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SOAC – TMC Analyst Day Transcript

Recorded on May 18, 2021

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The mineral resource estimates in this presentation were prepared in accordance with the requirements of National Instrument 43-101 "Standards of Disclosure for Mineral Projects" of the Canadian Securities Administrators and not in accordance with the requirements of the Modernization of Property Disclosures for Mining Registrants set forth in subpart 1300 of Regulation S-K, as promulgated by the United States Securities and Exchange Commission (the "SEC Mining Rules"). An updated presentation which contains mineral resource estimates and other information prepared in accordance with the SEC Mining Rules, which are expected to be substantially similar to the estimates and information provided herein, will be provided when available.

Agenda.

90 min Presentation	Area	Presenter
	Introduction	Scott Leonard, CEO of SOAC
10 min	Company overview	Gerard Barron, Chairman & CEO
15 min	Valuation, project economics & financing	Craig Shesky, CFO
10 min	The ESG case for nodules	Erika Ilves, Chief Strategy Officer
10 min	Regulatory context	Corey McLachlan, ISA & Sponsoring States
15 min	Developing projects on schedule & on budget	Tony O'Sullivan, Chief Development Officer
10 min	Collecting nodules from the seafloor	Jon Machin, Head of Offshore Engineering
10 min	Marine environment: baselining & mitigating impacts	Dr Michael Clarke, Environmental Program Manager
10 min	Processing nodules into metal products	Dr Jeff Donald, Head of Onshore Processing
60 min	Q&A	


DeepGreen Metals
+
SOAC
=
the
metals company

Investment highlights.

The world's largest estimated source of battery metals
Enough nickel, copper, manganese and cobalt in situ to electrify 280 million EVs[1]

Four battery metals in high concentrations in a single resource
3.2% nickel equivalent[2] vs. 0.3-1.9% for the world's largest undeveloped nickel projects

Low-cost production
Expecting to be the 2nd lowest cost nickel producer on the planet[3]

70-99% reduction of lifecycle ESG impacts
Including zero solid waste, 90% less CO_2 equivalent emissions[4]

Attractive valuation with significant upside
0.35x P/NAV multiple only on 22% of the resource vs. 1.6x median for producing peers

Best-in-class strategic investors / partners

GLENCORE	MAERSK	Allseas	HATCH
Offtakes Processing	Vessel operations	Offshore collection technology	Onshore processing technology

"EV battery in a rock"

[1] Assuming 75kWh batteries with NMC811 chemistry and nodule resource grade and abundance, "Where Should Metals for the Green Transition Come From?", Paulikas et al, LCA white paper, April 2020. Calculation based on estimated contained value of nickel.
[2] Nickel equivalence calculation uses NORI-D Model price deck as stated on page 53. Based on converting the economic value of other metals into nickel using the average commodity prices across life of mine for NORI-D. Life of mine model based on Canadian NI 43-101 Compliant Preliminary Economic Assessment (PEA) for NORI-D Area, AMC, February 2021.
[3] Canadian NI 43-101 Compliant Preliminary Economic Assessment (PEA) for NORI-D Area, AMC, February 2021; Metals Cost Curve, Wood Mackenzie, August 2020.
[4] "Where Should Metals for the Green Transition Come From?", Paulikas et al, LCA white paper, April 2020. "Life cycle climate change impacts of producing battery metals from land ores versus deep-sea polymetallic nodules", Paulikas et al, December 2020.

Business combination.

The business
- Founded in 2011, DeepGreen Metals, Inc. is the developer of the world's largest estimated deposit of battery metals[1]—seafloor polymetallic nodules—with the lowest expected lifecycle ESG footprint on the planet and people[2]

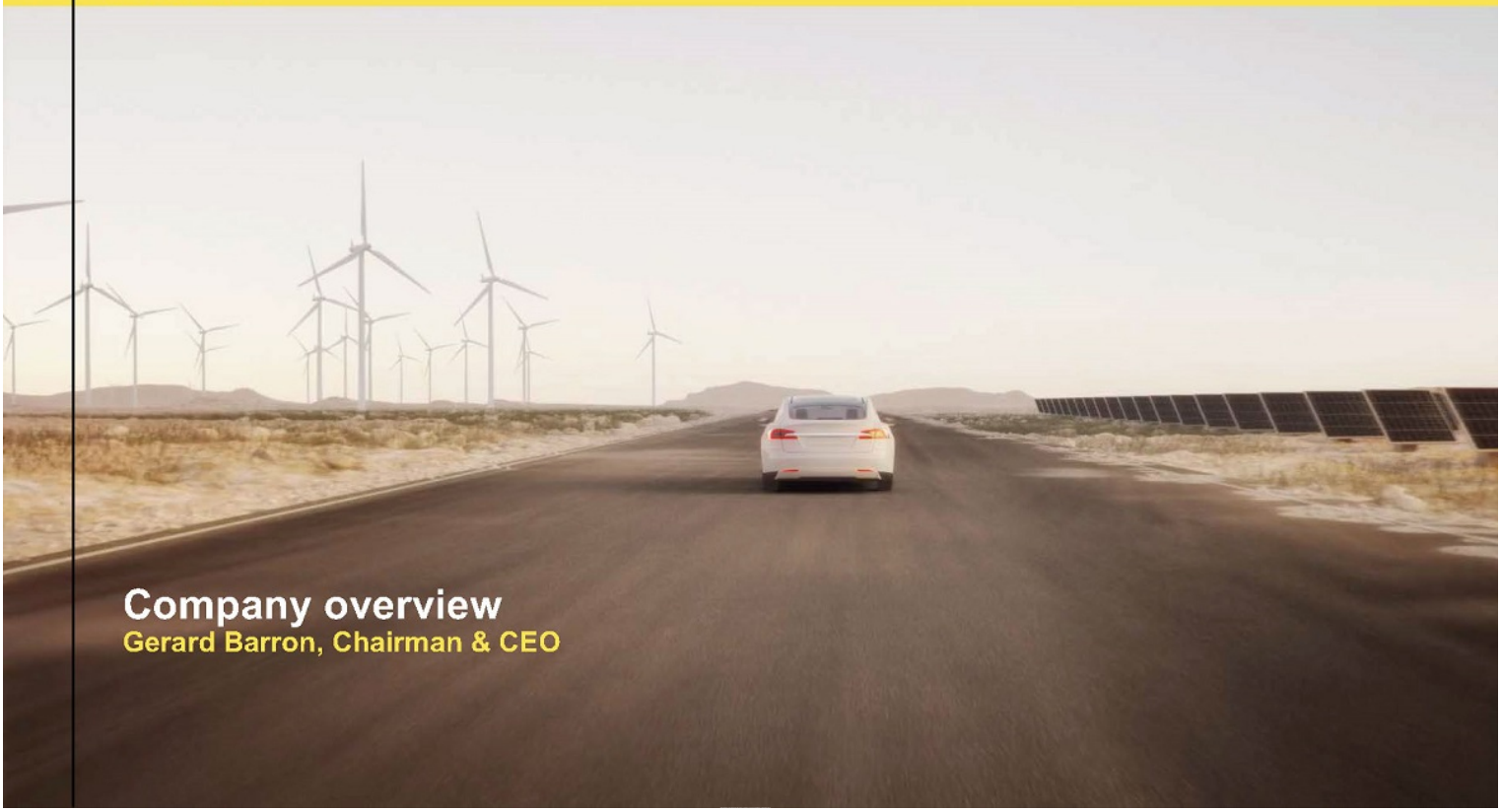
Transaction size
- Sustainable Opportunities Acquisition Corp. (NYSE: SOAC) is a special purpose acquisition company with $300mm of cash in trust
- Fully committed, upsized $330 million PIPE

Valuation
- Pro forma equity value of $2.9bn
- Attractively valued entry multiple for a unique resource with significant upside, proven technology, timing of estimated first production/ revenue aligned with expected significant shortages in key battery metals
- 2027E EBITDA of $2bn[3]
- Net present value of $6.8n[3] for NORI-D
- Net present value of $31.3bn[3] for the full portfolio

Capital structure
- DeepGreen shareholders rolling 100% of their equity
- $570mm net cash (assuming no redemptions) expected to fully fund operations to first expected revenue in 2024

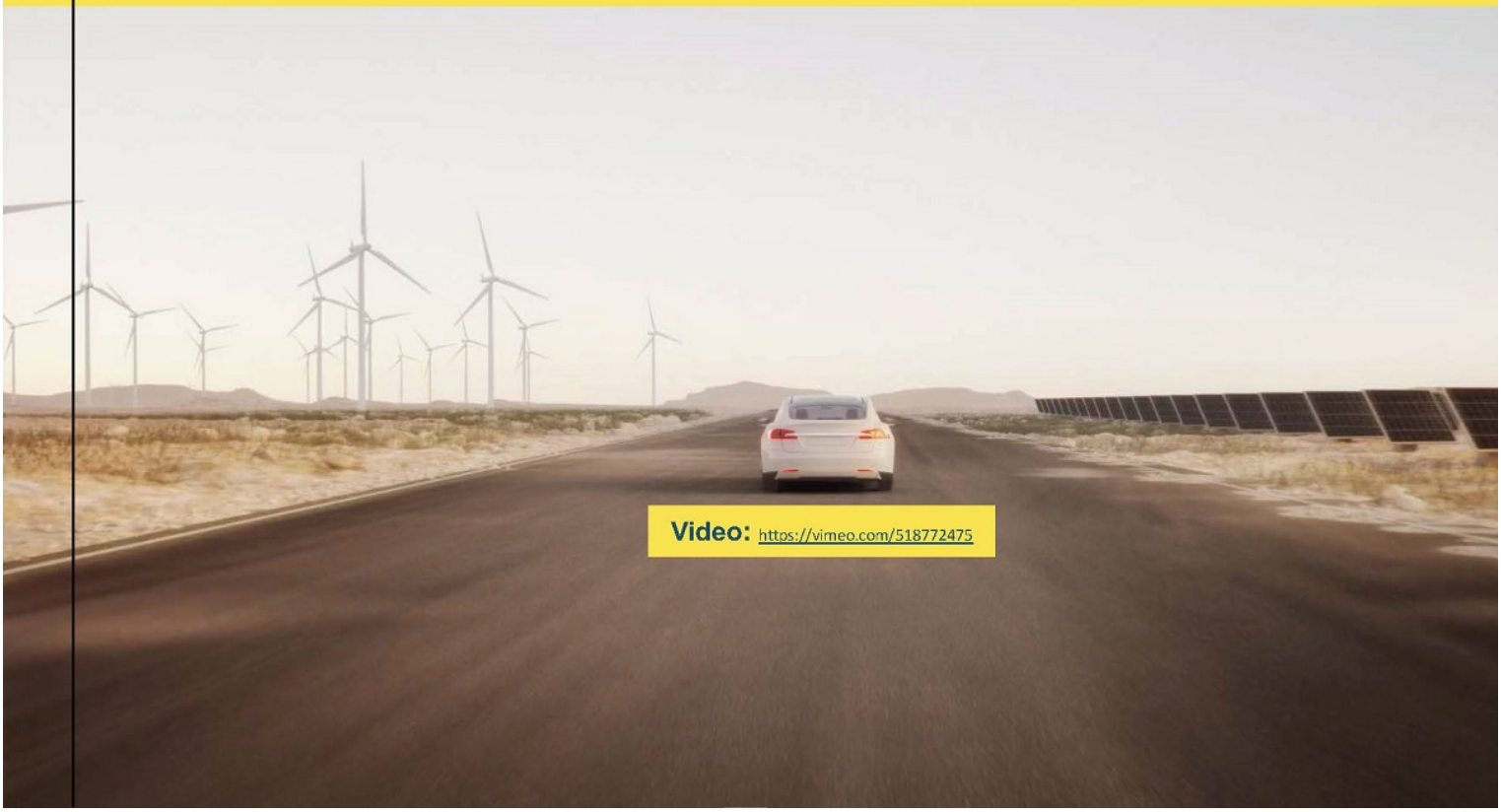
Pro Forma Ownership
- 76% existing shareholder equity roll over
- 12% SPAC and founder shares
- 11% PIPE investors

[1] Global Nickel Industry Cost Summary, Wood Mackenzie, August 2020.
[2] "Where Should Metals for the Green Transition Come From?", Paulikas et al, LCA white paper, April 2020.
[3] Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate and associated financial model, AMC, March 2021. Canadian NI 43-101 Compliant TOML Clarion-Clipperton Zone Project Mineral Resource Estimate, AMC, March 2016. Canadian NI 43-101 Resource Statement for full field financial model (internal DeepGreen development scenario). Net present value as of January 1, 2021, assuming 9% discount rate.



Company overview

Gerard Barron, Chairman & CEO


Video: https://vimeo.com/518772475

Using a rock to change the world.

Our mission is to build a carefully managed metal commons that will be used, recovered, and reused again and again—for millennia.

Nickel Sulfate

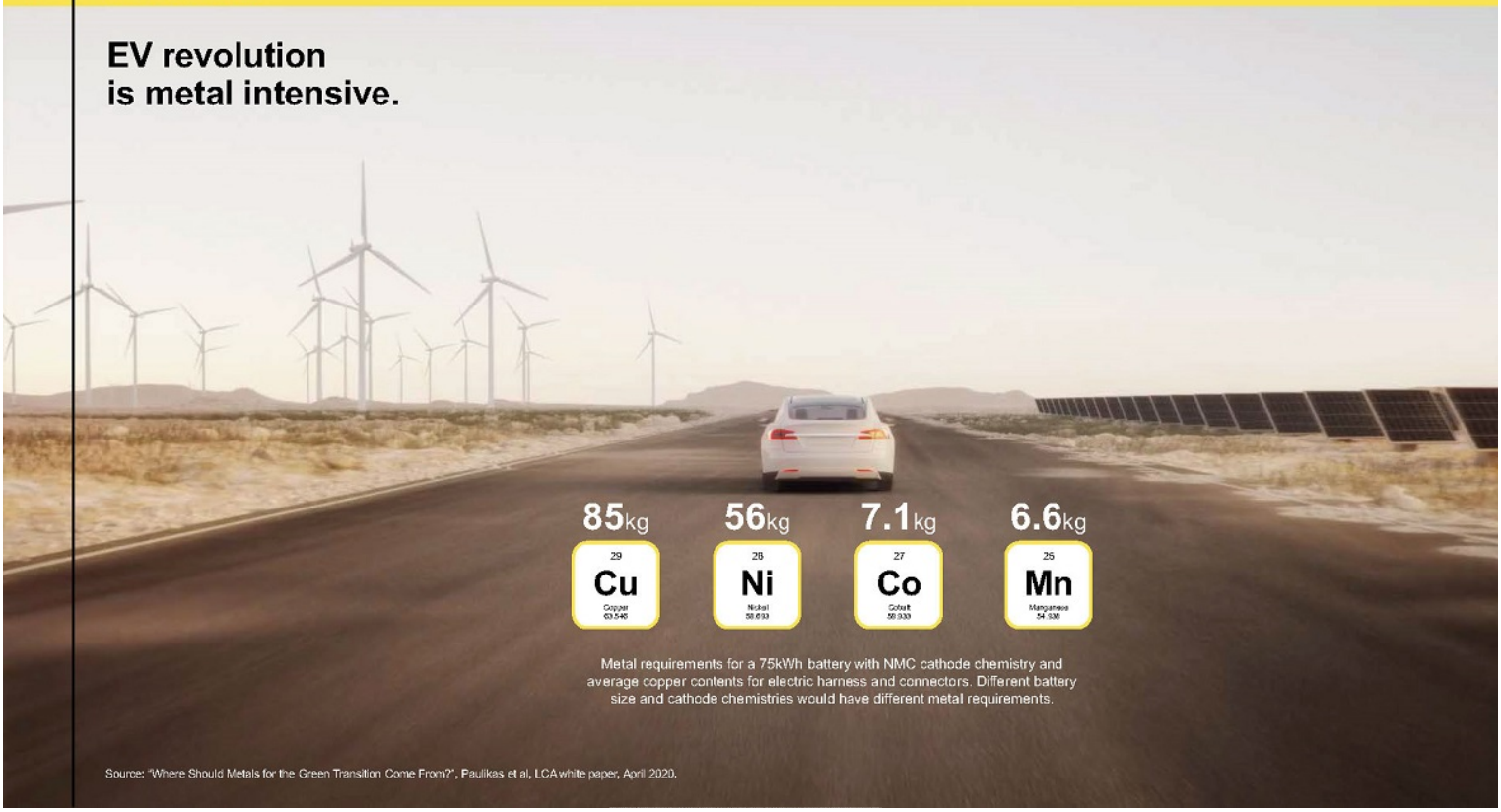
28

Ni

58.693

$[Ar]3d^8 4s^2$

EV revolution is metal intensive.



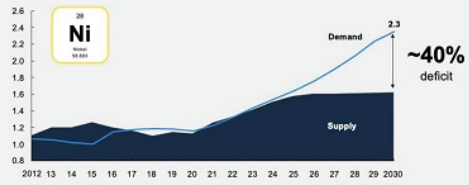
Metal requirements for a 75kWh battery with NMC cathode chemistry and average copper contents for electric harness and connectors. Different battery size and cathode chemistries would have different metal requirements.

Source: "Where Should Metals for the Green Transition Come From?", Paulikas et al, LCA white paper, April 2020.

Four upstream challenges EV manufacturers should be worried about.

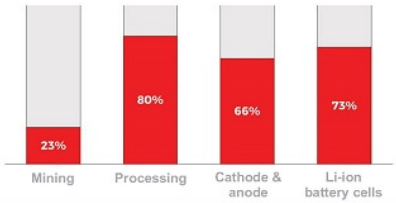
Availability: Shortages expected

Nickel class 1 deficit without greenfield developments
Global refined nickel supply and demand, in Mt[1]



Security: China dominates supply[2]

China's share of production, 2019
Lithium, cobalt, nickel, manganese, cathode, anode & cells



Price: EV/ICE price parity?[3]

What happens to next generation NMC 811 Li-ion battery costs if critical mineral shortages see price increases?

ESG: The dirty secret

1 "How clean can the nickel industry become?", McKinsey, September 2020.
2 Graphite based on natural flake, spherical and anode material. Can also be synthetically manufactured; Benchmark Mineral Intelligence
3 Benchmark Minerals Intelligence, Dec 1, 2020

Solving availability: *in situ* resource sufficient to electrify the entire U.S. car fleet.

Exploration contract area	NORI[1]	TOML[2]	Marawa
Sponsoring state	Republic of Nauru	Kingdom of Tonga	Republic of Kiribati
Exploration area	74,830 km²	74,713 km²	74,990 km²
Technical resource statement	Yes	Yes	Resource definition work in progress
Polymetallic nodules Inferred resource	866[4] million tonnes (wet)	756 million tonnes (wet)	--
Metal grade Mn	29.5%	29.2%	--
Metal grade Ni	1.3%	1.3%	--
Metal grade Cu	1.1%	1.1%	--
Metal grade Co	0.2%	0.2%	--
Electric vehicles *in situ* resource sufficient for[3]	150 million EVs	130 million EVs	--

[1] Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate and associated financial model, AMC, March 2021.
[2] Canadian NI 43-101 Compliant TOML Clarion Clipperton Zone Project Mineral Resource Estimate, AMC, July 2016.
[3] Assuming 75kWh batteries with NMC811 chemistry and nodule resource grade and abundance; "Where Should Metals for the Green Transition Come From?", Paulikas et al, LCA white paper, April 2020. Calculation based on estimated contained value of nickel.
[4] Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate, AMC, March 2021 – 11 Mt Inferred @ 1.4% Ni, 1.1% Cu, 0.1% Co and 31.0 % Mn and 15.6 Kg/m2 abundance, 341Mt Indicated @ 1.4% Ni, 1.1 %Cu, 0.1% Co and 31.2% Mn and abundance 17.1Kg/m2, 4 Mt Measured @1.4% Ni, 1.1% Cu, 0.1% Co and 32.2% Mn and 18.8 Kg/m².

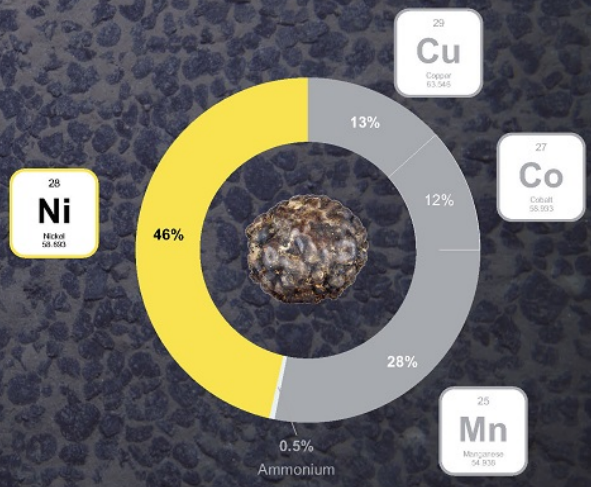
Solving availability: nickel for nickel-rich battery chemistries.

920,000 tonnes
Expected nickel supply deficit, 2030[1]

120,000 tonnes
Expected production, NORI-D[2]

~500,000 tonnes
Production potential, NORI+TOML[3]

NORI-D project revenue by product[2]



[1] "How clean can the nickel industry become?", McKinsey, September 2020.
[2] Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate and associated financial model, AMC, March 2021.
[3] Canadian NI 43-101 Resource Statement for full field financial model (internal DeepGreen development scenario).

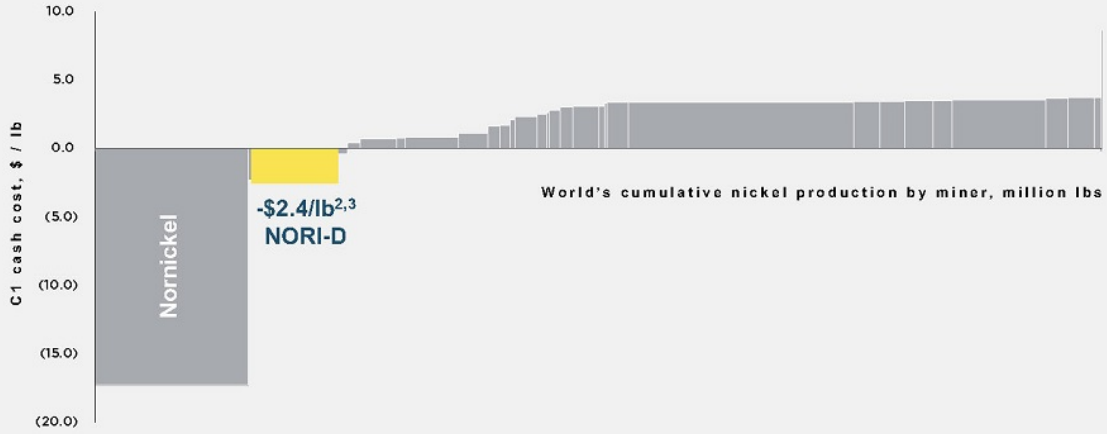
Solving security: we can localize our onshore plants on any continent.[1]

1 GSL Location Study prepared for the company. Locations selected based on access to deep-water port, access to renewable power and proximity to manganese and battery customers.

Solving price: we expect to become the second lowest-cost nickel producer in the world.

Nickel C1 cost curve on a by-products' basis[1]

C1 Cash Cost represents all direct costs, incl. mining, processing, freight, SGA minus revenue from by-products



[1] Nickel C1 Cost Curve, Wood Mackenzie, August 2020.
[2] Average for the steady state years 2030-45.
[3] Canadian NI 43-101 Compliant Preliminary Economic Assessment (PEA) for NORI-D Area, AMC, February 2021.

Solving ESG footprint: we expect to be able to compress most of it.

Land ores vs. nodules

Resource use

-75%	-94%	-89%	+new use
Ore	Land	Water	Seafloor

Climate change

-70%	-94%
CO_2e emissions	Stored carbon at risk

Habitat damage

-100%	-98%	-99%	-99%
Solid processing waste	Terrestrial ecotoxicity	Freshwater ecotoxicity	Eutrophication potential

Humans

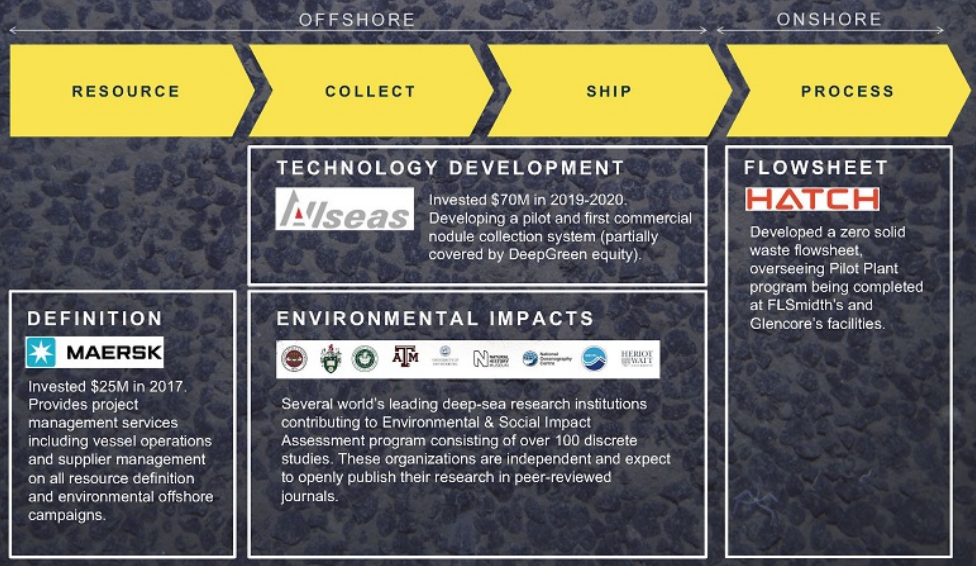
-99%	-97%	-100%
Human toxicity	Human lives at risk	Child labor risk

Wildlife

-93%	-93%	remains
Biomass at risk	Megafauna wildlife at risk	Biodiversity loss risk

Note: Lifecycle analysis done on a cradle-to-gate basis including the mining/collection phase, transport, processing & refining phase.
Source: "Where Should Metals for the Green Transition Come From?", Paulikas et al, LCA white paper, April 2020.

World-class partners: why we can move faster than anyone else.



Key milestones ahead.

2011-today

Funding
- ✓ ~$200M raised prior to the SOAC transaction

Resource
- ✓ Exploration rights to three nodule areas in the CCZ
- ✓ Canada & US standards compliant resource statements on NORI & TOML

Offtakes
- ✓ 50% of Ni & Cu to Glencore from NORI area

Vessel operations
- ✓ Partnership with Maersk
- ✓ 9 offshore campaigns

Collecting nodules
- ✓ Strategic partnership with Allseas
- ✓ Pilot system designed, lab tested, long-lead items procured
- ✓ Production vessel acquired

Processing nodules
- ✓ Zero-waste flowsheet with Hatch
- ✓ Lab-tests at KPM
- ✓ Pilot plant program in progress with FLS and XPS

Environmental and social impacts
- ✓ 5 comparative lifecycle assessments
- ✓ The world's most comprehensive seafloor-to-surface ocean research in progress in partnership with the world's leading institutions

Q3&4 2021

- Offtake: NiCuCo, P0
- Offtake: Mn silicate, P0
- Pilot: onshore processing
- EIS: collection pilot, CCZ
- MoU: pyromet plant, P0
- Contract: collection, P0

2022-2023

- Pilot: collection, Atlantic
- Pilot: collection, CCZ
- Pilot: onshore refining
- EIS: NORI-D production
- Application: ISA-NORI Exploitation Contract
- Offtakes: EV battery precursors, P1
- Offtakes: Mn silicate, P1

2024

- Contract: ISA-NORI
- **Commercial production:** P0, 1Mtpa nodules
- PFS & FS, construction, P1
- EIS: TOML-F
- Application: ISA-TOML Exploitation Contract

2025—

- **Commercial production:** P1, 10Mtpa nodules
- Contract: ISA-TOML
- Permitting new areas and bringing them into production

CCZ	The Clarion Clipperton Fracture Zone
ISA	International Seabed Authority
EIS	Environmental Impact Statement
PFS	Pre-feasibility Study
FS	Feasibility Study
P0	Project Zero
P1	Project One
Mpta	Millions of tonnes per annum

Fully funded | New funding required

Key business risks.

Resource

Size & quality of resource
Security of access

Market

Commodity price fluctuations
Changing product formats
Changing battery chemistries
NiCuCo intermediate payables
NiCuCo intermediate placement
Mn silicate value-in-use & pricing
Mn silicate placement
Geopolitical constraints on trade
Supply overcapacity

Regulatory

Exploit. Regs—unworkable terms
Exploit. Regs—delayed adoption
Exploitation Contract—delayed grant
Exploitation Contract—rejection

Technology

Nodule collection—feasibility
Nodule collection—efficiency
Nodule processing—feasibility
Nodule processing—recoveries

Production

Nodule collection—financing availability
Nodule collection—build delays
Nodule collection—system reliability
Nodule collection—system CAPEX overruns
Nodule collection—system OPEX overruns
Nodule processing—site availability
Nodule processing—financing availability
Nodule processing—build delays
Nodule processing—plant CAPEX overruns
Nodule processing—plant OPEX overruns

Social license

Calls for moratorium
Negative public perception
Brands boycotting marine minerals

Board of Directors: independent and mission-aligned.*

Gerard Barron
Chairman & CEO

Andrew Hall
Lead Independent

Eric Branderiz
Audit Committee Chair

Scott Leonard
Nom & Gov Comm Chair

Sheila Khama
Compensation Committee Chair

Riva Krut
Sustainability Committee Chair

Christian Madsbjerg
Sustainability / Nom & Gov / Comp Committees

Andrei Karkar
Comp Committee

TMC Board Director nominees as per S-4 amendments filed on May 18, 2021.
Note: Riva Krut is expected to start board service on September 1, 2021.

Leadership team.

26 people
Working for
The Metals Company

~250 people
Working on the project
incl. partners and
contractors

Gerard Barron
Chairman & CEO

Craig Shesky
CFO

Tony O'Sullivan
Chief Development Officer

Erika Ilves
Chief Strategy Officer

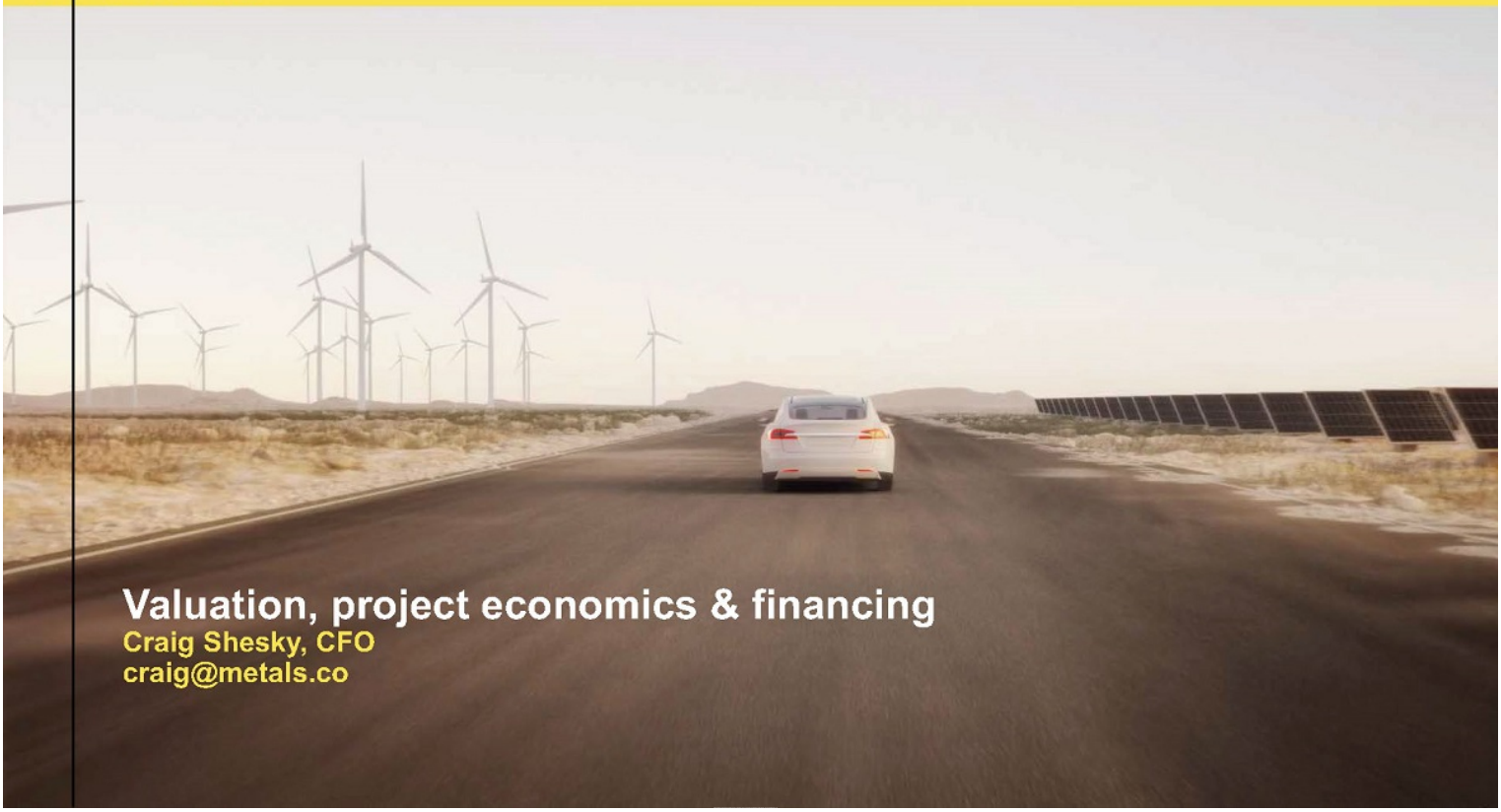
Dr Greg Stone
Chief Ocean Scientist

Corey McLachlan
Head of Sponsoring State and ISA Relations

Jon Machin
Head of Offshore Engineering

Dr Mike Clarke
Environmental Program Manager

Dr Jeff Donald
Head of Onshore Processing



Valuation, project economics & financing

Craig Shesky, CFO
craig@metals.co

Project economics: massive estimated resource leads to massive economic upside.

Full portfolio[1]
Estimated resource
$31.3B NPV[4]

Resource: 1.6Bt
Production: 56Mtpa dry
Est. Revenue: $20.2B/a
Est. EBITDA: $12.9B/a

Est. Total Revenue: $389B
Est. Total EBITDA: $247B

[1] Canadian NI 43-101 Resource Statement for full field financial model (internal DeepGreen development scenario).
[2] Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate and associated financial model, AMC, March 2021.
[3] Canadian NI 43-101 Compliant TOML Clarion Clipperton Zone Project Mineral Resource Estimate, AMC, July 2016.
[4] January 1, 2021, assuming 9% discount rate.
[5] Average estimated annual revenue and EBITDA 2030-2046.

Project economics:
NORI-D planned production expected to reach ~$2 billion in EBITDA in 2027.

