

QUEENSLAND
PACIFIC METALS

TECH Project Pre-Feasibility Study

Investor Presentation

December 2019



Pure Minerals Limited

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COMPETENT PERSON STATEMENT: Information in this presentation relating to the processing and metallurgy is based on technical data compiled by Mr Boyd Willis, an Independent Consultant trading as Boyd Willis Hydromet Consulting. Mr Willis is a Fellow and Chartered Professional of The Australasian Institute of Mining and Metallurgy (AusIMM). Mr Willis has sufficient experience which is relevant to metal recovery from the style of mineralisation and type of deposits in New Caledonia where the ore will be sourced (from third parties pursuant to an ore supply agreement) and to the activity which they are undertaking to qualify as a Competent Person under the 2012 Edition of the 'Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves'. This includes over 21 years of experience in metal recovery from Laterite ores. Mr Willis consents to the inclusion of the technical data in the form and context in which it appears.



Townsville Energy Chemical Hub – “TECH Project”

- Criticism of the Australian Resources Sector is the lack of downstream processing
- TECH Project to reverse this trend by processing external ore sources to produce value-added chemicals for the emerging battery sector

New Caledonia:
Importation of up to 600ktpa high grade Ni-Co ore



Townsville:
New modern refinery supported by infrastructure and rich history of nickel production

EV Market:
26,000+ tpa Ni sulphate
& 3,000+ tpa Co sulphate
& Valuable co-products

