

# Fundamental

## Research Corp.

*Investment Analysis for Intelligent Investors*

April 18, 2018

### New Age Metals Inc. (TSXV: NAM / OTCQB: NMTLF / FSE: P7J) – Updated Resource Estimate at River Valley / Exploring Opportunities in Alaska

**Sector/Industry: Junior Resource**

[www.newagemetals.com](http://www.newagemetals.com)

#### Market Data (as of April 18, 2018)

Current Price	C\$0.09
Fair Value	C\$0.58
Rating*	BUY
Risk*	5 (Highly Spec)
52 Week Range	C\$0.05 - C\$0.19
Shares O/S	73,238,757
Market Cap	C\$6.59 mm
Current Yield	N/A
P/E (forward)	N/A
P/B	1.9x
YoY Return	0.0%
YoY TSX	-2.8%

\*see back of report for rating and risk definitions.



Note: FRC conducted a site visit (River Valley property) in August 2011.

#### Highlights

- As expected, New Age Metals Inc. (“company”, “NAM”) announced an updated resource estimate on its River Valley PGM project in March 2018.
- The updated study showed measured and indicated resources of 4.63 Moz, and an inferred resource of 2.71 Moz PdEq (palladium equivalent).
- The new resource, based on a lower cut-off grade of 0.4 gpt PdEq, showed a 17% increase in contained PdEq ounces in the measured and indicated categories, and a 126% increase in the inferred category.
- The company is planning an aggressive drill program to test the recently discovered footwall mineralization.
- Management’s strategy is to build out a series of open pits over the 16 km trend of mineralization.
- The company will have a minimum of \$500,000 expended on two of the three drill ready lithium projects, by its partner, in 2018
- NAM also recently announced its intent to acquire a 100% interest in a PGM project in Alaska.
- The company is in a healthy cash position with \$1.52 million in the treasury at the end of January 2018.
- At an Enterprise Value of just \$1.24 per oz, we believe NAM’s shares are significantly undervalued relative to its comparables.

#### Key Financial Data (FYE - April 30)

(C\$)	2017	2018 (9M)
Cash	\$2,667,803	\$1,521,030
Working Capital	\$2,908,781	\$1,840,789
Mineral Assets	\$605,663	\$1,279,477
Total Assets	\$3,678,347	\$3,217,982
Net Income (Loss)	-\$84,251	-\$998,846
EPS	-\$0.00	-\$0.01

**Updated  
Resource  
Estimate on  
River Valley**

In March 2018, the company announced an updated resource estimate completed by WSP Canada Inc. **The new resource, based on a cut-off grade of 0.4 gpt PdEq, showed a 17% increase in contained PdEq ounces in the measured and indicated categories, and a 126% increase in the inferred category.** Measured and indicated resources stood at 4.63 Moz (0.90 gpt PdEq), and an inferred resource of 2.71 Moz (0.66 gpt PdEq). The study used prices of US\$1,000/oz Pd, US\$1,000/oz Pt, and US\$1,350/oz Au.

**2018 Resource Estimate**

cut-off: PdEq - 0.4 gpt	Tonnes (Mt)	Pd (gpt)	Pt (gpt)	Au (gpt)	PdEq (gpt)
M & I	160.7	0.44	0.17	0.03	0.90
Inferred	127.7	0.27	0.12	0.02	0.66

	PGM + Au (Moz)	PdEq (Moz)	PtEq (Moz)	AuEq (Moz)
M & I	3.30	4.63	4.63	2.60
Inferred	1.58	2.71	2.71	1.32