NORI-D NPV using current spot prices: ~$10.5b[3]

Project economics – unleveraged[1]

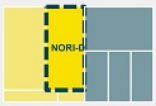
DISCOUNTED CASH FLOW JAN 2021[1] Net present value at 9% discount rate	$6.8 billion
EST. ANNUAL REVENUE[2]	$4.7 billion
EST. ANNUAL EBITDA[2]	$2.9 billion
EST. PRE-CONSTRUCTION CAPEX	$0.2 billion
EST. OFFSHORE CONSTRUCTION CAPEX	$2.2 billion
EST. ONSHORE CONSTRUCTION CAPEX	$4.8 billion

$USD millions

Financials	Life of Project	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2043	2044	2045	2046
Revenue	95,090	-	-	-	251	1,172	2,253	3,677	4,409	3,780	4,889	5,459	5,190	5,124	4,823	4,423	4,230	3,749	3,203
Operating costs	37,761	64	75	88	215	751	1,410	1,693	1,906	1,432	1,821	2,067	1,969	1,939	1,818	1,678	1,613	1,439	1,225
EBITDA	57,330	(64)	(75)	(88)	35	421	843	1,983	2,503	2,348	3,068	3,392	3,221	3,185	3,005	2,745	2,617	2,309	1,978
Depreciation	9,476	-	-	-	182	451	707	756	835	864	726	651	654	648	583	149	132	95	95
EBIT	47,854	(64)	(75)	(88)	(147)	(30)	136	1,227	1,668	1,483	2,342	2,741	2,567	2,538	2,422	2,595	2,485	2,214	1,883
Taxes and Royalties	16,318	-	-	-	10	46	88	351	467	573	835	965	908	897	850	854	817	726	616
Earnings	31,535	(64)	(75)	(88)	(157)	(76)	49	876	1,201	910	1,506	1,776	1,659	1,640	1,571	1,741	1,668	1,489	1,268
Cash Flow	**Total**																		
Revenue	95,090	-	-	-	251	1,172	2,253	3,677	4,409	3,780	4,889	5,459	5,190	5,124	4,823	4,423	4,230	3,749	3,203
Opex	(37,524)	-	-	-	(206)	(751)	(1,410)	(1,693)	(1,906)	(1,432)	(1,821)	(2,067)	(1,969)	(1,939)	(1,818)	(1,678)	(1,613)	(1,439)	(1,225)
Capex	(10,607)	(64)	(142)	(297)	(893)	(1,666)	(2,151)	(617)	(1,035)	(854)	(360)	(59)	(59)	(168)	(168)	(168)	(81)	(106)	(559)
Taxes and Royalties	(16,318)	-	-	-	(10)	(46)	(88)	(351)	(467)	(573)	(835)	(965)	(908)	(897)	(850)	(854)	(817)	(726)	(616)
Net Cash Flow	30,641	(64)	(142)	(297)	(859)	(1,291)	(1,395)	1,015	1,002	921	1,872	2,368	2,254	2,120	1,986	1,722	1,719	1,478	803
Cumulative Cash Flow	30,641	(64)	(206)	(503)	(1,361)	(2,652)	(4,047)	(3,032)	(2,031)	(1,110)	762	3,130	5,384	7,503	9,490	26,641	28,360	29,838	30,641

[1] Company economics expected to be different from fundamental unleveraged project economics as TMC pursues capital light project development strategies and non-dilutive sources of capital resulting in e.g., lower CAPEX/higher OPEX; higher return on equity.
[2] Average estimated annual production and revenue 2030-2046.
[3] Based on spot prices as of May 12, 2021. Nickel price of $17,797/ton (LME Spot Close), copper price of $10,445/ton (LME Spot Close), cobalt price of $44,645/ton (LME Spot Close) and manganese price of $5.50/dmtu (SMM - Mn 44% Ore - CIF Tianjin).
Source: Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate and associated financial model, AMC, March 2021.

Project economics: high operating margins on conservative price assumptions with significant upside.



NORI-D Financial Model

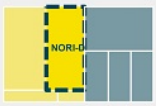
$ billions unless otherwise noted

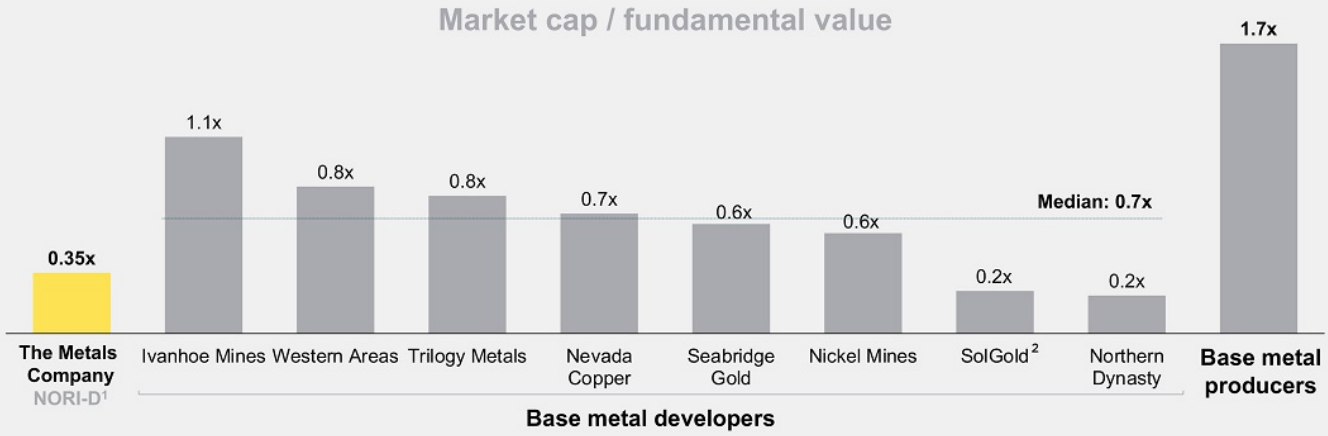
Prices	CRU forecast	Current spot	Delta
Nickel	$16,106/t	$17,797/t	10%
Copper	$6,787/t	$10,445/t	54%
Cobalt	$46,416/t	$44,645/t	-4%
Mn silicate	$4.53/dmtu	$5.50/dmtu	21%

Project economics—cumulative over project life			
Total revenue	**95.1**	**110.9**	**17%**
Nickel	44.0	47.7	
Copper	12.7	19.5	
Cobalt	10.4	10.7	
Mn silicate	27.2	32.6	
Total OPEX	**37.5**	**37.5**	**0%**
Total EBITDA	**57.3**	**73.2**	**28%**
EBITDA margin	*60%*	*66%*	*5.7 pts*
NPV[2]	**6.8**	**10.5**	**54%**

[1] Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate and associated financial model, AMC, March 2021.
[2] January 1, 2021, assuming 9% discount rate.

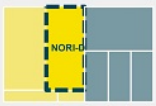
Valuation: significant discount at its current valuation compared to trading levels of base metal producers.

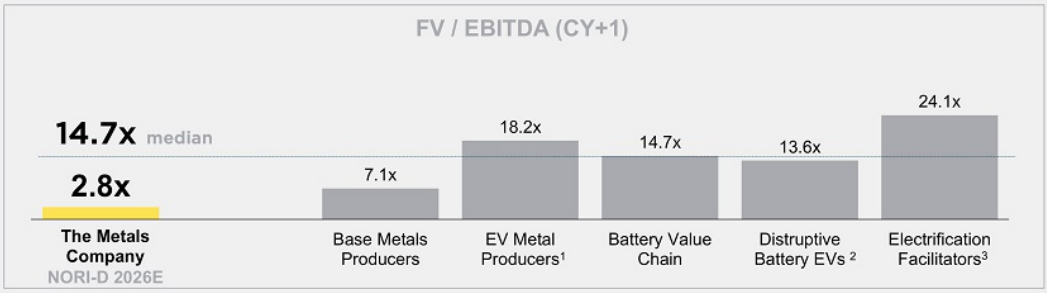


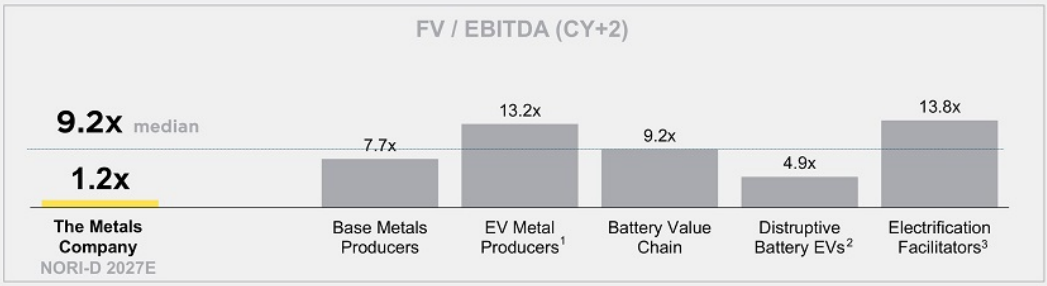


[1] Fundamental value calculation based on information provided in Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate and associated financial model, AMC, March 2021.
[2] Fundamental value for SolGold based on median NAV from broker reports published by Hannam, Peel Hunt and Cantor Fitzgerald on February 5, 2021, January 19, 2021 and December 10, 2020, respectively.
Source: Market capitalization and NAV estimates as per FactSet as of May 7, 2021.

Valuation: traditional miners provide a long-term floor valuation with upside to more disruptive peers in the EV value chain.







[1] Quantumscape multiples based on 2027E and 2028E. Microvast multiples based on 2023E and 2024E.
[2] Disruptive battery EV multiples based on 2023E and 2024E. Proterra multiple based on 2024E and 2025E multiples.
[3] Electrification facilitators multiples based on 2023E and 2024E. Chargepoint multiple based on 2025E and 2026E multiples. EVBox 2023E multiple was not considered as it exceeds 150x and its 2024E multiple was not considered due to the lack of a 2024E EBITDA projection.
Note: The Metals Company multiples based on 2026E and 2027E EBITDA for NORI-D.
Source: Firm value and EBITDA estimates per FactSet as of May 7, 2021 and company filings. Firm value and EBITDA projections stated in investor presentations at time of SPAC transaction used for Microvast, Proterra, Lion Electric, EVBox, EVGo.

Project finance: Project Zero is already funded.

Products	Production[1]
NiCuCo alloy	21Kt
Mn in silicate	331Kt

Products	Production[4]
Nickel	119 Kt
Manganese	2,847 Kt
Copper	89 Kt
Cobalt	9 Kt
Fertilizer	254 Kt

PROJECT ZERO
1.3Mt (wet)
1.0Mt (dry)

~$193M
Construction CAPEX to start commercial production[2,3]

PROJECT ONE
12.2Mt (wet)
9.3Mt (dry)

~$57.3billion
expected EBITDA over NORI-D project life

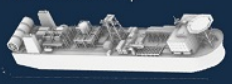
~$7.0billion
expected construction CAPEX to ramp up to full run-rate production

Production vessels
Hidden Gem acquired, conversion in progress

Collector robots
Procurement of lead items in progress for pilot collector (#1)

RKEF lines (x0)
Planned tolling through existing facilities

Converted drillship



Purpose-built collection vessel

Support vessel

$2.2billion offshore construction CAPEX

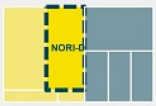
RKEF lines (x4)
New construction

Refineries (x2)
New construction

$4.8billion onshore construction CAPEX

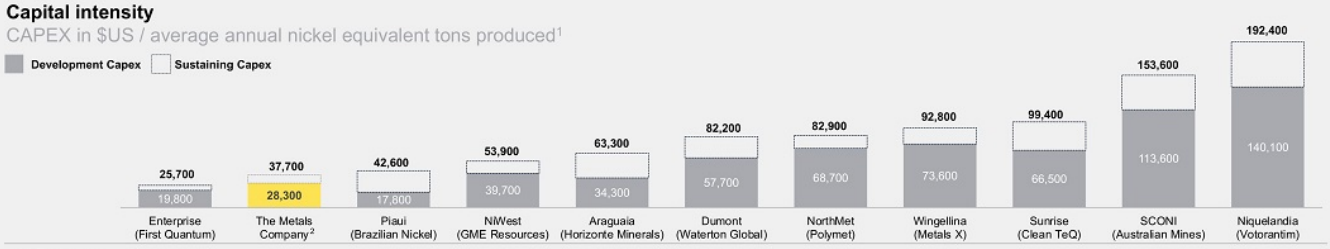
[1] Production based on 1.0Mpta (wet) with a single subsea collector.
[2] Another collector will be added to the Hidden Gem production vessel in 2029. Associated CAPEX is included in Project One CAPEX.
[3] $163mm for Hidden Gem modification and $30mm for Onshore Capex. Does not include 40mm of contingency allocation.
[4] Total NORI-D stable state production including both Project Zero and Project One, 2030-2046 average.
Source: Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate and associated financial model, AMC, March 2021.

Project finance: low CAPEX intensity and low OPEX compared to peers.



Capital intensity

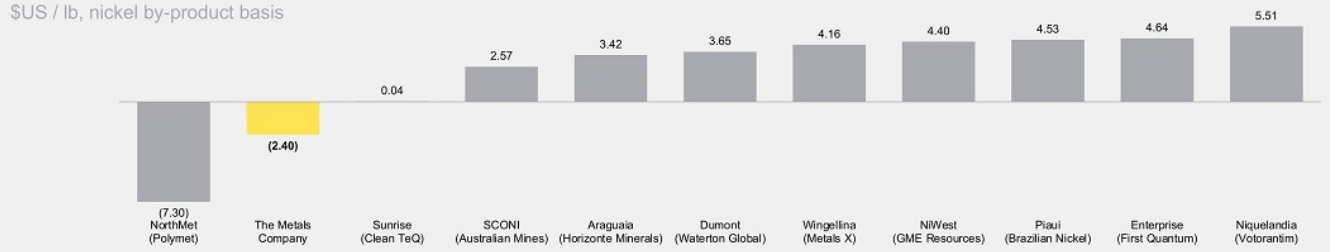
CAPEX in $US / average annual nickel equivalent tons produced[1]



	Enterprise (First Quantum)	The Metals Company[2]	Piaui (Brazilian Nickel)	NiWest (GME Resources)	Araguaia (Horizonte Minerals)	Dumont (Waterton Global)	NorthMet (Polymet)	Wingellina (Metals X)	Sunrise (Clean TeQ)	SCONI (Australian Mines)	Niquelandia (Votorantim)
Ni Equivalent Resources (Mt)	0.5	15.4	0.8	1.0	1.9	6.5	3.5	2.4	1.3	0.5	0.4

Unit cash costs

$US / lb, nickel by-product basis



[1] Figures rounded to the nearest $100.
[2] Based on estimated production between 2027 (run-rate year) – 2042. Calculations include nickel tonnage related to tolling. Development capex excluding tolling is $33,500/T.
Note: Calculated using projections out to 2040. Assumes average price of $16,106 per tonne of nickel, $6,787 per tonne of copper, $46,416 per tonne of cobalt, $4.53 per dmtu of manganese, $1,823 per ounce of gold, $27 per ounce of silver and $1,224 per ounce of platinum. The nickel, copper, cobalt and manganese pricing is consistent with the pricing used in Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion ClippertonZone Mineral Resource Estimate and associated financial model, AMC, March 2021 The gold, silver and platinum prices are based on spot prices as of May 12, 2021.
Source: Wood Mackenzie Reports. Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate and associated financial model, AMC, March 2021.

Project finance: Project One in capital planning phase, with significant flexibility.

$7 billion CAPEX

CAPEX-light approach

Pursue lower CAPEX options:
- Offshore: convert more drillships instead of purpose build vessels
- Onshore: acquire distressed RKEF lines

Use partners' existing capital assets:
- Offshore: nodule collection contracts at fixed price per tonne
- Onshore: tolling nodules through existing RKEFs and intermediates through existing refineries

Debt financing

Pursue multiple sources of debt financing (illustrative):
- $0.8-1 billion (25-33%) US **government supported capital** (discussions ongoing)
- $0.5-0.75 billion (17-25%) **offtaker financing** (discussions ongoing)
- $0.5-0.75 billion (17-25%) **uncovered term loan**
- $1-1.5 billion (33-50%) **export credit agencies**

The tenor, amortisation profile and cost of debt will be available once a financing plan has been developed and market sounding has been conducted. The average cost of debt will depend on the final size of each of the various pockets of liquidity, and for the commercial debt, the risk allocation associated with the onshore project.

Cash flow

NORI-D CAPEX vs. positive cash flows[1]

[1] Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate and associated financial model, AMC, March 2021.
[2] Cash flows from operations through mid 2028 at current metals prices as of May 12, 2021.

Project finance: lower offshore CAPEX option achieved for Project Zero and can be used for Project One.

Project Zero

Production vessel—conversion

~$200 million

Expected CAPEX

=

<$50 million [$700 million new build price]

Acquisition cost by Allseas in Feb 2020

+

$163 million

Conversion CAPEX budgeted in the IA

Project One

Production vessel—new build

$1.3 billion

CAPEX (incl. contingency) budgeted in the NORI-D IA model

Production capacity of one new build vessel could be achieved with 3x converted vessels at ~$200 million per conversion, providing us with:

- Lower overall CAPEX intensity
- Ability to scale CAPEX in increments

Project finance: we can convert CAPEX into OPEX = lower margin / higher ROE.

$7 billion CAPEX

$2.2 billion offshore CAPEX

$4.8 billion onshore CAPEX

- **$2.8 billion RKEF Lines (x4)**
  Structures and substation, raw material handling, rotary kilns, calcine transfer, electric furnaces, converter aisle.
- **$2.0 billion Refinery (x2)**
  Leaching & purification, sulfate crystallization & packaging, reagents & utilities.

Option:

Commercial contracts

Award long-term contracts at a fixed price per ton and shift offshore asset CAPEX to contractor balance sheet

- Increase offshore OPEX
- Eliminate offshore CAPEX

Option:

Tolling contracts

Award long-term contracts at a fixed price per ton and shift onshore RKEF and refinery CAPEX to contractors' balance sheet

- Increase onshore OPEX
- Eliminate onshore CAPEX

$503 revenue/dry ton

$197
OPEX/dry ton
- $137onshore OPEX
- $30 offshore OPEX
- $27 shipping cost
- $3 corporate cost

$306
EBITDA margin (~60%)

Source: Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate and associated financial model, AMC, March 2021.

Project finance: we can reduce onshore CAPEX by reducing scope.

$7 billion CAPEX

$2.2 billion offshore CAPEX

$4.8 billion onshore CAPEX

- **$2.8 billion RKEF Lines (x4)**
  Structures and substation, raw material handling, rotary kilns, calcine transfer, electric furnaces, converter aisle.
- **$2.0 billion Refinery (x2)**
  Leaching & purification, sulfate crystallization & packaging, reagents & utilities.

Option:

Produce and sell NiCuCo matte & Mn silicate:

- $2.0 billion refinery capital eliminated
- Revenue reduced from $503 to $420 revenue / dry ton (85% of LME)

Project finance: Illustration of how we can finance onshore CAPEX with debt.

($mm)		2021	2022	2023	2024	2025	2026	2027	2028	2029
Onshore capital spend	**$4,756**				**476**	**616**	**1,708**	**563**	**810**	**582**
Project-level equity / partners	$1,756		200		150	200	560	190	265	191
Government supported capital	$850				350	75	200	50	100	75
Export credit agencies (ECAs)	$1,150					175	450	150	225	150
Uncovered term loan financing	$500					75	200	50	100	75
Offtaker financing	$500					75	200	50	100	75

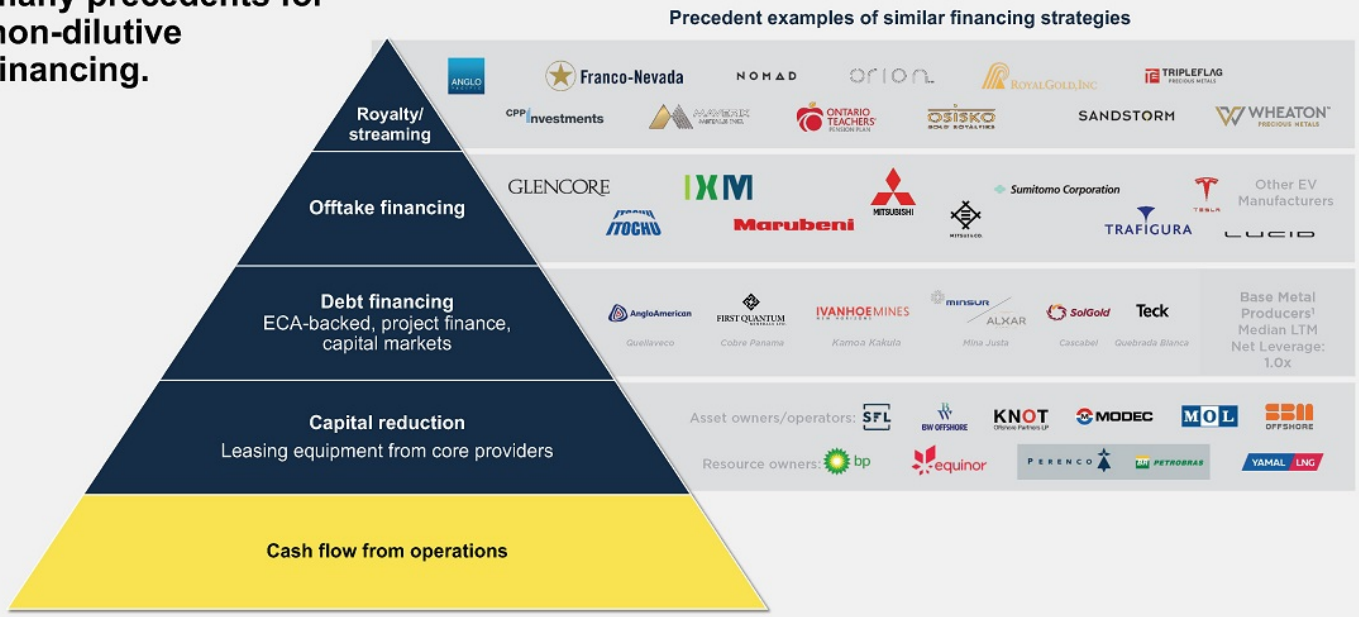
Could be back-ended if secured with well-rated LCs

Drawdowns

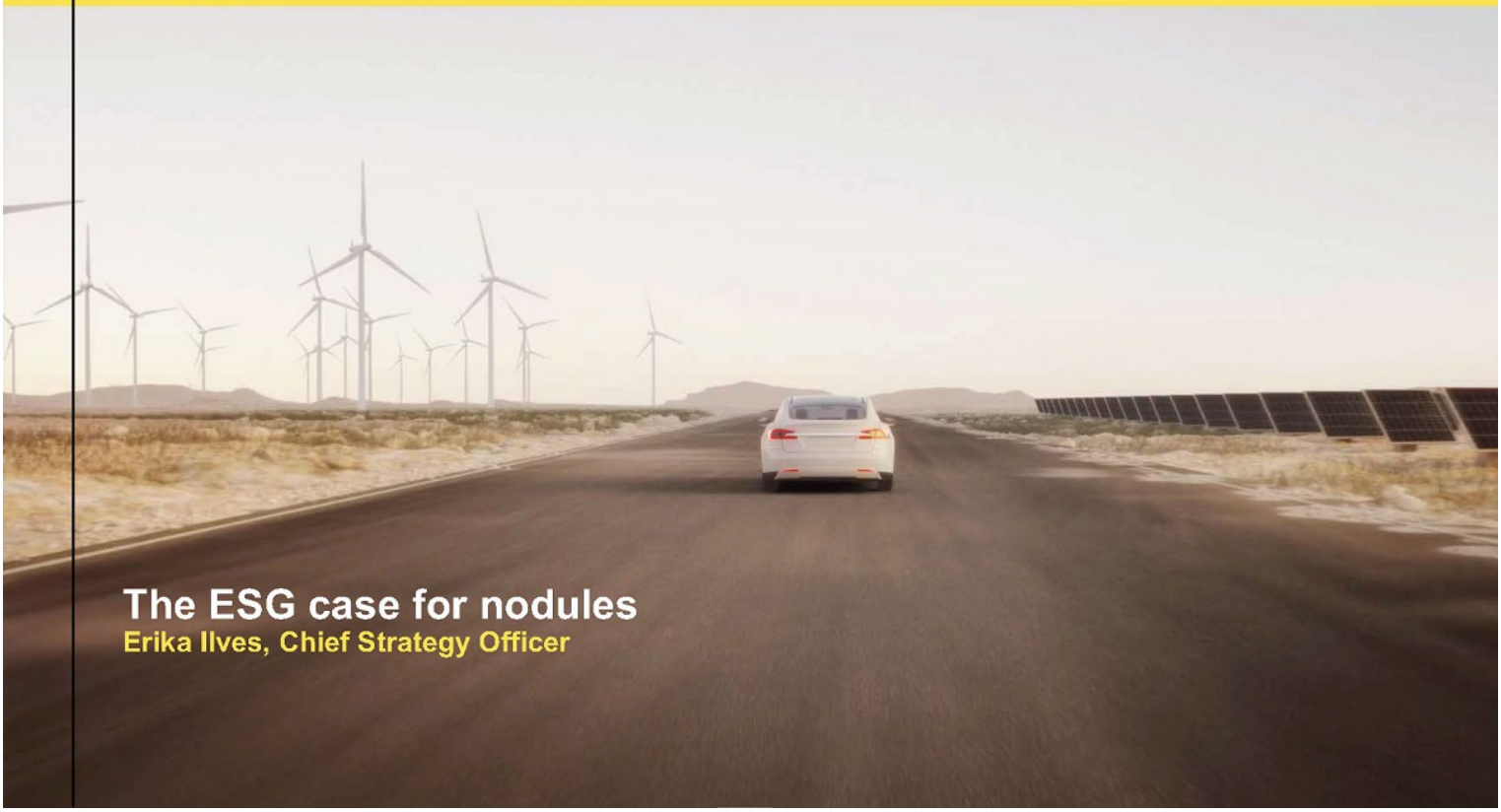
Illustrative sequencing

- Discussions with governmental bodies around the financial support they will provide to the project are already ongoing
- Once these discussions reach a developed stage, the sizing of the other sources of liquidity could be firmed up
- Bank lenders will require a 12-18 month lead time to perform the required due diligence and make a financing package available
- ECAs will be engaged throughout the process, particularly when various export contracts are awarded
- Offtaker financing could be arranged with a quicker timeframe, and off-takers would be engaged once there is clarity on the bank and ECA financing package

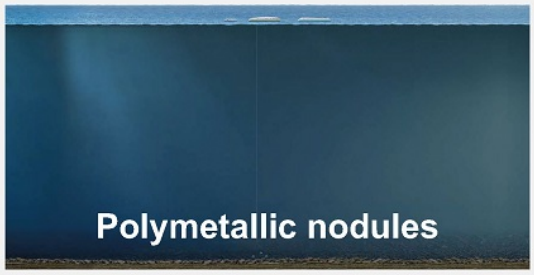
Project finance: our capital plan has many precedents for non-dilutive financing.



[1] Base metal producers include Southern Copper, OZ Minerals, Freeport McMoRan, Antofagasta, Lundin Mining and First Quantum Minerals.
Source: FactSet. Leverage data based on market data as of May 7, 2021.


The ESG case for nodules
Erika Ilves, Chief Strategy Officer

Primary metal mining is not sustainable.

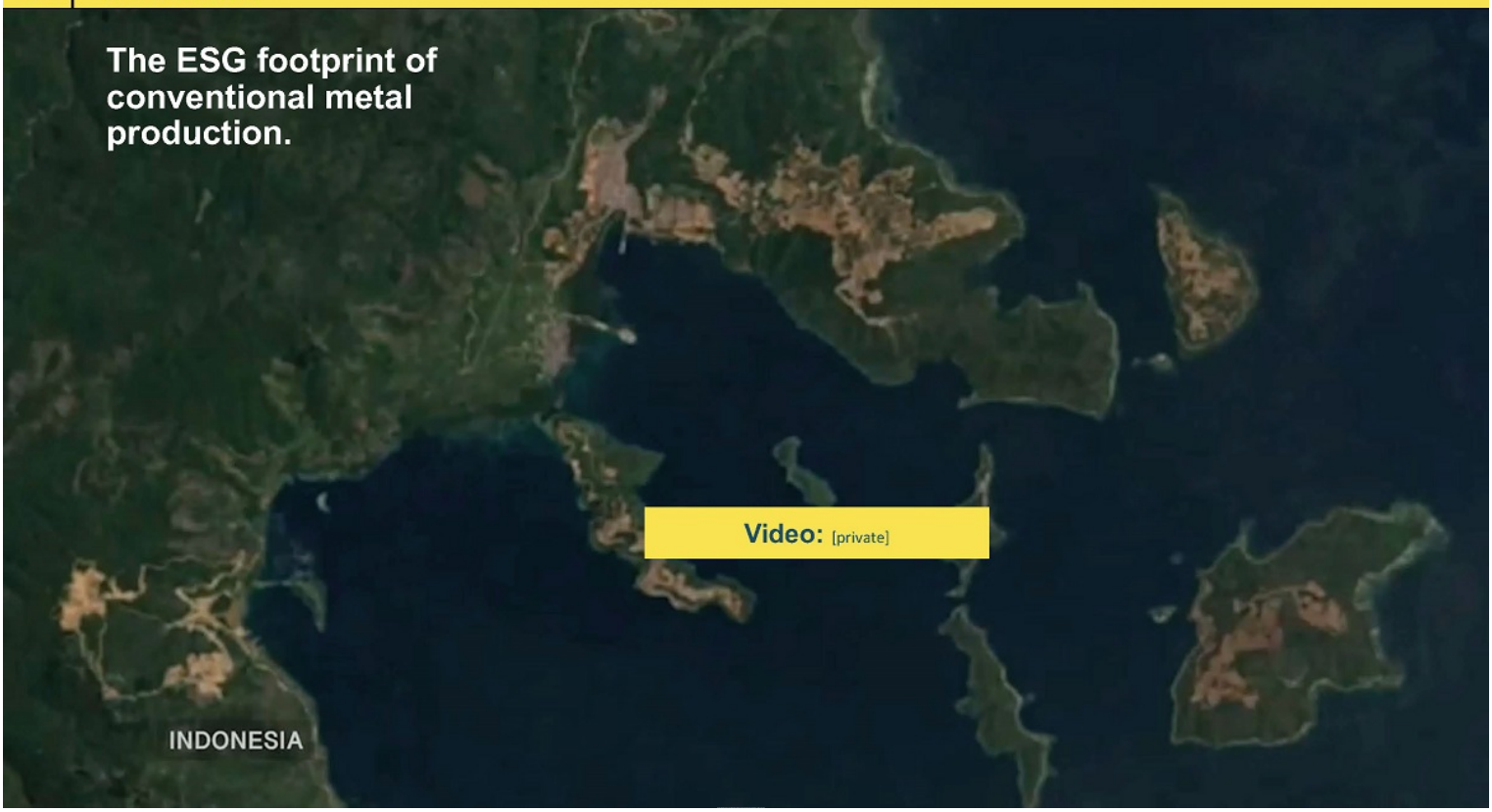


1-10

million years for nickel laterite to form through wet leaching of unweathered rock under rainforests

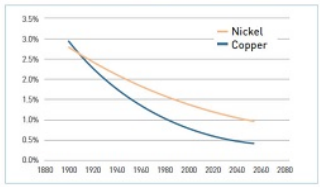
1-10

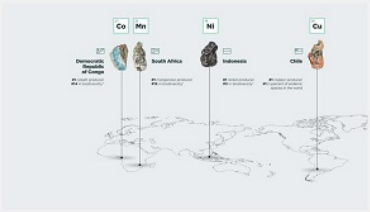
million years for a nodule to form through precipitation of metal that is in solution in sea- and sediment pore-water


The ESG footprint of conventional metal production.
Video: [private]
INDONESIA

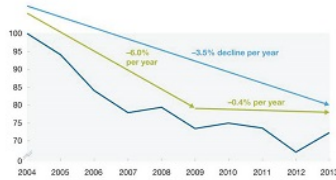
Structural challenges of land-based producers: things will get worse.