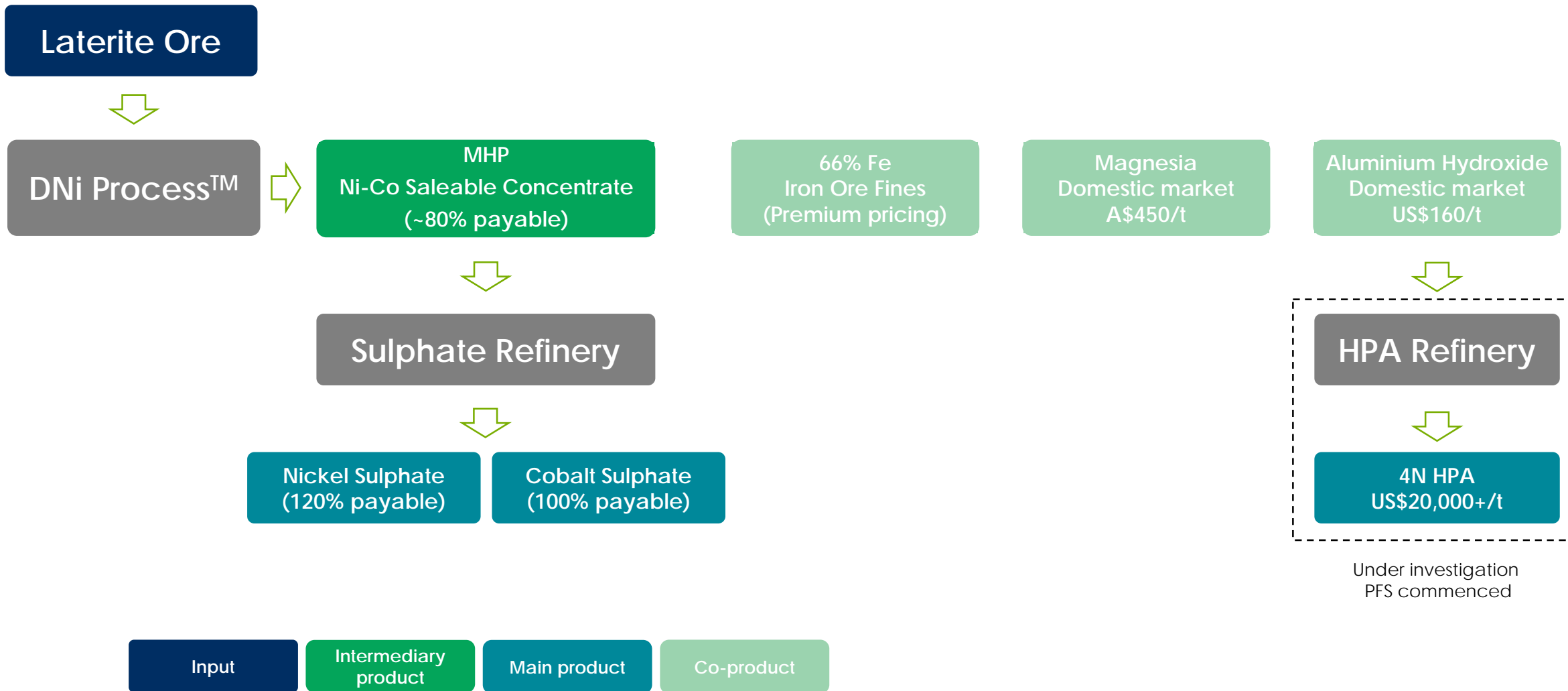


Source: Company



What will we produce?

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Under investigation
PFS commenced

TECH Project – Key PFS Results

- Lead consultant Lycopodium supported by Boyd Willis Hydromet Consulting, Xenith Consulting and Saunders Havill Group

Physicals	
Plant design life	30 years
Annual ore processed	565,714 (wet) tpa
Ni Grade	1.60%
Co Grade	0.18%
Fe Grade	46.6%
Mg Grade	3.02%
Al Grade	1.69%
Nickel sulphate	26,398 tpa (5,953t metal)
Cobalt sulphate	3,097 tpa (657t metal)
Hematite	327,665 (wet) tpa
Magnesia	20,079 tpa
Aluminium Hydroxide	9,920 tpa

Financials	
Capex	US\$300M (A\$441M)
Contingency	US\$49M (A\$72M)
Revenue ¹	A\$279M
Operating Expenditure	A\$155M
EBITDA	A\$124M
Unit costs (net of co-products and sulphate premium) ²	US\$0.56/lb nickel metal
Pre-Tax NPV ³	A\$880M
Pre-Tax IRR	25.7%
Post Tax NPV ³	A\$568M
Post Tax IRR	20.1%

1. Refer to page 6 for assumptions

2. Refer to page 7 for assumptions

3. Discount rate 8%

Modest scale project expected to deliver strong financial returns



Revenue and Production

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Nickel Sulphate 26,398 tpa	Cobalt Sulphate 3,097 tpa	66% Fe Iron Ore Fines 327,665 (wet) tpa	Magnesia 20,079 tpa	Aluminium Hydroxide 9,920 tpa
US\$7.00/lb + US\$2.00 sulphate premium	US\$25.00/lb	US\$85/t + 20% high grade premium	A\$450/t	US\$160/t