*Source: Company*

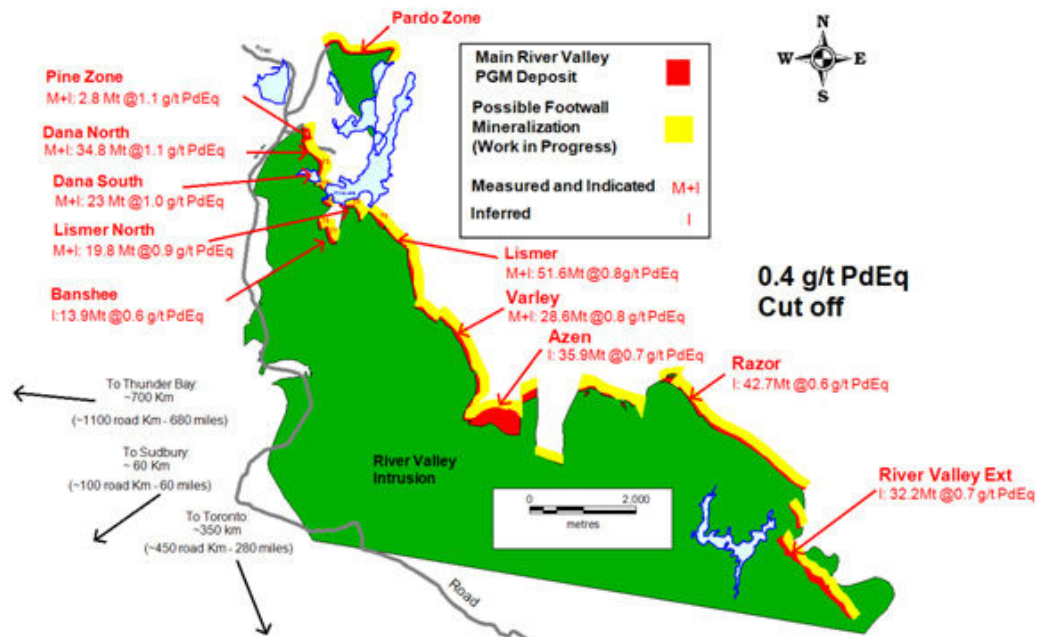
The new resource incorporated all the drilling since 2012, when the previous estimate was calculated. The 2012 estimate, using a cut-off grade of 0.8 gpt PdEq, had shown a measured and indicated resources of 3.94 Moz (1.38 gpt PdEq), and an inferred resource of 1.20 Moz (1.07 gpt PdEq).

The new estimate also included an inferred resource of 0.73 Moz on the River Valley Extension (RVE), which was acquired in 2016. Through the acquisition of the River Valley Extension project, the company extended the known strike length of the project from 12 km to 16 km.

To date, 628 holes / 140,659 m have been drilled on the project. The project is estimated to be 16 km long, 0.2 km wide, and open at depth.

The following image shows the location of the identified resource (in red). The yellow band represents the recently identified footwall mineralization that is likely to extend throughout the project. Previous drilling has confirmed the footwall mineralization to extend 150 meters eastward from the Pine zone (T2) and the T3 zone (located towards the north).

