

Cape Flattery Silica

Perth Roadshow

22 – 23 August 2022



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Metallica Minerals Limited (ASX: MLM)
A new economy minerals company

**Metallica Minerals
is an Australian
development
company focused on
delivering high purity
silica sand to a
diversified global
customer-base.**



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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 Release 15 June 2021 “Mining Lease Application lodged for Cape Flattery Silica”
3. See ASX Release 21 March 2022 “Cape Flattery Silica Pre Feasibility Study”
4. See ASX Results 28 April 2022 “Positive Metallurgical test work results achieved at CFS”
5. 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, 3 and 5 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 presentation relating to mineral resource estimates or ore reserves is based on information compiled and reviewed by Mr Carl Morandy, who is a Member of the Australian Institute of Mining & Metallurgy. Carl is a fulltime employee of Ausrocks Pty Ltd and has sufficient experience that is relevant to the styles of mineralisation under consideration and to the activity which he is undertaking 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”. Carl consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

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

- > High purity silica sand resource of 52.2Mt @ 99.18% SiO₂
- > 144 Drill holes completed
- > In-situ SiO₂ averages 99.2% at an 98.5% cut-off grade

Classification	Silica Sand (Mt)	SiO ₂ %	Fe ₂ O ₃ %	Al ₂ O ₃ %	TiO ₂ %	LOI %	Silica Sand (Mm ³)	Density (t/m ³)
Measured Resource	16.7	99.26	0.10	0.08	0.13	0.17	10.4	1.6
Indicated Resource	35.2	99.14	0.13	0.13	0.14	0.19	22.0	1.6
Inferred Resource	0.3	99.06	0.14	0.16	0.12	0.23	0.20	1.6
Total	52.2	99.18	0.12	0.11	0.14	0.18	32.80	1.6

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

Company Highlights



Cape Flattery Silica (CFS) is **100% owned by** Metallica Minerals



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



46Mt Reserve high purity Silica Sand resource₁



Mining Lease Application lodged₂



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



Strong financial results from Pre-Feasibility Study₃



Project has low Capex, low Opex and a Reserve for 25 years production



Excellent internal Metallurgical test results received – potential customer acceptance underway₄

1. See ASX Release 7 April 2022 "Significant Increase in Measured & Indicated Resources at Cape Flattery Silica Project", 2. See ASX Release 15 June 2021 "Mining Lease Lodged for Cape Flattery Silica"
3. See ASX Release 21 March 2022 "Cape Flattery Silica PFS – confirms excellent economics, 4. See ASX Results 28 April 2022 "Positive Metallurgical test work results achieved at CFS"

Corporate snapshot



Share Price

3.0c

(as at 18 August 2022)

Cash

\$5.3m

(as at 30 June 2022)