Significant increased revenue potential from production of HPA

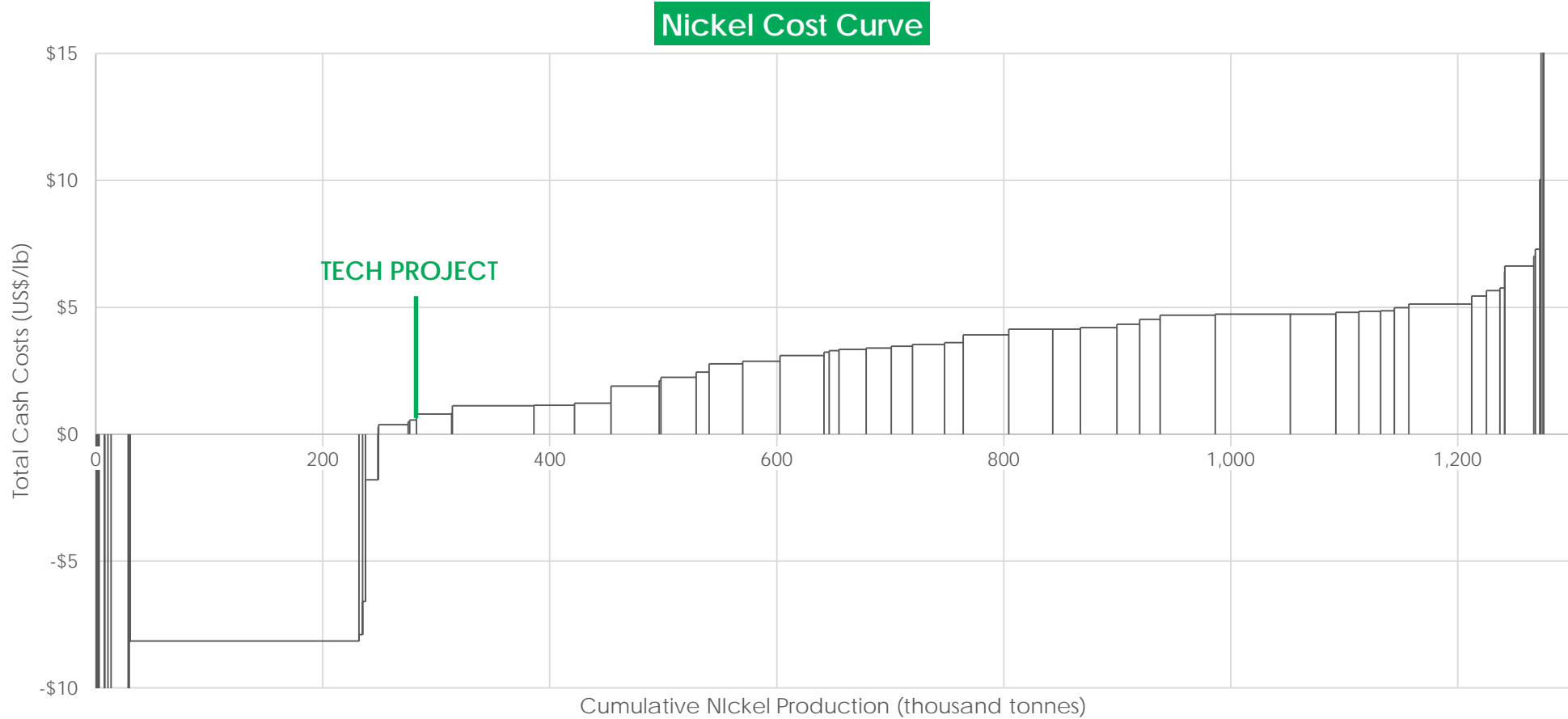
Assumes AUD:USD exchange rate of 0.68

Risk diversification with revenue from various products



Benchmarking

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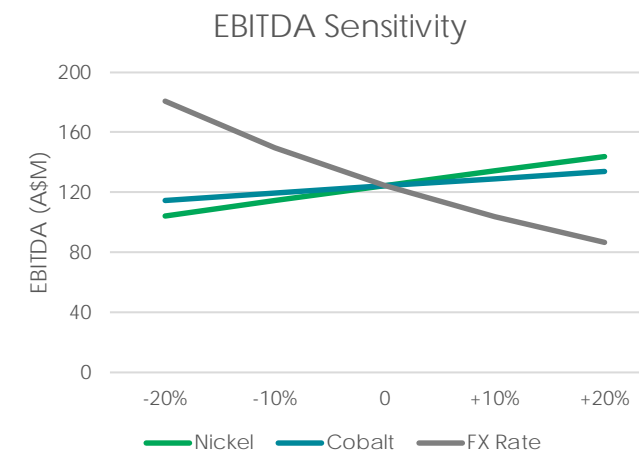
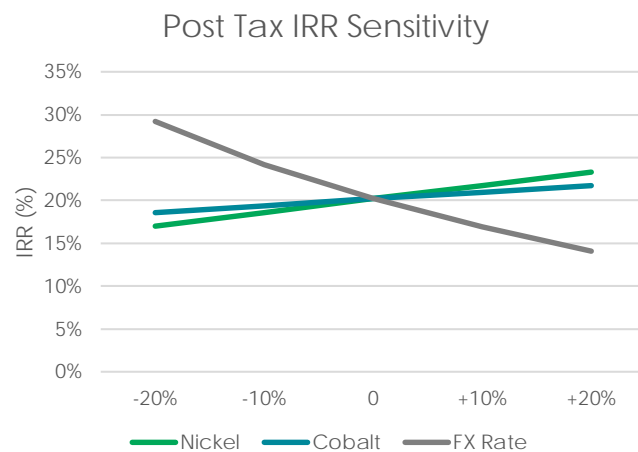
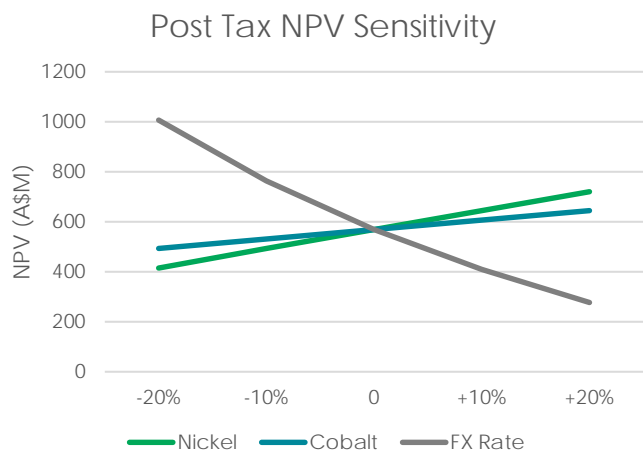