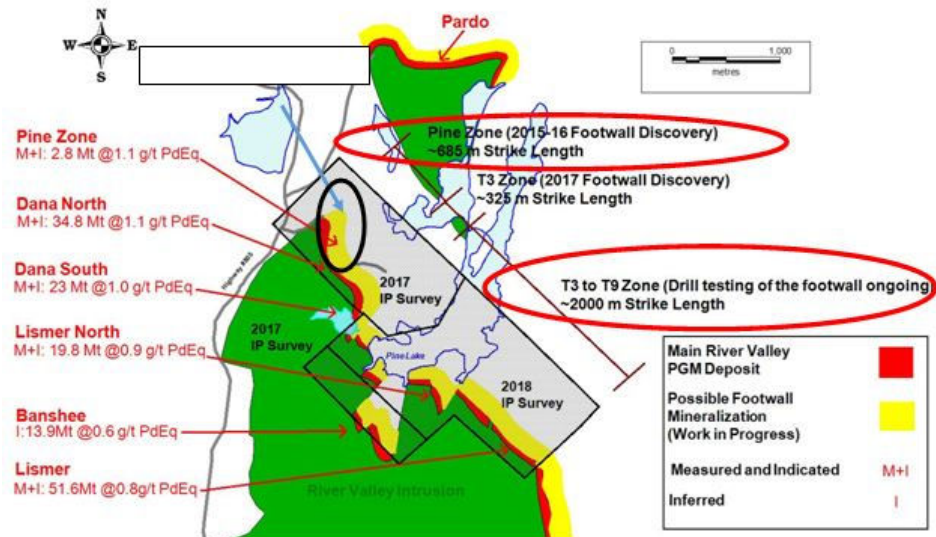
## Resource Location



Primary PGM deposits are rare outside of South Africa and Russia, and we consider River Valley to be the largest undeveloped primary PGM deposit in North America. River Valley is a primary PGM deposit, like the Lac des Iles in Ontario owned by North American Palladium (TSX: PDL) – the only pure play palladium producer in the world. NAM’ strategy is to build out a series of open pits over the 16 km trend of mineralization. Mined ore can be crushed and concentrated on site, and subsequently shipped to Sudbury.

In 2017, the company had completed a ground IP geophysical survey over the Pine zone footwall mineralization. Subsequently, another survey was completed over a 2 km strike, south of the Pine Zone, and between the T4 and T9 zones (see image below). The survey’s results will be used to identify drill targets for drill programs this year.

### Northern Portion of the Project Showing Regions of Current IP Geophysics



Source: Company

In total, approximately \$40 million has been invested on the project to date. The following chart summarizes the project's history.



Source: Company

The following points highlight, what we believe will be, the key catalysts for 2018:

- Results of the ground IP geophysics and identifying additional drill targets
- A series of drill programs along the footwall (summer/fall 2018)
- Complete mineralogical studies / the company has retained Expert Process Solutions (XPS) based in Ontario to perform studies / Phase 1 completed on four composites
- Initiate a PEA

### Significance of Cobalt

The latest resource estimate showed the presence of cobalt at 0.002%. This implies measured and indicated resources of 7.97 Mlbs, and an inferred resource of 4.41 Mlbs of contained cobalt.

Category	Tonnes	%Cobalt	Co lbs.
M&I	160,732,710	0.002	7,967,532
Inferred	127,662,000	0.002	4,411,971

*Source: 2018 Resource Estimate*

Although grades are low, we believe this is relevant in today's market considering cobalt prices are up 315% since late 2015 (from \$10 / lb to \$41.5 / lb). We have a very positive outlook on cobalt prices considering the strong expected demand growth from lithium ion batteries for electric vehicles, and because over 50% of current global cobalt production comes from the highly politically unstable Democratic Republic of the Congo.