Ordinary Shares

665.9m

Debt

Nil

Listed Options

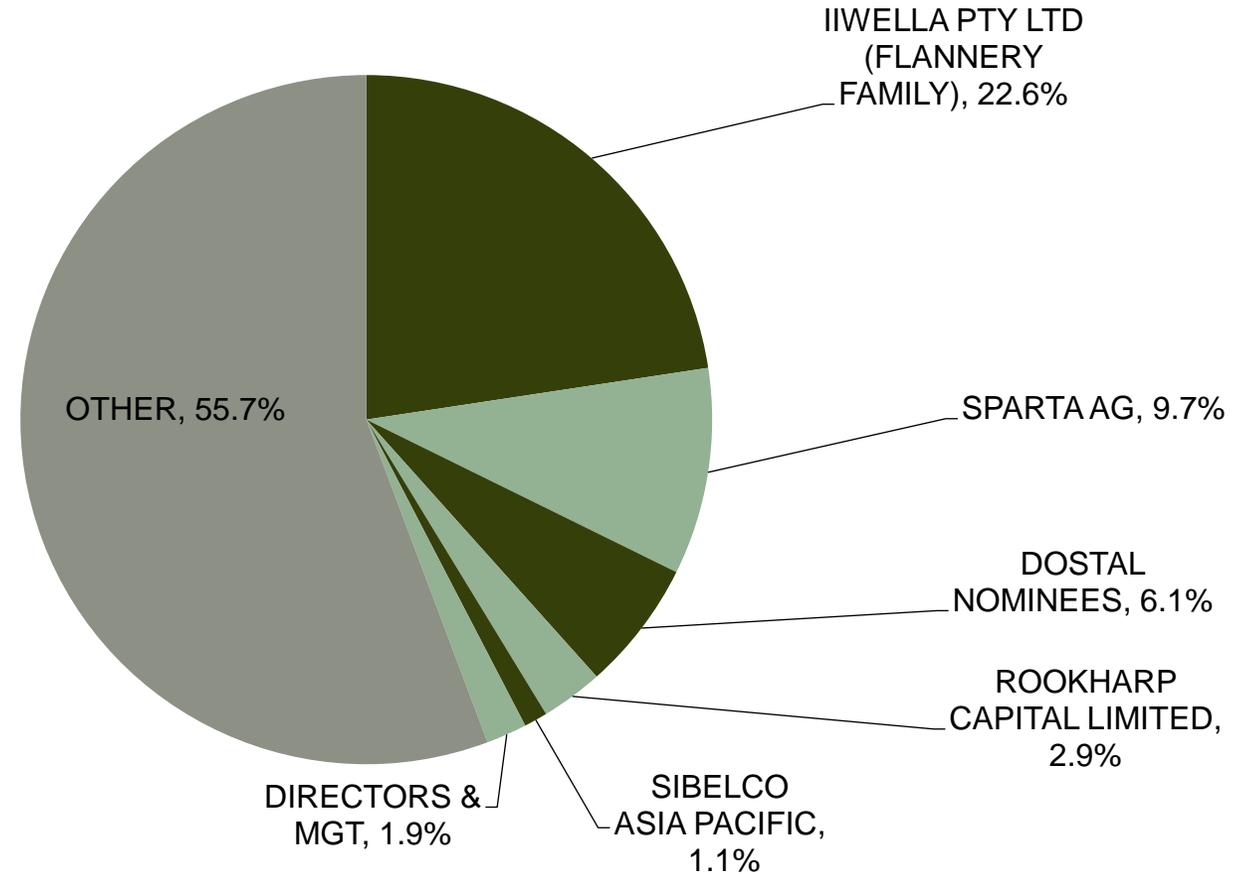
179.6m

\$0.06

Market Cap

\$20.0m

Top 20
shareholders
hold **56%**
of Register



Board of Directors



Theo Psaros
Non-Executive Chairman
Appointed 1 February 2019

Mr Psaros is an experienced Company Director and Executive. He has over 30 years of diverse global and local commercial experience in a number of business sectors and industries within multi-million dollar publically listed company, private companies and government departments.

Mr Psaros resource industry experience included a number of years as CFO and COO of MetroCoal Limited, Chairman of the Surat Basin Coal Alliance and a member of the industry group that assisted the Queensland Government Department of Natural Resources and Mines to prepare the 30 year strategic plan for the resources industry in Queensland (ResourcesQ).

Mr Psaros is a Chartered Accountant having previously worked for PwC and has worked in the regulatory industry in London. He is a Graduate of the AICD and has significant experience with capital raising and infrastructure development.



Brad Sampson
Non-Executive Director
Appointed 13 May 2021

Brad Sampson is a Brisbane based internationally experienced business leader, Director and mining professional with more than 30 years resources industry experience. He brings significant mine development and operating experience to the Metallica Board along with listed company governance experience across multiple international jurisdictions. Brad has experienced all aspects of mining operations, having worked in leadership roles through the entire cycle of exploration, development, operations and closure.



Mark Bojanjac
Non-Executive Director
Appointed 13 May 2021

Mark is a Perth based company Director with more than 20 years significant experience in ASX resource companies including those that have taken exploration projects into production. He is currently Executive Chairman of PolarX Limited (ASX: PXX), Non-executive Director of Kula Gold Limited (ASX: KGD). He was previously Non-executive Director and later Managing Director of Adamus Resources leading the transition of the company to a gold producer.

Management



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Scott Waddell
CFO and Company Secretary
Appointed 1 February 2019

- > More than 28 years' resources experience gained through positions with Metro Mining Limited, Cape Alumina Limited, Anglo Coal and Rio Tinto Alcan.



Nicholas Villa
General Manager, Cape Flattery
Appointed 14 June 2021

- > More than 20 years' mining industry experience
- > Experience in Queensland resource project approvals processes including Environmental Studies and Native Title negotiations
- > Project Manager which delivered Metro Mining's Bauxite Hills mine in Northern Cape York to full production.