Source: Mine Economics, Mine Economics covers 52% of 2019 global recovered nickel production, Terra Studio

Potential to become a first quartile nickel cost producer - \$0.56/lb after credits

Sensitivity Analysis

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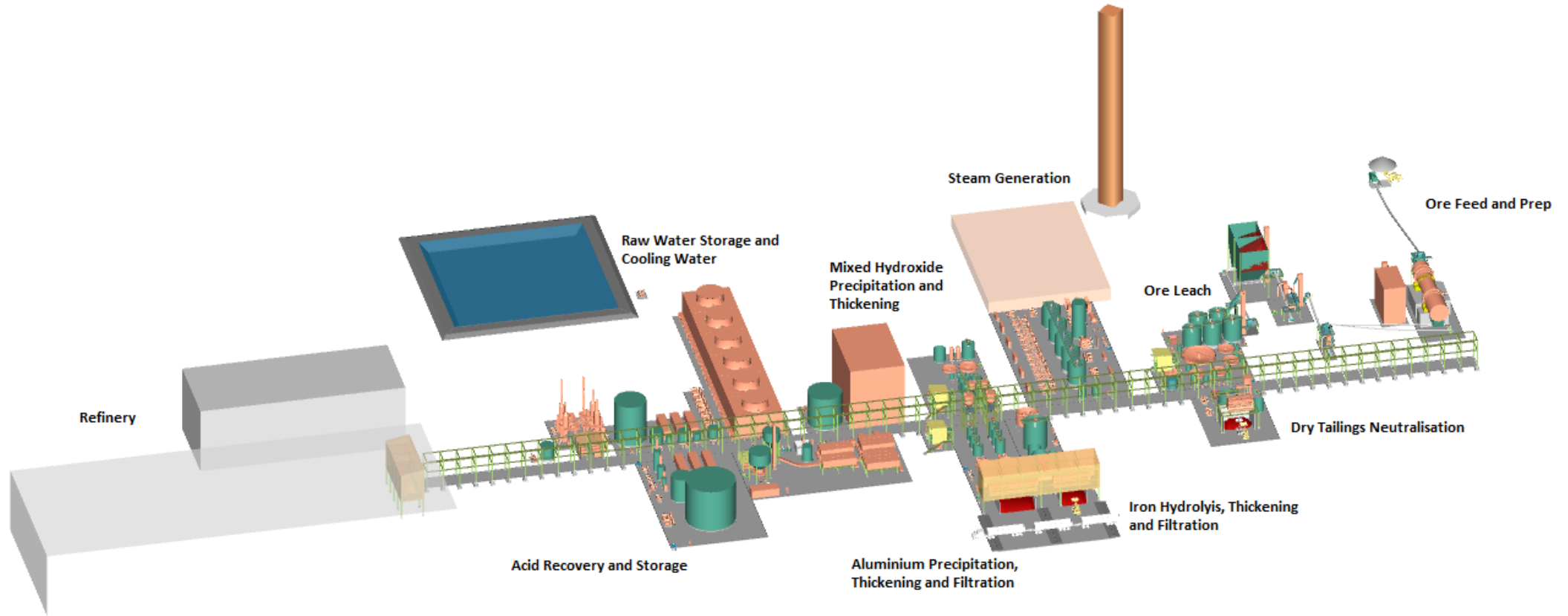
A\$M	-20%	-10%	Base Case	+10%	+20%
Nickel	413	491	568	644	720
Cobalt	493	530	568	605	642
FX Rate	1,005	762	568	409	276