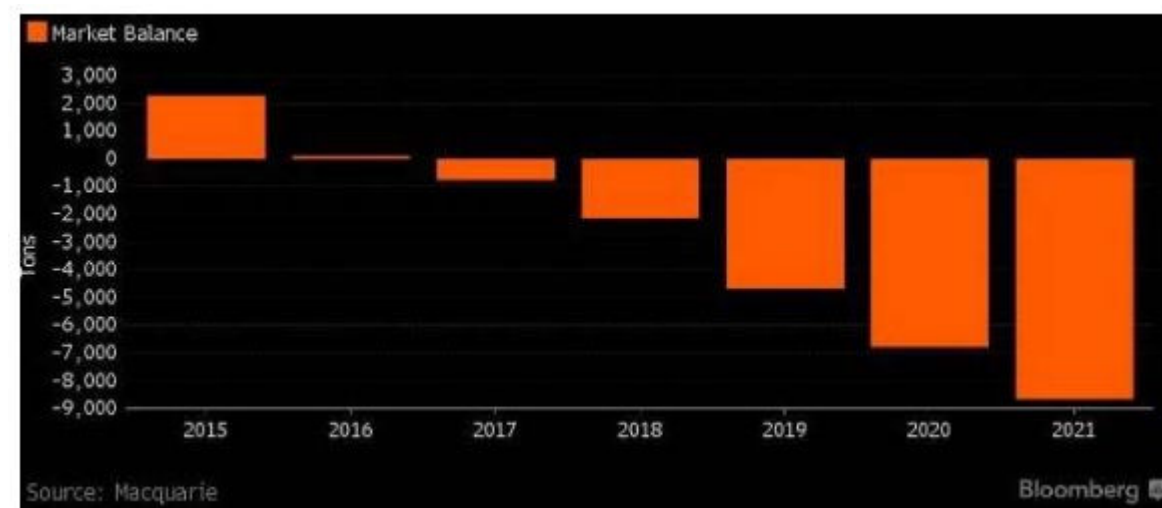


Based on the Commodities Research Unit (“CRU”) Group’s estimate of 16 million electric car and plug-in hybrid vehicle sales by 2025, we estimate the demand for cobalt, just from electric vehicles, should increase to approximately 160,000 tonnes (16 million vehicles @ 10kg of cobalt per vehicle) by 2025. The total demand from batteries was approximately 50,000 tonnes in 2016.

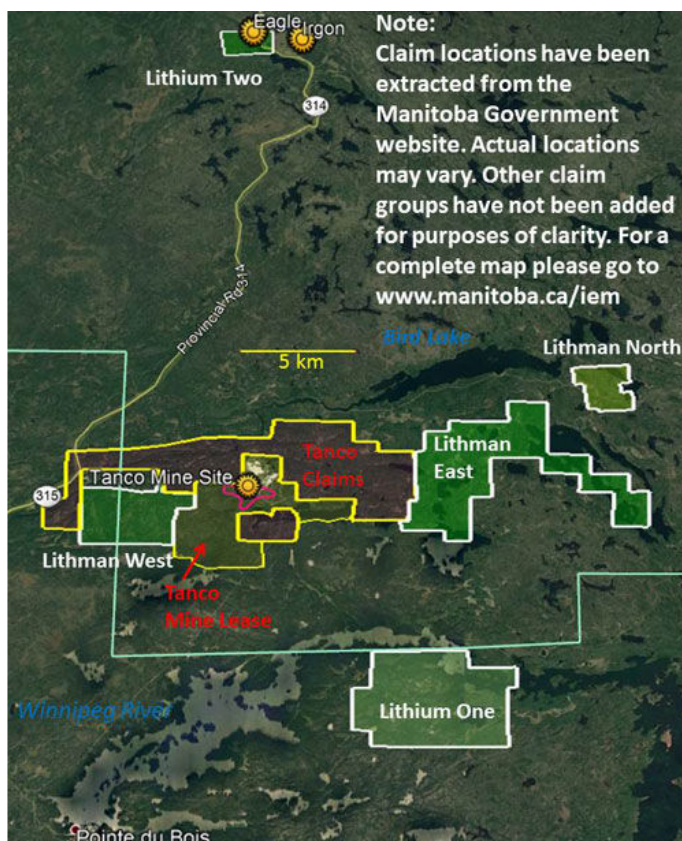
The following chart shows the expected deficit in the cobalt market. The consensus is that the market may be in a 7,000 tonne deficit by 2020.



## Lithium Assets



NAM's portfolio, covering 6,000 ha, consists of five pegmatite-hosted hard rock lithium projects in the Winnipeg River Pegmatite Field in SE Manitoba. NAM is one of the largest claim holders in the Winnipeg River Pegmatite Field. Three projects are considered to be drill ready.