Pat Smith
Geologist
Appointed 1 February 2021

- > Geologist with 30 years' experience
- > Experience in silica sands, copper, gold, nickel, tin and tantalum
- > Worked as Exploration or Country Manager in Australia, Middle East, Africa and Kazakhstan and PNG



Hamish Manzi
Environmental Consultant
Appointed 1 February 2022

- > More than 20 years' experience in environmental, approvals, stakeholder engagement and sustainability services and solutions



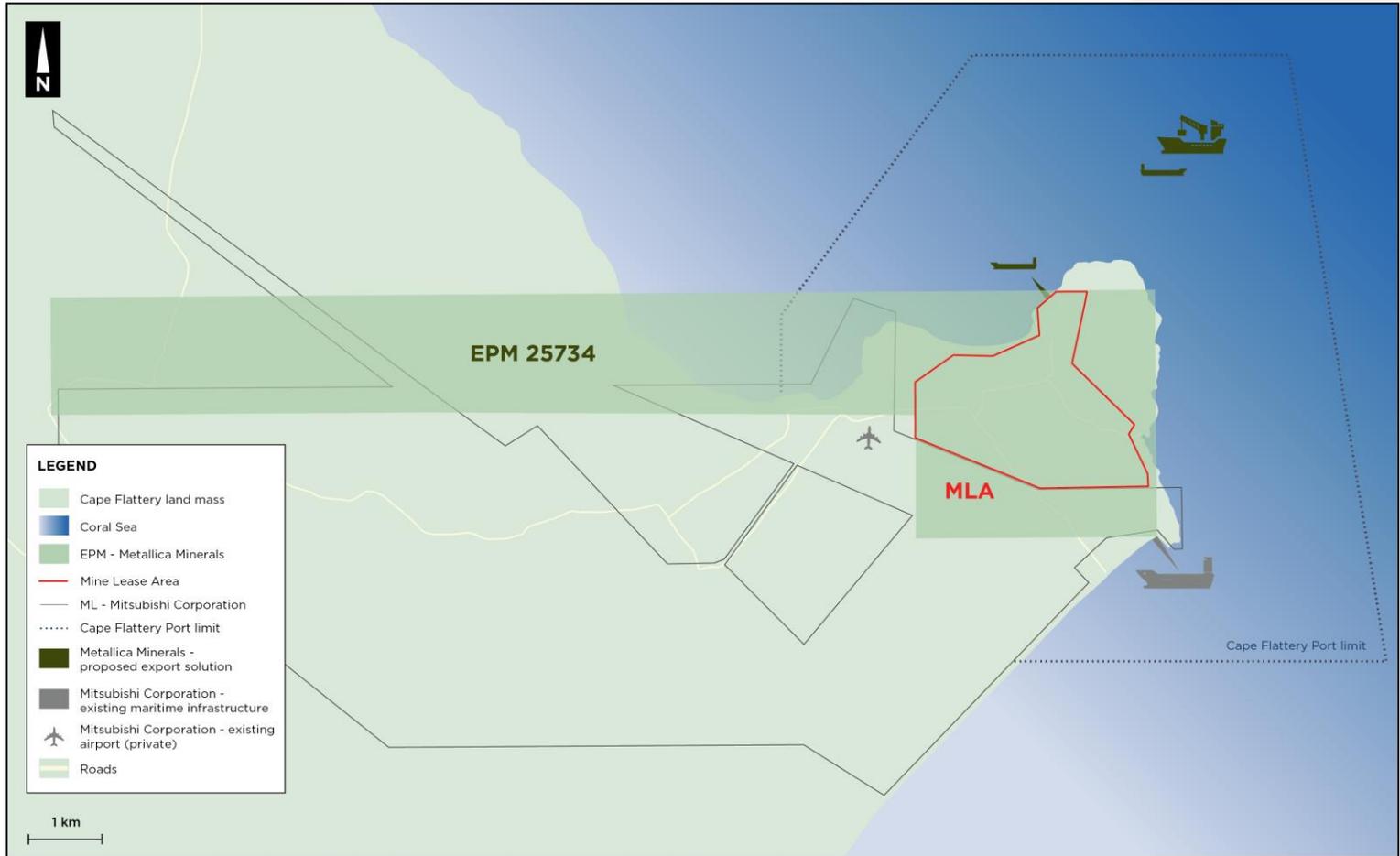
Jeff Brown
Metallurgy Consultant
Appointed 1 February 2022

- > Over 25 years' experience in Mineral Sand mining and processing
- > Senior Metallurgist roles with Iluka and Sibelco

Cape Flattery Silica Location



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Project of Regional Significance



Cairns Post

My News Local Queensland National World Opinion Business Entertainment Lifestyle Sport

News > Cape York

Cape poised for silica mine boom as project gets 'significant' status

An emerging Cape York silica miner could be granted a major water allocation after being deemed a state significant project by Queensland's Department of Regional Development.