%	-20%	-10%	Base Case	+10%	+20%
Nickel	17.0%	18.6%	20.1%	21.7%	23.3%
Cobalt	18.6%	19.4%	20.1%	20.9%	21.7%
FX Rate	29.2%	24.2%	20.1%	16.9%	14.1%

A\$M	-20%	-10%	Base Case	+10%	+20%
Nickel	104	114	124	134	144
Cobalt	114	119	124	129	134
FX Rate	181	149	124	104	86

Significant exposure to upside whilst remaining financially robust in downward cycle

Plant Layout



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DNi Process™ vs HPAL

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	DNi Process™	HPAL	Benefit
Acid Leach	<ul style="list-style-type: none"> Nitric acid leach Atmospheric conditions Acid is recycled 	<ul style="list-style-type: none"> Sulphuric acid leach High pressure and temperature 	<p>Reduced capex – “off the shelf” equipment used for plant construction. No exotic materials required</p> <p>Reduced opex – ~95% acid recovery</p>
Co-Products	<ul style="list-style-type: none"> Recovery of all valuable metals in laterite ore 	<ul style="list-style-type: none"> Only recovers nickel and cobalt 	<p>Revenue – increased revenue and greater diversification</p>
Tailings	<ul style="list-style-type: none"> Benign residue ~50% of ore reports to tailings 	<ul style="list-style-type: none"> Residue must be neutralised with the addition of lime and limestone Resultant tailings footprint is greater than input ore 	<p>Environmental – friendlier solution with no requirement of tailings dam due to acid recovery</p> <p>Reduced capex – no capex required for tailings dam</p> <p>Reduced bonding – no significant environmental bond required for tailings dam</p>
Scale	<ul style="list-style-type: none"> Modest scale plant can be feasible 	<ul style="list-style-type: none"> Typically required large scale to be economic 	<p>Modest scale – reduced risk profile, less funding required, modular construction possible</p>



Opportunities to Add Value

- The PFS identified a number of opportunities to optimise the project and add value which will be investigated as part of ongoing work programs:
 - Production of HPA from aluminium hydroxide co-product (PFS commenced)
 - Upgrading hematite to pig iron
 - Assessment of various process and infrastructure options to reduce capex
 - Evaluation of alternatives for recovery of energy to reduce costs
 - Assessment of the use of residue for earthworks and engineering applications
 - Recovery of scandium to produce scandium oxide
 - Production of tailored nickel-cobalt-manganese (NCM) or nickel-cobalt-aluminium (NCA) precursor products for supply direct to battery manufacturers