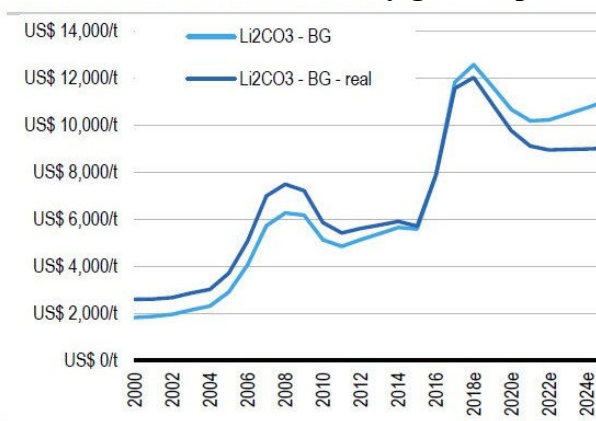
Source: Company

As discussed in our previous update in January 2018, the company entered into a definitive agreement to option out its five lithium projects in Manitoba to Azincourt Energy Corp (TSXV: AAZ). Azincourt can acquire a 100% interest in the projects in stages. Azincourt has paid NAM \$10,000, and can acquire a 50% interest for \$0.20 million in cash, paid over 18 months, and up to 1 million shares, paid over 3 years. Azincourt is required to spend \$2.1 million on exploration over 3 years. Azincourt can increase its interest to 60% by paying another 1 million shares, and spending an additional \$0.75 million on the property by October 2021. At this point, NAM will have the option to form a JV with Azincourt to jointly advance the project. If NAM decides not to exercise this option, Azincourt can increase its interest to 100% by paying another 1 million shares, and spending an additional \$1 million on the project by October 2022. NAM retains a 2% NSR on all five projects.

Azincourt is required to spend a minimum of \$0.50 million on the projects in 2018.

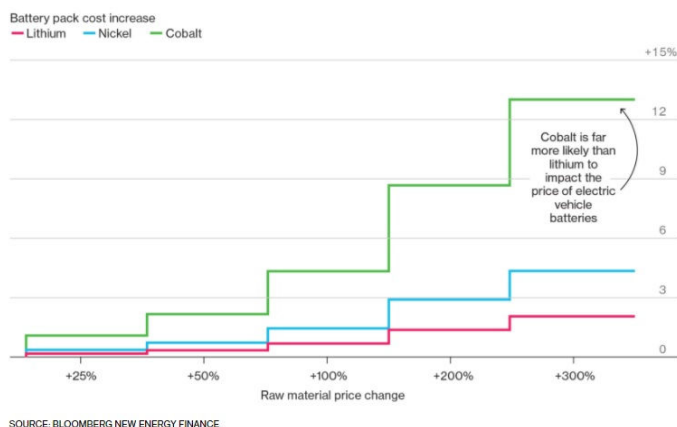
The lithium market has been gaining significant attention from investors in the recent past. We believe that declining technology costs, and a highly positive outlook on electric vehicles, will drive demand for lithium-ion batteries. Lithium prices are shown in the chart below:

#### Lithium carbonate – battery grade - prices



A recent report published by Industrial Minerals indicated that Chinese battery-grade lithium carbonate (LCE) prices are at record highs now of approximately \$23,000 to \$25,000 per ton.

Lithium has little substitution risks. The following chart shows that a 300% increase in lithium prices will only result in a 2% increase in battery costs.