Peter Carruthers [Follow](#)

@petercarruther1 2 min read March 9, 2022 - 6:00AM The Cairns Post



Quarry

Environmental News, Industry News, News

Metallica turns the tap on Cape Flattery silica sand project

HENRY BALLARD
25/02/2022, 12:27 pm 75

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STOCKHEAD

Mining • Silica



Mining

The world's gone silica and this sands player is hitting all the right notes with its new project

March 16, 2022 | Special Report

AUSTRALIA'S MINING MONTHLY

24 February 2022

Water for Metallica

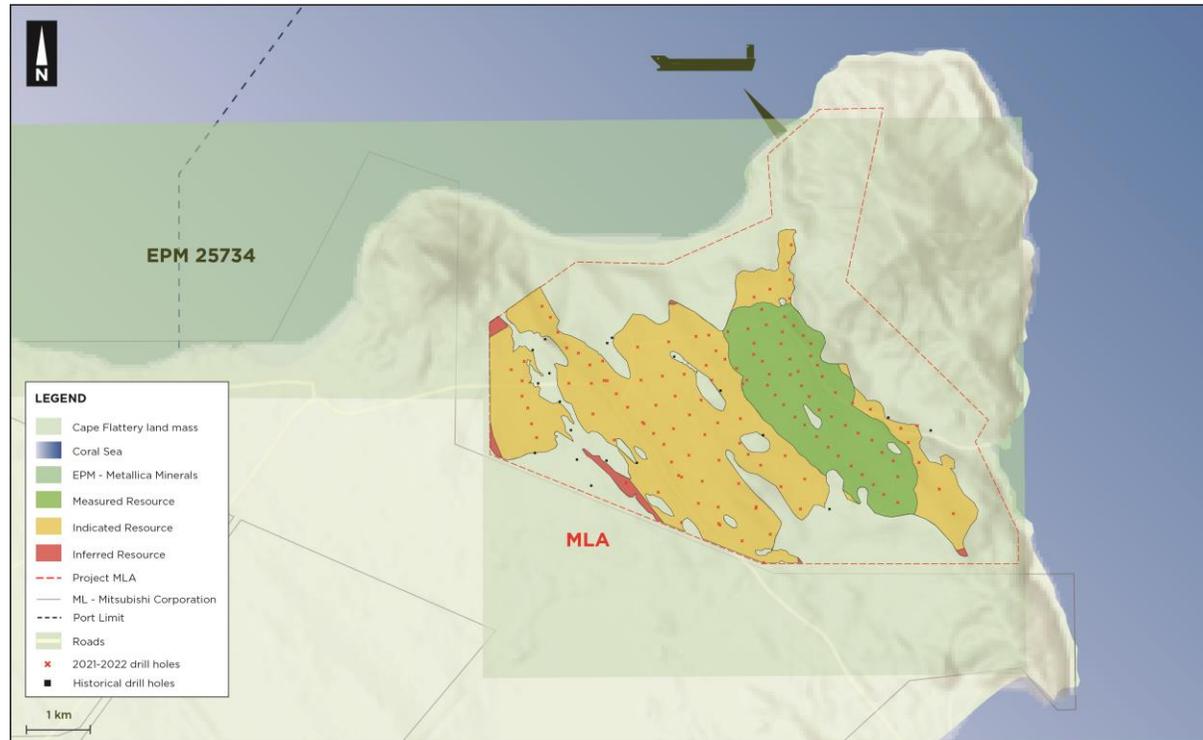


METALLICA Minerals can tap into a 25,000 megalitre unallocated water reserve at Cape York in Queensland's Far North following the listing of the Cape Flattery silica sand project as a project of regional significance by the Department of Regional Development, Manufacturing and Water.