Nickel & copper grades, fitted[1]





MineLens productivity index, 2004=100[2]



Falling grades

More ore to get at the same amount of metal

More land / energy / water use

Falling grades x sharply rising demand = exponential increase in tailings

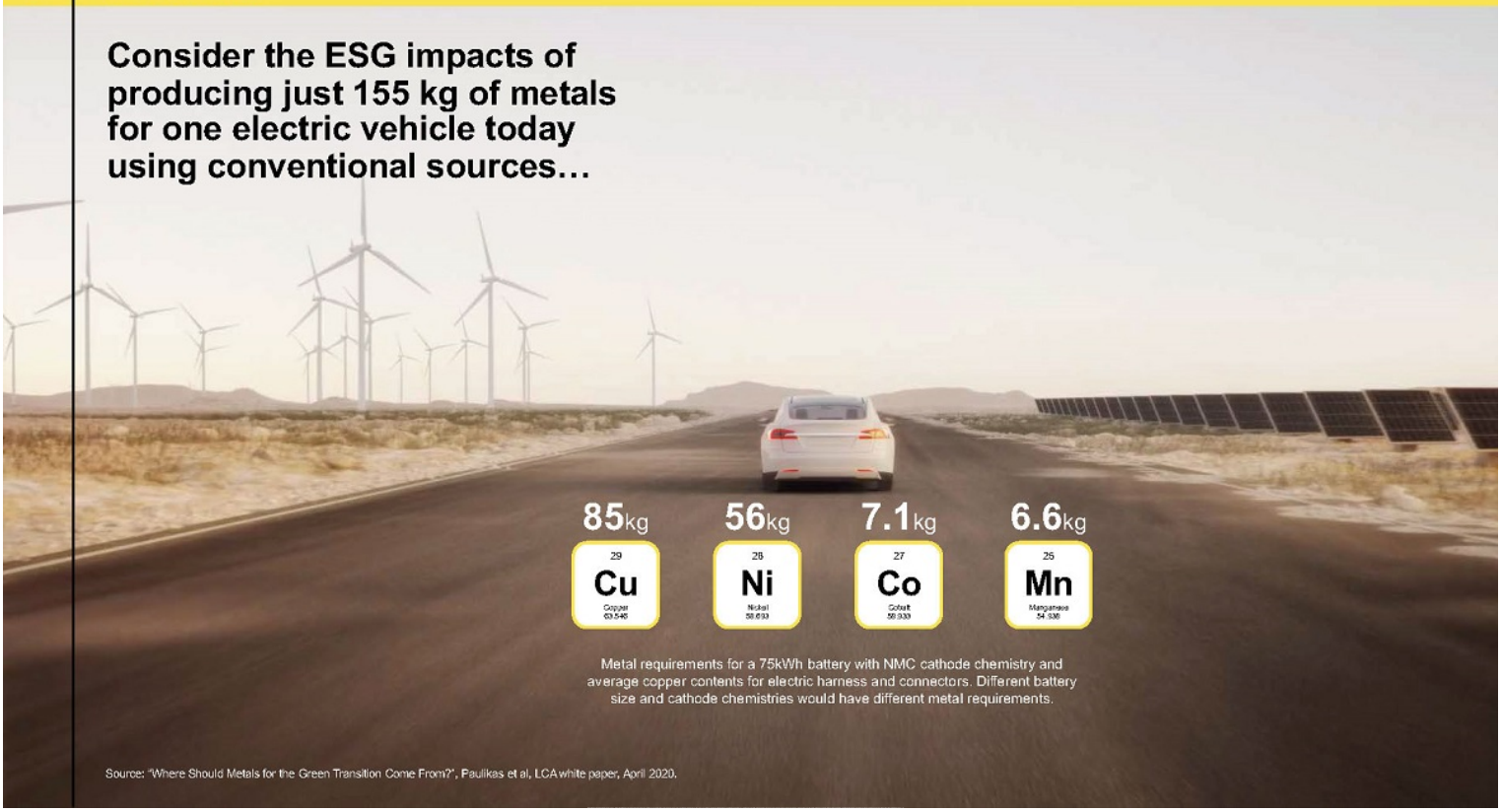
Problematic locations

Remaining projects increasingly in higher-risk and some of the most biodiverse places on the planet with large carbon sinks and sequestration services

Hard choices

Need to invest in decarbonizing production, reducing energy / water use and management of rapidly increasing tailings volumes while tackling CAPEX / OPEX pressure stemming from falling grades

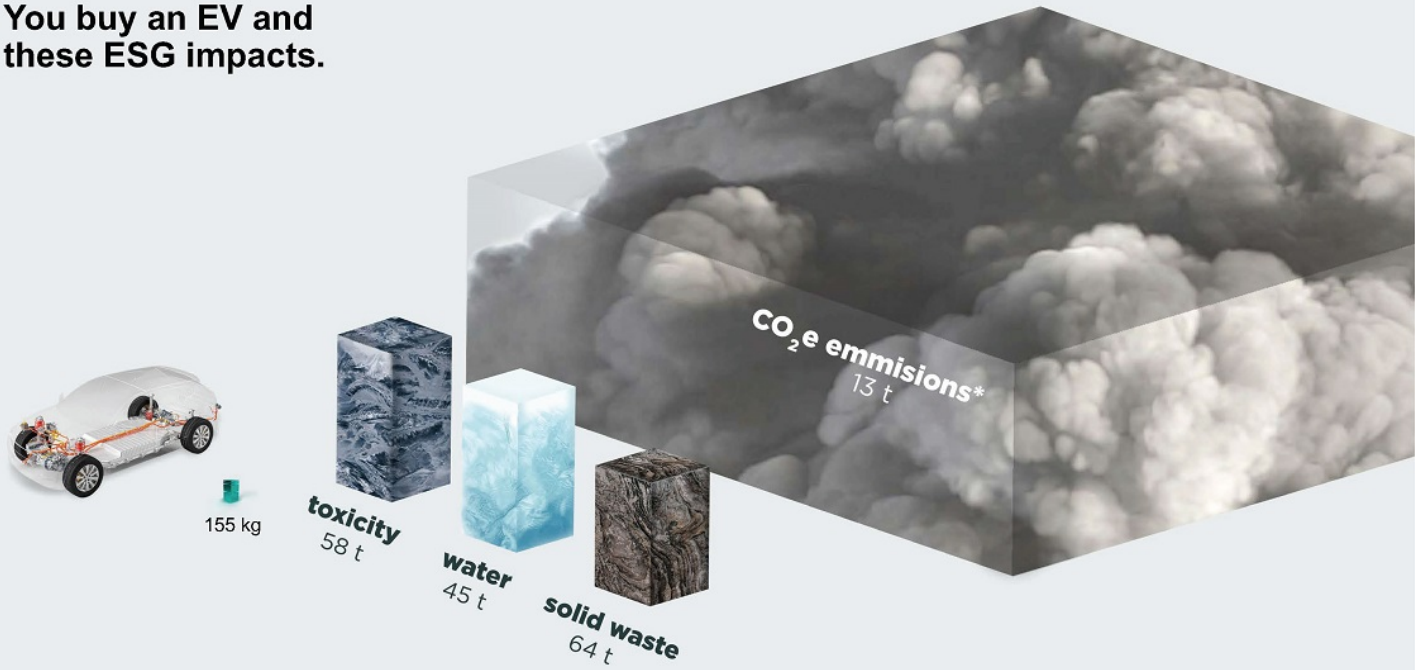
Consider the ESG impacts of producing just 155 kg of metals for one electric vehicle today using conventional sources…



Metal requirements for a 75kWh battery with NMC cathode chemistry and average copper contents for electric harness and connectors. Different battery size and cathode chemistries would have different metal requirements.

Source: "Where Should Metals for the Green Transition Come From?", Paulikas et al, LCA white paper, April 2020.

You buy an EV and these ESG impacts.



*Include direct emissions from metal mining, processing & refining; release of carbon stored in vegetation, detritus & soil; and emissions from land use change
Source: Paulikas et al, Where Should Metals for the Green Transition Come From? April 2020

Metal production from nodules can be much better.

Resource

High-grades of four metals in a single ore – **much less ore mass to process**

Very low contents of hazardous elements – **can turn 100% of mass into products**

Unobstructed access to nodules—**no overburden to remove**

Loose sitting – **no need for drilling & blasting**

Location

Far offshore — **no deforestation, no social displacement, no fixed infrastructure**

Very deep – **no release of carbon sequestered in seafloor sediments**

Marine desert— **no plants, orders of magnitude less biomass to impact**

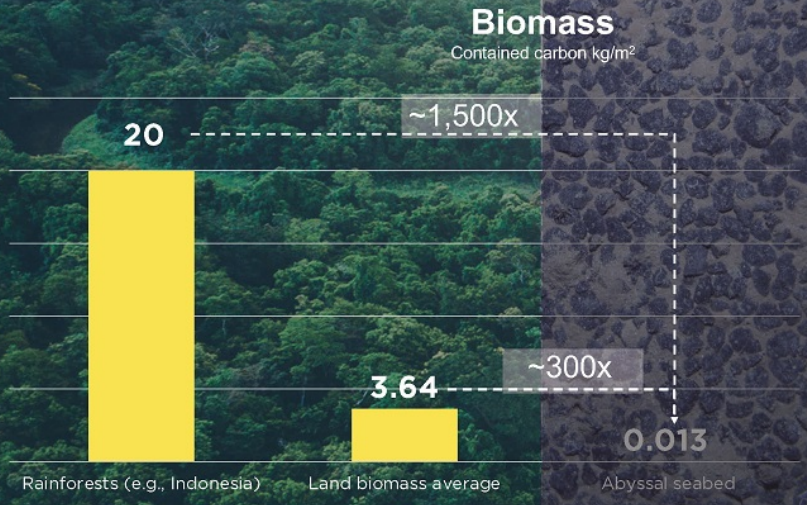
Most common habitat on the planet—**easier to set aside areas for conservation**

Our choices

Invest in zero-waste flowsheet design

Power processing plant with renewables

The Abyssal Plain advantage: one of the lowest biomass & carbon sequestration environments on the planet.



Stable, food-poor environment dependent on particles sinking from oligotrophic surface waters

Very low biomass
- No plants
- ~70% of biomass is bacteria
- Most wildlife is small <4cm

Note: The seafloor-biomass value incorporates an estimate of seamounts and hydrothermal vents attributed to Wei, et al., 2010. It is also an overestimate because it includes all fish in the water column, rather than focusing only on the seafloor and mid-water column. The overall biomass of earth's ice-free terrestrial area was 472.7 gigatonnes of carbon, compared to 2.49 gigatonnes of carbon for the global abyssal seabed.
Source: Bar-On, Phillips, & Milo, 2018; Wei, et al., 2010.

Ethical labeling: what you buy when you buy a billion EVs.

Impact facts

Cradle-to-gate production of nickel sulfate, manganese sulfate, cobalt sulfate and copper cathode
Assuming NMC811 cathode chemistry and 75kWh battery size

Serving size: 1 billion electric cars

	Land	Nodules	% change
Climate change			
GWP – CO_2 equivalent emissions, Gt	1.47	0.45	**-70%**
Carbon sinks at risk, Gt	9.30	0.58	**-94%**
Disrupted carbon sequestration, GT	2.06	0.24	**-88%**
Resource use			
Ore, Gt	25	6	**-75%**
Land, km^2	156,000	9,800	**-94%**
of which forests, km^2	66,000	5,200	**-92%**
Seafloor, km^2	2,000	508,000	**new use**
Water, km^3	45	5	**-89%**
Primary and secondary energy, PJ	24,500	25,300	**+3%**
Waste			
Solid waste, Gt	64	0	**-100%**
Terrestrial ecotoxicity, 1,4-DCB equivalent Mt	33	0.5	**-98%**
Freshwater ecotoxicity, 1,4-DCB equivalent Gt	21	0.1	**-99%**
Eutrophication potential, PO4 equivalent, Mt	80	0.6	**-99%**
Human & wildlife health			
Human toxicity, 1,4-DCB equivalent, Mt	37,000	286	**-99%**
SO_x and NO_x emissions, Mt	180	18	**-90%**
Human lives at risk, number	1,800	47	**-97%**
Megafauna at risk, trillion organisms	47	3	**-93%**
Biomass at risk, Mt	568	42	**-93%**
Biodiversity loss risk	Present	Present	**No change**

Source: Paulikas et al, Where Should Metals for the Green Transition Come From? April 2020 White Paper; D. Paulikas, S. Katona, E. Ilves, S.H. Ali, "Life cycle climate change impacts of producing battery metals from land ores versus deep-sea polymetallic nodules," *Journal of Cleaner Production*, 275 (2020) 123822.

Conflicting narratives: why good people are divided on deep-sea mining.

"Intuitions come first, strategic reasoning second."

"People bind themselves into political teams that share moral narratives. Once they accept a particular narrative, they become blind to alternative moral worlds."

"When a group of people make something sacred, the members of the cult lose the ability to think clearly about it. Morality binds and blinds."

Intuition

Mining has had devastating impacts on land.
We must protect the oceans from mining.

Magical solutions

We don't need to mine.
We can degrowth, reuse, recycle.

Black-and-white thinking

Ban all deep-sea mining and focus on fixing land based mining.

Source: Jonathan Haidt, The Righteous Mind: Why Good People Are Divided by Politics and Religion (2012).

Our approach to earning a social license.

"The human mind is a **story processor**, not a logic processor."

"Moral reasons are the tail wagged by the intuitive dog. A dog's tail wags to communicate. You can't make a dog happy by forcibly wagging its tail. And you **can't change people's minds by utterly refuting their arguments**."

"If you really want to change someone's mind on a moral matter, you'll need to **see things from that person's angle** as well as your own. And if you do truly see it the other person's way—deeply and intuitively—you might even find your own mind opening in response. **Empathy is an antidote to righteousness**, although it's very difficult to empathize across a moral divide."

Source: Jonathan Haidt, The Righteous Mind: Why Good People Are Divided by Politics and Religion (2012).

Tell better stories

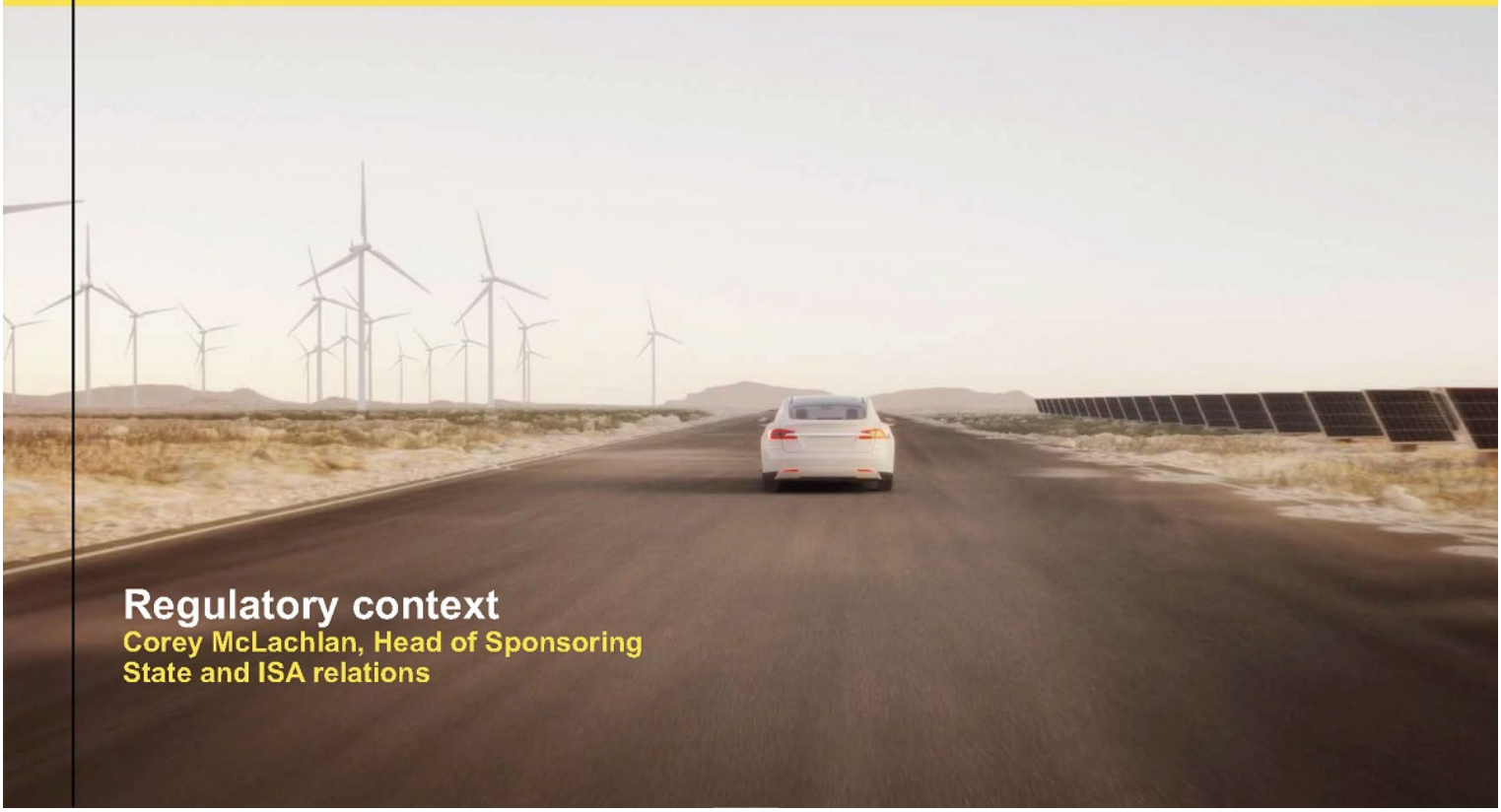
Analysis is a prerequisite but stories is how we interface with the world. Sometimes our stories are best told by others.

Radical transparency

We compete on ethics. Radical transparency is non-negotiable in a world where a product's impact story is as important as its function and price.

Engage & stay open

Seek to understand opposing perspectives. Establish shared ground. Be prepared to change our minds.



Regulatory context

Corey McLachlan, Head of Sponsoring State and ISA relations

International regulator with a clear mandate and a 27-year track record.

"The deep-sea mining regime in the convention is the most innovative legal regime ever designed by humankind for the equitable and sustainable use of natural resources."

"The reality is that never before has such a comprehensive regulatory regime been established before any commercial activity begins and never before has an extractive industry been subject to so much scrutiny or has such a precautionary approach to development been taken."

Michael Lodge, Secretary General, International Seabed Authority (ISA)

Mandate

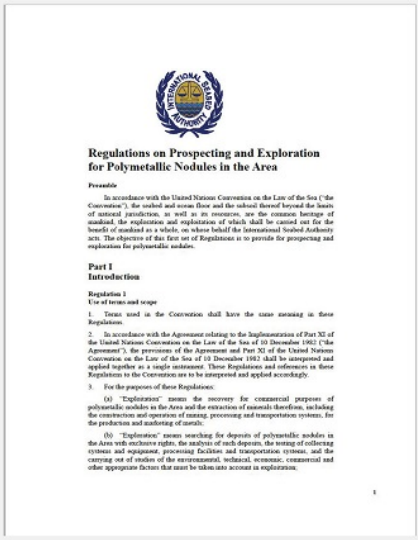
United Nations Law of the Sea Convention (UNCLOS), 1982
UNCLOS Implementation Agreement, 1994

- Organize, control and regulate all mineral related activities in the international seabed on behalf of humankind
- Ensure effective protection of the marine environment

Track record

✓ Established in 1994: 167 Member States & the EU
✓ Exploration Regulations developed for three types of seabed resources
✓ 31 Exploration Contracts awarded
✓ Exploitation Regulations, Standards & Guidelines, nearing completion
✓ Developing States and marine environment prioritized

Exploration regime: similar to what you see on land but with a strong application of the precautionary principle.



Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area

Preamble

In accordance with the United Nations Convention on the Law of the Sea ("the Convention"), the seabed and ocean floor and the subsoil thereof beyond the limits of national jurisdiction, as well as its resources, are the common heritage of mankind, the exploration and exploitation of which shall be carried out for the benefit of mankind as a whole, on whose behalf the International Seabed Authority acts. The objective of this first set of Regulations is to provide for prospecting and exploration for polymetallic nodules.

Part I
Introduction

Regulation 1
Use of terms and scope

1. Terms used in the Convention shall have the same meaning in these Regulations.

2. In accordance with the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 ("the Agreement"), the provisions of the Agreement and Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 shall be interpreted and applied together as a single instrument. These Regulations and references in these Regulations to the Convention are to be interpreted and applied accordingly.

3. For the purposes of these Regulations:

(a) "Exploitation" means the recovery for commercial purposes of polymetallic nodules in the Area and the extraction of minerals therefrom, including the construction and operation of mining, processing and transportation systems, for the production and marketing of metals;

(b) "Exploration" means searching for deposits of polymetallic nodules in the Area with exclusive rights, the analysis of such deposits, the testing of collecting systems and equipment, processing facilities and transportation systems, and the carrying out of studies of the environmental, technical, economic, commercial and other appropriate factors that must be taken into account in exploitation;

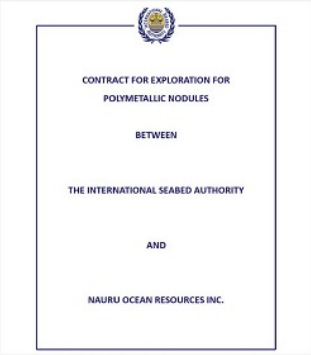
1

Exploration regulations
Adopted in 2000, updated in 2013
- 15-year exploration contracts
- 5-year work programs
- Exclusive right to explore
- Exclusive right to apply for exploitation

Exploration contract awards
- 19 polymetallic nodules contracts
- 7 polymetallic sulphides contracts
- 5 cobalt crusts contracts
- Demonstrated ability to extend contracts (2016 & 2021)

Our exploration rights: three ISA exploration contracts…

2011 NORI


CONTRACT FOR EXPLORATION FOR POLYMETALLIC NODULES

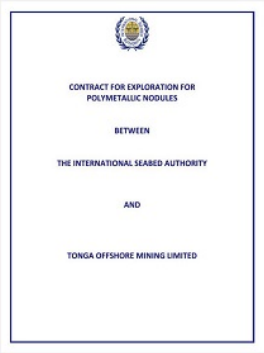
BETWEEN

THE INTERNATIONAL SEABED AUTHORITY

AND

NAURU OCEAN RESOURCES INC.

2011 TOML


CONTRACT FOR EXPLORATION FOR POLYMETALLIC NODULES

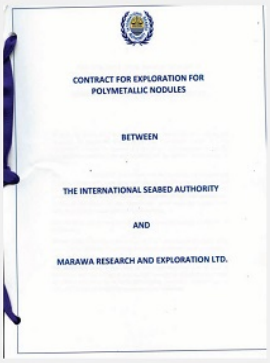
BETWEEN

THE INTERNATIONAL SEABED AUTHORITY

AND

TONGA OFFSHORE MINING LIMITED

2015 Marawa


CONTRACT FOR EXPLORATION FOR POLYMETALLIC NODULES

BETWEEN

THE INTERNATIONAL SEABED AUTHORITY

AND

MARAWA RESEARCH AND EXPLORATION LTD.

…sponsored by three developing nations.

"Another first for the Authority was the approval of two applications by private sector interests, sponsored by developing States, for plans of work for exploration for polymetallic nodules in the so-called reserved areas. The Council approved applications by Nauru Ocean Resources Inc., sponsored by the Republic of Nauru, and by Tonga Offshore Mining Ltd., sponsored by the Kingdom of Tonga. Not only are these the first applications for exploration licences in the international Area by genuinely private-sector entities, but also they are the first applications to have been made for reserved areas, on the basis of sponsorship by developing States.

This is a tremendously important development. I would like to remind the Assembly that **the original purpose** behind the parallel system of exploitation as set out in the Convention **was to provide developing States with a practical and realistic means of participating in seabed mining**… The only realistic option for most developing States therefore is to form partnerships with commercial interests that have access to the financial capital and technology that are necessary to conduct deep sea exploration. This is exactly what has happened in the case of Nauru and Tonga. This could not have happened, however, unless the private sector had sufficient confidence in the regulatory system that has been developed by the Authority over the past 15 years to make such an investment in the first place.

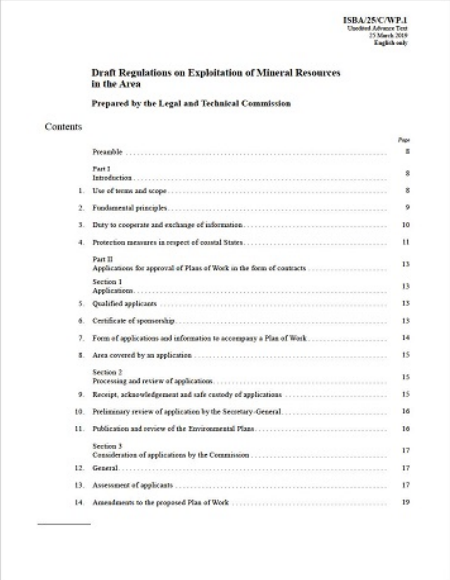
Nii Allotey Odunton
Secretary General of the ISA
Speech given to the UN General Assembly in 2011

Republic of Nauru
2015 Nauru Seabed Minerals Act
2017 Sponsorship Agreement

Kingdom of Tonga
2014 Tonga Seabed Minerals Act
2008 Sponsorship Agreement

Republic of Kiribati
2017 Tonga Seabed Minerals Act
2013 Sponsorship Agreement

Exploitation regime: nearing completion and adoption.



ISBA/25/C/WP.1
Unedited Advance Text
15 March 2019
English only

Draft Regulations on Exploitation of Mineral Resources in the Area

Prepared by the Legal and Technical Commission

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Section 3
Consideration of applications by the Commission ... 17

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13. Assessment of applicants ... 17
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Adoption was expected in July 2020 but COVID has delayed negotiation & adoption

Exploitation Regulations

- 4th draft released in 2019 / stakeholder comments in 2020
- Now with Council for final negotiation / Working Groups have been established to negotiate text

Financial Regime

- Deep seabed minerals cannot be advantaged or disadvantaged compared to terrestrial resources
- Comparative study of terrestrial royalties released in 2020
- Revised model to be released prior to next Council meeting

Standards & Guidelines

- 10 standards & guidelines will be adopted
- 3 have received stakeholder comment; final 7 are out for public comment
- Council will review all 10 at the next meeting

Exploitation contract: what we need to do to secure it.

Application

- ✓ Certificate of Sponsorship
- ✓ Mining Plan
- ✓ Financing Plan
- ✓ Environmental Impact Statement
- ✓ Emergency Response and Contingency Plan
- ✓ Health and Safety Plan & Maritime Security Plan
- ✓ Training Plan
- ✓ Environmental Management and Monitoring Plan
- ✓ Closure Plan

Process

45 days

Secretary General will review the application for completeness

120 days

If no amendments required, LTC reviews the application

60 days

Environmental Plans are published

90 days

For amending application, LTC reviews at next session (2x annual). The Council then reviews and if acceptable approves application.

315 days

From initial filing application could be approved—assuming no significant changes to the timelines.

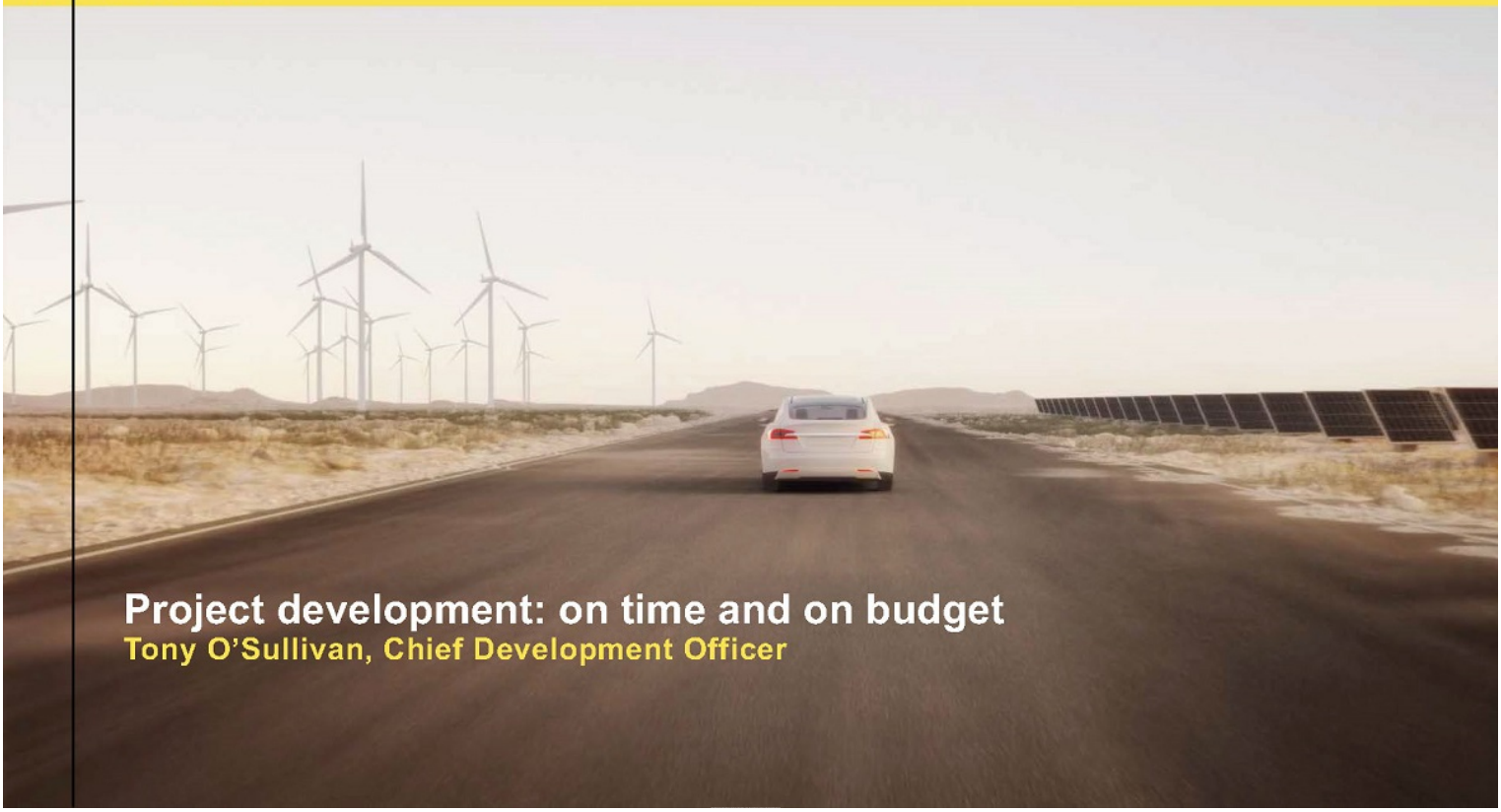
Exploitation regime: mitigating potential delay risk.

Timeline

July 2020 ISA stated goal for adoption—delayed due to COVID
2021-2022 Tentative new timeline for adoption
Q2 2023 NORI plans to submit application for Exploitation Contract

Mitigation

Article 15 of the 1994 Implementation Agreement empowers a Member State whose national contractor is 2 years away from being ready to lodge an application for the ISA Exploitation Contract to notify the ISA of upcoming application. This notice obliges the ISA **"to consider and provisionally approve"** this application based on the state of the Exploitation Regulations at the time of the application (whether final or draft.)



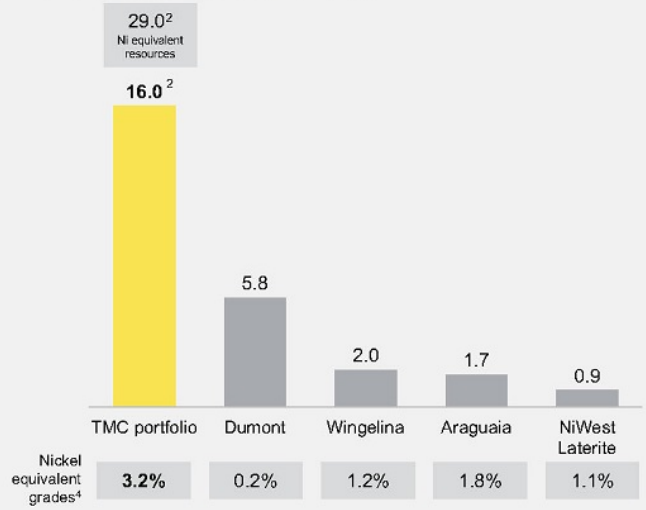
Project development: on time and on budget

Tony O'Sullivan, Chief Development Officer

World-class resource: #1 largest undeveloped nickel project, with very high grades.

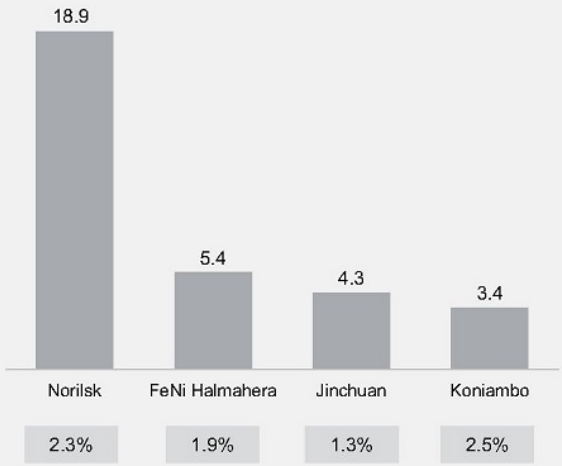
World's largest undeveloped nickel projects

Total resources (inferred, indicated & measured), in Mt[1,3]



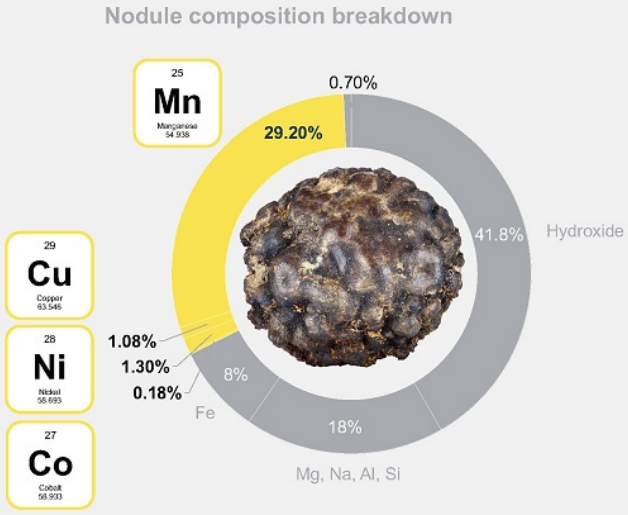
World's largest nickel producers

Total resources (inferred, indicated & measured), in Mt[1,3]



[1] Global Nickel Industry Cost Summary, Wood Mackenzie, August 2020; inclusive of reserves.
[2] Canadian NI 43-101 Resource Statement for full field financial model (internal DeepGreen development scenario). Metals and mining recoveries have not been considered.
[3] Asset Reports for Dumont, Wingellina, Araguaia, NiWest Laterite, Norilsk, FeNi Halmahera, Jinchuan and Koniambo, Wood Mackenzie.
[4] Nickel equivalence calculation uses NORI-D Model price deck as stated on page 63 of March 4 - PIPE investor deck. For gold ($1,823/oz), platinum ($1,224/oz) and silver ($27/oz), spot prices as of May 12, 2021 are used.

World-class resource: with several advantages.



Unbound to the seafloor – **no need for drilling & blasting**

Four metals in a single ore – **much less ore mass to process**

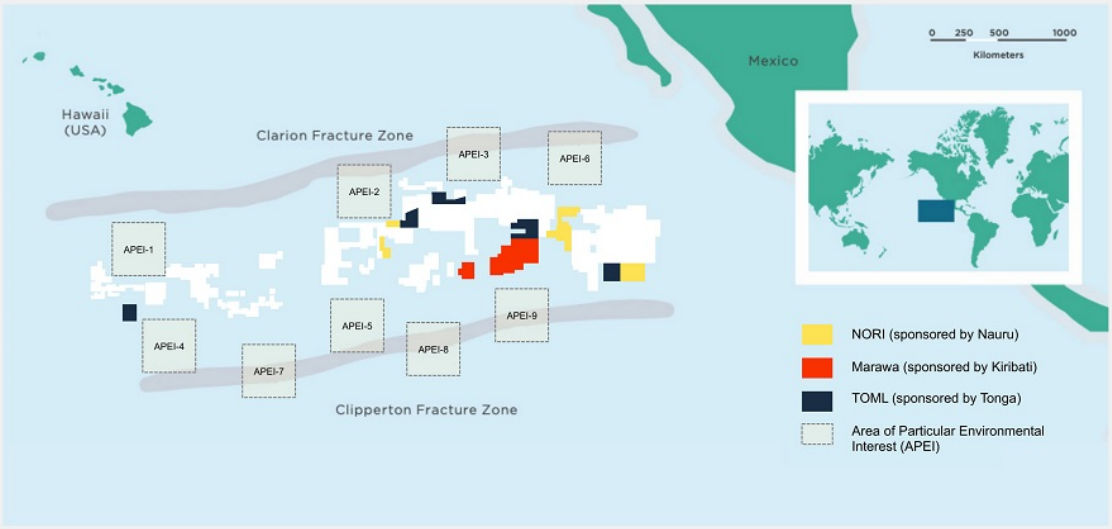
Very low hazardous elements like As, Sb, Hg – **no toxic processing tailings**

Low head-grade variability – **easier to process**

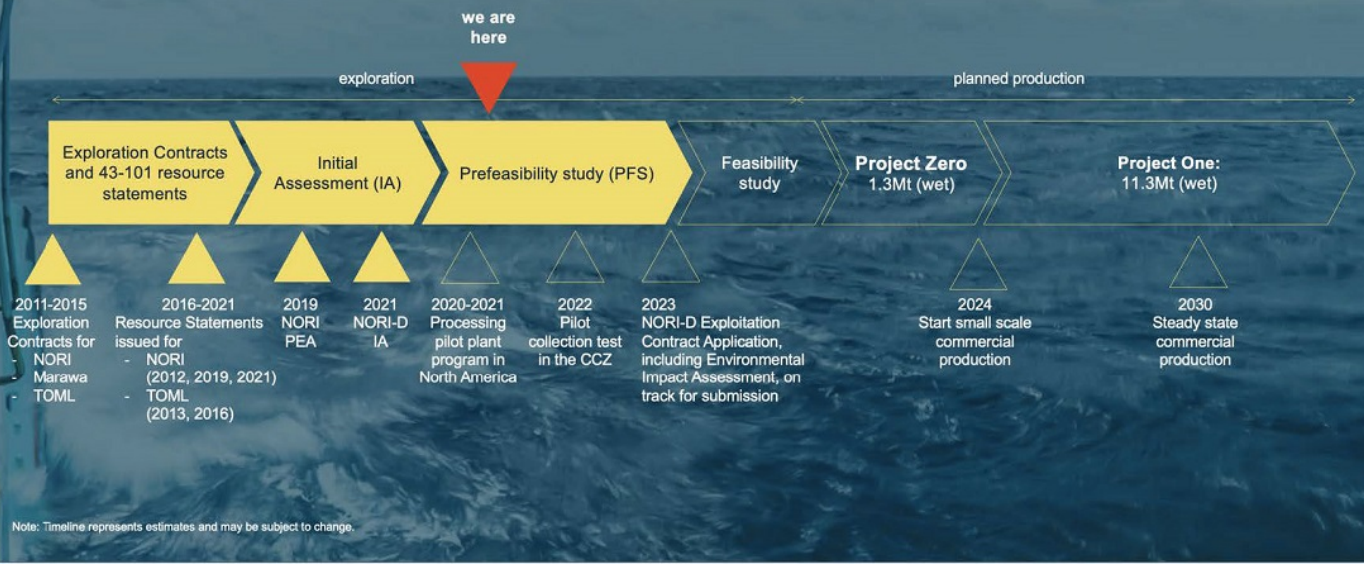
2-10 cm diameter – **easy to handle**

Microporous – **easier to smelt**

Advantageous location: Onshore development optionality, which is not available to most projects.