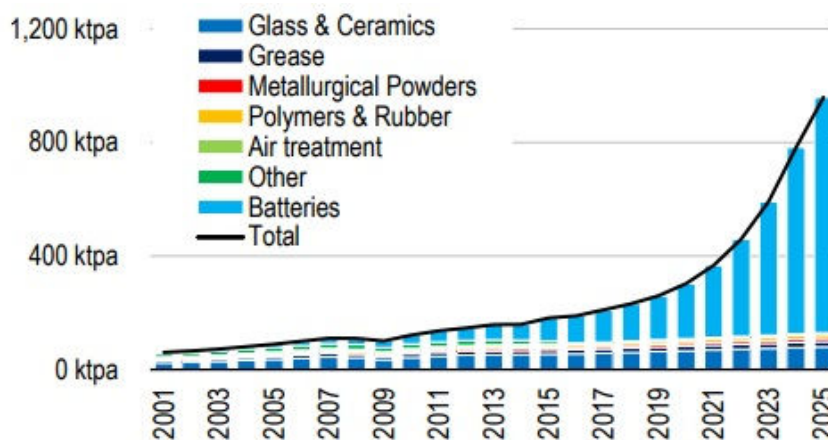


The following table shows our estimate of the expected global demand for LCE from EVs. We estimated this based on Deutsche Bank's (DB: DBK) projections for EV sales, and our estimate of the required LCE per vehicle (derived from multiple sources).

Required LCE (kg)	in millions	2015	2020	2025
1.5	Hybrid	2.9	6.9	9
11.8	Plug-in Hybrid	0.4	1.6	3.9
19.0	Full EV	0.4	1.6	2.6
	Full EV (commercial)	0.1	0.3	0.4
	<b>Total</b>	<b>3.7</b>	<b>9.5</b>	<b>16</b>
Required LCE (tonnes)		16,662	59,598	108,842

Source: FRC and Deutsche Bank

Current global annual consumption is approximately 217,000 tonnes, and EVs account for under 20,000 tonnes. As shown in the above table, an expected increase in demand to 108,800 tonnes from EVs implies that the global LCE market will significantly increase over the next decade. According to Roskill, the global consumption of LCE will reach 785,000 tonnes by 2025, and the market will be in a deficit by 26,000 tonnes. UBS estimates global consumption will reach approximately 1 Mt per year by 2025.

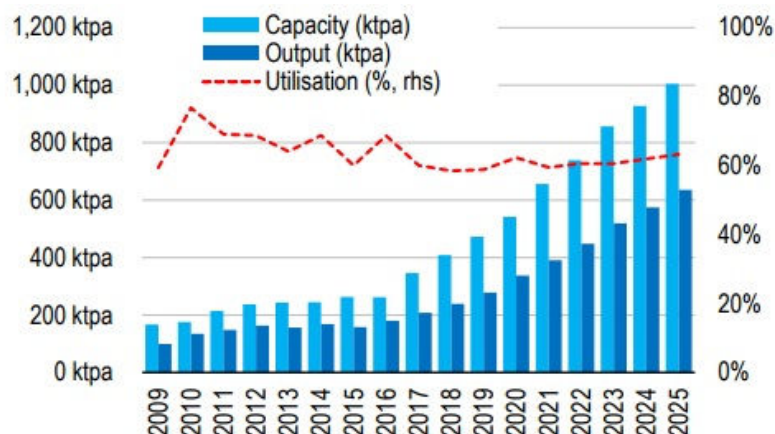


Source: UBS



*Evaluating Projects in Alaska*

The above demand projections imply that production has to reach capacity to meet demand.



Source: UBS

On April 4, 2018, NAM announced a binding Letter of Intent (“LOI”) with Avalon Development Corp., whereby Avalon will assist the company in identifying PGM / rare earth / green metals projects in Alaska. The company also disclosed that they will adopt a prospect generator model if it decides to acquire one or more projects in Alaska. We consider this a good initiative from NAM as such initiatives can possibly diversify NAM’s story, as well as bring significant upside potential if the company is able to acquire / control early stage projects with potential.

On April 18, 2018, the company announced an agreement with Anglo Alaska Gold Corp. to acquire a 100% interest in the Genesis PGM project, located in the Valdez and Chitina Recording District, south east Alaska. The acquisition price is \$120k in cash and 0.80 million in shares, paid over three years. Anglo Alaska will retain a 3% NSR, of which, 1.5% can be purchased for \$1.50 million.

According to the press release, the 10,240 acre property covers 64 contiguous claims. It is road accessible, 460 km from Fairbanks, and 120 km to the all-weather port city of Valdez. The property also has access to power.