JORC Resource₁



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



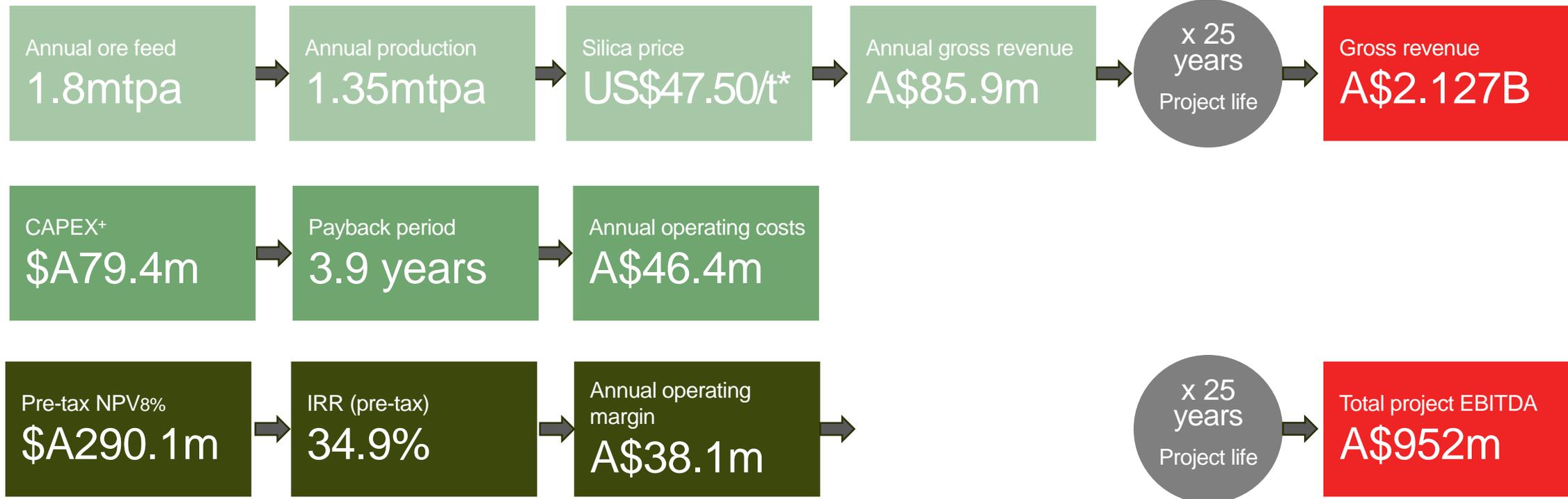
- > High purity silica sand resource of 52.2Mt @ 99.18% SiO₂
- > 144 Drill holes completed
- > In-situ SiO₂ averages 99.2% at an 98.5% cut-off grade