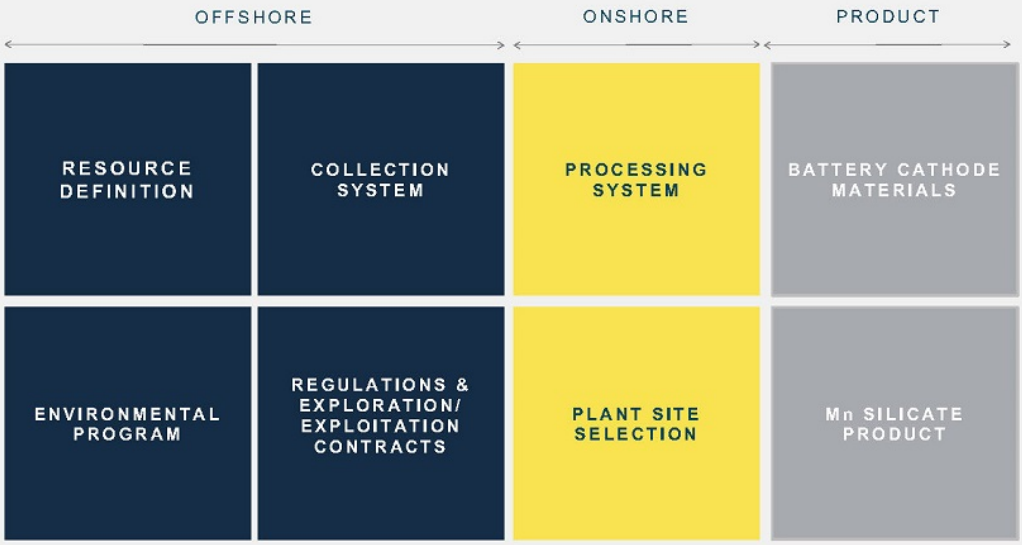


Project development:
NORI-D on time and on budget to achieve expected commercial production in 2024.



Note: Timeline represents estimates and may be subject to change.

Project development: key work streams.



Project development: achieved so far.

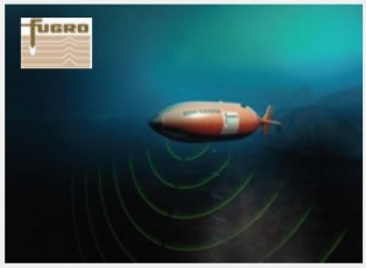
Resource definition: easy and effective to define.

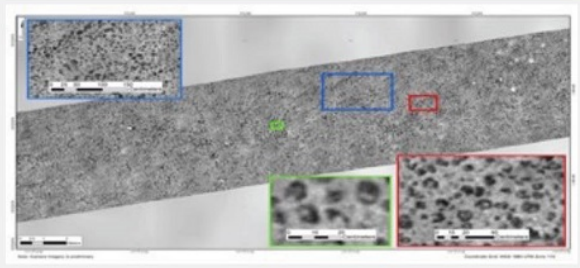
250
box cores collected[2]
82,000
kg (wet) nodules collected[2]
13,950
biological samples collected[2]

BOX CORE SAMPLING[1]

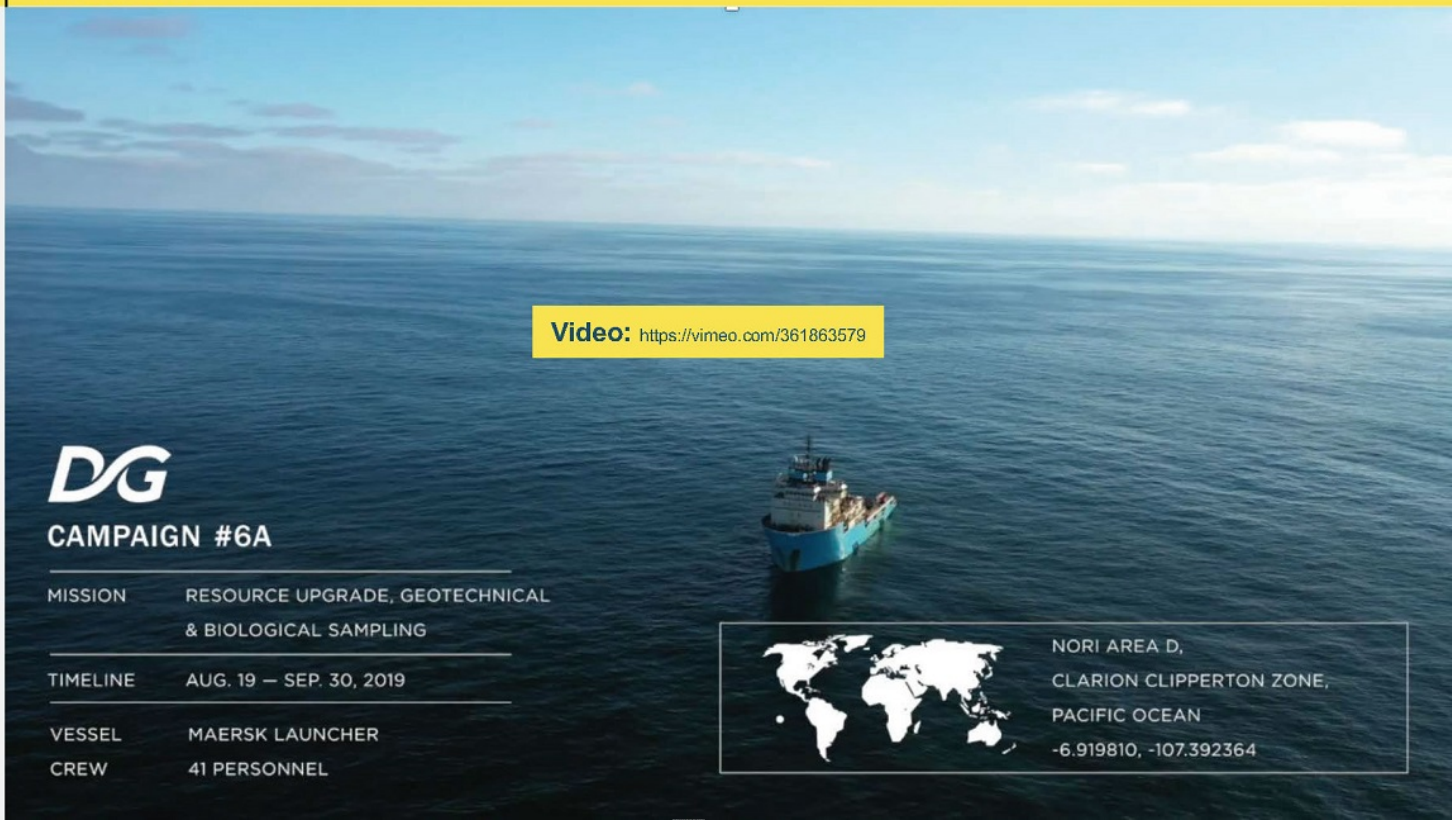
178,591
km² of high-res bathymetric survey[2]
5,439
km² detailed seafloor imagery[2]

AUV CAMERA IMAGERY[1]





[1] Images from DeepGreen's resource survey offshore campaigns in NORI contract area.
[2] Boxcores, nodules collected, high-res bathymetry, detailed bathymetry – compiled by DeepGreen from - Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate and associated financial model, AMC, March 2021. Canadian NI 43-101 Compliant TOML Clarion Clipperton-Zone Project Mineral Resource Estimate, AMC, July 2016 and DeepOcean NORI – D Bulk Sampling Report, 2020. Erias Cruise 6a Biological and Physiochemical Co-Sampling Report NORI area D post cruise, 2019; Erias Cruise 6b Biological and Physiochemical Co-Sampling Report NORI area D post cruise report, 2019.


Video: https://vimeo.com/361863579
DG
CAMPAIGN #6A
MISSION RESOURCE UPGRADE, GEOTECHNICAL & BIOLOGICAL SAMPLING
TIMELINE AUG. 19 — SEP. 30, 2019
VESSEL MAERSK LAUNCHER
CREW 41 PERSONNEL
NORI AREA D,
CLARION CLIPPERTON ZONE,
PACIFIC OCEAN
-6.919810, -107.392364

Project economics: technical report issued for a project in NORI-D in May 2019, with SEC compliant SK 1300 update in March 2021.

- Independently compiled by AMC in compliance with Canadian NI 43-101 standards
- Offshore collection system design and costing by DRT with inputs from Cellula Robotics and Herbert Marine Engineering
- Onshore metallurgical plant design and costing by Canadian Engineering Associates
- Metal product price projections from CRU
- Shipping rate projections from Pareto JGO Shipbrokers


AMC Consultants Pty Ltd

AMC consultants mine smarter

Technical Report

Preliminary Economic Assessment of the NORI Area D Project, Clarion-Clipperton Zone
DeepGreen Metals Inc.

In accordance with the requirements of National Instrument 43-101 "Standards of Disclosure for Mineral Projects" of the Canadian Securities Administrators

Qualified Persons:
I Lipton, FAusIMM, BSc(Hons) Geological Sciences
M Nimmo, MAIG, BSc(Hons) Geological Sciences
I Stevenson, FAusIMM, BSc(Hons) Geology, Ph.D. Geophysics
E Gleeson, MAusIMM (CP), BEng Mining
J Hallyard, P.Eng. (California), BSc Engineering Science, SM Engineering, ScD Ocean Engineering
M Kozlowski, P.Eng. (Ontario), BSc (Hons) Metallurgy, Ph.D.

AMC Project 319002
17 May 2019

Find here


AMC Consultants Pty Ltd

AMC consultants mine smarter

Technical Report Summary

Initial Assessment of the NORI Property, Clarion-Clipperton Zone
Deep Green Metals Inc.

In accordance with the requirements of SEC Regulation S-K (subpart 1300)

AMC Project 321012
17 March 2021

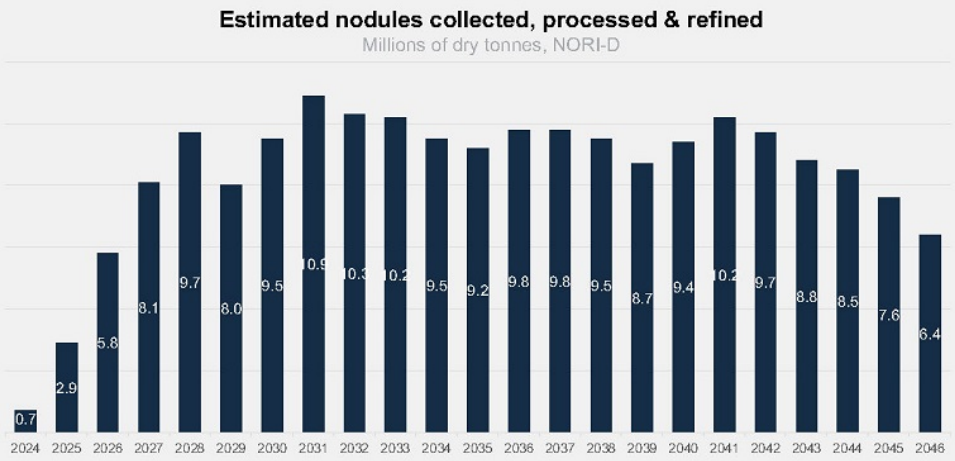
Unearth a smarter way

Download here

Project development: remaining milestones to get NORI-D into production.

*EIS – Environmental Impact Statement
**AMS – Adaptive Management System
***PFS & FS – Pre-feasibility Study and Feasibility Study

Scaling up: from Project Zero to Project One.



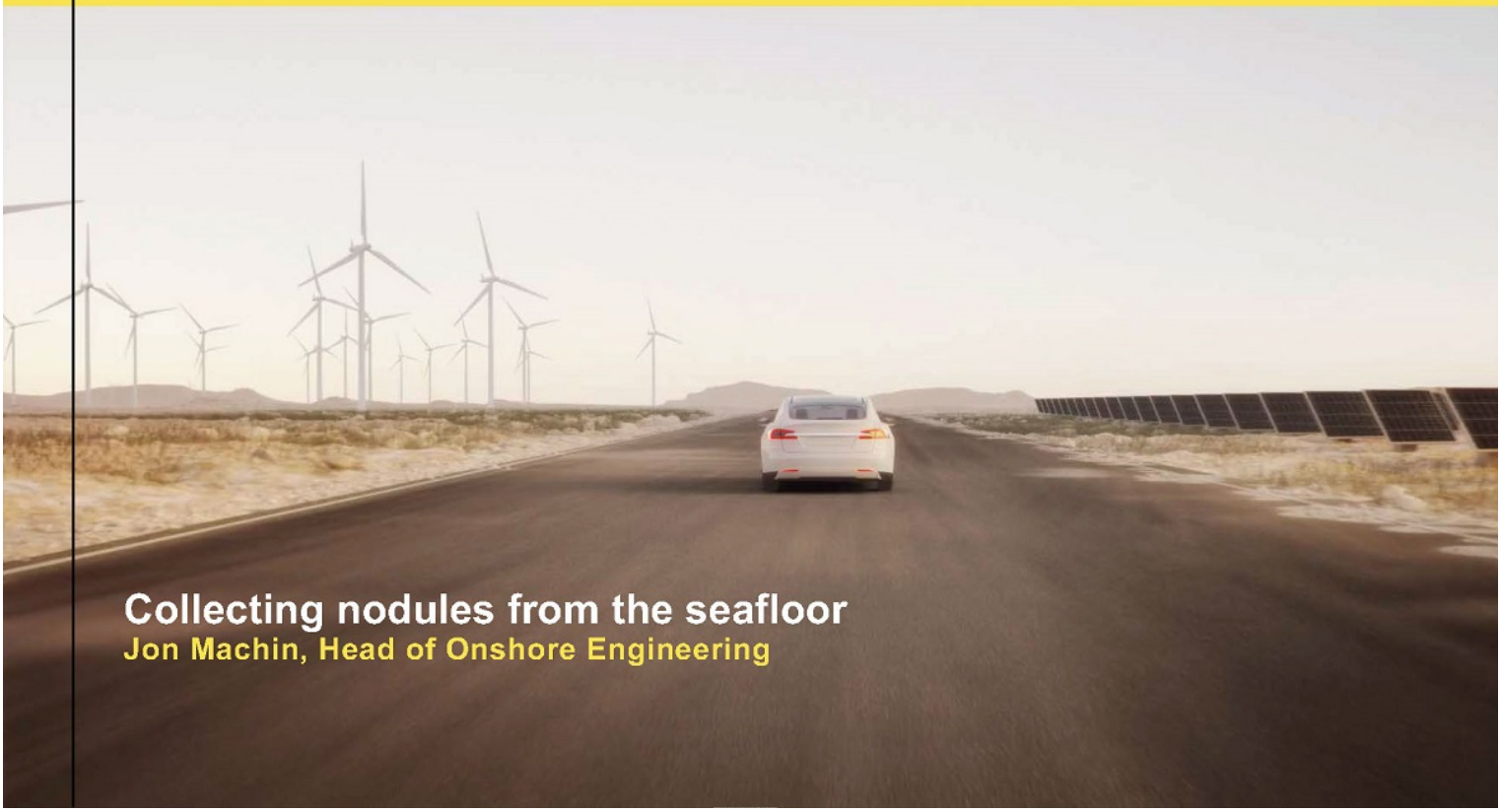
	PROJECT ZERO	PROJECT ONE
OFFSHORE	- Converted drillship & riser - Subsea collector	+ Converted drillship & riser + Purpose-build production vessel & riser + Support vessel
ONSHORE	- Tolling or 1x RKEF line collocated with Mn silicate offtaker	+ Tolling + 4x RKEF lines + 2x refineries

[1] Average estimated annual production and revenue 2030-2046.
Source: Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate and associated financial model, AMC, March 2021.

Greenfield vs. bluefield: delivering a nodule project on budget and on schedule is easier.

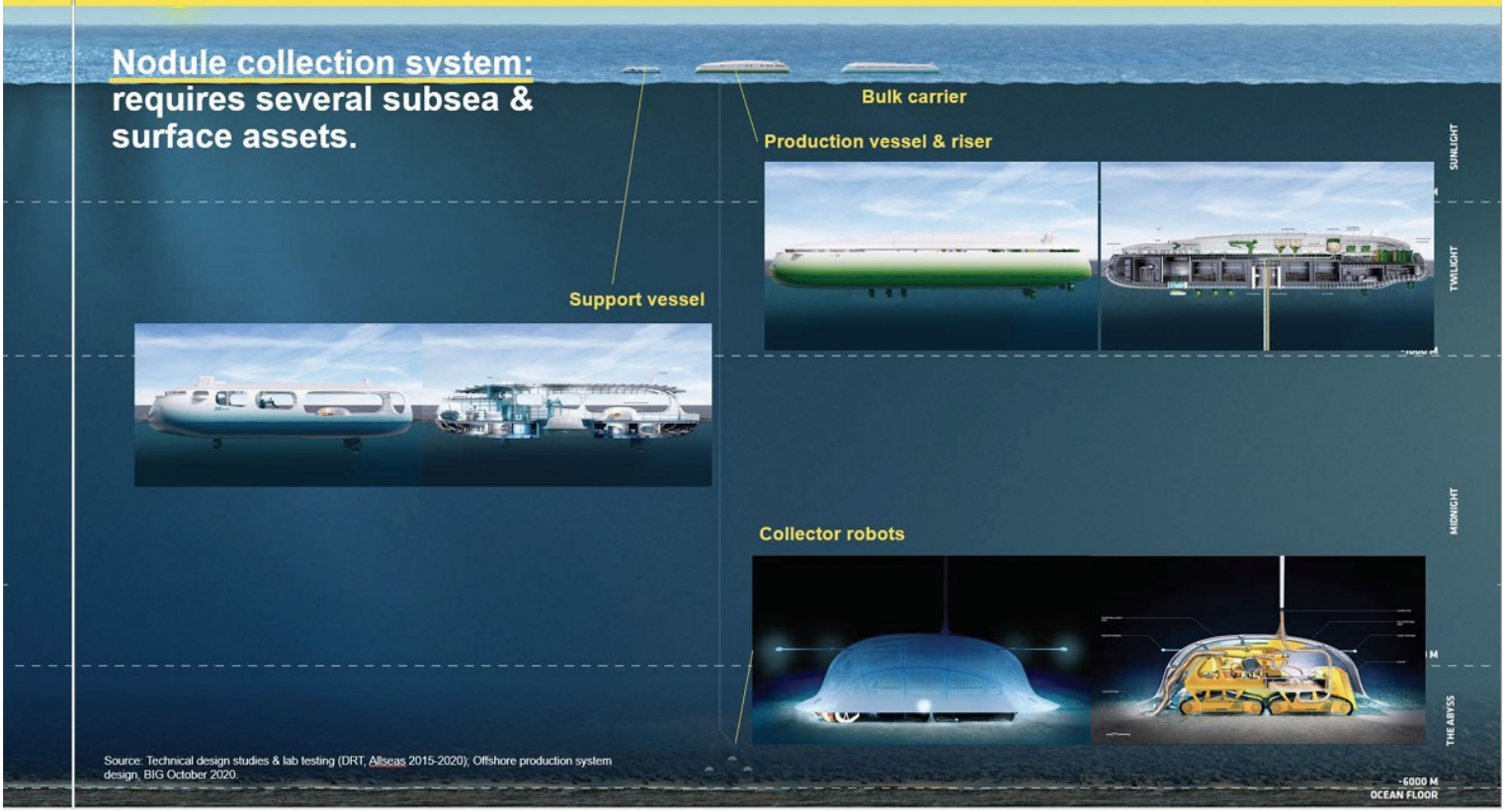
	Greenfield development **Land mining**	Bluefield development **Nodule collection**
Timeline from start PFS to production	**5-7 years**	**3 years**
Capital intensity construction capital	**~$60,000/t[1]** of nickel equivalent production capacity	**~$28,000/t[2]** of nickel equivalent production capacity
Land use	Indigenous rights, community displacement and rights (water, land, forests, pollution)	No land use / displacement
Mine infrastructure	Power, ports, rail, roads, water	No fixed infrastructure
Mine development	Open pit: Overburden, terraced access Underground: Shafts & tunnel networks	Commission equipment, deploy collector robots and riser - weeks
Plant infrastructure & development	Processing usually near the ore body, often requiring the construction of power, ports, rail, water, roads	Once nodules are on the vessel, we can go anywhere with existing power, ports, rail, roads and water
Waste management	Tailings dams, or expensive dry stacking that expands land use	No solid waste to manage

Source: Wood Mackenzie Reports, Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion Clipperton Zone Mineral Resource Estimate and associated financial model, AMC, March 2021.
[1] Approximate peer group median calculated using projections out to 2040. Assumes average price of $16,106 per tonne of nickel, $6,787 per tonne of copper, $46,416 per tonne of cobalt, $4.53 per dmtu of manganese, $1,823 per ounce of gold, $27 per ounce of silver and $1,224 per ounce of platinum. Nickel, copper, cobalt and manganese pricing is consistent with the pricing used in Canadian NI 43-101 and SEC Regulation S-K (Subpart 1300) Compliant NORI Area D Clarion ClippertonZone Mineral Resource Estimate and associated financial model, AMC, March 2021.
[2] Based on estimated production between 2027 (run-rate year) – 2042. Same pricing as used in peer calculation as well as the financial model, AMC, March 2021. Calculations include nickel tonnage related to tolling. Development capex excluding tolling is $33,500/T.



Collecting nodules from the seafloor

Jon Machin, Head of Onshore Engineering



Source: Technical design studies & lab testing (DRT, Allseas 2015-2020); Offshore production system design, BIG October 2020.

A sense of scale: deploying collector from the surface vessel.

Source: Offshore production system design, BIG October 2020.

Proven technology.

1970's pilot testing in CCZ

Kennecott Copper Corp
British Petroleum, Rio Tinto-Zinc Corp
Consolidated Gold Fields
Noranda Mines, Mitsubishi Corp

Deepsea Ventures Inc.
US Steel, Sun Oil, Union Miniere

Ocean Management Inc.
International Nickel Company
Metallgesellschaft AG
Sumitomo, Sedco

Lockheed
Amoco Minerals, Shell Petroleum

Present Day

Offshore Diamond Mining
De Beers, NAMCO, Samicor

Source: July 7,1977 The New York Times.

Our design philosophy.

1. Design using only mature proven solutions to get into production as soon as possible, improve from there.

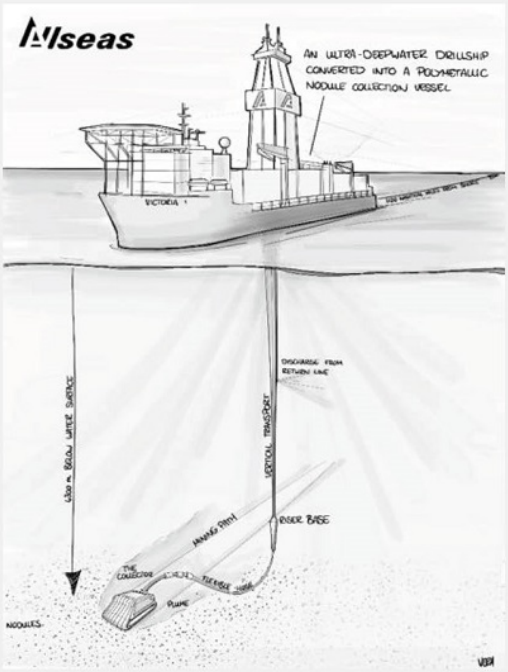
2. Find offshore partners with existing skills & assets, share our IP to slash their learning curve.

3. Explore several competing and/or complementary solutions.

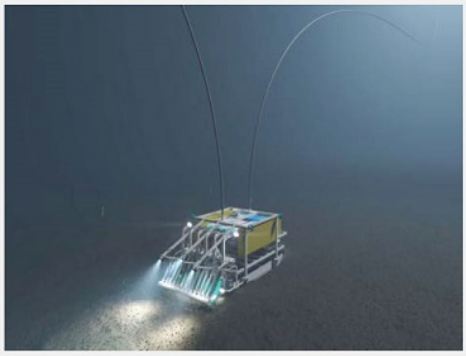
Collection system: the ultimate design.

- ✓ Plumeless
- ✓ Disturbs less than top 5 cm of sediment
- ✓ Lifts only nodules to the surface
- ✓ Generates zero CO_2e, SO_x & NO_x
- ✓ Does not release marine carbon sinks

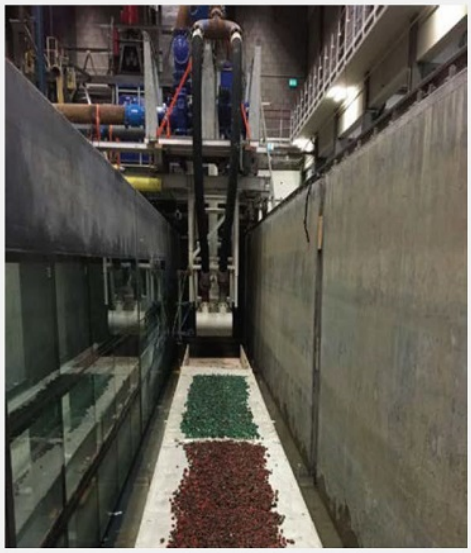
Allseas progress: base case pilot system developed by our partner.



On a fast track to reality



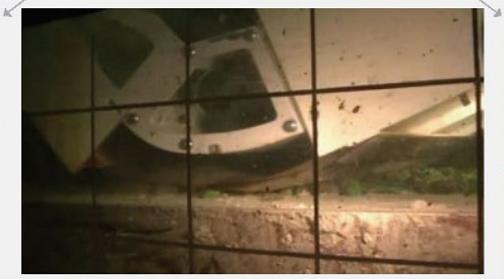
Allseas progress: lab testing ongoing.



An extensive testing program is currently competing tests in Deltares, Delft, and Allseas facility, Rotterdam

Theoretic nodule pick-up efficiency of two alternative collector designs has been extensively validated (Hydraulic vs. Mechanical)

Note: before and after test track photos



Allseas progress: visualization of nodule collection at lab scale.

NODULE PICKUP

Play video

https://www.dropbox.com/s/lox3i3n3e38s23f/Allseas_collector%20prototype%20trials.mp4?dl=0

TRACKS

Play video

https://www.dropbox.com/s/kelbc8fg5fwv49l/Allseas_collector%20track%20trials.mp4?dl=0

RISER

Play video

https://www.dropbox.com/s/2p1ws8dqqh2mf29/Mission%20-%20Riser%20Trials.mp4?dl=0

Source: Test footage from test facilities in Deltares, Netherlands.

Development milestones: Progressing on track.

2015-2019
In-depth technical scoping and design studies by DeepGreen

2019
Technology downselects for all systems and sub-systems for pilot /early production system

2020
Lab testing and final design of pilot / early production system

Jan 2022
Pilot system test in the Atlantic Ocean

2022
3,000t (wet) collected in the CCZ using pilot / early production system

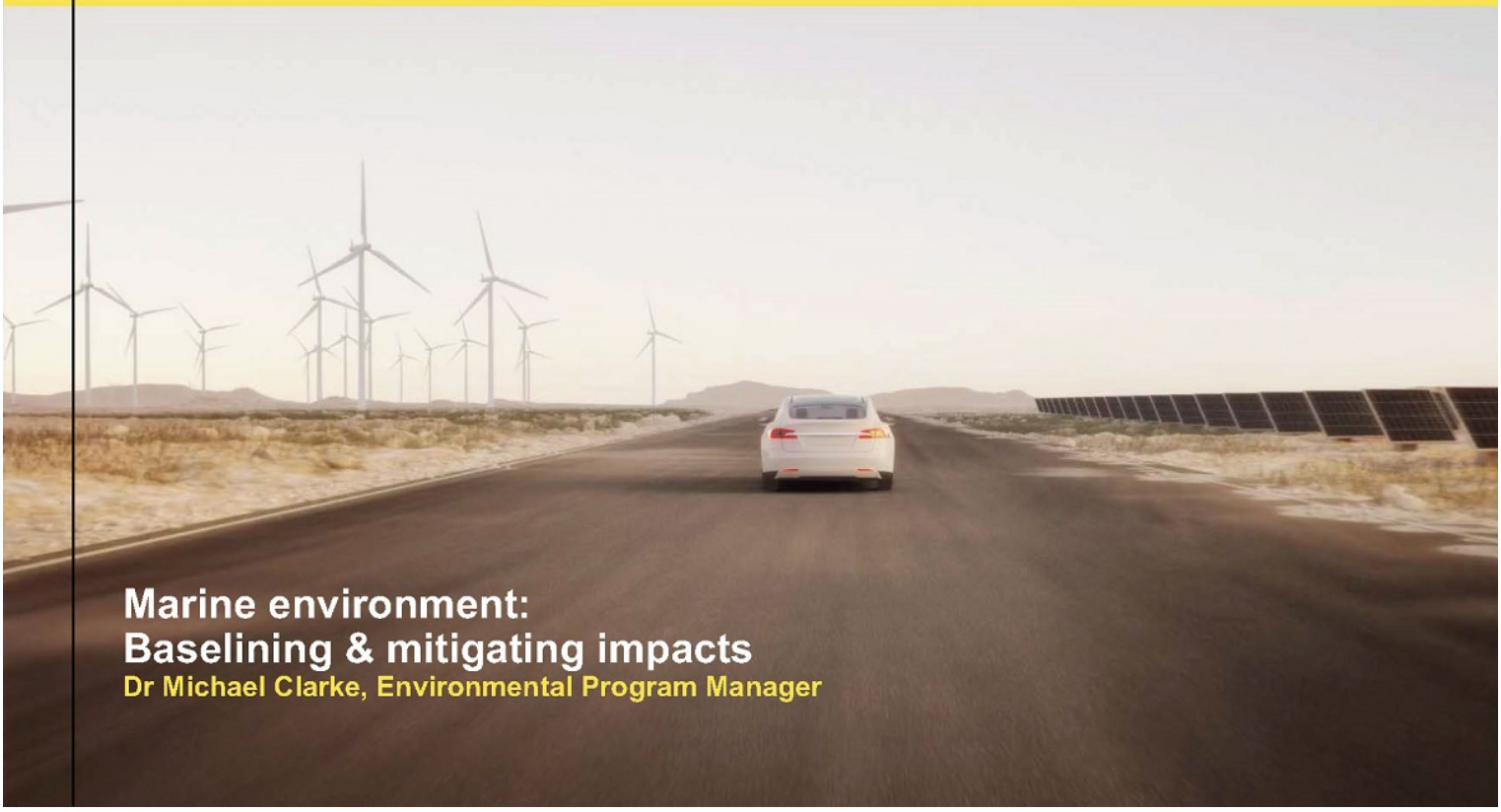
2024
1.3Mtpa (wet) Project Zero assets operational

2025-2030
11.3-54.5Mt (wet)[1] Project One assets operational; adding further assets to scale

[1] 11.3Mpta (wet) for NORI-D and 54.5Mpta (wet) in full field development scenario for NORI+TOML.

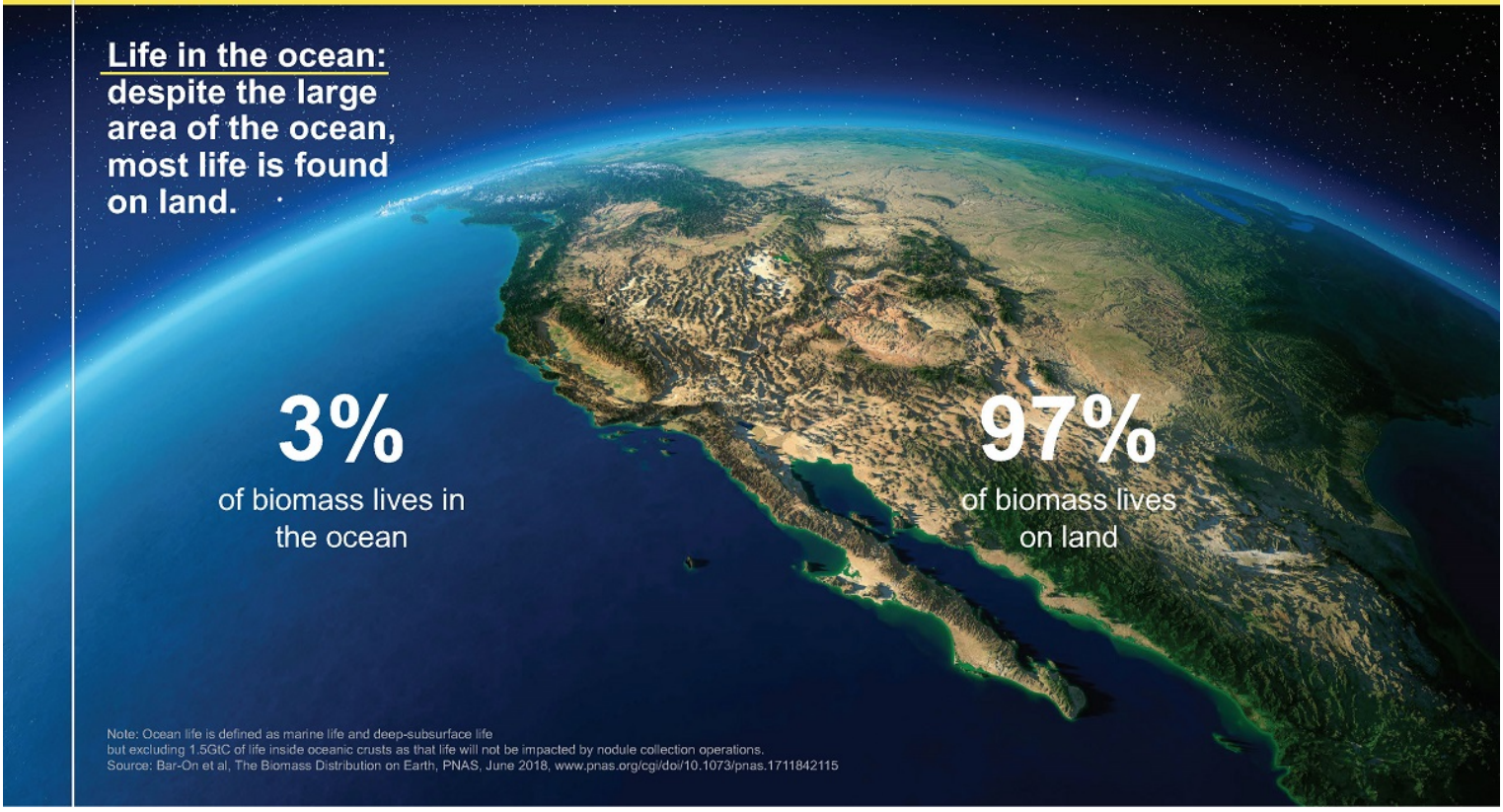
From pilot to production: key risks & mitigation.