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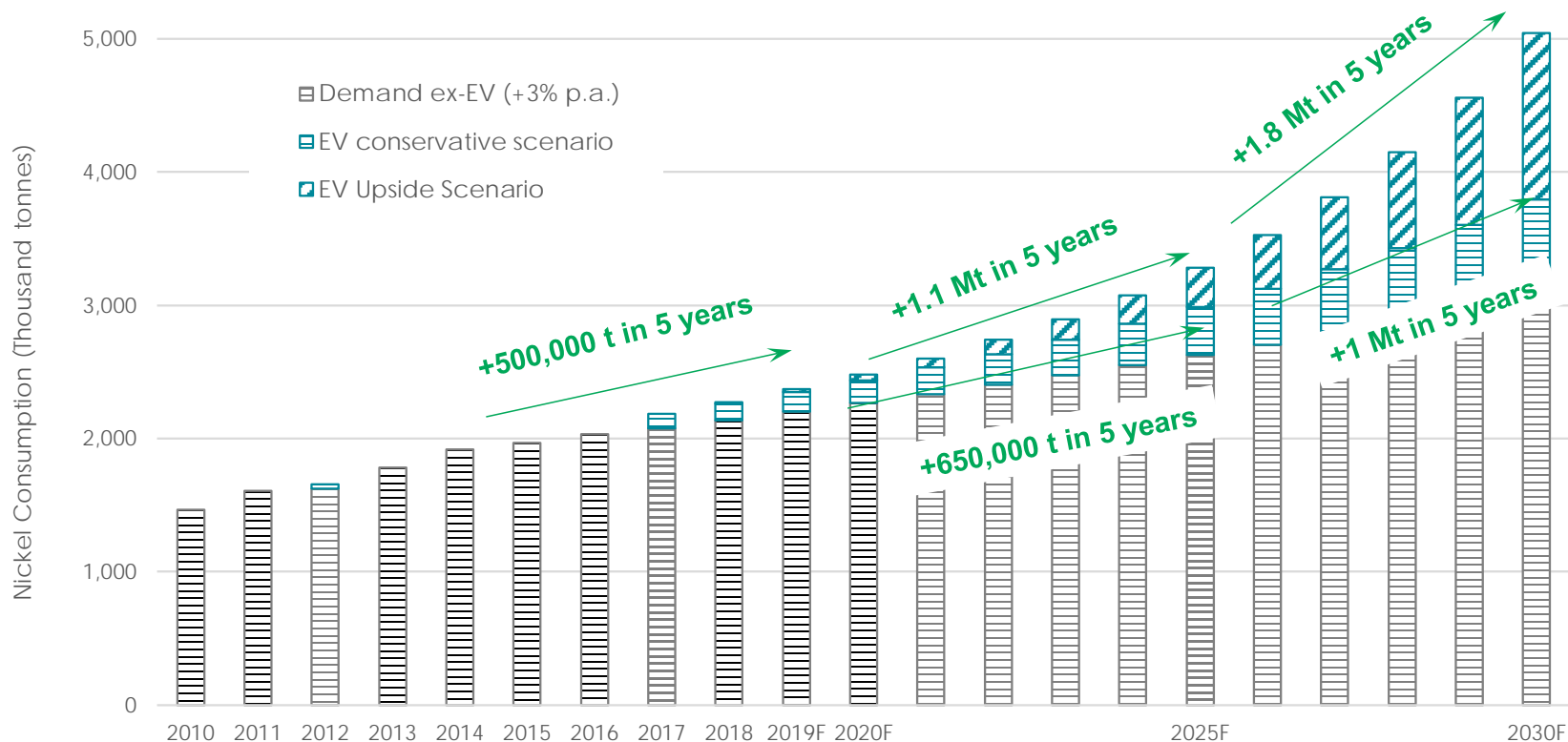
Achievements and Next Steps

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- ✓ Secured high grade Ni-Co Ore supply agreement
 - ✓ Land allocation in Townsville for plant development
 - ✓ Strong macro fundamentals in nickel and EV market
 - ✓ Produced nickel and cobalt sulphate in lab testwork
 - ✓ Produced 4N HPA in lab testwork
 - ✓ Completed PFS confirming strong economic potential
- + Commence pilot plant trials
 - + Complete PFS for HPA
 - + Commence DFS
 - + Obtain regulatory approvals
 - + Finalise land agreement
 - + Secure offtake and funding