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

CFS Project – Distribution of the various Resource categories

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

Pre-Feasibility Study outcomes₃

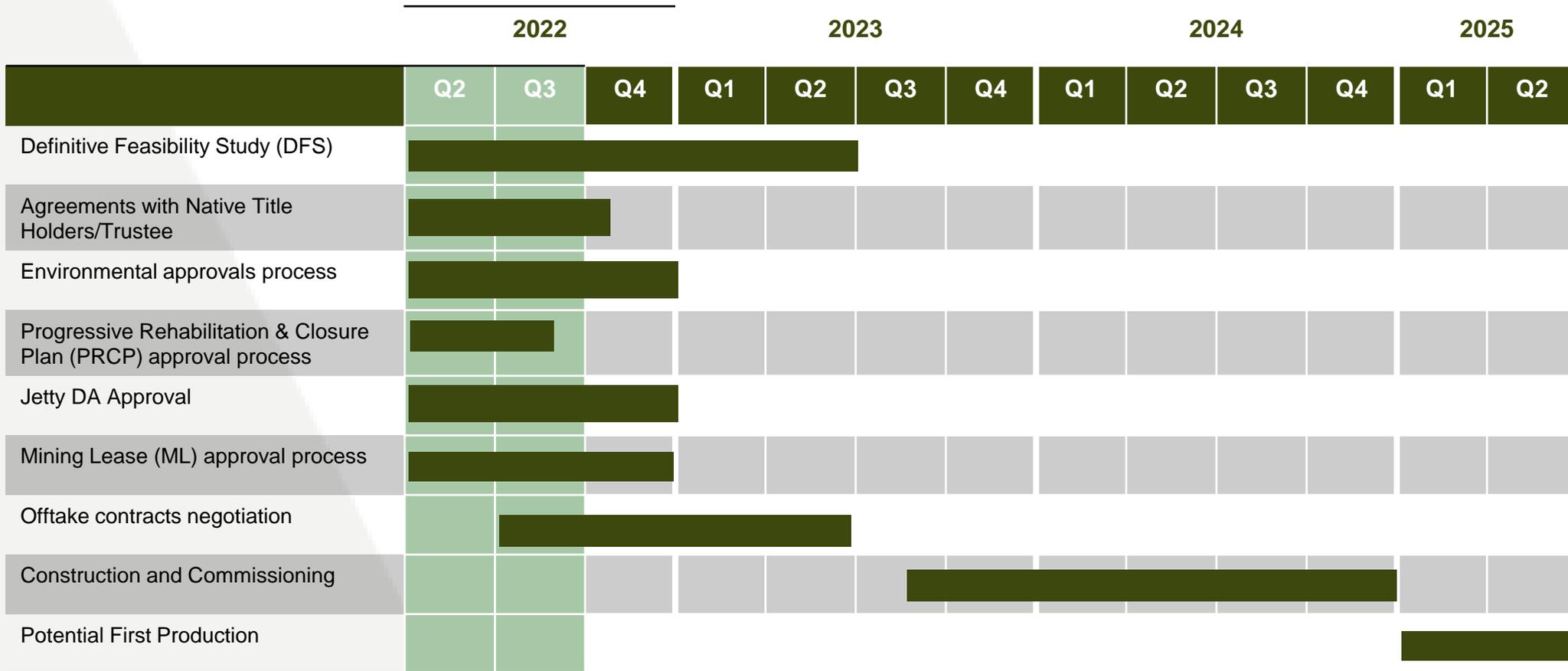


* The price assumption is for a 'low iron' silica sand product suitable for solar PV cover glass manufacturing (FOB-Cape Flattery Port)

+ Capital development costs include a 15% contingency (\$9.6m)