What might go wrong	What we are doing about it
Offshore system development cost / schedule overrun	Engaged Tier-1 international marine contractor based on a fixed-fee performance based contract
Offshore system breakdowns	Extensive production engineering, commissioning, testing, trials with a strong focus on equipment reliability
Missing production targets	Combining best-in-class engineering with extensive operating experience in offshore and deep-sea environments
Adverse weather impacts	Our operating model is based on 3 years of intensive site measurements and we continue weather monitoring
Safety / lost-time incident	Adopting best-practice safety process and culture



Marine environment: Baselining & mitigating impacts

Dr Michael Clarke, Environmental Program Manager


Life in the ocean:
despite the large area of the ocean, most life is found on land.
3%
of biomass lives in the ocean
97%
of biomass lives on land
Note: Ocean life is defined as marine life and deep-subsurface life
but excluding 1.5GtC of life inside oceanic crusts as that life will not be impacted by nodule collection operations.
Source: Bar-On et al, The Biomass Distribution on Earth, PNAS, June 2018, www.pnas.org/cgi/doi/10.1073/pnas.1711842115

Marine minerals: why we only focus on nodules.

3,800-5,500m depth
The Abyssal Plains
Polymetallic nodules

2-30 cm diameter discrete rocks formed by dissolved metal compounds precipitating around a nucleus
Growth: 10-100mm per million years

Unattached to the seafloor
Can be collected using gentle water jets directed at nodules in parallel with the seafloor

Low-food, low-energy environment
13 grams of biomass / m²

800-2,500m depth
Seamounts
Cobalt crusts

2-26 cm thick, rock-hard, metallic layers that precipitate on the flanks of submarine volcanoes
Growth: 1-5mm per million years

Integral part of the seafloor that requires hard-rock cutting to break the ore from the substrate

Abundant food supply due to nutrient-rich water upwelling from near-bottom currents
High frequency destination for tuna and sharks
10-100x biomass vs. Abyssal Plain

1,000-4,000m depth
Hydrothermal vents
Seafloor massive sulfides

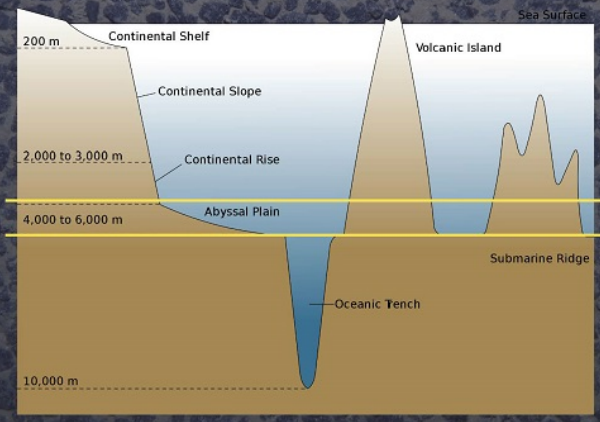
Tall chimney-like structures that form at hot vents where sulfide-enriched water flows out of the seabed, causing dissolved metals to bind into minute sulfide particles and sink as fine precipitants to the bottom

Integral part of the seafloor that requires hard-rock cutting to break the ore from the substrate

Abundant food supplied by chemoautotrophic bacteria which exploit energy-rich chemical compounds from the vents
100x biomass vs. Abyssal Plain

Source: World Ocean Review 2014; Bar-On et al. The Biomass Distribution on Earth, PNAS, June 2018, www.pnas.org/cgi/doi/10.1073/pnas.1711842115

The Abyssal Plain: the most common biogeographical area on the planet.



>50% of Earth's surface covered by Abyssal Plains

More area in the CCZ is already under protection than under exploration

Source: Craig R. Smith; Fabio C. De Leo; Angelo F. Bernardino; Andrew K. Sweetman; Pedro Martinez Arbizu (2008). "Abyssal food limitation, ecosystem structure and climate change" (PDF). *Trends in Ecology and Evolution*. **23** (9): 518–528. doi:10.1016/j.tree.2008.05.002. PMID 18584909.

The Abyssal Plain: home to less than 10% of ocean life.

28%
of ocean life

65%
of ocean life

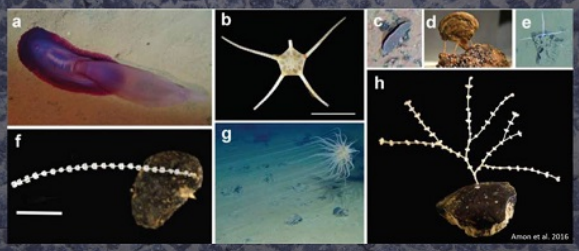
Abyssal plain is a vast sedimentary seabed, oxic to 2m. It has gentle depressions, troughs and ridges. There is intense pressure (5,700-8,500 psi) and no sound or light except the ones made by animals. This environment is food-poor and stable.

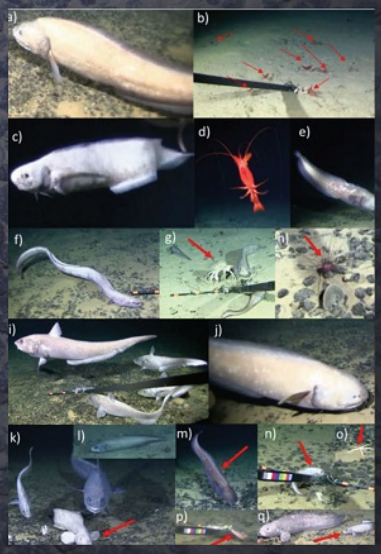
7%
of ocean life

Most of impacts from nodule collection are expected to occur on the Abyssal Zone seafloor

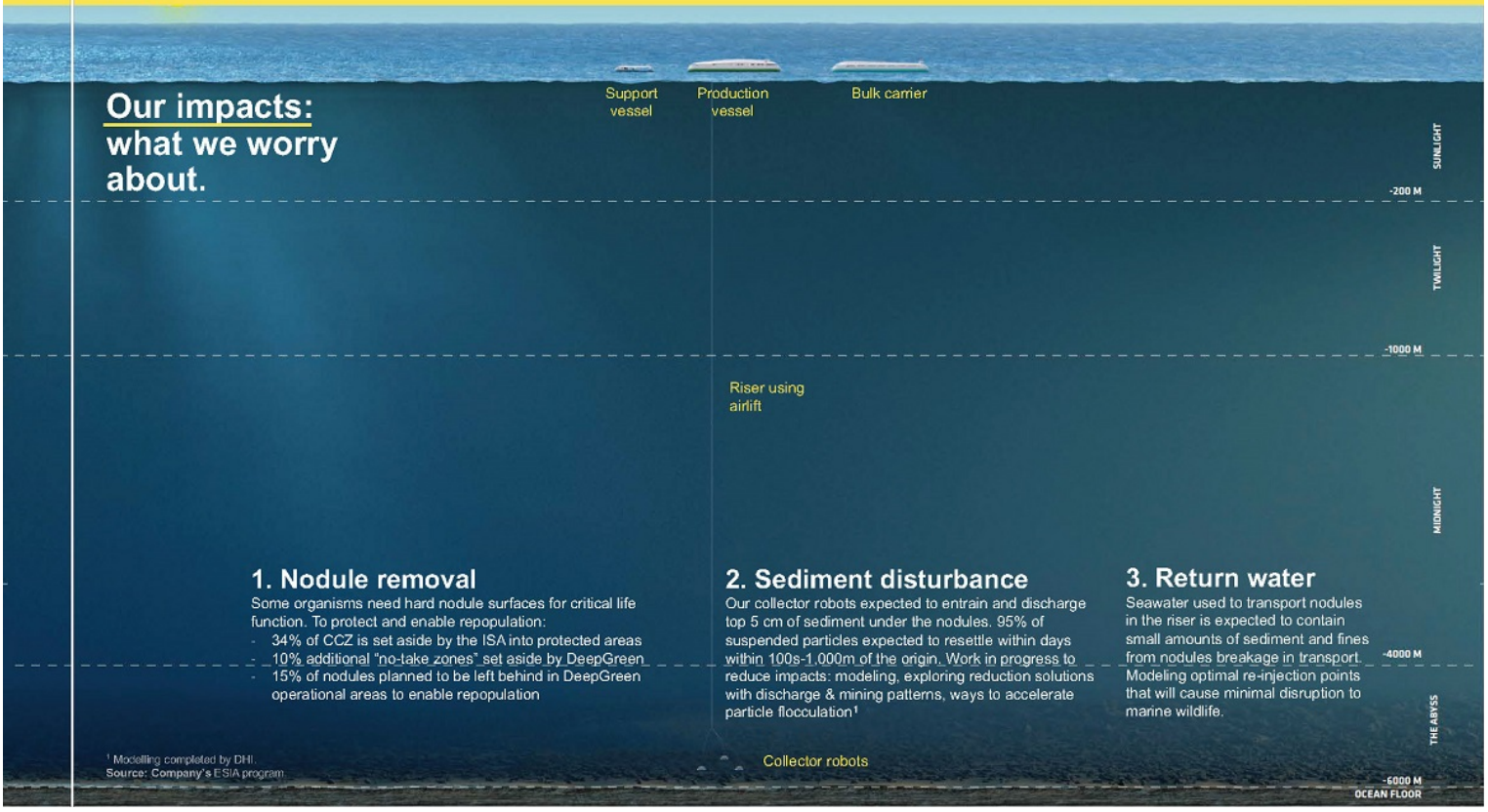
Note: Ocean life is defined as marine life and deep-subsurface life but excluding 1.5GtC of life inside oceanic crusts as that life will not be impacted by nodule collection operations.
Source: Bar-On et al, The Biomass Distribution on Earth, PNAS, June 2018, www.pnas.org/cgi/doi/10.1073/pnas.1711842115

The Abyssal Plain: home to a handful of fascinating wildlife.

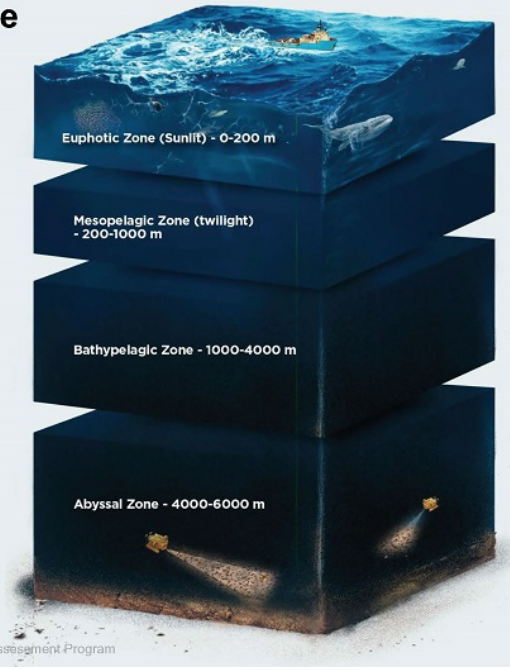




Megafauna photo credit: Amon et al. 21016
Meiofauna photo credit: C.R. McClain. 2010. An empire without food. Amer. Sci. 98(6)


Our impacts:
what we worry about.
Support vessel
Production vessel
Bulk carrier
SUNLIGHT
-200 M
TWILIGHT
-1000 M
Riser using airlift
MIDNIGHT
1. Nodule removal
Some organisms need hard nodule surfaces for critical life function. To protect and enable repopulation:
- 34% of CCZ is set aside by the ISA into protected areas
- 10% additional "no-take zones" set aside by DeepGreen
- 15% of nodules planned to be left behind in DeepGreen operational areas to enable repopulation
2. Sediment disturbance
Our collector robots expected to entrain and discharge top 5 cm of sediment under the nodules. 95% of suspended particles expected to resettle within days within 100s-1,000m of the origin. Work in progress to reduce impacts: modeling, exploring reduction solutions with discharge & mining patterns, ways to accelerate particle flocculation[1]
3. Return water
Seawater used to transport nodules in the riser is expected to contain small amounts of sediment and fines from nodules breakage in transport. Modeling optimal re-injection points that will cause minimal disruption to marine wildlife.
-4000 M
THE ABYSS
Collector robots
-6000 M
OCEAN FLOOR
[1] Modelling completed by DHI.
Source: Company's ESIA program

ESIA program: working with some of the best research institutions on the planet.



100+ studies

Seabed-to-surface ocean research program

Surface biology
Surface fauna logbook (PelagOS)
Remote Sensing, Hydrophone Acousitcs

Pelagic biology
Microbial Community Characterization
Phytoplankton Community Characterization
Zooplankton Community Characterization
Gelatinous Zooplankton Characterization
Micronekton Characterization
Trophic Analysis (Stable Isotopes)
Temporal Variability of Pelagic Communities
Trace Element Profiles In Water Column
Particulate Profiles in Water Column
Discharge Plume Characterization (Physical)
Discharge Plume Characterization (Biological)
Midwater Discharge (food webs particle composition)

Benthic biology
Megafauna Characterization (Photo transects)
Megafauna Characterization (Time Lapse)
Macro Fauna Characterization
Micro Fauna Characterization
Meso Fauna Characterization
Macro Fauna Characterization

Sediment analysis
Baited camera and traps
Benthic respiration and nutrient cycling
Seafloor metabolic activities
Bioturbation, sediment characteristics
Porewater sampling
Exposure toxicology studies
Metals determination by ICP analysis
Induction of gene transcripts (metals)

Collector impact studies
Met ocean studies
Bathymetry (seabed mapping)
Habitat mapping
Database development
Digital twin development
Collector test nearfield studies
Collector test far-field modeling
Plume modeling
Existing Resource Utilization Study
Noise & Light Study
Meteorology & Air Quality Study
Hazard & Risk Assessment
Emergency Response Planning
Cultural & Historical Resources
Waste Management
Cumulative Impacts

HERIOT WATT UNIVERSITY
National Oceanography Centre
NATURAL HISTORY MUSEUM
UNIVERSITY OF LEEDS

ESIA Environmental and Social Impact Assessment Program

ESIA program: studies completed to date.

Benthic campaign 5A

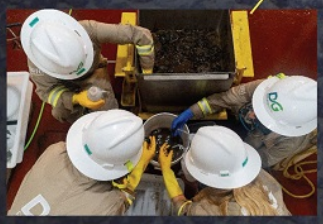
Benthic campaign 5D

Collector test, CCZ

EIS submission to ISA

we are were

2012-2020 | 2020 | 2021 | 2022 | 2023



Met ocean moorings

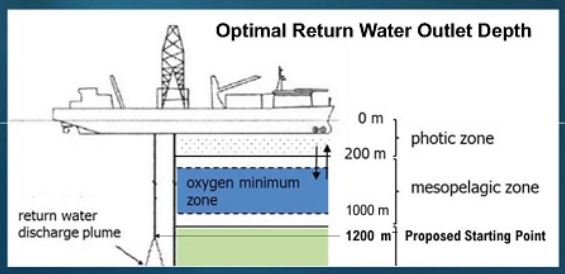
Pelagic campaign 5B

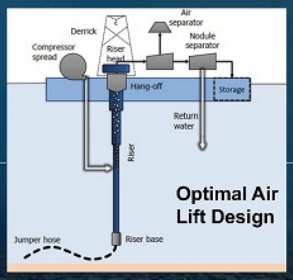
Pelagic campaign 5C

Met ocean moorings

ESIA Environmental and Social Impact Assessment
EIS Environmental Impact Statement

Before production: system design choices to reduce impacts.





Support vessel

Production vessel

Bulk carrier

SUNLIGHT

-200 M

TWILIGHT

-1000 M

Riser using airlift

- ✓ Choose deposition depth based on least impact on life in water column
- ✓ Discharge outlet to maximize diffusion

MIDNIGHT

-4000 M

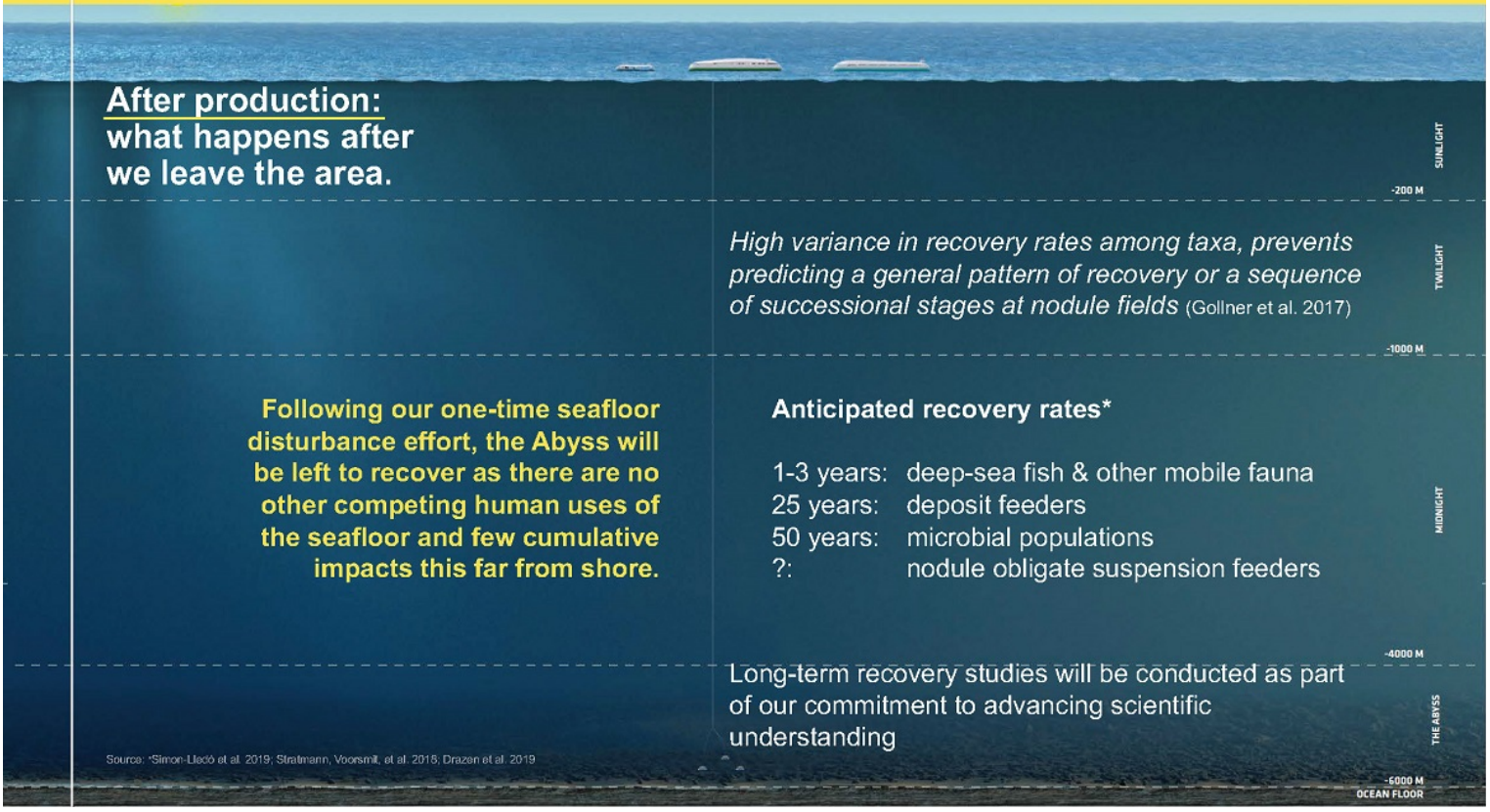
- ✓ Design collector head to minimize sediment entrainment
- ✓ Design discharge outlet to accelerate sediment flocculation and settling

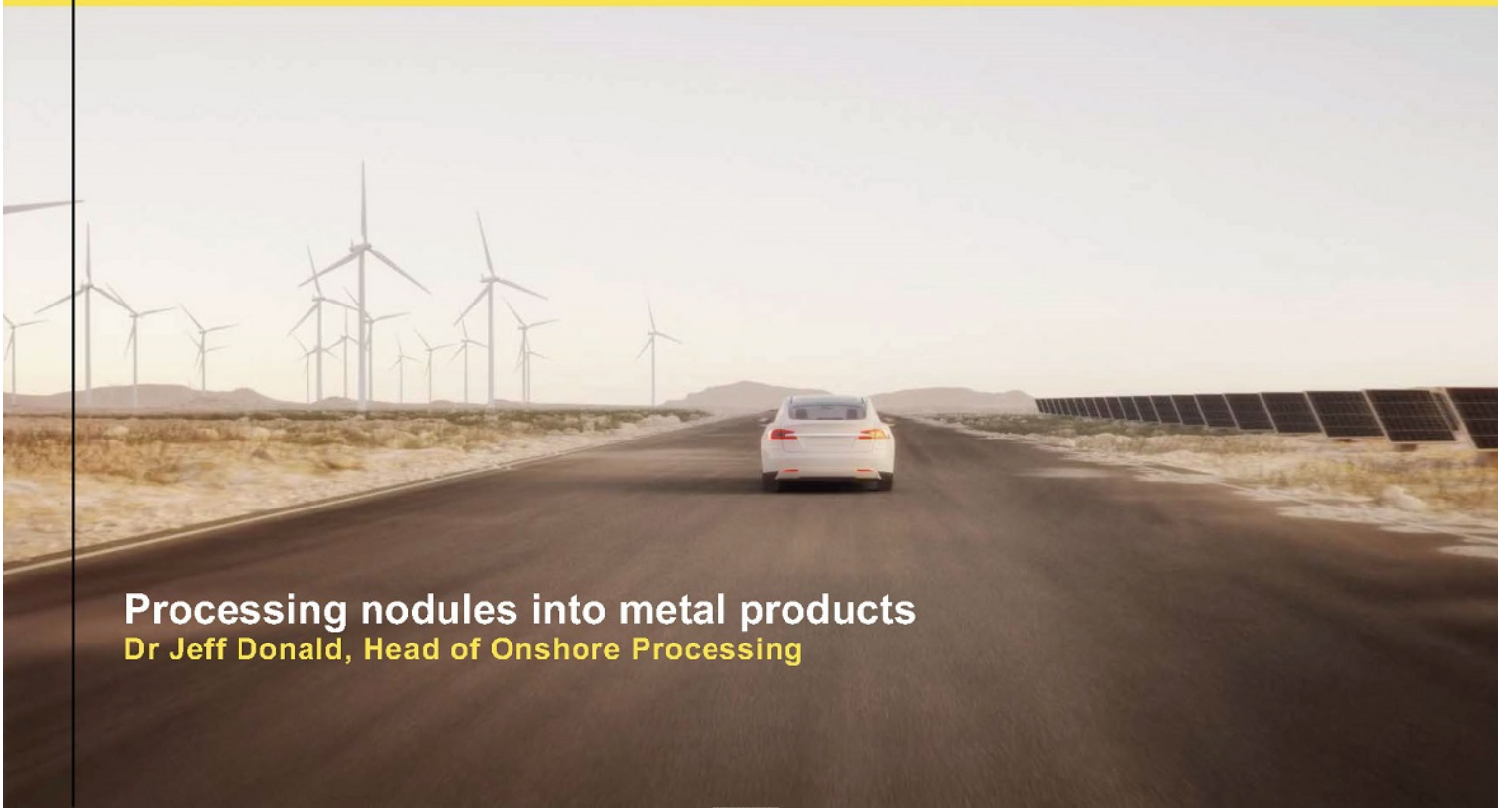
THE ABYSS

Collector robots

-6000 M
OCEAN FLOOR


During production:
we can adapt to
mitigate impacts.
Loc 7° 34.0667', -146° 15.7'
ENV Data
Operations
System
MENU
Edit
Modifiers
Tools
Group
Views
VERTICAL TRANSPORT BASE
BENTHIC SENSOR
NODULE COLLECTOR
Position 308 m, 115m -10m
System Health = 1
SEDIMENT PLUME
Mitigating actions:
✓ Avoid ecologically sensitive areas
✓ Slow down to reduce plume
✓ Track plume direction
✓ Select size of nodules collected
✓ Leave seed areas untouched
TURBIDITY 164 NTU
O2 1.62 MG/L
OX REDOX -300 MV
PH 7.8
NITRATE 0.024 µG N/L
SALINITY 35 PPT
TEMP 2°C
DEPTH 4512 m
DENSITY 1.027 G/CM3
LISST 7 µM
LIGHT 89,000 LM
NOISE 128 HZ

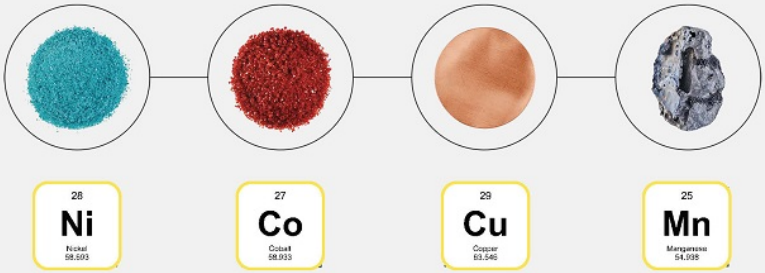

After production:
what happens after
we leave the area.
SUNLIGHT
-200 M
High variance in recovery rates among taxa, prevents predicting a general pattern of recovery or a sequence of successional stages at nodule fields (Gollner et al. 2017)
TWILIGHT
-1000 M
Following our one-time seafloor disturbance effort, the Abyss will be left to recover as there are no other competing human uses of the seafloor and few cumulative impacts this far from shore.
Anticipated recovery rates*
1-3 years: deep-sea fish & other mobile fauna
25 years: deposit feeders
50 years: microbial populations
?: nodule obligate suspension feeders
MIDNIGHT
-4000 M
Long-term recovery studies will be conducted as part of our commitment to advancing scientific understanding
THE ABYSS
Source: *Simon-Lledó et al. 2019; Stratmann, Voorsmit, et al. 2018; Drazen et al. 2019
-6000 M
OCEAN FLOOR



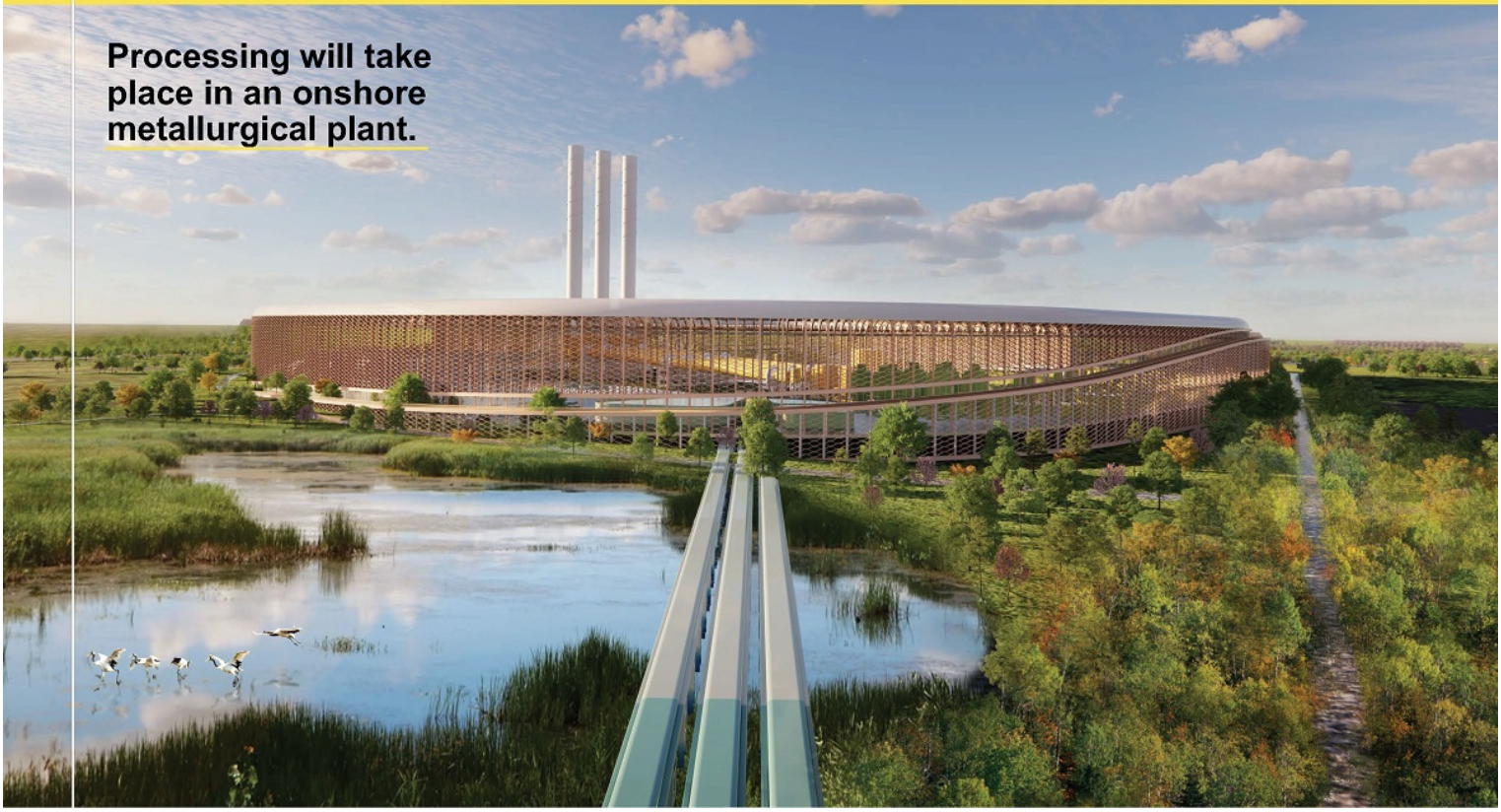
Processing nodules into metal products

Dr Jeff Donald, Head of Onshore Processing

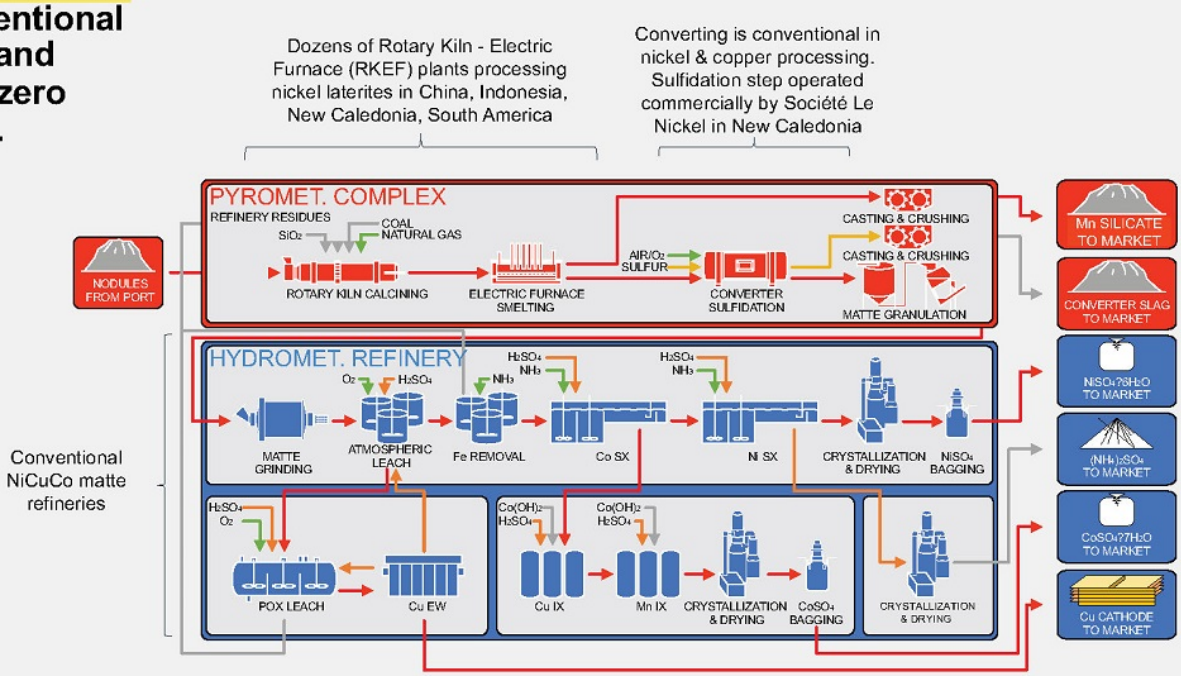
Our products: we plan to turn nodules into four high value, critical products.



NICKEL SULFATE | COBALT SULFATE | COPPER | MANGANESE

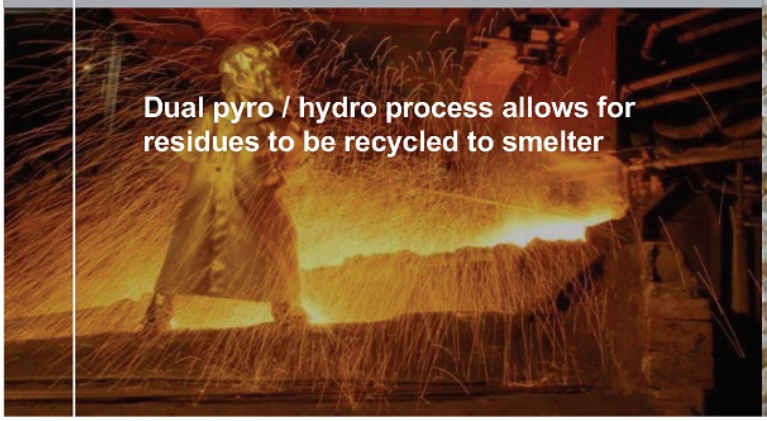

Processing will take place in an onshore metallurgical plant.