**Location Map**



*Source: Company*

Alaska was ranked fifth in the U.S., and 14th out of 104 jurisdictions worldwide, under the Investment Attractiveness Index in the Fraser Institute 2016 mining survey. Alaska's high ranking is primarily due to its high mineral potential and stable political regime. Factors negatively affecting the ranking include infrastructure and uncertainty surrounding environmental regulations.

The property has never been drilled before. According to NAM, the Genesis PGM project is drill ready, and is highly prospective for a PGM-Ni-Cu reef style target. Grab sampling has returned values of 2.4 gpt Pd, 2.4 gpt Pt, 0.96% Ni, and 0.58% Cu. Mineralized reef has been identified in outcrops for 850 m along strike, and a 40 m true thickness, and is estimated to be open to the north, west, east and at depth.

As mentioned earlier, NAM will use a prospect generator model to advance this project.

## Financials

At the end of Q3-2018 (ended January 31, 2018), the company had cash and working capital of \$1.52 million and \$1.84 million, respectively. We estimate the company had a burn rate (cash spent on operating and investing activities) of \$164k per month in the nine months ended January 31, 2018. The following table summarizes the company's liquidity position:

(in C\$)	2017	2018 (9M)
Cash	\$2,667,803	\$1,521,030
Working Capital	\$2,908,781	\$1,840,789
Current Ratio	19.47	20.95
LT Debt / Assets	-	-
Monthly Burn Rate (incl. investing activities)	\$105,559	\$164,179
Cash from Financing Activities	\$3,281,549	\$330,841