3. See ASX Release 21 March 2022 "Cape Flattery Silica PFS – confirms excellent economics"

Conceptual Development Timeframe*

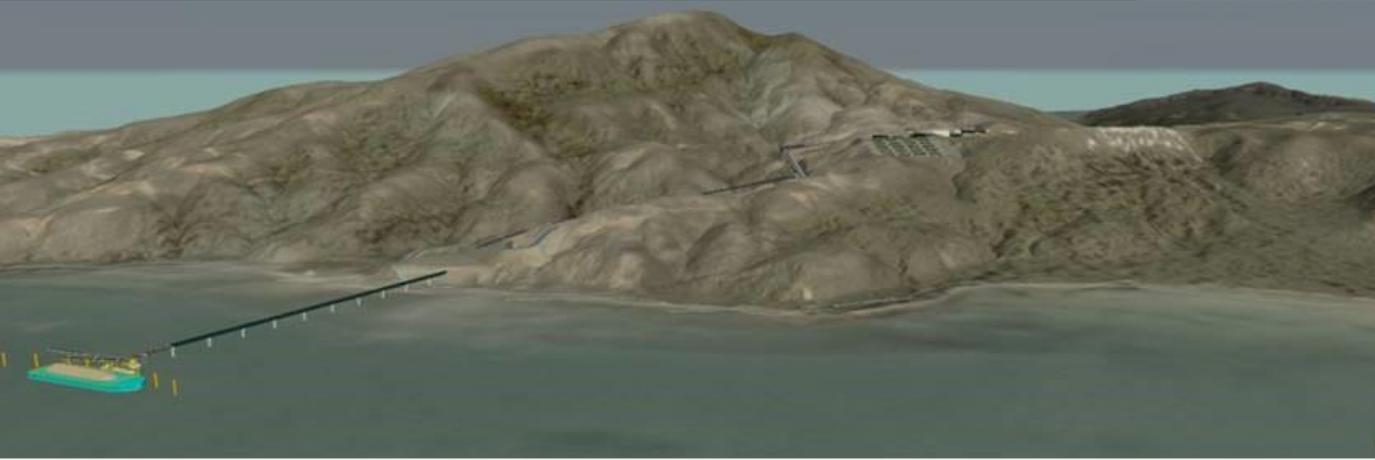
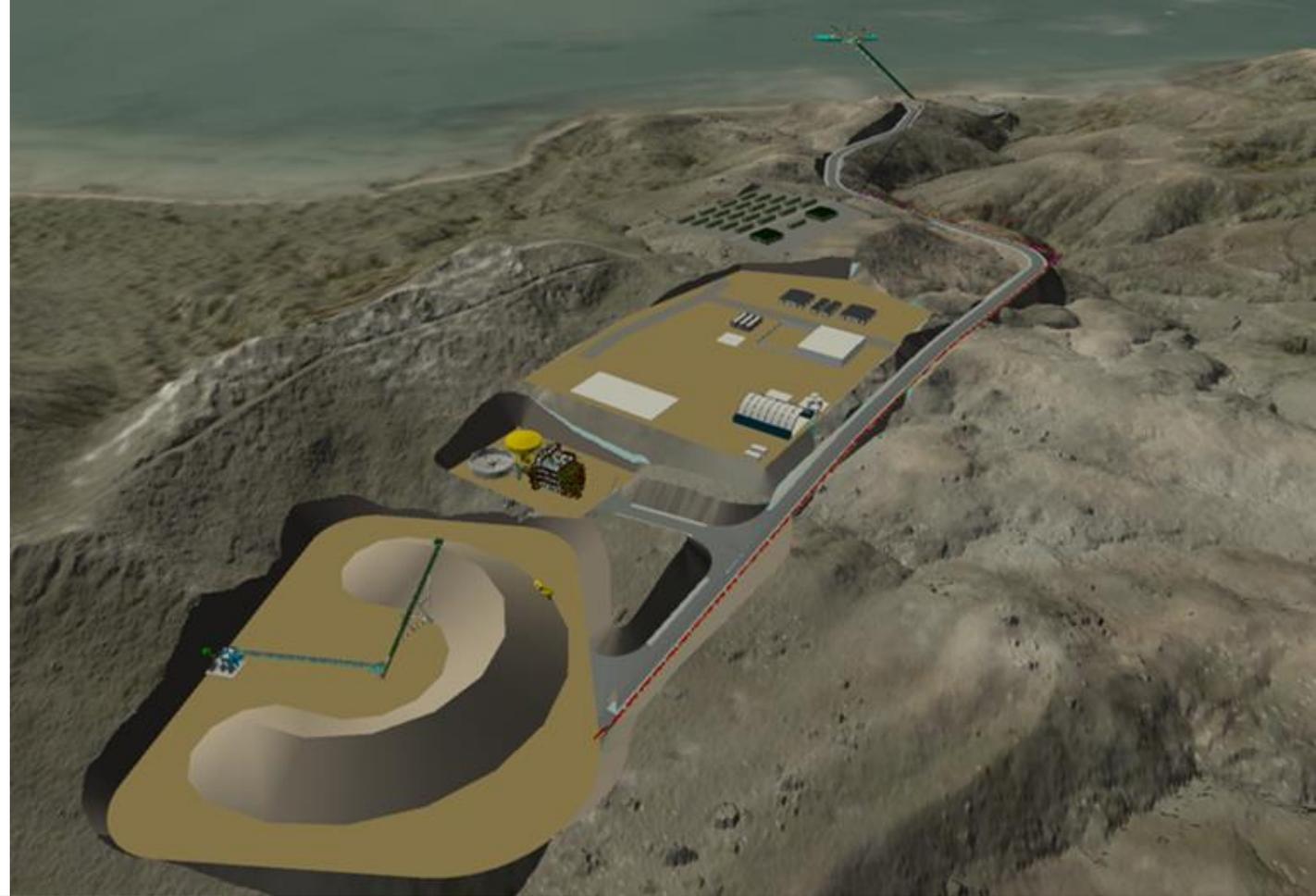


- > *Timing expectations are based on current best estimates and are subject to change depending upon exploration and metallurgical success, government and third party approvals, market conditions and funding availability.
- > Based on granting of Environmental Authority (EA), with no Environmental Impact Statement (EIS) required.

Planned project operations

Key site infrastructure includes:

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



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The silica sand story



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- > Silica sand is the key ingredient in glassmaking
- > High-quality silica sand, like Cape Flattery's silica, is an essential raw material for the production of hi-tech glass (solar cells, technology).
- > Increasing demand for high-grade silica sand underpinned by:
 - » population growth and adoption of "screen" devices
 - » accelerating electrification
 - » carbon neutrality objectives and Government policy
 - » transition from fossil fuels to greener technologies, particularly solar energy
- > Readily accessible high quality Silica Sand is a finite resource that is in limited supply

Our Environmental, Social & Governance (ESG) approach



- > 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.