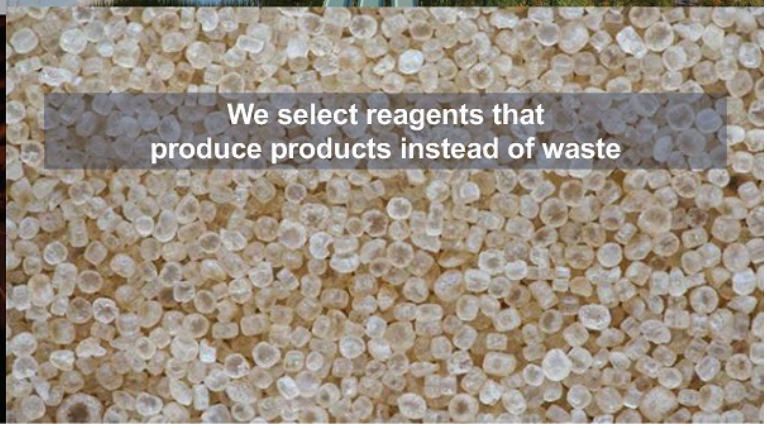
Low risk flowsheet: using conventional equipment and generating zero solid waste.



Zero solid waste: how we achieve it.

We start with nodules that have remarkably low levels of harmful elements






The alternative:
deforestation and
unmanaged
production waste.
NICKEL MINING
IN INDONESIA.

Flowsheet development: working with best-in-class service providers.

HATCH

Participation to ensure data for engineering deliverables is attained.

FLSmidth

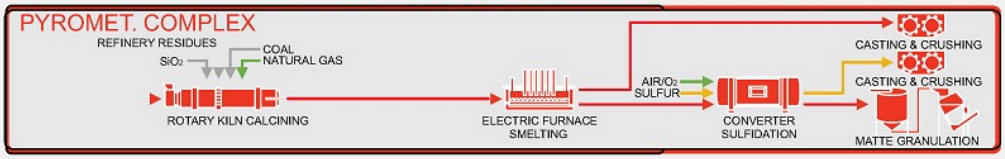
Calcining

Pilot Kiln & Ancillary Systems
Whitehall, PA, USA

XPS | Expert Process Solutions

Smelting, converting & sulfidation

300kW DC Furnace & Ancillary Systems
Sudbury, ON, Canada



HYDROMET. REFINERY
Pilot status: Requests for proposal are being prepared.

Achievable timeline: Focus on systematic de-risking.

2011-2018
Hydromet flowsheet developed and lab-tested by DeepGreen

2019
20 kg
New lower cost & risk flowsheet developed (based on conventional nickel processing), modelled and lab- tested

2020-2021
75 tonnes
Pilot plant program with FLSmidth in Whitehall, PA and XPS (Glencore) in Sudbury, Canada

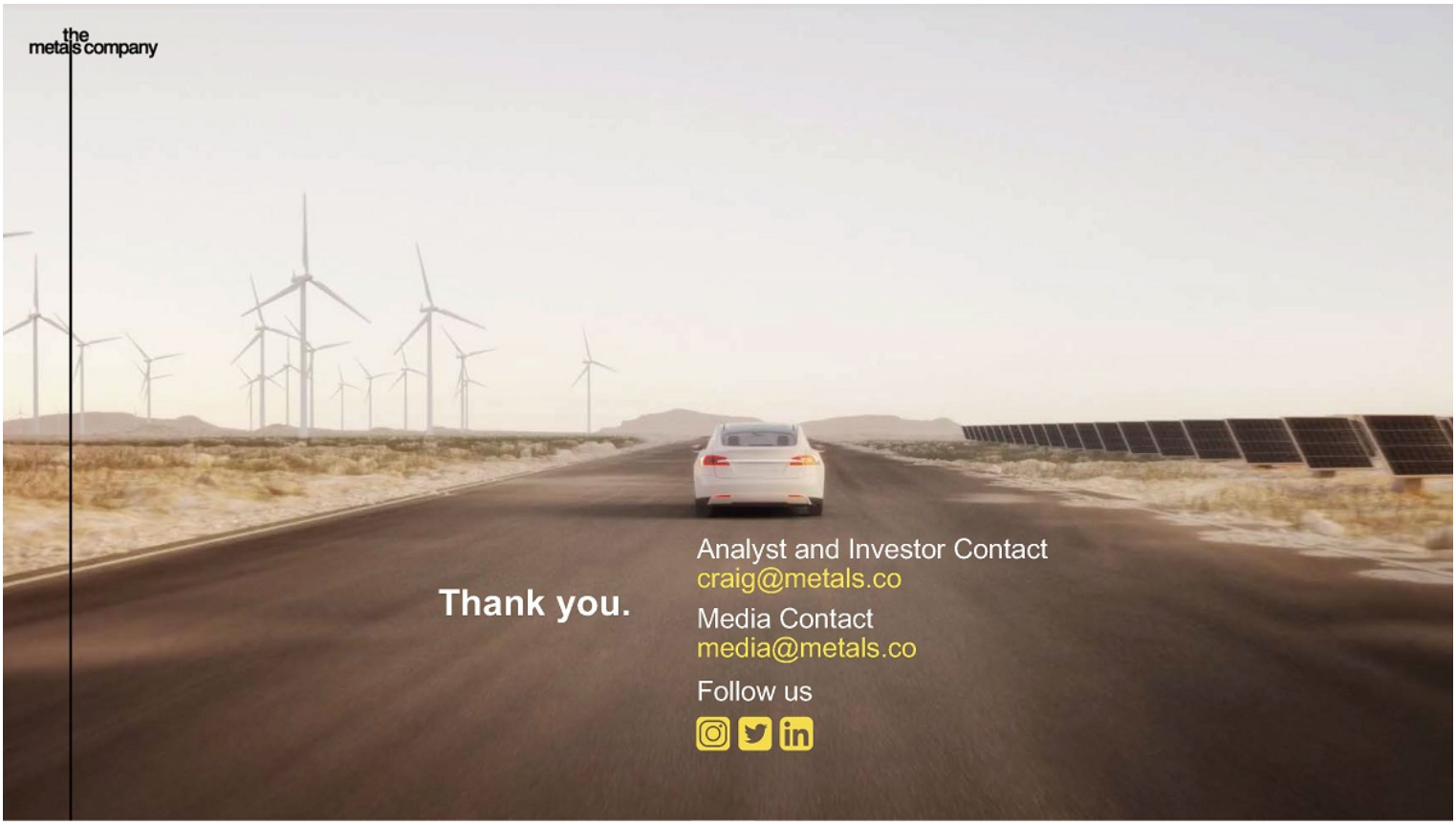
2024
1.3 Mtpa (wet)
Project Zero - small scale commercial production using existing or partner facilities

2025-2030
11.3-54.5Mt (wet)[1]
Tolling of existing facilities and constructing new RKEF plants & refineries

[1] 11.3Mpta (wet) for NORI-D and 54.5Mpta (wet) in full field development scenario for NORI+TOML.

From pilot plant to production: key risks & mitigation.

What might go wrong	What we are doing about it
Technology risk	Employ conventional equipment with analogous commercial precedence, project development according to established procedures (test work, pilot, engineering)
Metallurgical recoveries lower than estimated	Use conservative factors in development phases based on commercial precedence
Mn product marketability or valuation lower than estimated	Develop further downstream processing of Mn silicate into Mn alloy to capture value
CAPEX escalation	Identify all scope in development phases; develop project according to established Project Delivery System standards; be disciplined with respect to scope changes
Schedule delays	Plan with realistic timelines; leverage existing RKEF capacity for processing in event of delay


the metals company
Thank you.
Analyst and Investor Contact
craig@metals.co
Media Contact
media@metals.co
Follow us

SOAC – TMC Analyst Day Transcript

Recorded on May 18, 2021

Craig Shesky: Good afternoon everyone. Welcome to the Analyst Day for The Metals Company. I'm Craig Shesky, CFO of The Metals Company. I've already had the pleasure to chat with many of you in my role as Head of Investor Relations and cap markets. I'll continue to be the primary analyst contact of the company as you dig deeper into the story in advance of coverage. Here's a quick overview of the agenda for today. You'll be hearing from eight speakers from The Metals Company during our 90 minutes of prepared remarks, followed by 60 minutes of Q&A.

On March 4th, we were pleased to announce the business combination of DeepGreen and Sustainable Opportunities Acquisition Corp, or SOAC, and we formed The Metals Company. Now, I'm going to turn it over to Scott Leonard, the CEO of SOAC, for some introductory remarks on the transaction.

Scott Leonard: Thanks Craig. To the rest of you on the call, good day, and thank you for the time you're spending with us. We really appreciate your interest. I'm Scott Leonard, the CEO of Sustainable Opportunities Acquisition Corp. When we formed our $300 million ESG SPAC with CitiBank in May of 2020, we knew that if the first ESG SPAC if we wanted to create a great financial investment for our investors, and also demonstrate we could make sound investments that also fight planet Earth's biggest problem, climate change. After looking at over 100 companies in detail [sound cut] a number of opportunities, we believe The Metals Company, formerly known as DeepGreen, is the answer to our thorough search.

With over 30 billion dollars worth of lease positions, a set of export licenses from our regulator, world-class partners, and what we hope is north of $550 million of cash to the balance sheet from this transaction, we believe The Metals Company is well-positioned to bring to market a set of battery metals that is desperately needed. To fight climate change, you must electrify everything, to electrify everything you must have the raw materials to make batteries. We have a unique and privileged access to those raw materials needed for batteries in form of proven reserves that are rich in nickel, copper, cobalt, and manganese.

During the exploration that has taken place and is ongoing today, we have proven we can collect these resources, and do it under a stable and constructive regulatory regime.

In the next few years, with exploitation licenses to enable us to operate at scale, and with help from the world-class partners who have all invested in the company, we believe The Metals Company has the potential to unlock tremendous value while advancing planet earth's fight against climate change. You will hear today how the pieces to this elegant puzzle come together, how and why we expect to receive the final set of licenses from our regulator, how our maritime partners will enable us to recover our resources at scale. How we plan to refine those metalloids into usable raw materials and how we plan to take advantage of a wealth of financing options.

We have healthily diligenced a number of opportunities and engaged in a very thorough diligence process with a committed group of executives and independent experts alongside our own research. We think The Metals Company stands out, not only for its value creation potential, its ESG commitments, and its sustainability profile but also because relative to other electrification opportunities, we don't have to pick winners and losers in respect to battery technologies or consumer preferences. We are proud to be the stack sponsor backing this truly exciting company. With that, I would like to turn it over to Gerard Barren and the rest of The Metals Company team. Gerard.

Gerard: Thank you, Scott. I was the first investor in the company back when it was founded and I've continued to raise most of the capital for the business before this transaction. I only stepped in as chairman and CEO four years ago when I realized that this company could be a platform for solving several global challenges. I'm a serial company builder with four successful builds and exits in publishing, telecoms, battery manufacturing and digital technology but this company is different. Let me start with a short video today.

[video plays]

Energy from the sun and wind is replacing fossil fuels to power the transition to a sustainable future. We need batteries to store this energy. Batteries are made from metals such as cobalt, nickel, copper and manganese. Until now, we've been mining the earth for them, digging deeper and wider for lower quality ores. Nature disappears, humans suffer, earth suffers but there's another way. Polymetallic rocks contain rich concentrations of these base metals needed to make batteries. As stewards of these rocks, we've partnered with top ocean scientists to baseline the environment from seafloor to surface and study the impact of collecting them.

If we use them to make a billion electric car batteries, we can dramatically reduce our environmental and social impact for the whole planet. We're building a world where metals are not mined and dumped but rented and returned.

[music]

We are using a rock to change the world. I don't mean it as a figure of speech or a Silicon Valley-style exaggeration, I mean it literally. We plan to use these rocks to build a carefully managed metal commons that will be used, recovered and reused again and again for millennia. 100 years from now, our great-grandchildren could use the exact same atoms inside our phones, our cars, and our other devices. The same metal atoms could continue to serve humankind through countless cycles of technical ingenuity. No more metal taken from the planet, no more metal loss to landfills, a society built with a metal metabolism, similar to how many biological systems have evolved over time.

This end game will take a good part of this century to get to. The world is embarking on a massive multi-generational project of decarbonizing global energy and transport. These carbon-free systems will take billions of tons of metal to build. At the same time, the world's population continues to grow and urbanize and develop. This will require billions of tons of metal too. Add these needs up and this generation will have to mine more metal than we've mined during all of humans history. How do we build up our metal commons with the lightest possible touch? This is the global challenge that we've made our own. The EV revolution is very metal intensive. When you swap an internal combustion engine for a battery, the metal requirement for certain metals goes up five times.

If you look at the four metals that we focus on at the moment, an electric car with a good sized battery and a NMC 811 chemistry would need about 155 kgs of these metals. Raw materials can put the EV transition at risk. Here are four of the issues that EV manufacturers should be worried about. The first is availability. Shortages are predicted for metals like nickel, copper, cobalt as early as 2024. Exploration pipelines are looking thin and if major new discoveries are made, mines are not like Amazon packages. It takes 10 years to get a Greenfield project into production. Second problem is security of supply. After decades of strategic investment, China dominates the battery supply chain. Mineral independence is now a geopolitical issue.

Then price-- if we're going to see mass adoption of EVs, depends on price parody with conventional cars. That means, we need to get to about $100 per kilowatt-hour of battery production. If metal supply is challenged, metal prices go up and price parity can become a moving target. Then finally, ESG impacts. Mining comes with a host of severe environmental and social footprints. Think child labor, deforestation, biodiversity loss, toxic waste streams and emissions. Mining is the single largest source of waste on this planet. Each year, around 190 billion tons of waste are generated through mining. You compare that with the global volume of municipal waste which is only two billion tons.

We can make a real dent in the availability issue on just two of our exploration blocks in the Clarion Clipperton Zone, NORI**.** We have enough defined results on the seafloor to electrify the entire United States passenger conflict. Nickel merits a special call out. It's a special metal when it comes to battery Catholytes which is much as 85% of battery capacity produced by 2030 expected to rely on nickel-rich chemistries. Nickel is also a key metal for us with almost half of our revenues coming from this metal. If you look at 2030, some forecasts and almost one million ton shortage. By then, our NORI-D project would be able to contribute about 120,000 tons.

The total production potential of our NORI and TOML contract areas could fill more than half of that deficit. We can solve security of supply by localizing our plants on any continent. As long as we have access to an existing deep water port, renewable power and a sufficiently close to our end use customers. We can help relieve price pressure. We expect to operate in the bottom quarter of the nickel cost curve and can weather commodity price fluctuations. You won't see our production going offline because the prices are too low. On the ESG footprints, we expect to be able to compress most of it from climate change impacts to the elimination of processing waste and tailings.

Nodules can make a real difference. We can also move faster than land-based project developers. There are several reasons for that. I would like to highlight one upfront. We've been attracting world-class partners. Glencore was an early investor in our business and holds off takes for 50% of the nickel and copper from the NORI area. Maersk invested in 2017 and has been our vessel operation partner helping deliver successful offshore campaigns focused on resource definition and environmental baseline studies. Allseas invested in 2019, then again in 2020. They've also led our pipe round all season developing our offshore nodule collection system.

To help us baseline and mitigate our marine impacts, we've partnered with several of the world's leading institutions who will be openly publishing their findings in peer-review journals. Hatch has worked with us closely to develop our metallurgical plant that uses low-risk conventional equipment, yet generates zero solid waste. Now we've lab tested the flow sheet and are now in the middle of our onshore pilot processing plant program, using an FLSmidth and Glencore subsidiary XPS. The company is accomplished a great deal in a decade. We've raised close to 200 million dollars prior to the SOAC transaction.

We've secured and defined the world's largest source of battery metals in the planet. We had an off-take from Glencore for 50% of the nickel and copper, and we've attracted world-class partners and made real progress on designing and testing offshore and onshore production systems, and we have an exciting journey ahead. Our business combination with SOAC allows us to get into commercial production by 2024 at a smaller scale, but it's a game-changer for us. In my mind, the hardest part is to go from zero to one, to get the first project into production, and scaling from there is not trivial, but easier. All the economic should improve further for The Metals Company equity holders.

It's worth reminding you today that the development of NORI-D, a project which will deliver a forecast 57 billion dollars of EBITDA over its lifetime; represents just 22% of our defined resource. As a business we face our sort of risks. Some risks are lower than faced by our peers. For example, our resource is easily defined and as a result, the resource risk is very low. Our market risks look low at the moment as well, as we're heading into metal shortages. Other risk demand more of our bandwidth. For example, nodule collection is being validated, but getting to reliable production cannot be underestimated. Nodule processing is capital intensive and it requires careful structuring with multiple parties involved, and social license is critical for us; as is making sure we avoid permitting delays.

I would touch upon these risks during the remainder of the presentation. We've been fortunate to attract a fabulous independent board who bring a wealth of experience to help us navigate through some of these risks. I'd like to highlight just a few of the new faces joining our board. Andrew Hall, is our lead independent director and brings over 20 years from Siemens where he created the world's largest wind and renewable company. Eric Branderiz will head-up our audit committee and brings 25 years of finance experience from companies like Tesla, First Solar, and AMD. He's currently CFO at Enphase, a 16 billion dollar market cap NASDAQ listed energy technology company and rerecruit.

He will help our sustainability committee and brings the wealth of experience spearheading sustainability at Linde, the world's largest industrial gases company. Sheila Khama, who is a former executive from Anglo-American, De Beers in Botswana, and has had several years with the World Bank and the African Development Bank. We're a tight and powerful team with 26 people working directly for The Metals Company, but more than 250 people working on the project with us through our partners and contractors. Our leadership team shown here is small and brings a rich mix of relevant backgrounds and perspectives, and you'll meet and have a chance to interact with all of us today.

Next, you'll hear from Craig Shesky, our CFO, and will speak to valuation, project economics and financing of our operations. Over to you Craig.

Craig: Thank you very much, Gerard. I'm Craig Shesky, the CFO of The Metals Company. I joined the team after 15 years as a buy-side investor and an investment banker but I've been around metals and mining my entire life. I worked in the iron mines in Northern Michigan, as did my father and brother. I personally know the environmental and community challenges associated with land-based mining. Now, for the past 12 years, I was an investor at King Street Capital and I focused on events and process-driven equity and credit opportunities, with intense focus on downside protection and risk mitigation. Most recently, I was a senior analyst in charge of recommending investments in the metals and mining space.

I performed deep analysis on base metals supply and demand, and I became firmly convinced that there were large deficits lying ahead for nickel and copper. If you look at the known project pipeline, it is simply insufficient to fill the gaps in time so I joined Metals Company for a very specific reason. I think this is the answer to supply the planet, with a scalable and reliable supply of critical battery metals. Now today, I'm going to take you through evaluation, project economics and/or project financing strategy, including what we think are some attractive ways to manage our CapEx requirements. When thinking about the massive economic potential of The Metals Company, the first place you have to begin is the NPV.

On NORI-D alone, which we've highlighted in a dash-box here in the middle of the page, it's our first production area and the net present value of the estimated resource is 6.8 billion. Now, keep in mind that NORI-D represents just 22% of our total estimated resource as Gerrard noted earlier. If you ran the NPV on the full estimated resource for NORI and TOML, the yellow and blue blocks, the NPV is 31 billion. We think our model is conservative too. With nickel and copper prices well below where they are today. At crude metal prices, the NORI-D NPV will be 10.5 billion and the full portfolio NPV would be approximately 40 billion but you don't just have to take our word for it.

Keep in mind that this is based on technical reports that are both Canadian 43-101, and SEC SK 1300 compliant. They were put together by AMC Consultants, a leading independent mine consultancy. Let's take a quick look at the financials for NORI-D, our first production area. We expect to reach two billion of EBITDA per annum by 2027. When we achieve steady-state production, we expect to generate 2.9 billion of EBITDA on average or for the remaining life of the NORI-D project. Again, this is just 22% of our estimated resource. Our model is also running what we believe are conservative metal prices with long-term nickel prices 10% lower than spot and long-term copper price is 54% lower than spot.

Obviously, the project economics offer tremendous upside if you believe in some of the increasingly bullish outlooks looks for metal prices, whether that's from Goldman or the IDA. Talking about major deficits coming for battery metals. You also had Woodmac talking about 1.7 trillion of new investment needed for mining and base metals. Look, you don't need, however, to bet on rising metal prices to unlock significant value with our model. Our EBITDA margins are north of 60% at scale. As Gerard noted earlier, since we expect to operate in the first quartile of the cost curve, we're confident in our ability to generate positive cash flows in nearly any environment when fully ramped. Let's think about our current equity value, which is 2.9 billion.

This represents a significant discount to other base metals developers and producers. Current equity value is just 0.35X, the NORI-D net present value but if you ran the same metric on our total estimated portfolio, the current equity value would be just 9% of our fundamental value. We think that offers a large margin of safety inventorial upside. As I said, we prefer to think of value in terms of NPV for such a massive, unique, scalable, and long life assets. If we approach value in another way, as a multiple of only 26 or 27 EBITDA, our valuation is still a small fraction of the valuations and metal producers, companies in the battery value chain, and other facilitators of the green energy transition.

Now, let’s get to project financing. We were very pleased to announce in March that the cash raised in the transaction with SOAC is more than been sufficient to get us into first production in 2024, for what we call Project Zero. This project is validating our business model and it will also generate strong EBITDA margins of approximately 30%. It could open up additional partnership opportunities with end-users who are eager to secure a future supply. Our offshore partner, Allseas, has already acquired our first production vessel for our exclusive use for Project Zero. To fully ramp up Project One in NORI-D, we have modeled 7 billion of initial CapEx associated with 57 billion of lifetime EBITDA.

Since our project is so large, some people may experience sticker shock when they hear 7 billion of CapEx, but there are a few things to note. That number is likely to come down through our CapEx light options, both onshore and offshore. The numbers spread out across this decade with a lot of potential offerings. We can find a significant amount through operating the cashflow, and finally, we can fund any remaining amount through non-dilutive means. I’ll touch on all of these in a moment, but let’s be very, very clear about one thing. It is not our intention, to fund Project One through the issuance of equity. The only exception, of course, would be opportunistically.

Perhaps if somebody comes along with attractive terms or maybe some strategic benefits. If somebody makes us an offer we can’t refuse at the right size and valuation, of course, we would consider it. As the project moves closer to production, many people are going to realize the disruptive nature of this business and the quality of the resource. In fact, we’ve had many outreach from several potential strategic investors post our deal announcement. It’s also very important to consider some contexts because you can’t think about CapEx in a vacuum. You have to consider the CapEx relative to the amount of metal produced, and we produce a lot of metal.

Mining.com just recognized our NORI asset as the largest undeveloped nickel project on the planet. If you look in the middle of the page here, you can just compare nickel equivalent resources. NORI-D at 15.4 million tons of nickel equivalent resource. That’s eight times more nickel equivalent resource than the average of the other projects on this page. When you look at our CapEx relative to annual average nickel equivalent tonnage, we’re in a very, very strong position relative to peers. As we think about project finance, it’s important to know that we have a significant amount of flexibility. I will emphasize however that while we have many options in front of us, we will take a rigorous analytical approach to project finance every step of the way.

This will include consultation from our team of financial advisors, legal advisors, as well as of our experienced board of directors.

Let’s take a three-pronged approach to talking about the 7 billion model CapEx spending for project one. First, we can use the CapEx light options to reduce the overall financing. In terms of CapEx light, let’s start offshore. As we often said, it’s not our intention to build or own a ship ourselves because there are many players in the industry who would be willing to build and operate ships on our behalf using their own balance sheets in exchange for a long-term contract. We also have the option to convert existing drill ships would concurrently be acquired for pennies on the dollar and we’ll talk more about that later.

Onshore, we could acquire existing RKEF lines at distressed prices or pursue tolling arrangements at existing RKEF lines. We can also, of course, fund some of the CapEx with operating cash flow. By 2028, we expect to generate approximately 3 billion of cumulative operating cash flow which could fund the remaining project CapEx from ’27 through 2030. Now zooming in a bit on our CapEx light strategy, we are already demonstrating potential of this approach offshore. In February 2020, our partner and investor, Allseas purchased the Hidden Gem shown on the left side of this page, a drillship, and it’s for our exclusive use. They got it at a price well under 50 million.

Again, pennies on the dollar because this Samsung 10,000 vessel would have been worth $700 million a decade ago. The Hidden Gem will be our first production vessel and it’s being converted as we speak in Norway, and it will begin collector tests in the North Atlantic this winter. The total cost of conversion plus the purchase price will be around 200 million. We think we can bring this number down significantly if we do a second to the third or fourth conversion, just getting better as we go. This cost would compare quite favorably to a purpose-built collectorship, which we’ve modeled at 1.3 billion. Taking the CapEx-led approach through convert drillships, would also allow us to scale up our offshore CapEx in increments rather than spending all of it at once.

We did receive many inbound calls to discuss similar transactions following The Hidden Gem acquisition last year. We believe we can continue to take advantage of distressed asset prices in the offshore oil and gas sector. Now the capital flexibility in our model is driven in part by our high steady-state EBITDA margins, which are visualized on the right side of this page. This allows us to effectively convert CapEx into OPEX in several places. We have shown already in the last page, how we might do this offshore, and onshore 4.8 billion of the 7 billion is earmarked for entre processing. That breaks down into the following budgets, 2.8 for the pilot in that process and 2 billion for subsequent refining.

We can explore additional tolling contracts to reduce the 2.8 billion RKEF spending, which is the approach that we're doing for Project Zero. We could award long-term contracts at a fixed price per ton, and shift that onshore RKEF CapEx and refinery CapEx to some contractors' balance sheets. The return on equity of this approach would be very attractive, and of course, there'll be a trade-off. We would lose some control over where the middle ends up. There's a balancing act. We will be laser-focused on striking that right balance between maintaining geographic and environmental control of our products, while also maximizing a return on equity.

Further, we can reduce our onshore CapEx by reducing scope. For example, we could potentially save 2 billion of CapEx if we produce an intermediate product instead, and allow someone else to refine it. This method would produce a Nickel, Copper, Cobalt net product, which could be sold at approximately 85% of LME pricing for those metals. Even after considering CapEx-led options and our operating cash flow, we will likely have a debt financing component. This page shows how we could fund the entirety of our 4.8 billion onshore CapEx spend. Keep in mind, this is for illustrative purposes only, though it does come after quite a bit of consideration with our financial advisors.

We're exploring several options, including government support capital, off-taker financing, project finance with export credit agencies and terminals. Now, one of the components we're actively exploring is loans from various governments who wish to shore up their domestic battery and metal supply chain. This includes, of course, the United States. One example of this could be the US advanced transport vehicle manufacturing loan program, which is part of the department of energy's $40 billion loans and loan guarantee program. It's also worth noting that the DOE put out a request for information in late March, asking for public commentary on some of the risks to the EV supply chain.

The first thing that they asked about was domestic supply of critical battery metals, including nickel and cobalt listed right upfront. There was also a clean future bill in the house, which would make it even easier for companies that produce key battery components to prove their eligibility. We think this will be helpful for us. One note you'll notice there is a equity on this chart. We expect that the JV ownership structure would make sense at the project level for our onshore processing. It's possible that we could commit a small sliver of equity ourselves to show commitment to the project in the planning phase but we're talking about something that could easily be funded with cash raised through the select transaction.

Again, it's not our intention to fund project one through the issuance of new equity. As you can tell, we're not trying to reinvent the wheel here on any of these financing options that I just discussed. As many of you will know, there is a well-established playbook of creative non-dilutive financing options to fund projects in the resource sector. You'll notice Glencore's name on this page, one of our existing partners and investors, and we think some of the other names on this page may end up being future partners of ours. Keep in mind that most projects on land have longer timelines than our own project, and often require fixed infrastructure build-outs in remote geographic locations, power, ports, roads, rail, freshwater.

We don't have to worry about anything like that in terms of building out our infrastructure. In summary, this is a massive resource that offers massive economic upside. We are developing the largest nickel project in the world and it just so happens that a tier-one copper and manganese asset baked in. The Metals Company is currently valued quite conservatively on most any metric. Finally, we have a lot of financing options to help us ramp up production in a non-dilutive CapEx Now I would like to turn it over to Erika Ilves, our chief strategy officer to discuss the ESG case for nodules. Erica, please go ahead.

Erika: Thank you, Craig. Shifting gears here a little bit. I've spent half of my professional career in strategy consulting and the other half in extreme environment robotics, mining robotics more specifically. What got me into mining robotics initially was real concern about the future of our species and the conviction that we must diversify our presence beyond this planet. I ended up co-founding two space mining robotics companies and my thinking was that's my contribution to making progress towards space settlement. We started developing robotic systems for terrestrial miners first, and this took me underground and into open pits around the world and up close and personal to the many serious difficult challenges that terrestrial miners face today and our planet faces today, frankly.

After a while, I decided that space can wait because if you look at the big picture with maxed out several planetary boundaries with our resource extraction on this planet and still our population is growing and our resource needs are still growing. How do we square that circle? I joined The Metals Company because I truly believe this team has a real shot at making a difference on that issue. The for nodules that I'd like to talk to you about next is at the crux of why many of us on this call are here. I'd like to start with perhaps something that's obvious, but not commonly understood if you looked at some of the coverage of the sector.

If you extract a resource that takes millions of years to form, it is not sustainable, at least not on human timescales. Human timescales matter here because if we don't figure out how to do things differently, the planet will be fine, that I'm convinced of, at least for 4 billion years or so, but our descendants might not be around to enjoy it. Another thing that is pretty basic, is that when you extract a resource out of its environment, you impact the environment, there's just no way around it and it's not always pretty. It's probably safe to assume that many people on this call don't have operating minds in their backyards anymore so allow me to play you a short visual reminder what it's like out there.

[video plays]

Unfortunately, it will get worse. I have a lot of respect for people who work in the terrestrial mining sector and I will be the first to tell you there are lots of good people working very hard to improve mining on land, but they're up against several structural challenges. First following grades, we tend to take the easy and high-grade stuff out first. As a result, if you look at mining grades for metals like nickel and copper, they've been falling for a long while now. If we go back to 1900, and we dig up one tonne of copper-bearing ore, you'll get 30 kilograms of copper. Today, to get the same amount, you will have to dig out six times more ore. This means more land, more energy, more water.

Critically, and I wish more people understood this better. When you combine falling grades with sharply rising demand, you end up with exponential increase in waste. That's what's ahead of us this century. Each kilogram of metal will be coming with an increasing mountain of waste and that waste needs to be managed indefinitely. Second location, it's pretty basic, you can't change it. If you map out our remaining deposits or at least known remaining deposits, you'll see that mining is moving increasingly into places with higher geopolitical risk, higher biodiversity, higher carbon sinks, and carbon sequestration services. This does leave land-based producers in a real pickle.

They need to spend more capital to get the same amount of metal and then even more capital on top to decarbonize and to manage the runaway waste problem. It's not that easy to solve. What does it mean? If you're going to put it all together, what does it mean for metals that we are focusing on? We've invested into several lifecycle assessments at TMC. Here are some of the most important impacts. The impacts on this slide are drawn to scale but if I translate these numbers into per kilogram values that may be easier to relate to. Every kilogram of metal will come with 415 kilograms of waste, 375 kilograms of toxic outputs. It will use 290 liters of water and it will generate 85 kilograms of Co2 emissions.

This is assuming we completely phase out coal out of our electric grids by mid-century. We can do better with nodules and this is mostly because of the resource and its location. On the resource side, we have high grades of four metals, essentially, three terrestrial tier one deposits rolled into a single seafloor resource. There are more than 300 kilograms of metal and every tonne of modules, to begin with, but there are no hazardous levels of deleterious elements so all of the masks can be used and converted into products. Location that is far offshore and very deep is a gamechanger as well. Think no social displacement, no deforestation, no child labor, no atmospheric release of carbon sinks.

Then as a company, we also made two choices that are helpful when it comes to ESG footprints. We invested in zero waste flow sheet and committed to powering our processing with renewables. Jeff Donald will speak more to that later. Since not many of us have been to the abyss, I just thought I'll give you a quick sense of what it's like there. If you take all terrestrial and marine biomes and line them up on a scale from poorest to richest in terms of life, the scale rank would run from a few grams to about 30 kilograms per square meter measured in contained carbon. Indonesian rainforests would sit on the rich end of the scale at 15 to 30 kilograms and then the abyss will place on the opposite poor end of the scale at about 13 kilograms.

It's dark there, there it's cold, it's high pressure, it's food poor, and most of the life there is microbial living in the settlement. It does not mean that the creatures living in the abyss do not require protection but it does mean that there are orders of magnitude less life to begin with. On a life cycle basis, here we've drawn inspiration from the nutrition label and converted that into an ethical label about impact facts. This is a label for one billion electric vehicles and all the footprints from land-derived metals compared to nodule direct metals. As you can see, nodules offer a possibility to compress impacts almost across all categories. There are two exceptions.

First, we're introducing a new type of. That's perhaps self-explanatory. Secondly, like conventional producers, we can't be 100% certain that no biodiversity loss would occur. Although I would argue that our odds of protecting biodiversity look much better because more area in the Clarion Clipperton zone is already under protection and it's currently in the expiration. If these results are true, then why do good people disagree about deep-sea mining? Here, I'd like to draw on the work of social psychologist Jonathan Haidt that I'm a big fan of. His main insight about how we make moral decisions is that we start with intuition and then we use moral reasoning to back them up, not the other way around.

For most people, intuition here is simple. Mining is destructive on land and we should absolutely protect our oceans from the same fate. I suppose many of us resonate with that intuition as well. For some of the next step is then to argue that we should stop mining through degrowth, reuse and recycling, all of which are very sensible solutions that I'm sure we'll all be busy implementing throughout the century. Given that we need billions of tons of more metal to decarbonize, develop, and urbanize our growing population, I think it would take serious magic to get to there right away. Then there's black and white thinking, the world is better off sticking with the devil we know and banning all deep-sea mining.

We believe the real devil is in the detail and blankets bands aren't very blunt and unhelpful. On land, you probably should not permit pebble in Alaska but we can obviously live with the impacts of Mountain Pass in California and given that it is now working mine. The deep-sea is no different. Some projects are acceptable and others should be left alone. As a company, we are committed to earning our social license. You may wonder how we intend to do that amidst conflicting narratives about deep-sea mining. Our plan is simple. We plan to tell better stories. We've committed to radical transparency. Gerard earlier mentioned that all independent scientists contributing to our deep-sea research program are free to publish but we also publish our own research in peer-reviewed journals with methodology, assumptions and all of that.

Last but not least, we are willing to engage with opposing perspectives build on shared positions, which we hold many, with many people who oppose deep-sea mining, and then stay open to changing our own minds. We know we won't win everyone over but we do think it's important to win over enough people because the ESG cost of failing to do so will be just too high for the planet and people. Next, I would like to hand over to Corey, who I like to think of as our diplomat and chief, who will talk to you about our regulatory context and risks.

Corey: Thank you so much, Erika, and thanks to everybody who's online today joining us. As Erika mentioned, my name is Corey McLaughlin. I have the responsibility and the privilege of managing our relationships and partnerships with our three sponsoring states and for the regulatory relationship and compliance that we have with the International Seabed Authority, also more commonly known as the ISA. I've spent the last 10 years working with Rio Tinto and The Metals Company collaborating with indigenous communities and developing states to help them realize the benefits of resource development. During this time, while I've seen many amazing things, I've also seen firsthand the devastation that terrestrial mining can have.

