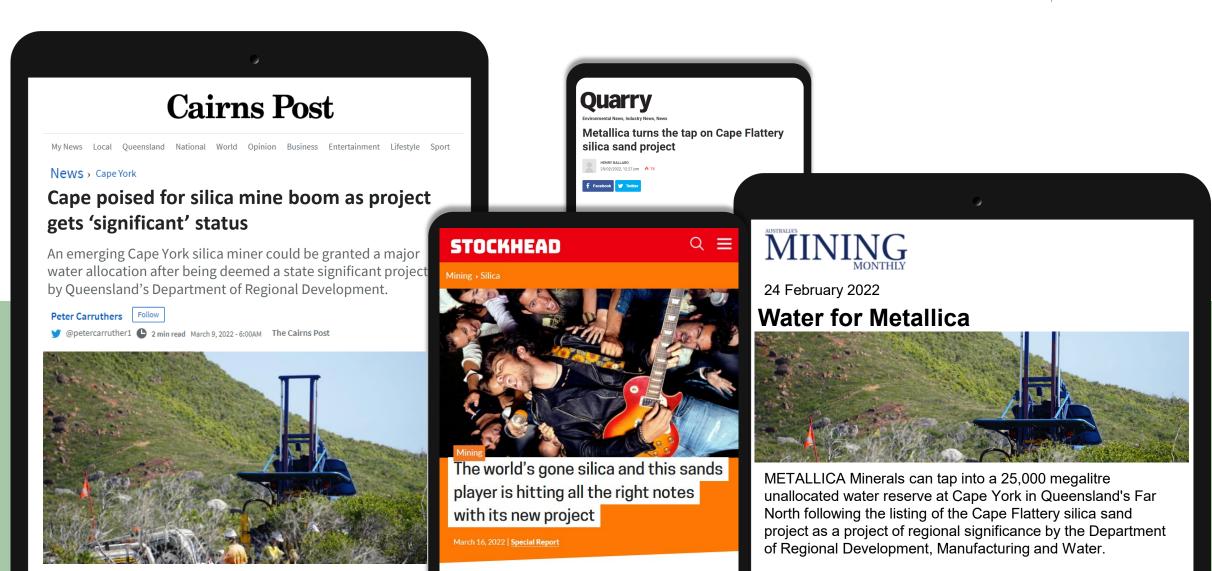


Potential to supply Queensland solar panel manufacturing

## Project of Regional Significance







### Cape Flattery Silica Market drivers





- > Silica sand is the key ingredient in glassmaking
- > High-quality silica sand such as CFS's silica, is an essential raw material for the production of hi-tech glass
  - Solar panels
  - Smartphones
  - Fibre optics
  - Tablets
  - LED lighting
- > Increasing demand for high-grade silica sand underpinned by:
  - transition from fossil fuels to greener technologies, particularly solar energy
  - global net zero objectives
  - population growth and adoption of "screen" devices
  - accelerating electrification
- > Readily accessible high quality Silica Sand is a finite resource that is in limited supply

### Potential silica sand demand growth





	Stated Policies Scenario (GW)							Share	es (%)	CAAGR (%) 2021 to:	
	2010	2020	2021	2030	2040	2050	2021	2030	2050	2030	2050
<b>Total Capacity</b>	5 198	7 849	8 185	11 954	16.468	19 792	100	100	100	4.3	3.1
Renewables	1 343	2 989	3 278	6 707	10 666	13 653	40	56	69	8.3	5.0
Solar PV	39	741	892	3 020	5 573	7 464	11	25	38	15	7.6
Wind	181	737	832	1 830	2 853	3 564	10	15	18	9.2	5.1

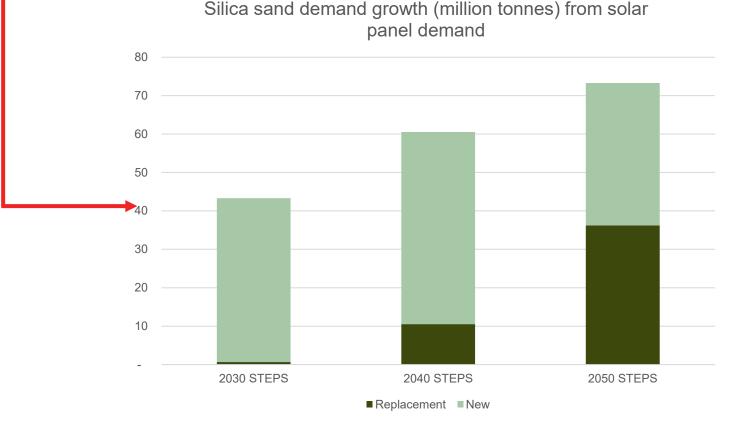
#### Assumptions:

Global silica sand demand derived from growth in solar capacity STEPS scenario, growth from previous period, 2021 first base year, 20 year panel life, 35t glass/MW, 0.56t sand/tonne glass

#### Sources:

BP Statistical review 2022 World Energy Outlook 2022 International Energy Agency Metallica own research

- International Energy Agency forecasts significant growth in solar power capacity
- STEPS scenario lowest growth case for renewables
- The majority of these solar modules will be manufactured in Asia Pacific
- Glass for solar panels is a key driver of demand for high purity silica sand



#### Environmental

- > Adopting a low-impact approach to silica sand mining to minimise environmental impact
- > Environmental management at the Cape Flattery Silica project will be comprehensive
- > Key objectives include:
  - minimising the operation's footprint
  - protecting biodiversity
  - responsible water use
  - rehabilitating disturbed areas after disturbance
- > No chemicals will be used in production
- > Minimal dust will be produced during mining activities
- > Adopting progressive rehabilitation
- > Appropriate buffers, tree protection zones and offsets will be established
- > Additional seeding with preferred species will be undertaken.