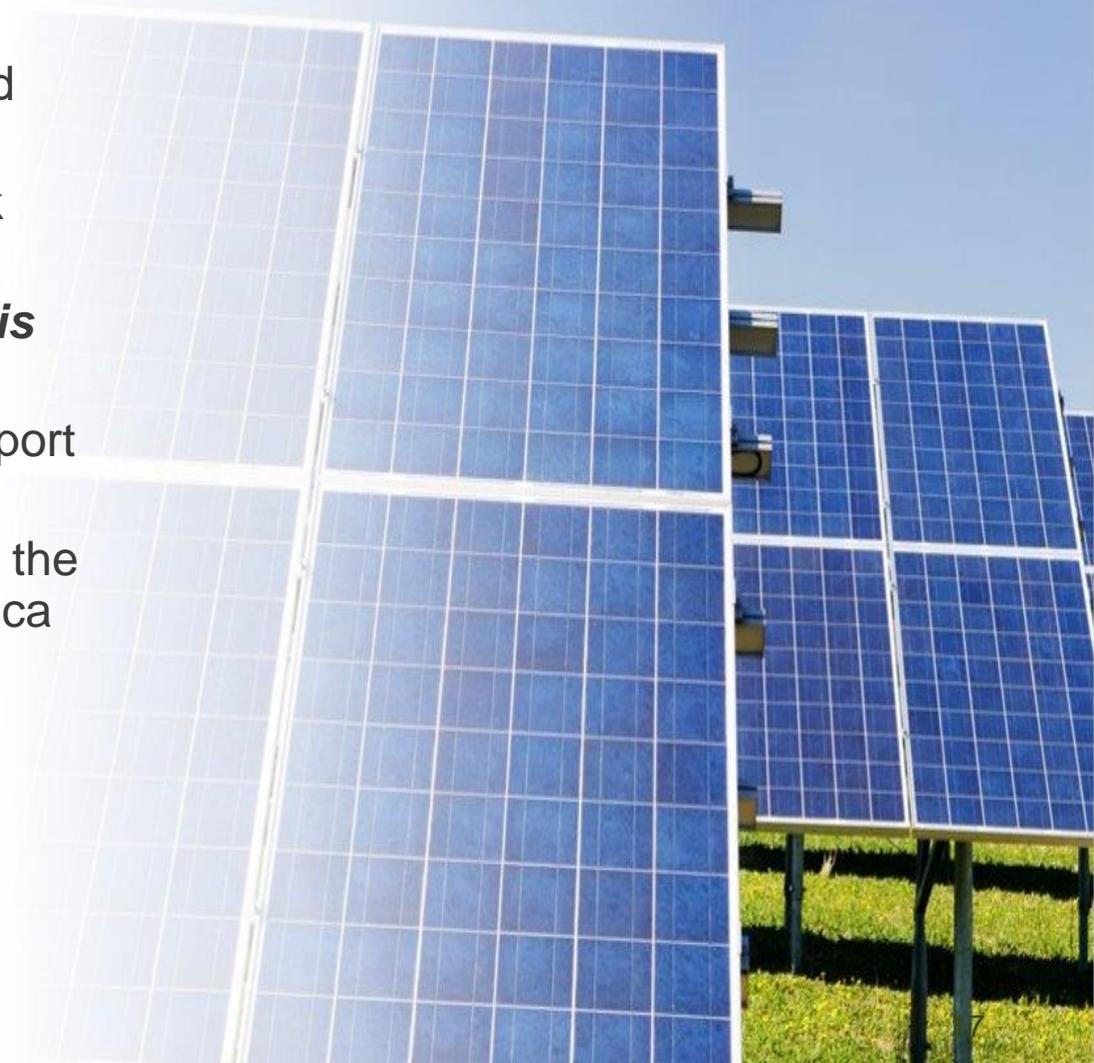


L-R Nathaniel Walker, Naamon Walker, Niall Corbus, Vernon Yoren, Shailand Deeral-Rosendale and Trenton McLean



What is going to drive value for MLM?

- > CFS silica sand product is expected to be highly sought after
- > Silica is a 'critical' mineral and the Asian high quality silica sand market is expected to grow significantly
- > The project has low capex, very positive NPV and the payback period is short
- > ***Recognition that our project has a transport solution that is located within the Port of Cape Flattery***
- > The proximity of the project to its proposed 100% owned transport solution will minimise opex
- > Recent corporate activity in the Cape Flattery region highlights the growing interest in new projects that will deliver high quality silica sand to the booming Asian markets
- > Subject to the level of environmental approvals required, the project is forecast to be exporting in H2 2025



“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.



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Thank you



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