Nickel Market Fundamentals



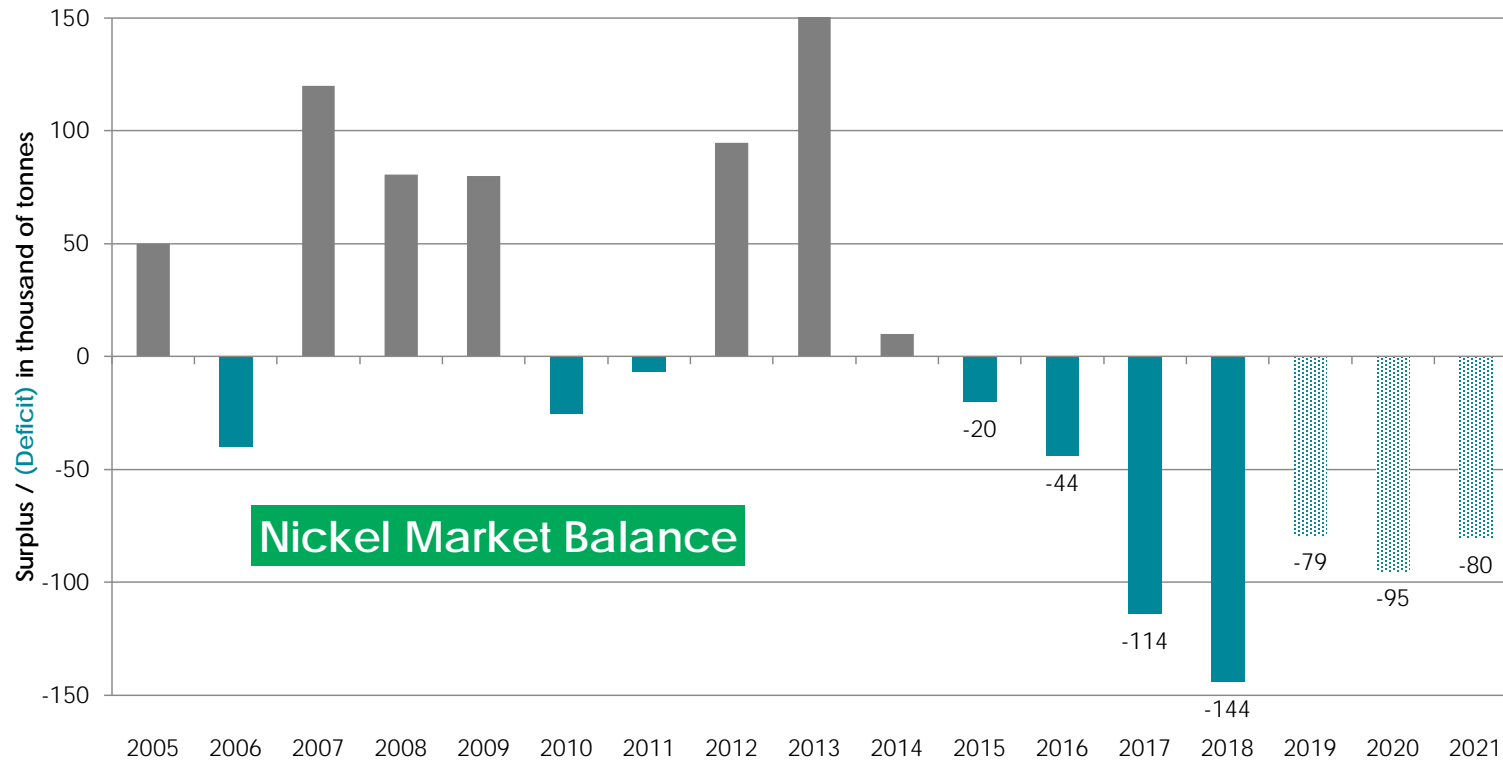
Source: Terra Studio – Nickel Market Analysis Update November 2019

Even with conservative EV uptake, nickel demand is expected to grow significantly



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Nickel Market Fundamentals



Source: INSG, S&P Global, Terra Studio

Nickel inventories remain under pressure and are at decade lows

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Contact Us

John Downie

Managing Director

E: jdownie@qpmetals.com.au

M: +61 (0) 408 329 262

W: www.pureminerals.com.au

Luke Forrestal

Media Enquiries

E: luke.forrestal@mcpartners.com.au

M: +61 (0) 411 479 144

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