While living in Canada's north, I saw Canada's most expensive mine reclamation and remediation project firsthand. I also spent a lot of time in the Republic of Nauru where over 80% of that small Pacific Island is now uninhabitable due to Colonial mining. While I've seen the worst in mining, I know there is a better way and that's why I joined The Metals Company to be a part of this better solution. At The Metals Company, we have a unique opportunity to develop a resource in international waters that has been designated as the common heritage of mankind. What this means is that this resource is owned by all of us, and it must benefit all of humankind.

There is an international framework that we operate with it and this was specifically designed to develop and to mitigate the historical north-south divide. It does that by setting aside exploration areas for developing states and leveling the playing field that is so heavily biased today towards states with resources, wealth, and technology. While this unique legal framework provides a foundation for how things can be done differently, it is still possible that we can get this wrong. That's why here at the metal company, we strive to constantly do better. You've heard that already today and you'll continue to hear that throughout the presentation. It's this desire to do better that reminds us of the responsibility that we have to ensure that we're using this resource for the benefit of all.

What I'll do now is I'll move on to the details of the regulatory framework that we operate within. As I've noted, The Metals Company operates within international waters, which falls under the regulatory jurisdiction of the International Seabed Authority. It's an autonomous international body that was established in 1994, with the dual mandate of regulating all mineral-related activities in international waters and ensuring the effective protection of the marine environment on behalf of humankind. The ISA has a proven 27-year track record of developing modern regulations through transparent and inclusive negotiations and it has resulted in a stable, well-respected regulatory jurisdiction.

Never before in history has a regulatory regime been developed before an activity has been allowed to take place. This helps ensure that the mistakes of our past will not be repeated again. The Metals Company is currently operating under the ISA's exploration regime. The exploration regime for polymetallic nodules was developed in 2000 and further updated in 2013. Under this regime, contractors are provided a 15-year contract that's divided into five-year work programs. Contractors also have the ability to apply for five-year extensions. An exploration contract provides exclusive rights to explore and to apply for an exploitation contract. The Metals Company has three exploration contracts.

The NORI and TOML contracts are held by subsidiaries registered in the Republic of Nauru and the Kingdom of Tonga. The Metals Company also has an exclusive commercial agreement with Marawa, a Kiribati's state-owned entity to explore and develop its contract area. These three expiration contracts are sponsored by three Pacific developing states. The Republic of Nauru, the Kingdom of Tonga and the Republic of Kiribati. The Metals Company pioneered this model where commercial companies can partner with a developing state to support their desire to participate in this new C4 minerals industry.

As a result of our leadership for the first time, developing states were able to access these reserve areas that were set aside specifically for their use.

This helped realize the vision of the United Nation's Law of the Sea convention that was developed to ensure developing states could participate in this industry and as I mentioned to avoid wealthy technologically advanced developing states from dominating this industry. At The Metals Company, we're very proud of the leadership role that we have played in helping the convention's vision of supporting developing states. The ISA is targeted July 2020 for the completion and adoption of its exploitation regulatory regime. COVID delayed that timeline but significant progress has continued to be made on the major components of the exploitation regulatory regime.

After four rounds of stakeholder consultation and revision, the draft regulations are now with council for final negotiation. That will kick off in earnest when they next meet. The financial regime has also been significantly advanced. It's important to remember that there's a guiding principle that will form the guardrails of this financial regime. That is that deep-seabed minerals cannot be advantaged or disadvantaged when compared to terrestrial resources. The ISA last year undertook a comparative study of terrestrial resources. Based on that, an updated financial model was scheduled to be released prior to the next council meeting. Finally, 10 standards and guidelines are going to be required as part of the adoption of the exploitation regime.

Three of these have already been released for stakeholder comment or/and are under review. The remaining seven are currently out for stakeholder comment. All 10 will be presented to council for their review at the next meeting. Those of you who are familiar with a resource application process, we'll look at this slide and note that the ISA exploitation application process is very similar to what you would see on land with a timeline that looks similar as well. The one notable exception is the environmental impact statement, which is much more comprehensive than what you would typically find within national jurisdictions. You'll hear much more about this later on in the presentation from Mike.

As I've mentioned, the overall process is expected to take about one year. Currently, the priority for the ISA is the finalization and negotiation, and adoption of the exploitation regulatory regime. While COVID delayed the 2020 timeline, an additional two years of negotiations will not impact The Metals Company timeline as subsidiary intends to submit an application for exploitation in 2023. We still have time. There's an additional mitigation measure that can also help provide certainty. That's article 15 of the 1994 implementation agreement.

This clause allows a member state to notify the ISA of an upcoming application, and it then requires the ISA to complete the adoption of rules, regulations, and procedures within two years of that request. If the ISA is not completed the adoption of rules, regulations, and procedures within two years of an application being submitted, it can consider and provisionally approve that application based on the rules and regulations in place at that time. This clause was specifically added by the drafters of the convention because as international diplomats, they understood better than anyone the challenges of international negotiations, and they understood without the ability to implement a deadline, finalizing an international agreement can sometimes be difficult.

Between article 15 and the ISA's commitment to completing the regulatory regime, we are confident that when we are ready to submit our application, the ISA will have a regulatory process to accept, review and approve it. Now with that, I'll turn you over to Tony, who's going to share some more about this amazing resource.

Tony: Thanks, Corey. Hello, ladies and gentlemen, I am Tony O'Sullivan, the Chief Development Officer for The Metals Company. I have more than 30 years of experience in mineral resource exploration, development, and production, with both startups and the world's largest mining company BHP. More than 10 years of this time has been spent in subsea mineral project development. There is no other project in the metal space, which has the potential for the positive impacts that the NORI-D project can bring. I feel that all my training and career to date have been in prelude to the finale which delivery of this project will bring. Today, I'll provide you an overview of the NORI-D project development outline.

Outlining the development and philosophy and plan. At the most fundamental level, the NORI-D development program involves two core objectives. Firstly, development of a system to deliver on the collection and processing of nodules to produce battery metals at a specification to make customer requirements and at the rates required by the business plan.

Secondly, complete baseline environmental studies and impact assessment to demonstrate that we can develop the NORI-D resource with lower environmental impact than current practice, and in doing so, obtain the required approvals. The place to start is with the resource. The NORI-D resource is part of the Clarion-Clipperton Zone, which is the largest undeveloped nickel and cobalt resource on the planet, being larger than all of the non-terrestrial resources for these metals.

The Metals Company holds rights to some of the best acreage in the CCZ and has undertaken resource evaluation within two of the three contract areas that it controls to delineate 1.6 billion tons of nodules with 16 million tons of contained nickel and high nickel equivalent grade of 3.2% nickel equivalent.

The chart on the left shows the TMC resource areas, that they dwarf alternative terrestrial nickel and cobalt development options and these are the scale and quality of the Norilsk resource in Siberia, which is a geological freak and industry-leading resource. The resource occurs as polymetallic nodules. These are 2 to 10-centimeter rocks that lie on and unbound to the sea bed.

The resource is remarkably consistent and presents a number of advantages over terrestrial deposits, the sulfide and laterite deposits that we source our battery metals from today. It is a 2D resource that we can effectively evaluate because we can see it, and thus delineate it with high confidence. As Jon will show, collection of nodules will not involve any drilling or blasting. The nodules contain very low contents of the deleterious elements that typically complicate metal mining and processing.

We have developed collection systems which result in no waste dumps and no tailing dams at the collection site, and no solid processing waste streams, so there's no tailing at the processing site either. The composition of the nodules is very consistent, and this has significant impact on processing, as Jeff will highlight later.

While the Metals Company holds rights to a number of areas within the CCZ, initial development is focused on NORI-D, which is located on the southeast margin of the Clarion-Clipperton Zone. This represents the optimal combination of proximity to shore, 1,500 kilometers from the coast of Mexico, water depth of 4.3 kilometers, and high and consistent nodule abundance of 17.1 kilograms per meter square.

The NORI-D project has significant optionality not available to terrestrial deposits. Once the nodules are brought to surface, they're on tidewater and we can ship them to a location with an existing port, industrial sites with gas, renewable power and any existing workforce. The NORI-D development program is focused on commencing in mid 2024, with what we have called Project Zero. This will involve collection of 1.3 million tons of nodules to produce 13 kilotons of nickel per annum.

Once in production, the focus will be on scaling and increasing production in a manner that manages development and environmental risks as we build operating knowledge and experience, this is what we call Project One. Our strategy is to partner with capable groups. We see the opportunity that this huge resource of critical minerals represents. We also focus on using existing technologies. The project is broken into eight work streams, each with interdependent delivery milestones as shown in this slide.

We've completed a significant body of work today on time and on budget. We've been operating for 10 years, undertaking 11 offshore campaigns without a single lost time injury, and we are very focused on keeping it that way. Last year, we had an objective of defining 240 million tons of measured and indicated resources for NORI-D, but we managed to find 350 for the same estimated cost by evaluating resource variability and opening up sample spacing, and thus providing increased resource without compromising resource estimate quality.

These outcomes have been delivered by leveraging off the capability and balance sheets of our partners. We maintain a small experience core team and work with our partners to deliver. Maersk for offshore resource and environmental work, Allseas for offshore collection, and a network of leading scientists to the environmental baseline. We will maintain this approach as we progress processing site selection and plan development.

Key value of creative work we've completed today has been the acquisition of the NORI TMOL and contract areas. Resource delineation for TOML and NORI, development of the offshore collection system, and the agreement with Allseas. Selection and definition of a processing flowsheet that will not produce any significant solid waste streams.

Completion of the recently published initial economic assessment which outlines the attractive economics and considerable upside of the project. Today, we've defined 350 million tons of indicated and measured resource within the NORI-D area, which will be sufficient to support 25 years of operations, producing around 120 kilotons of nickel, 90 kilotons of copper, 2.8 million tons of manganese, and 9 kilotons of cobalt per annum.

The nodules occur as a 2D resource on the seafloor, which we can directly see. Unlike terrestrial deposits, we need to define a third hidden dimension. This provides a high level of confidence in the nodule resource. To define the nodule resource, we need to know two things. The abundance of nodules and the metal contents of the nodules.

Abundance can be measured with seafloor imaging equipment by the AUV shown here in the bottom left of the picture, with the image of the seafloor here on the right showing what the seafloor looks like, continuous nodule fields. We can sample and essay the nodules to determine their metal content using samples taken from box cores as shown here in the top right.

The abundance and composition of nodules are remarkably consistent, with geostatistical analysis showing that sampling on 10-kilometer spacing is sufficient to estimate nodule composition and 3-kilometer spacing nodule abundance.

This resource consistency is further demonstrated with nearly all of the inferred resource converting to indicated resource in our most recent assessments, and indeed, the estimated abundance and grade have generally increased as we've upgraded from inferred to higher resource confidence categories. I would like to now show you a brief video outlining how we go about the resource evaluation offshore.

[music]

Warwick Miller: I'm Warwick Miller. I'm a geologist by training, here representing a company called LEAP Energy. We've been subcontracted to classify, photograph, weigh and record all the nodules that are collected in the box program. We have 126 box cores that we have to collect on this campaign. Basically, what we'll do is collect all the nodules from the box core, we bring them in here, we describe, classify, photograph, and weigh them.

Then they get stored in sealed storage containers and taken to a storage facility down on the main deck where they are locked away. Reason for this is it's got to be controlled because the nodules are going to be used for a resource estimation and there needs to be proof that the nodules haven't been interfered with from the time that they leave the box score to the time they end up in SA lab, back on the land.

The fact that these all come from very deep water, somewhere between 4,200 and 4,500 meters water depth, it's a very foreign environment, we don't get to often to see anything that comes from there. It's a very exciting opportunity to see this stuff. The nodules themselves, I find very interesting. I've never seen anything like it before. What did surprise me about them is they're quite fragile. When you see photographs of them, they look to be a lot more robust than they actually are. They're quite a fragile commodity.

[music]

There's always been a bit of a negative perception that things are too difficult to do in the ocean. I'm very pleased to see that a company like DeepGreen is actually making strides to make it happen. It's something that needs to happen because, on land, commodities are being exhausted. There have not mineral deposits being found and it's the natural next place to look.

It's exciting because in order to make this a viable project, there's going to have to be a lot of technological challenges that are going to have to be met and overcome. This 4,500 meters of water, it represents a huge challenge and I'm really proud to be part of it.

Tony: As you can see, the work offshore, all the teams there, they're incredibly motivated and absolutely focused on delivering it. It's an amazing impact when you see the teams coming back offshore, they're always so excited with the work that they've completed. AMC, a world-leading resource consultancy, has independently reported all of our resources and has undertaken independent economic analysis of the NORI-D project.

Reporting under both Canadian 43-101 and their newly outline SEC S-K 1300 standards. This work brings together studies involving leading contractors for the offshore's shipping and processing work scopes. Initial milestones to produce production are outlined here. The overall program is focused on submitting the ISA development proposal in Q2, 2023, and commencing Project Zero in mid-2024. Key milestones are, at the end of 2021, we're looking at finalizing the onshore pilot test work.

This will demonstrate the processing flowsheet and collecting detailed design and operating parameters and providing products to engage with our customers. Q3, 2022, collection of the collector test in the CCZ. This is where we will collect 3,000 tons of nodules and demonstrate the collector system, and importantly, have a real-life example of the actual system in operation, where we will observe the environmental impacts. We'll use this to inform the EIA that we are undertaking.

In Q2, 2023, as outlined, we have a plan to develop to submit the development proposal with the ISA. This will involve lodging of the environmental impact statement and a pre-feasibility study. Then in Q3, 2024, commencement of small-scale production in what we call Project Zero. As outlined, our design philosophy is to start small and then scale up.

We've identified a development trajectory from Project Zero which involves in the offshore, adding additional vessels, initially a converted drillship, which can be implemented rapidly, then a purpose-built collective vessel, which will add higher productivity. Onshore continuation of the tolling arrangement started in Project Zero. Then the sequential construction of four rotary kiln, electric arc furnace processing lines, and then sequentially adding additional refinery capacity to accommodate the processing capacity of around 10 million tons of dry nodules per annum.

Effective development of the adaptive management system, where we can demonstrate transparency to stakeholders and effective environmental management is a key component in achieving the scale. There are numerous advantages to developing resources offshore, over and above the carbonate environmental footprints we've already outlined.

The assets can be constructed in fabrication yards or in industry parks and not stick built on site. Where there is a requirement to import equipment often to very challenging locations and a construction workforce with all of the costs and permitting challenges that this involves. There's no tree stripping or lengthy underground development.

Once equipment turns up at the nodule collection site, there is merely site preparation like deployment of positional array, final commissioning of equipment, which would have been previously pre-commission in the delivery yard and then deployment of collectors and risers, which can be accomplished in days to weeks, not the month to years required for terrestrial lines.

Importantly, there are known indigenous groups that inhabit the area or that would require relocation, or whose ancestral heritage would be impacted. This is becoming increasingly difficult for the mining industry to navigate. As recently highlighted by the Juukan Gorge incident of Rio Tinto. Perhaps most impactfully, NORI-D will be developed without generating any tailings at the collector or the processing site.

This is an increasingly challenging problem faced by the mining industry, as outlined before, and is demonstrated by the recent in Brazil. To sum up, the NORI-D resource offers a unique opportunity to supply battery metals with lower environmental and social impact concurrently.

We are implementing a stage development program that leverages off existing assets working with skilled and experienced partners to deliver it through a clear and well mapped out plan. With this, I'd like to pass you over to Jon, Mike, and then Jeff, who will expand on each of the relevant project areas. Jon, over to you.

Jon Machin: Thank you, Tony, for the handover. I'm Jon Machin. I'm the head of offshore engineering for The Metals Company. I've been in the deepwater engineering industry for over 30 years and have held leading technical roles with some of the major oil and gas companies worldwide. I've been with The Metals Company for five years. On a personal note, I'm fully intending to complete my career with and leave the legacy of the world's first and most commercially successful nodule collection system.

Let me start with visualization of the technology and assets we've been developing for our offshore operations. In collaboration with some of the world's leading offshore engineers and designers, we have developed a nodule collection system which includes subsea collector robots, a main production vessel, and riser pipe, and a support vessel. Nodules from the production vessel are then offloaded to a bulk carrier.

Note that our exciting concept represents what will be the next generation of clean, efficient, marine work equipment, all of which is designed with streamlined hydrodynamics and aerodynamics and with energy efficiency and minimal environmental impact attractively prioritized. To give you a sense of scale, let's look at the operating deck of the support vessel.

Here you can see the collector robots being simultaneously launched and recovered through the central moon pool, which is designed to provide protection of sophisticated equipment from the external environment, and from heavy seas. Here, the collector robots can be maintained and serviced offline on the support vessel. They are then designed to be hot-swapped out during production in order to keep any downtime to an absolute minimum.

I also want to importantly highlight that this is proven technology. The images on this slide show the successful pilot nodule mining work performed in the CCZ by a number of US consortia in the 1970s. Here, several thousand tons of nodules were successfully recovered and the technology was fully validated. Why did this commercialization not occur at this time?

Because, as my colleague Corey has explained earlier, there were no title and no rights to the ground. To this day, successful offshore mining really only occurs in the EEZ of South Africa and Namibia, and it's for diamonds. In fact, over 50% of the world's diamonds are now collected in this way. Our design philosophy, it simply stated that we first will rely on proven mature systems to get into production as soon as possible, and we'll improve from there.

This includes leveraging our know-how, our IP, our data, and establishing relationships with partners with existing skills, assets, and balance sheets. The market is currently active and enthusiastic, so we are keen to maintain competitive tension. Our performance targets are set high and require minimal disturbance of the seafloor, minimal clean generation, limiting our seabed penetrations and disturbances to really just the top five centimeters.

We will be producing effectively zero spoil and zero pollutants and zero release of carbon sinks from the ocean. The Allseas pilot collector system shown here is a great example of our ability to partner with industry leaders. Here, progress is 100% on track and you are aware of the acquisition of the Hidden Gem drillship. Former ultra-deepwater drillship, in fact. This vessel is currently under conversion in Kristiansand, Norway, and the subsea collector robot is currently under fabrication in Rotterdam, the Netherlands.

Laboratory testing has been delivering some superb results and some startling technical winds regarding our assumptions of system efficiency and productivity. For example, by building a simulated analog of the seabed and the world's largest floating test tank and testing our Coanda nozzle pickup tool, we've been able to demonstrate an excess of 95% pickup efficiency.

Here are some links to pictures and short video clips of our laboratory testing program, and I'll play one for you. I'll play the short video of nodule pickup testing in which my colleague, Ron Stavenuiter from Allseas, is going to talk you through the work we've been doing there.

Speaker 1: Nozzle is now 11 centimeters, and you can see that mainly--

Ron Stavenuiter: My name is Ron Stavenuiter. I'm an R&D engineer with Allseas engineering. My scope of the project is to really pick up the nodule from the seabed and deliver it to the entrance of the riser systems, for the vertical transport, from the seabed up to the vessel. I'm basically engineering a big vacuum cleaner, so to say. It's like we use a high velocity waterjet to lift the nodules from the seabeds.

We try to disturb the seabed as little as possible. We use mainly water. We use it, we blow it horizontally over the seabed instead of penetrating it right from above. Today, we did a test with an artificial seabed. We made a big tray, we filled it with clay, which has similar properties to the clay that we can encounter on the seabed, and we installed a layer of artificial nodules, we use the lava stones for this. Now we fired up the system, we had a run over the trays and we sucked up almost all of the rocks.

[background noise]

After this phase, we're going to have some design iterations, because, of course, when you test you find out with some aspects that can be done better so we have to improve the current prototype, then after that we will build a full-scale version, which is actually going to the deep sea. Personally, I think this is the most fun part of the entire project, actually seeing what you've designed and seeing if it works.

Jon: Our deep ocean trials are occurring soon and the Hidden Gem is being converted as we speak, with the collector trials set to start in the North Sea in the Atlantic later this year and early into next year, followed by the main test work, pilot trials work in the CCZ later in next year. To conclude and recap on our progress towards the state of development milestones, we are absolutely on track for our pilot tests in 2022.

We plan to commence early production then in 2024, with an upgrade to the Hidden Gem, this is known as Project Zero. Beyond that, we have an aggressive program to scale production with a second drillship conversion, followed by a fleet of vessels purpose-built by our partners to our latest designs. I'm going to finish with a little bit of a narrative about risk and risk mitigation, what could go wrong and what are we doing to prevent it?

I'll describe our obsession with reducing these risks, for example, cost of the favorites, cost schedule overruns. Here, we're disciplining ourselves to only fixed fee performance-based contracting using tier one international marine contractors, for example, Allseas. Missing our production targets, I would emphatically state that we're hiring best-in-class engineering resources across the board.

For example, Allseas have over 800 engineers, and of which 200 of their R&D engineers are dedicated to our project on staff. Mechanical breakdowns. Here are processes for extensive commissioning, testing, and trialing. These processes have been honed over decades of deepwater oil and gas experience, by the way. Adverse weather impact.

We're developing very extensive modeling, which includes three years of continuous onsite measurements, and also long-term trend modeling using satellite data and information from organizations like NOAA. Safety and lost time incident avoidance. I am proud to state that we're definitely building among the world's leading offshore safety process and cultures. Thank you. I'd now like to turn over to my colleague, Dr. Mike Clarke, who's going to brief you on our ESIA environmental program. Mike.

Mike Clarke: Thanks, Jon. As Jon said, my name is Mike Clarke. My role is environmental manager with The Metals Company. I have a PhD in environmental sciences and 25 years of experience as a marine biologist and environmental manager. I'm also a certified environmental practitioner and a certified environmental impact assessor with the Environmental Institutes of Australia and New Zealand.

Having worked in the terrestrial mining industry for many years, and witnessing the devastation that mining on land causes to the environments and communities impacts, I truly believe that mining the deep ocean as a far less impactful way to source the metals we need for the green transition. Also, the deep-sea mining is absolutely essential if humanity is to successfully tackle the looming climate crisis.

It's my job to navigate the company through the environmental impact assessment process and to prepare the environmental impact statements for submission to the International Seabed Authority in support of our application for an exploitation license in 2023. One question I get asked frequently is why would we want to mine metals from the ocean?

From an environmental perspective, the oceans are a very attractive place to mine, mainly because most life actually lives on land. Although the oceans are very vast, lack of vegetation limits the opportunities for life to evolve. The ocean represents an expansive similar habitats, while on land there's a much wider range of smaller habitats mainly due to the huge diversity of plants and trees. This translates into greater biodiversity overall on land than in the oceans.

The Metals Company will only collect polymetallic nodules. We won't mine other forms of marine deposits such as cobalt crusts or seafloor massive sulfides. This is a conscious decision on our part based on the relative environmental impacts of each type of mining. You see, polymetallic nodules just lie unattached to the seabed and can be simply be picked up by our harvesters with a minimum disturbance to the seafloor or the animals that live there.

The other forms of seabed mining such as cobalt and sulfide crusts are often associated with sensitive marine habitats such as hydrothermal vents, and the mining requires the seabeds must be broken up by heavy machinery. We consider these other forms of mining just far too environmentally destructive, and The Metals Company will not engage in them.

Another reason why the ocean is an attractive place to mine from an environmental perspective, is because the abyssal plains, where polymetallic nodules are found, is the most abundant habitat type on the surface of the earth. Any organisms that are disturbed or lost from areas that are mined, are likely to be well-represented in other areas that will be protected.

In fact, the International Seabed Authority has already committed to 30% to 50% of the Clarion-Clipperton Zone being designated as protected areas, which will remain untouched forever. Not only do the abyssal planes represents the most common habitat on earth, but they're also the least populated habitat in the ocean, with less than 10% of all marine organisms living below 4,000 meters.

You see, the huge pressure and the lack of light and the poor availability of food at these depths make the abyssal plains very challenging places for organisms to live. This is good news in terms of nodule mining, as most of the impacts will occur on the seabed below 4,000 meters, the zone which supports the lowest bio-mass levels in the entire ocean. What types of animals live on the seabed? The animals living on the abyssal plains actually live on the nodules, or they live in or on the sediments or in the water column just above the seabed.

Most of the animals we find are invertebrates, which mean they don't have the backbone, and they filter the organic matter from the sediments or the overlying waters, but because the only source of food is from the organic rain that floats down through the walls or from the surface layers, food is actually very scarce and most of the animals we find are not very big as a result. Usually just a few centimeters long or even microscopic.

A few larger, more mobile species do live in the abyssal plains, such as ratfish and shrimp, but being able to move these larger animals will simply move away from areas that are disturbed by mining. What are the main impacts of our operations? There's three main impacts. First of all, nodule removal. The nodules are the metal ores that we are targeting, and their collection will remove hard surface habitat that some sessile invertebrates apparently attach to.

The natural habitats and the organisms attached to it will be permanently removed. However, we will be leaving some nodules behind, approximately 10%. Also, remember, the abyssal plane is the most abundant habitat type on the planet, so these organisms will likely be well-represented in preservation zones that will not be mined. It also creates a benthic plume. This is a plume of fine sediment will be generated behind the collector as it moves across the seabed.

This plume can spread to other areas and the fine sediment can clog the feeding and respiratory structures of sessile filter-feeding organisms. Also, sedimentation may burry nodules making them unavailable for animal larvae to attached to. There's the secondary plume as well, the return water plume. This is where sediment is entrained into the riser pipe at the seabed will be lifted to the surface vessel and the sediment separated from the nodules.

This sediment will then be returned to the ocean where it will form a mid-water plume. This could, again, reduce the feeding and respiratory efficiency of the mid-water pelagic filter-feeding animals. To fully understand the effects of our operations, it's very important that we know what organisms live in each of the zones of the ocean and how they are likely to respond to the impacts the project generates.

To do this, we've designed the most comprehensive seabed to surface research program that's ever been conducted in the region. We've commissioned the world's best ocean scientists to conduct over 100 individual studies to characterize the biota of all the zones of the water column. The information that they generate will be added to the 50 years of data that's been collected from the CCZ since exploration started in the 1970s.

One criticism you often hear is that we don't have a lot of information about this zone, but the fact we've been collecting data from the CCZ for over 50 years by now. New information we collect will inform the environmental impact statements that will be submitted to the International Seabed Authority, part of our application for an exploitation license.

The ISA will use this information to make a determination as to whether the social benefits to mankind from the metals the project provides outweigh the residual environmental impacts. We've been collecting biological data from the lease since 2012, so for over 10 years, nearly 10 years. Over the past two years, we've concentrated on the collection of data specifically to inform the environmental impact assessment.

This has required six dedicated campaigns to the CCZ, each of which lasts approximately 45 days to collect samples from the seabed's surface. At the end of this effort, we have generated tens of thousands of samples, specimens and data points. We estimate the research effort dedicated to the SIA will be in excess of $200,000 by the time the environmental impact statements are submitted for assessment.

Once completed, this will represent the most comprehensive study of ocean life ever conducted in the CCZ. We're currently just over halfway through this program, with two benthic and one pelagic campaign completed, and one pelagic and two collector test monitoring campaigns remaining. We also visit the area annually to download data from that we have in the CCZ.

Many of the impacts the marine environment could be minimized or even eliminated just by clever design of the collector system. Two examples of this is we've increased the depth of the return water outlet, placing it into the bathypelagic layer to minimize the impacts on the more productive mesopelagic layer. Most of the life is actually in the upper layers, so the lower we can outlet the water, the less life we'll actually impact.

Also designing the collector head, so it's adjustable and picks up nodules using a waterjet to minimize sediment disturbance, to minimize the size of the plume, and designing an system that minimizes acoustic disturbance to the water column and this is particularly important if the cetaceans about such as whales and dolphins. We're also able to fine-tune our system in real-time through the use of an adaptive management system.

We'll have an array of sensors on the seabed that will continually update a digital twin of our system, which will enable us to make informed environmentally relevant decisions. Examples of this include an interactive digital map of the seabed that will allow us to avoid ecologically sensitive areas, sensors that monitor the plume and will detect if the plume size is larger than expected. If that is the case, we can actually slow down the collector to reduce the plume size.

Also we'll track the bottom currents in real-time. If a plume is drifting towards an ecologically sensitive area, we can redirect the collector or shut down operations completely until the current changes direction. We can remotely adjust the height of the collector head to select nodules of different sizes. For example, we think that the larger nodules may represent better quality habitat to sessile organisms.

If this proves to be the case, we can selectively leave those nodules behind as part of the 10% of leaving that we're behind. We have this optionality built into the system already. Also, we plan on leaving areas untouched that act as seed areas for organisms to recolonize the areas that have been cleared by mining. One thing that's important to note is this is a one-time disturbance of an area. After disturbance, that will be left alone to recover untouched by other human activities.

The CCZ is so remote, that unlike mining areas closer to land, there are very few, if any other impacts, such as trawling, fishing, polluted runoff from the land. Research on recovery rates is currently incomplete, but is thought to be species-specific, with mobile species such as fish returning almost immediately after mining. Things like microbes and larger organisms that live in the sediments may take longer to recover, tens to hundreds of years.

Whereas organisms that relied on the nodules for habitat will not recolonize areas where the nodules have been removed. Do remember we're not removing all the nodules from the area, and typically about 10% will be left behind. Also, nodule organisms will be well represented in the areas of the CCZ that will be permanent protection. With that, I'd like to pass you over to Jeff Donald, our head of onshore development. Thank you.

Jeff Donald: Thank you, Michael. My name is Jeff Donald. I'm the head of onshore development with responsibilities for developing the metallurgical process to take the nodules and produce final metal products and the project development associated with this onshore scope. I have 25 years experience in the development and operations of large metallurgical facilities.

Over this 25 years, I've had the opportunity to work in R&D engineering, capital projects, strategic planning, and I was fortunate enough to have experience in international operations at PT Valley, Indonesia. I've been involved in this project for over five years and I feel everything I've done in my career, in my life has led me to this point, in this project in this role.

The opportunity to develop a metallurgical process for new resource does not come around very often and I'm honored to be leading this effort. It is more than that as well. With the Metals Company, the culture is such I'm working with my friends as part of the story that is much bigger than myself, and much bigger than ourselves. A project with geopolitical implications, a project that can change the world in a positive way.

Then there is the challenge, the resource is there, the demand for metals is coming, and it can be done with less impact than in the lowland rain forests of Sulawesi, something I sadly observed during my time in Indonesia. It is up to us to make it happen. That is very motivating, and we are up to the challenge.

At The Metal Company, we'll make high-value premium products. Nickel and cobalt sulfate to supply the rapidly growing electric vehicle battery market, copper cathode, which is moving into a very favorable supply-demand situation, and manganese silicate, which will be sold to produce alloys for use in the steel industry. We also have optionality with the manganese to produce sulfate for batteries or other refined manganese products.

With this product suite, we're well-positioned to supply the metals required for infrastructure renewal and the transition to the green economy. Working with the Bjarke Ingels Group, we have developed this vision of our processing facility. The objective here is to move away from the dystopian industrial facility you typically see with large metallurgical factories, to something that has synergies with the surrounding environment in the community.

For example, we could be rehabilitating old port lands, building community around this building academics around this. Our flowsheet was selected on the basis of meeting the project objectives, which include high paid metal recoveries, the production of high-value premium products, and low cost compared to alternative technologies. In addition, we want to consider risk that is commensurate with rewards.

Another critical objective was achieving a zero solid waste flowsheet, which we have done and I would speak about in further detail later. One of the biggest advantages of this flowsheet is the ability to leverage existing RKF or rotary kiln electric furnace operations. That's the first two steps in the process seen on the upper left-hand side of the red part of the flowsheet, which there are dozens of lines of these globally.

In the early phases of the project to high value and marketable nickel, copper, cobalt intermediates along with our manganese silicate at very low and possibly zero onshore capital costs. This starter approach to get into rapid commercial production de-risk the project and generate cash flow with a very low capital requirement is a key differentiator of The Metals Company.

As our commercial production increases, we'll need to construct our own facilities as the volume of our production will exceed existing processing infrastructure globally. The flowsheet employs existing nickel technologies, which each element having substantial commercial precedence. By using a conventional flowsheet, we can streamline development costs and timeline and be confident in our capital estimate, as is based on an analogous plants that have been constructed with known costs.

We at The Metal Company achieved what we believe is the lowest possible solid waste metals project. How did we achieve this? First, the nodule surface is at the seafloor, so there's no overburden removal or mining waste. Then, the nodules are high and useful metal grades and remarkably low and elements toxic to human health or the environment, so we are able to produce byproduct aggregate.

We have the ability to select our process plant site, which ensures a market for the aggregate to the other byproducts. Next, our flowsheet design allows for the relatively small streams of refinery residue to be recycled to the smelter. This also helps increase our recoveries. Lastly, we have made reagent decisions that produce byproducts instead of waste. Although there is a small direct economic cost of these decisions, we're committed to ESG values and believe that the indirect benefits outweigh these costs.

In stark contrast to our zero-waste project, to obtain nickel, copper, cobalt, and manganese, present mining operations in Indonesia are having a devastating impact on a unique and fragile ecosystem. The small area of Sulawesi in the Moluccas is renowned for biodiversity and endemic species. This is the area that almost all the world's nickel production growth in the last 10 years has been from. Unfortunately, the mining is not being done responsibly.

In this photo runoff into the ocean can clearly be seen, and it is known that exposed laterite ores contain chrome-6, a human health issue made famous by Erin Brockovich. Responsible mining would ensure that water runoff is managed and that the area is reforested. This is not happening. Back to our process development, to develop our metallurgical process, we have engaged world-class partners in Hatch, FLSmidth, and XPS, a Glencore company. The first step of piloting has been completed in the USA and the next step, smelting, is presently in progress at Sudbury, adjacent to the Glencore nickel smelting operations.

The campaign is scheduled for just two weeks from today, and our refining pilot program to produce battery-grade products is on track to begin this summer. The flowsheet will be fully demonstrated at our pilot scale by the end of the year. We're developing the onshore scope and metallurgical development according to best practices. The engineering is progressing according to established project delivery standards and with the supporting scale-up of test work and piloting progression.

Our strategy of producing high-value intermediate products at existing facility further de-risk the projects and enables fast track to production in cash flow while we develop and build out our larger-scale operations. Finally, I'd like to review some of the risks and mitigations. Firstly, there is the technology risk, which has been minimized by employing a conventional flowsheet with conventional equipment operated and established analogous commercial processes.

With respect to recoveries, it's always a risk to the recoveries assumed are not realized. In my experience, the best way to manage this risk is to use conservative estimates, calculated with analogous commercial operations as a basis, which we have done in this case. The manganese product, all indications are that the manganese product tracks a premium to the manganese benchmark ore, but if something unforeseen occurs, we have some flexibility in our process to address this.

Also, we could process the material further downstream to ensure that the value is realized. Similarly to what Jon mentioned in his resection, we have capital cost escalation, risk of favorite. This is best managed by employing established project delivery procedures and remaining disciplined with respect to scope and managing scope change.

Similarly, on schedule delays, but in addition to responsibly managing the project and being disciplined, we also have the ability to leverage existing RKF capacity in Asia to mitigate this, we can offset our production, continue processing there. I'll pass you back to Gerard now for questions. Thank you very much.