Metallica Minerals Executive Chairman, Theo Psaros, CFS General Manager Nicholas Villa with Dingaal representatives, Kenneth McLean (Walmbaar Aboriginal Corporation Chairman) and Stanton Thompson (Walmbaar Aboriginal Corporation Director) during recent site visit to TLO land areas



### **Environmental Approval Processes**





- > Federal Government Department of Climate Change, the Environment, Energy & Water (CCEEW) deemed the CFS Project is a Controlled Action under the Environment & Biodiversity Conservation Act 1999
- > Approval pathway requires an Environmental Impact Statement
- > Terms of Reference are yet to be issued by CCEEW
- > CFS has requested a Charter from CCEEW to work efficiently and proactively through the EIS process
- > When ToRs are known, the Environmental Application and Progressive Rehabilitation & Closure Plans will be updated (if required) and lodged with the Queensland Dept of Environment & Science

### Key Approvals and Status





#### **Key Project Approvals**

- Environmental Authority Application (Mine) DES (Site Specific EA or EIS)
- > Development Approval Application Hope Vale Shire Council (RPS), SARA, DES, DAF, DoR, Ports North, Cook Shire Council
- > Transparent and consistent engagement with Agencies and key stakeholders throughout
- > EPBC Act Approval Controlled Action Decision 16/01/2023 and Assessment Level Decision 20/02/23 EIS
  - EIS Guidelines expected late March 2023
- > Water Licence (and Water Permit for Construction) under Cape York Water Plan, Project of Regional Significance status (24/2/22)

#### **Approvals Status – Mining Lease**

- > Mining Lease Application Submitted
- Environmental Authority Application and supporting Progressive Rehabilitation and Closure Plan being finalised for submission Q2 2023
- > Water Permit (Construction) and Water Licence (Operations) applications to be submitted Q3 2023

#### **Approvals Status – Marine Activities**

- > Development Approval Application drafted:
  - Material Change of Use
  - Tidal Coastal Works
  - Marine Plants
  - Vegetation Clearing
  - Bulk Materials Handling (ERA)
- > Engagement with landowners (2) to obtain consent to lodge
- Possible inclusion of EPBC EIS requirements prior to lodgement
- > Multiple referral agencies

### Traditional Landowner Relationships





- > Early engagement on project planning
- > Agreements signed to allow exploration
- > Representatives already employed on programs
- > Negotiations underway for approval to develop the project
- > Significant recognition by Queensland Government for MLM's relationship with the two clans whose country the project is located





### Traditional Landowner Negotiations

- > Three groups:
  - Hopevale Congress Aboriginal Corporation (Trustee Landowner)
  - Walmbaar Aboriginal Corporation (as agent for Dingaal clan Traditional landowner)
  - Nguurruumungu clan Traditional landowner
- > Negotiations have been held in respectful and friendly manner
- > TLOs planning employment, training, apprenticeships and new business opportunities

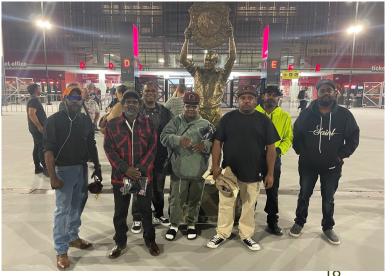








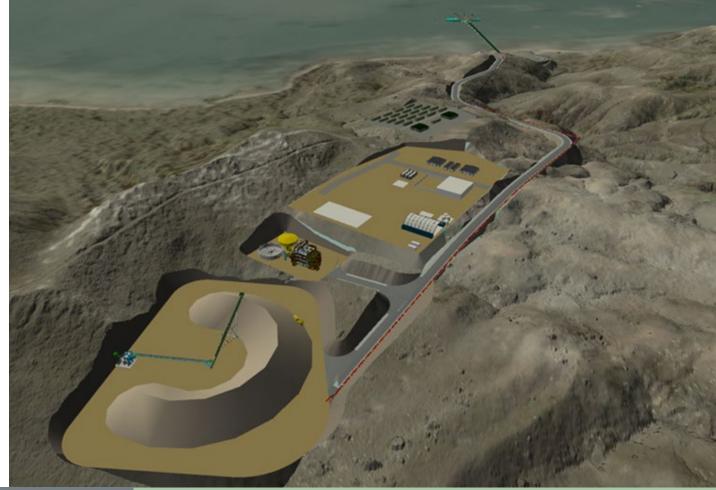




# Planned project operations

Key site infrastructure includes:

- > Product stockpile
- > Processing plant and pad
- > Conveyor
- > Jetty infrastructure facility
- > Purpose-built accommodation facility.









## CFS Project – the next 12 months

WINLING THE PARTY OF THE PARTY



- > Lodge Environmental application and PRCP with Queensland's Department of Environment & Science
- > Lodge Development Application for the construction of purpose built jetty
- > Advance the EIS (note significant environmental studies already completed)
- > Completion of DFS
- > Finalise negotiations with Traditional Landowners and Trustee Landowner
- > Progress offtake discussions recent roadshow to Tokyo, Kuala Lumpur & London in March 2023 resulted in many positive discussions

"I'd put my money on the sun and solar energy. What a source of power! I hope we don't have to wait until oil and coal run out before we tackle that." — Thomas Edison, 1931.