[silence]

Gerard: Thank you, Jeff, and, in fact, thank you to the whole team. I guess we could field any questions that people may have now.

Craig: Feel free as well to use the chat function. Also just get on audio and do it that way, whatever people are more comfortable with.

We have a question in the chat from **Dan Ives** at Wedbush, and maybe we can just address that. I see you, please go ahead.

Participant 1: Yes, thanks. Great, great presentation. Can you just hit on what's the biggest technological, I would say, roadblock or thing to get through, to hit the 2024 timeline? Yes, that's my first question then I'll follow up.

Gerard: We need to complete the onshore pilot processing work. We're probably three quarters through that now done. We've done it at a bench scale, we've been working on that for several years, so we would view that as a very low-risk part of it. If you look at the offshore, we'll have our pilot harvesting system in the water at the end of this year. It will be on the area for pilot trials in the middle of next year. That's a box-ticking exercise that we have to complete for the permitting process.

As you've heard today, many of the technical challenges were solved 15 years ago, when they started to collect nodules, but of course, the regulatory environment didn't exist then, so they weren't able to secure a title. I guess the third thing will be permitting. UNCLOS was really put in place to allow the development of this resource. I guess when people look at the risk when it comes to permitting, the only risk is delay. Article 15 really does help deal with that factor as well, in that, a member state could lodge this to your notice, which will basically draw a line on the time slippage.

As you've heard from the team today, there are risks to manage all the way along, but we don't see anything as binary here. We don't see anything that will stop them. They're just things that need to be managed, and we've got, as you've seen today, a fabulous team together and great partners coming together to manage all of those.

Participant 1: Great. That is super insightful. Then look, obviously, you have a first-mover advantage in terms of going after this market. Can you just talk about, are there any partnerships now, not necessarily push but more pull, that are coming to you that you might pursue, given clearly you're getting a lot more phone calls going after this market?

Gerard: Yes there are, and they come from a variety of sources. In fact, before we agreed the transaction of SOAC, we were quite close to taking an investment from-- We were negotiating with one of the oil and gas majors, and also one of the mining majors who were very attracted to the scale and quality of this resource. The transaction was so adamant that we could keep our independence. We've decided that was very important to be able to keep this track of this project on our timetable.

We absolutely are engaging with lots of people, ranging from expertise, people in the precursor market. We have had some very interesting discussion with customers and we think in time, due to some of those availability and pricing sustainability issues that I talked about, they're going to want to vertically integrate. We always also knew that we had to just move this project down the track. We know what we need to do to settle the environmental issues.

We know what we need to do for the offshore and the onshore. Fortunately, with this transaction, we've got the capital to get to the other side of production. I think as material shortages become more real, then the list of people that are going to want to get a seat at that table will only grow but we're in a pretty prime position now with this supply of capital. It's a good negotiating position to come from.

Participant 1: Thanks. Thanks for super insightful presentation.

Gerard: Great. Glad you enjoyed it.

Craig: Next up, perhaps we could go to Alexander Hacking at Citi. Alex, can you hear me?

Alexander: Yes, I can hear you. Can you hear me?

Craig: Yes, indeed.

Alexander: Hey, thanks for the presentation. I just wanted to follow up on this Article 15, which actually, you just alluded to again. I understand that there may be that the legal right that's written in there, but moving ahead without a final regulatory framework for exploitation seems like it could trigger a lot of criticism of the company and question the social licence. Maybe you could talk a little bit more about your willingness to invoke that and how that fits with the whole mission of the company. Thanks.

Gerard: UNCLOS was agreed in 1982. It had some imperfections and it was 1994 when the implementation agreement was signed, that it had some added qualities, and one of them was this Article 15. I guess it was there because they decided that developing this resource was a good thing and it should be developed for the good of all humankind. It was very descriptive on how the benefits should be shared, how the royalties should be generated, and how they should be distributed. I guess what that clause was added for was to just make sure that bureaucracy didn't slow it down.

I'd say a couple of things. Firstly, while we have access to three license areas in the CCZ, the other licenses are all held by sovereigns. They're held by France and Germany and the Baltics and China, of course, have two blocks. Singapore and Japan and Korea, the United Kingdom sponsor Lockheed Martin. I think from that perspective, you've got a lot of willingness from the players. You have China, of course, who have an insatiable appetite for these metals. You have the Western world who are trying to decouple from China, and then you have developing nations who know that they need the metals for the ongoing industrialization of their local economies. You also have the developing countries wanting access to the royalties.

I think there's a good three-way momentum that's taking place today. I also think that the final code is in good place. We think all the moving parts will be better done by the end of this year. That's the end of 2021, and we're quite certain that had it not been for COVID that code would have been in place by now. I guess when you look at this as one of the only risks that can interrupt us is time slippage. I mean, firstly, it's not for us to lodge that two-year trigger. That is the right of only one of the member states and one of the either license holders or someone who sponsors an application so it would be one of those sponsoring nations that we talked about.

We don't see putting at risk the social license at all. In fact, quite the opposite. I think that as we move forward, of course, it doesn't mean that we don't have to apply the same rigor. We have to continue to complete our environmental impact studies. Keep in mind that environmental impact, as you've seen today from Mike's presentation, in particular, isn't something that has a line drawn under it. It's an ongoing activity. Of course, with the benefit of our digital twin, we're going to allow civil society and the regulator to look and see exactly what we're up to out there.

I think transparency is one of the things that we're very committed to. Of course, there's a percentage of civil society that don't want to see any extractive industries, and they're the people that say we can recycle, or we can degrowth our way to not needing more metal extraction. You're a numbers man, you know that there's no way you can do those numbers. We don't see that as a high risk.

Alexander: Thanks, that's helpful. I guess just one more, any update on how the thinking is evolving around royalties and taxation here because clearly, that's something that's very complicated. There's going to be different jurisdictions involved and it's really a new process, in a sense, thanks.

Gerard: It's not that complicated, actually. UNCLOS was very, very prescriptive on how the royalty regime should work and it basically says that ocean metals should not be advantaged or disadvantaged by royalty compared to land-based. Last year, the Secretary had hired CRU and another consulting firm, to basically benchmark terrestrial royalty regimes. In our model, we put a number that's at the top end of that expectation, and so we don't see that as a high-risk aspect at all. As for taxation, we're a Canadian company, there'll be taxation paid the entire way along, meaning if we process nodules in the USA, then there'll be taxes paid there.

Essentially, of course, the tax take will be quite strong. I think if you look at our model, we saw around $30 billion of royalties and taxation paid just on the Nauru D area, there's more than $7 billion of royalty that will be paid to the ISA and to the sponsoring state. Of course, that's one of the benefits that gets derived from the common heritage of mankind. Of course, the bigger benefit is a lower impact of these important base metals that will be injected into the system and will stay there forever because of recycling.

Alexander: Thank you.

Craig: Next up, let's go to Mike Shlisky over at Colliers. Mike. Go right ahead, sir.

Mike Shlisky: Hey, guys, can you hear me okay?

Gerard: Yes, Mike.

Mike Shlisky: I want to ask one question that might be a little bit of an amateur hour question here but I noticed that the US is technically not a member of the ISA and I know you're officially a Canadian company, but if you're listed here, or if your officials are of a certain nationality, or if you process any of the SMLs in a certain number are there any limitations or anything that have to be done with the US joining the ISA to make that work for you or is that not an issue right now?

Gerard: No, thanks, Mike. Not at all. Firstly, while the US did not sign the 1982 UNCLOS, they did sign the 1994 implementation agreement. The US has a delegation that attend all the ISA council meetings. They're an active participant and while there are some people that speculate that the current administration might sign and ratify UNCLOS, for us, it's a non-issue. I think what the US is interested in is what do they need to do for us to locate an onshore processing plant to service North American industry.

Of course, that's one of the tremendous benefits that this resource offers, that we can put those nodules on a boat and they can sail to Texas city. You might've seen some press that we are looking at a site there with the help of one of our investors. It could also sail to Quebec or to Norway or to Asia or all the way down to Tasmania. That's one of the tremendous infrastructure bottlenecks that we do not suffer, because as you can imagine with a terrestrial project, that's a real drama if you've got to go and build another $5 billion worth of infrastructure. The fact that the USA didn't sign UNCLOS is a zero impact from our perspective.

Craig: I would also just follow up on that and expand because while it doesn't impact at all, we do pay attention, of course, to what's going on with political theater within the US. You don't have to go far to find a lot of articles and op-eds with increased focus from the Biden administration and those on Capitol Hill to some of these issues. We are in the nice position of saying, "Look, we have a very, very large resource that single-handedly could solve the nickel issues domestically for the US as well as manganese", which is actually on the critical minerals list. Despite the fact that there is global availability, it's just not really available here.

Also note there's really no primary cobalt production in the US other than maybe 600 tons per year, up at the Eagle mine in Northern Michigan. We can really check a lot of boxes in terms of the supply chain issues that everybody in DC is talking about.

To that end, the Department of Defense obviously has been active in the sector, and the Department of Energy is getting up the learning curve as well. We always make ourselves available to talk to people in the political arena and just educate them. Say, "Look, we're not asking for anything with immediacy." Eventually we may, as I noted, be pursuing the Department of Energy loan guarantee program as part of our onshore CAPEX strategy. Right now we're taking advantage of the ability to say, "Look, we can win the hearts and minds and educate people and tell them why this is a better resource and a better way to secure better metal availability for the US."

Mike Shlisky: Great. Thanks. I also want to ask secondly, about regulatory and compliance costs, I mean, to the ISA, to local countries, to the SCC, I assume to the US and Canada and other authorities. Can you outline, Craig, just broadly the cost you expect from project zero and then project one going forward, and have you budgeted any changes in that over time as a dollar amount or as a percent of sales will be appreciated?

Gerard: Well, I'd like to take that if I may. From the regulatory perspective, UNCLOS was very prescriptive about the royalties that they should be able to fund the regulation of all of the contractors. The first grab that the royalty will be from the regulator to pay for those costs. Obviously, as that increases, those excess revenues will be distributed to developing nations. The same will apply when it comes to Nauru. Let's say Nauru being our first area, they are capacity building now. They have their own seabed authority. From our perspective, we don't see it as a direct cost. It's part of that seven-plus billion dollars that we will pay in royalties out of the Nauru ground.

Mike Shlisky: I guess that makes sense. Does that include US and Canadian cost as well locally for mining rules, emissions, et cetera or is that all part of the royalty?

Gerard: Yes. It's all part of it. I think that you're talking about some regulatory costs that we will have as a normal cost of business. As far as the cost that we contribute to, that's covered by the royalty. Of course, it will be a sought-after decision where we locate those onshore processing plants, A, because of supplying those battery metals to local industry, but also because of local taxes as well.

Mike Shlisky: That makes sense. Appreciate it, guys. Great presentation.

Gerard: Thank you.

Craig: Thank you. I see a hand raised from somebody, I can't tell what the name is. If somebody else has their hand raised and would like to ask their question, please go ahead.

Well, while I let everybody agreed some questions, I would remind you, you can continue to ask questions in the chat. David Deckelbaum has a question from Cowen, which we might take. David, are you on the line?

David: I am, thanks. I appreciate the time today, Gerard and Craig. Thanks for going over everything and introducing us all to the team. I am curious, I think you laid out there's the ambition of why this company exists to harvest everything in an ecological friendly manner and really take us to a different way of minerals extraction. You also highlighted obviously the large capital intensity and the scale of this project. I'm curious you illustrated some I guess CAPEX light options, maybe you can talk to us about when those options are going to be considered or how you balance that? How do we think about this because there's obviously a significant lag between now and when you would be generating EBITDA? What would be the pressure to pursue those CAPEX light options and would that be just a short-term nature to try to prove the story more to try to collect more data so that you could raise more money? I guess, how do we think about this weighing mechanism right now?

Gerard: Well, it's a unique time. As we transition away from all of these hydrocarbons into battery metals, I describe it as putting the cart in front of the horse a little bit. A great example of that, of course, is the hidden gem that AllSeas acquired, with some financial support from us, in February last year. Normally, what you would do, of course, is you would build a pilot mining system, you'd operate it, you'd learn from it, you probably throw it away, and you build a full scale one when you receive the permit. Instead, AllSeas acquired that vessel, it's going to be used for the pilot, it's then going to have some further modifications so it can be in production, shortly after the final permit is granted.

That's a sign of the times. It's a sign of the fact that those oil and gas companies are desperate to devote their resources and talents, expertise into a new industry. We do have people we're in discussion with now, I can't mention their names, but their names you'll be very familiar with because they're the names that have supported the offshore oil and gas industry for the last several decades. It's a trade-off that we constantly make. For example, on this picture, as custodians of your capital, we're going to have a tiger-eye on return on equity.

I would love to have these production vessels you can see on the right-hand side of the screen because they'll have a lower carbon footprint. They'll afford us a lower cost return, but they're expensive. If capital becomes available, which I believe it will, then we think with the help of our bankers and we've been working with a bank in Norway firmly on this particular offshore aspect because offshore and shipping is their wheelhouse. There are some great examples where we can put out to tender these projects accompanied with our design, a shipbuilding contracts, and a long term contract and have people bid for the production and ownership of those assets.

You can expect that we're in those discussions right now. That's another reason why we're talking to Washington so much because we are making it very clear that we're a decision point. We need to have incentives, encouragement to build something in Texas City, as opposed to capital tends to be more available in Asia for these types of projects. Things have changed in the last 18 months. Does that answer your question?

David: It does. I know that there's a lot to consider here. I was also intrigued by just the balancing act as well. Maybe you can talk a bit towards just the shareholder returns or metrics that you're trying to use to govern things. It seems that the way that the initial project is designed and the NPV there, that's a combination of the best ESG footprint, and perhaps also the best shareholder returns. What guide rails are you using there to govern this? Because I think that that $2 billion refinery savings as well where you would be producing that nickel, copper, cobalt, that's also an interesting trade off that would seem to be able to accelerate production and thereby drive forward NPV. It seems like you would be compromising some of your ESG goals.

Gerard: No, we will not compromise our ESG goals. We have talked to one operator in particular, who would very much like to take that not material. The compromise there would be, we'd lose control of that material. Hence, one of the things that we always say is that we get consumer-facing brands involved in this because they are very concerned about availability, and price and sustainability. I think from that perspective, there are certain things we will not compromise on, and they begin with the ESG.

For example, we wouldn't sell that material to someone that was going to power the refinery with an inefficient energy source as an example. I think this resource affords us an enormous amount of flexibility as we make those decisions. If you were to look at it, we could collect nodules and probably sell them all to a particular country in Asia if we wanted to. You could look at the IRR on that project and say, "That's a no-brainer, why wouldn't you do it?" Of course, in the medium to long term, we could commoditize that. Often, we don't think that's in the best interest of all of our shareholders, because we're in this to build long-term value and to build one of the great company in the metals space.

Craig: Just to add on that. Sorry. I would reminder everybody too, if you're not speaking, please mute your line and perhaps Gateway can assist us on that as well. Just adding to it, the project timeline here does allow us multiple opportunities to make these different decision points, modularly. Of course, at each point, it's going to be backed up by a lot of internal analysis, a lot of analysis with financial advisors or legal advisors, discussion, of course, with a board of directors.

Each of these decisions it's not something like, "Okay, we have to pick a line in the sand and decide, are we going down the path of CAPEX light, or are we going down this path laid out?" Again, the path that we've laid out with the $7 billion of CAPEX, keep in mind that both onshore and offshore it's partnerships. How do we reduce any dilutive nature? Partnerships. Would have we already been doing offshore to reduce that CAPEX spend and what can we continue to do with more? Partnerships. That's going to be what we do to manage the financing.

Again, there are going to be several decision points that we will lay out in due course, but we are, blessed with the opportunity now to have a lot of options at our disposal.

David: Makes sense.

Craig: Thank you. I believe there was another question with a hand raised. Feel free to begin. On my screen, it shows up as IO, but if you have your hand raised, and you'd like to ask a question, we are all ears.

Alex: Hi, this is Alex Potter with Piper Sandler. Sorry, I don't know why it says IO. I'm not changing my name. I just had one question. You were talking about interfacing with governments and trying to get some help, some capital, some incentives. Obviously, it's not just governments though who are looking to try to secure these materials. There's if you go all the way downstream to the ultimate end consumer of this, whether it's battery cell manufacturers, or even consumer-facing brands, like you mentioned.

I'm interested in knowing the extent to which you're leapfrogging other traditional intermediaries, whether it's governments or supply chain partners, and talking directly to those end-users in ways that are maybe atypical for general raw materials producers. This is a matter of strategic importance to a lot of different people throughout the value chain. Anything you can comment on there would be interesting.

Gerard: Yes, great question. I think getting a new industry started, you need a lot of things to go your way because it's challenging. Particularly when it's in the mining and mental space because there are some big well-organized companies there. What has helped us in the last say seven years, in particular, has been the sad state of the oil and gas services industry. Those companies have woken up, having to master all of this expertise, these floating assets and said, "We need to be in a different business." That's why on our register you see Maersk and AllSeas probably in the big chunks of capital and not the mining companies.

Because, of course, the miners went in through their own existential crisis in 2014 and '15 when they had taken out a lot of debt. The banks were trying to call it in. What that led to was the fact that exploration budgets were cut, capital budgets were cut, and they just focused on their meeting. They focused on getting the dividend back on stream. They didn't really have, in my opinion, their eye on the horizon, and that allowed us to continue to amass the ground that we now have access to and to build partnerships with the oil and gas service companies. Now, the same thing for the consumer-facing brands.

When I say that, I mainly mean the EV customers and battery precursor guidance. I do think that there's a tremendous disruptive opportunity here for us because you could see us taking a partner such as one of those EV customers in our onshore processing plant. When normally the player there would have been one of the big resource companies. That doesn't mean we're not open to those guys. We continue to talk to them and we admire them and they have a lot of large-scale expertise that, of course, we're going to either have to hire in to supplement our current team or to form partnerships along the way.

I think we find ourselves in a unique time like I described before where you have different players in the equation and you can also parallel-run some of these things instead of being in a very linear go forward mode.

Alex: Do you think, I don't know if this is beating maybe to rose-colored glasses about the whole thing, but obviously, ESG is an important topic as well. Like you mentioned, you could if you wanted just without even breaking a sweat just find a buyer for this and maybe a region that doesn't quite emphasize ESG as much. Does that have then pricing implications from an IR stand point if you're looking at this from an investor standpoint? If you're diversifying your customer base across people who potentially not only value it from a qualitative standpoint but from also a dollars percent standpoint willing to pay more for this ESG profile? I don't know, is that realistic?

Gerard: Well, I don't think that's rose-colored at all, but we don't make any of those assumptions in our model. Do we think, and you're probably in a better position to take a view on that given what you said. We do believe that in the future, there will be premiums paid when you can measure all of this stuff and you can attribute very low environmental impacts. We know that it will affect, at least it's reported to us, but a lot of automakers will not want to buy Indonesian nickel, because of its heavy CO2 cost, and because of the tailings and because of biodiversity loss.

Of course, the Chinese are ramping up production there. They're not so concerned with some of those issues. I think going forward, that's where the social license and the very heavy investment that we're making in that environmental work will position us to be able to perhaps enjoy some premiums down the track, and will certainly mean that when you're making battery cells, that you're going to run out of options.

Craig knows the nickel market from an analyst perspective far better than I do. If you add up all of the possible and probable projects in the nickel space, they don't amount to much outside of Indonesia. I think that will make it very ideal for us, if you like, as we continue to push forward that environmental work. I must say, we haven't spoken a lot about it, but the environmental work that has been ongoing, you heard Mike say we've gathered data since 2012.

You know what the three concerns are as he outlined in his talk. The results that we're seeing are absolutely giving us a high degree of certainty around some of those points that these impacts are as we anticipated.

Craig: I think it would be important to note here that with respect to that Indonesian nickel, Jeff Donald did a great job talking about what those environmental impacts are and how to visualize them. There a lot of people who might say, "Well, Indonesia wants to do better," which they do, and they want to construct renewable facilities in some areas, and maybe that will help and maybe it will. There's just a geological reality here. This is a very low-quality nickel that is quite shallow and has a very large land footprint, and it generates a lot of tailings.

Previously, these tailings would just be dumped directly into the ocean, or there's some miners we won't name who still dump their tailings directly into rivers. Well, first of all, you can't put it behind a dam there even if you wanted to, because it's very seismic. Even if you did, let's say, dry stack tailings, which is much more expensive, there's still an additional footprint on land for where you're going to lay out all the material to get it dry. There's not really any geological way around that issue and even the IEA in their report a couple of weeks ago, they laid out the nickel carbon intensity per ton.

For some of the dirtiest nickel on the planet, it's roughly 90 tons of carbon for every one ton of nickel. Even if, let's say, you are attaching renewable power to it, you're not going down to fractions but you're still producing many dozens of tons of CO_2 per ton of nickel. This isn't something where everybody can just get together and say, we'll decide to be better, we need to be better as an industry. Even if those strides are made, there is just a geological difference to the resources that we are getting and that advantage will remain.

Gerard: Alex, one final point and that will further support, I think, premium one day and that is you might have seen we published a white paper last year, where we funded it, called *Where Should Metals for the Green Transition Come From*. If you want to look at true environmental impacts, you have to go cradle to grave, you have to go the whole way. When you look at Indonesia it's horrifying, the biodiversity loss and the tailings that have been spilled into our waterways and oceans. It's the sequestered carbon, you're ripping down these rain forest, you're killing all the plants, you're digging up all the soil.

That unleashes buckets, tons, eventually gigatons of CO_2 emissions. Because you're changing the use of that land, it means that it can't sequester carbon in the future. We're having a very pleasing amount of progress with some reputable organizations just to say, listen, if you're going to do a full LCA, you've got to get right back to the beginning, not just the life of the automobile comparing that to a diesel or a combustion engine. You've got to look at where's the source of these materials.

I always say to people, if we had our time again, surely we would conduct extractive industries in parts of the planet where there was the least life, we wouldn't go to the rain forest. If you could go to the desert and pick up rocks, you do that. That's what we have here. We have the most common desert like environment, it just happens to be covered by 4,000 meters of water.

Alex: Great, fascinating. Thanks very much you guys.

Gerard: Thank you.

Craig: Thank you Alex. I think there was a question in chat from Subash Chandra at Northland. Subash, feel free to go ahead.

Subash: Yes, thanks, Craig. Hi, everybody. I have a couple of questions that I guess are indirectly related to what you're doing but I would hope you probably have greater insight into these issues. First is, some of the automakers, I guess end users of batteries, they've asked for or are seeking environmental certifications along the supply chain. I was wondering if you're aware of the progress of these, what sort of standards they might have, and the credibility of these certifications. Frankly, if there isn't a path for these deep-sea mine products to qualify highly when those certifications occur?

Gerard: Well, yes, it's a tremendous opportunity. I think that being able to measure everything is certainly where we're heading. We know when you start measuring things, other people will be forced to measure. Current certification needs some further development, and that's some of the conversations that I alluded to in my last comment. You need to educate people and say, "We need to change the framework here a little bit and expand it just beyond the vehicle life. We've got to go back to where these metals were sourced from."

I think from a certification perspective, we see that as a tremendous opportunity, because it's not just C02, it's tailings, it's water usage, it's the displacement of communities, it's the loss of lives. As you saw a couple of times during our presentation, and Craig just referred, land-based ore bodies just have some natural disadvantages. We're fortunate that these metals don't come with those like deleterious elements that generate tailings and waste.

I think the certification opportunity is enormous. We're making good inroads, we're starting to participate in those groups who are focused on this. We're talking to several of the certification companies. We published our own white paper, which we prepared with Berkeley University about three years ago, which was using blockchain to really track and trace. We will do that, but it won't be something that we will invest in, because there are many platforms that are focused on that now and we'll just plug straight into it.

Subash: Okay, thank you. It seems that some that have called for somewhat temporary moratorium until more is understood about deepsea mining may have unrealistic expectations as to having a green supply chain, right?

Gerard: It was an interesting move, wasn't it? The headline was a little bit misleading. What those companies said is until more science studies are carried out, we don't want to use ocean metals. I think that you might have seen our response to that. It's like, "Okay, well. Firstly, that's what we're doing. We're in the middle of the largest ever ocean floor to surface environmental studies, but let's make sure we truly understand the impact of your current supply chain. Then let's look at the impact as we scale up production."

We saw the energy agency published two weeks ago that even by 2040, maybe 10% of metals will be serviced by recycled materials. Where's the growth going to come from but we feel very, very confident in the path we're going down. We just need to keep doing it. Of course, some of those customers that I referred to before we've had a relationship with for three years. I can categorically say, we'd never, ever spoken to anyone who signed that moratorium support. I think in fairness, some of those customers were probably at the smaller end of the scale, but when you start doing the numbers on metal demands, if you're a large-scale auto maker, you got a problem on your hands. Most of those know that terrestrial supplier is not going to be the answer, so.

Craig: While recycling, Gerard, you mentioned that we can do better and improve upon it. There is the circular economy idea as well that over the next couple of decades, a lot of the batteries from aging EVs are not necessarily just going to go back into new cars, but could end up attached to renewable energy storage systems within the home or on the grid. Let's not pretend like there's a zero carbon footprint to recycling metals, for example. There's a study in Finland, I believe last month, which noted, in recycling metals, you can reduce greenhouse gas emissions on initial production basis by 38% versus getting those ores on land, well, we reduce those emissions much more.

There is always a cost but we welcome anybody who wants to talk to us, even some of the people who signed that letter. We sent an open letter, we want to be able to have these discussions and share data and share some of the research and put people in contact with those independent researchers and scientists who are behind a lot of these projects. The only way we're going to solve a lot of these problems is through dialogue and continued education so we would welcome that opportunity if they would just reach out to us.

Subash: The second question headlines that perhaps Norway could be the the first deep sea miner. Do you guys have any color on the progress and the timing of that?

Gerard: I think it's safe to say that based on the information we have available to us today, the metals company will be the first company moving at scale with ocean resources. Of course, you're asking a very interesting question because it highlights how Norway, of course, have sulfides which is what they're mainly focused on. Sulfides do come with a heavier environmental cost. You've got to go down and mine them. You've got to turn big rocks into smaller rocks and then pump them into the surface. They do have some nodule fields, but they don't contain viable grades of the core metals. They're mainly hydroxides. They're iron and manganese. This is one little patch of the ocean, the CCZ, that is of particular interest.

Mother nature kindly put it all in a very concentrated little part of the desert seafloor. As we talked about before, there's enough metals on how two licensors, the Nauru and the Tonga ground to electrify the entire passenger transport fleet in the US of A. I think that there's no doubt in a sovereign like Norway, they have a tremendous, of course, history in extractive industries from their territorial waters. I see their participation as only a good thing because I think they'll be a super responsible regulator and that's good. Of course, many companies have made their fortune on those industries and they operate to an exceptionally high standard.

There's a chart that I used to use that show the barrels of oil coming out of the Gulf of Mexico in 1961 and then compared it to what happened in 2001. You can imagine the difference in scale was just enormous. I think that the same thing is going to happen here. This is an industry that's just getting started and it just so happens that we've got the best round. I think we're well-positioned. Whether if we roll the clock forward 20 or 30 years, I'm absolutely certain that a high percentage certainly of nickel and cobalt and manganese, copper is such a big market, of course, will be coming from polymetallic nodules and, hopefully, off our licensors.

Subash: Good stuff, guys. Thank you.

Craig: Thank you. I see we have five minutes left budgeted. If you have any other questions or follow-ups, please feel free. I also take this moment to remind you that we will be posting the PDF, the presentation you saw on our website. You can also contact us via email and all the contact information has been provided in PDF as well, but I'm craig@metal.co if you'd just like to reach out and have some follow-ups as well. I'll pause for a moment and wait to see if anybody else wants to come to be the front of queue.

[silence]

Perhaps then Gerard, we can wrap up with some closing remarks, but I just wanted to thank everybody for their participation. You've all been asking lot of great questions, and as you continue to do work and prepare initiation or want to follow up on any items, we are happy to connect you to a very deep bench that I think you've witnessed today. People that are very passionate about these ideas and have a lot of experience and the wherewithal to actually execute them.

Gerard: Yes, absolutely. Thank you everyone for your attendance and interest. We're super excited about moving the metals company into the public arena. Of course, one of the reasons is to get access to the capital, which this transaction does; to get us into production, but also just to give us a bigger stage to be able to tell this very, very important story. Obviously, the analyst community is going to be super important to our future, and so we look forward to a lot of engagement going forward. Thank you for putting the time aside today.

[silence]

Craig: Thank you all.

About DeepGreen

DeepGreen Metals Inc. is a Canadian explorer of lower-impact battery metals from seafloor polymetallic nodules, on a dual mission: (1) supply metals for the clean energy transition with the least possible negative environmental and social impact and (2) accelerate the transition to a circular metal economy. The company through its subsidiaries holds exploration and commercial rights to three polymetallic nodule contract areas in the Clarion Clipperton Zone of the Pacific Ocean regulated by the International Seabed Authority and sponsored by the governments of Nauru, Kiribati and the Kingdom of Tonga. In March 2021, DeepGreen announced that it had entered into a business combination agreement with Sustainable Opportunities Acquisition Corporation (SOAC) to accelerate project development and become a publicly traded company on NASDAQ as 'The Metals Company'. More information is available at deep.green.

About Sustainable Opportunities Acquisition Corporation

Sustainable Opportunities Acquisition Corporation is a SPAC formed for the purpose of entering into a business combination with one or more businesses. While the Company may pursue a business combination in any industry, the Company intends to focus its search for a business that exists within industries that benefit from strong Environmental, Social and Governance ("ESG") profiles. While investing in ESG covers a broad range of themes, the Company is focused on evaluating suitable targets that have existing environmental sustainability practices or that may benefit, both operationally and economically, from the founders' and management team's commitment and expertise in executing such practices. For more information, visit greenspac.com.

Important Information About the Proposed Business Combination and Where to Find It

This communication is being made in respect of a proposed business combination transaction contemplated by the business combination agreement (the "*Business Combination Agreement*"), dated as of March 4, 2021, by and among Sustainable Opportunities Acquisition Corp. ("*SOAC*"), 1291924 B.C. Unlimited Liability Company, an unlimited liability company existing under the laws of British Columbia, Canada, and DeepGreen Metals Inc., a company existing under the laws of British Columbia, Canada (the "*Company*" or "*DeepGreen*") and other concurrent agreements related thereto (together, the "*Business Combination*"). In connection with the proposed Business Combination, SOAC has filed with the U.S. Securities and Exchange Commission's ("*SEC*") a Registration Statement on Form S-4, including a preliminary proxy statement/prospectus. **SOAC's shareholders and other interested persons are advised to read the preliminary proxy statement/prospectus and, when available, any amendments thereto and the definitive proxy statement/prospectus as well as other documents filed with the SEC in connection with the proposed Business Combination, as these materials will contain important information about DeepGreen, SOAC, and the proposed Business Combination.** When available, the definitive proxy statement/prospectus and other relevant materials for the proposed Business Combination will be mailed to shareholders of SOAC as of a record date to be established for voting on the proposed Business Combination. Shareholders will also be able to obtain copies of the preliminary proxy statement/prospectus, the definitive proxy statement/prospectus, and other documents filed with the SEC that will be incorporated by reference therein, without charge, once available, at the SEC's website at www.sec.gov, or by directing a request to: Investors@soa-corp.com.

Participants in the Solicitation

SOAC and its directors and executive officers may be deemed participants in the solicitation of proxies from SOAC's shareholders with respect to the Business Combination. A list of the names of those directors and executive officers and a description of their interests in SOAC will be included in the proxy statement/prospectus for the proposed Business Combination and be available at www.sec.gov. Additional information regarding the interests of such participants will be contained in the proxy statement/prospectus for the proposed Business Combination when available.

DeepGreen and its directors and executive officers may also be deemed to be participants in the solicitation of proxies from the shareholders of SOAC in connection with the proposed Business Combination. A list of the names of such directors and executive officers and information regarding their interests in the proposed Business Combination will be included in the proxy statement/prospectus for the proposed Business Combination.

Forward Looking Statements

Certain statements made herein are not historical facts but are forward-looking statements for purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995. Forward-looking statements generally are accompanied by words such as "*believe*," "*may*," "*will*," "*estimate*," "*continue*," "*anticipate*," "*intend*," "*expect*," "*should*," "*would*," "*plan*," "*predict*," "*potential*," "*seem*," "*seek*," "*future*," "*outlook*" and similar expressions that predict or indicate future events or trends or that are not statements of historical matters. These forward-looking statements include, without limitation, SOAC and DeepGreen's expectations with respect to future performance, development of its estimated resources of battery metals, potential regulatory approvals, and anticipated financial impacts and other effects of the proposed Business Combination, the satisfaction of the closing conditions to the proposed Business Combination, the timing of the completion of the proposed Business Combination, and the size and potential growth of current or future markets for the combined company's supply of battery metals. These forward-looking statements involve significant risks and uncertainties that could cause the actual results to differ materially from those discussed in the forward-looking statements. Most of these factors are outside SOAC's and DeepGreen's control and are difficult to predict. Factors that may cause such differences include, but are not limited to: the occurrence of any event, change, or other circumstances that could give rise to the termination of the Business Combination Agreement; the outcome of any legal proceedings that may be instituted against SOAC and DeepGreen following the announcement of the Business Combination Agreement and the transactions contemplated therein; the inability to complete the proposed Business Combination, including due to failure to obtain approval of the shareholders of SOAC and DeepGreen, certain regulatory approvals, or satisfy other conditions to closing in the Business Combination Agreement; the occurrence of any event, change, or other circumstance that could give rise to the termination of the Business Combination Agreement or could otherwise cause the transaction to fail to close; the impact of COVID-19 on DeepGreen's business and/or the ability of the parties to complete the proposed Business Combination; the inability to obtain or maintain the listing of the combined company's shares on NYSE or Nasdaq following the proposed Business Combination; the risk that the proposed Business Combination disrupts current plans and operations as a result of the announcement and consummation of the proposed Business Combination; the ability to recognize the anticipated benefits of the proposed Business Combination, which may be affected by, among other things, the commercial and technical feasibility of seafloor polymetallic nodule mining and processing; the supply and demand for battery metals; the future prices of battery metals; the timing and content of ISA's exploitation regulations that will create the legal and technical framework for exploitation of polymetallic nodules in the Clarion Clipperton Zone; government regulation of deep seabed mining operations and changes in mining laws and regulations; environmental risks; the timing and amount of estimated future production, costs of production, capital expenditures and requirements for additional capital; cash flow provided by operating activities; unanticipated reclamation expenses; claims and limitations on insurance coverage; the uncertainty in mineral resource estimates; the uncertainty in geological, hydrological, metallurgical and geotechnical studies and opinions; infrastructure risks; and dependence on key management personnel and executive officers; and other risks and uncertainties indicated from time to time in the final prospectus of SOAC for its initial public offering and the proxy statement/prospectus relating to the proposed Business Combination, including those under "Risk Factors" therein, and in SOAC's other filings with the SEC. SOAC and DeepGreen caution that the foregoing list of factors is not exclusive. SOAC and DeepGreen caution readers not to place undue reliance upon any forward-looking statements, which speak only as of the date made. SOAC and DeepGreen do not undertake or accept any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements to reflect any change in its expectations or any change in events, conditions, or circumstances on which any such statement is based.