*Source: Company Data*

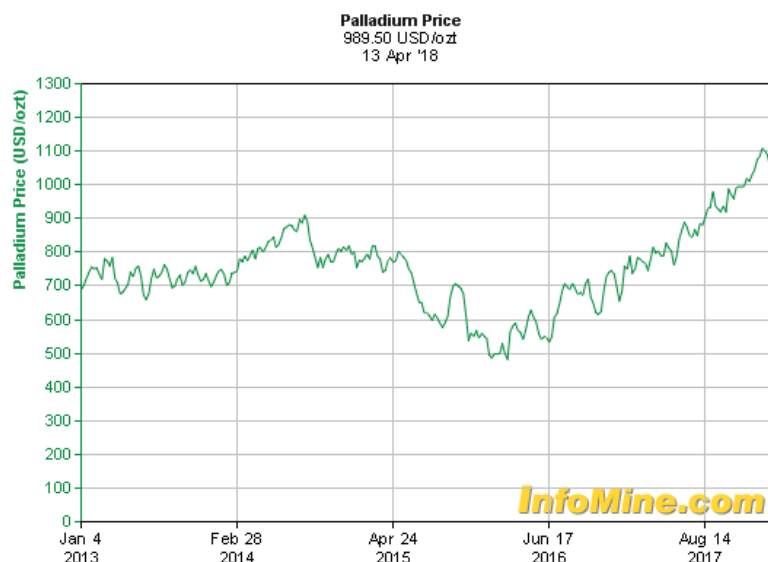
**Stock Options and Warrants**

**Update on Commodities**

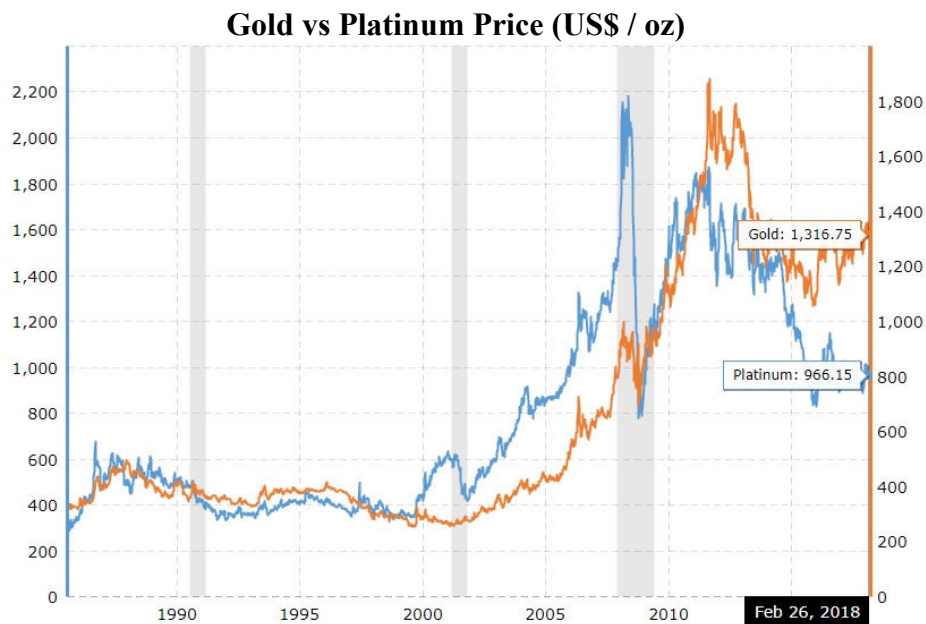
We estimate the company currently has 5.88 million options outstanding (weighted average exercise price of \$0.17 per share) and 43.09 million warrants (weighted average exercise price of \$0.19 per share) outstanding. At this time, none of the options or warrants are in-the-money.

Global platinum production was approximately 6.4 Moz., and global palladium production was approximately 6.7 Moz in 2017 (Source: USGS). In contrast, global gold production was 101 Moz in 2017. **Canada is the fourth largest platinum (6% of global), and the third largest palladium (9% of global) producer.** The U.S. imports (net) approximately 1.02 Moz of platinum (89% of its demand), and 1.34 Moz of palladium (76% of its demand) every year. The strong reliance on imports indicates the importance of PGM projects in North America.

After reaching a record high of US\$1,100 per oz, palladium prices recently softened to the current US\$990 per oz. The current price is up 98% from US\$500 per oz at the end of 2015.

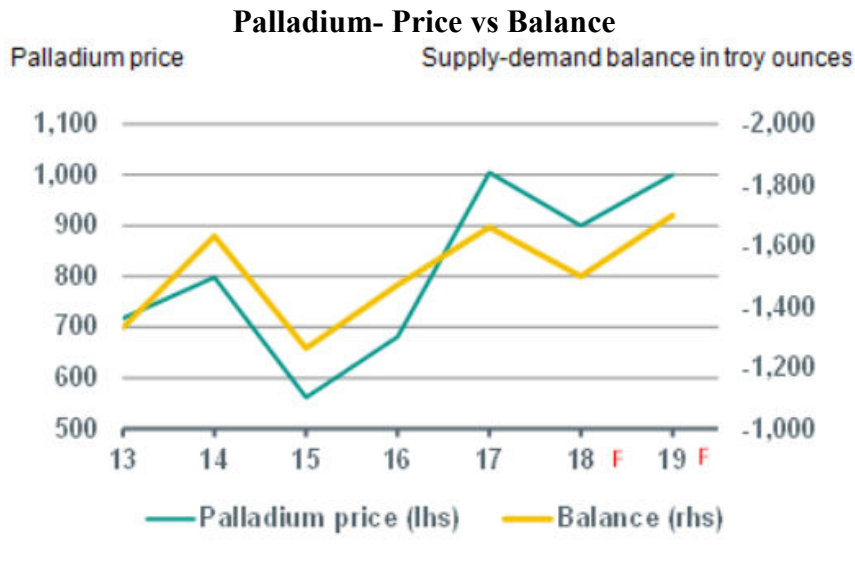


Gold had a good run in the past few weeks, and is currently at US\$1,347 per oz. Platinum continues to severely underperform, and is currently at US\$966 per oz. Note that platinum prices had hit a record US\$2,155 per oz in 2008.



Source: Macrotrends (gold in orange and platinum in blue)

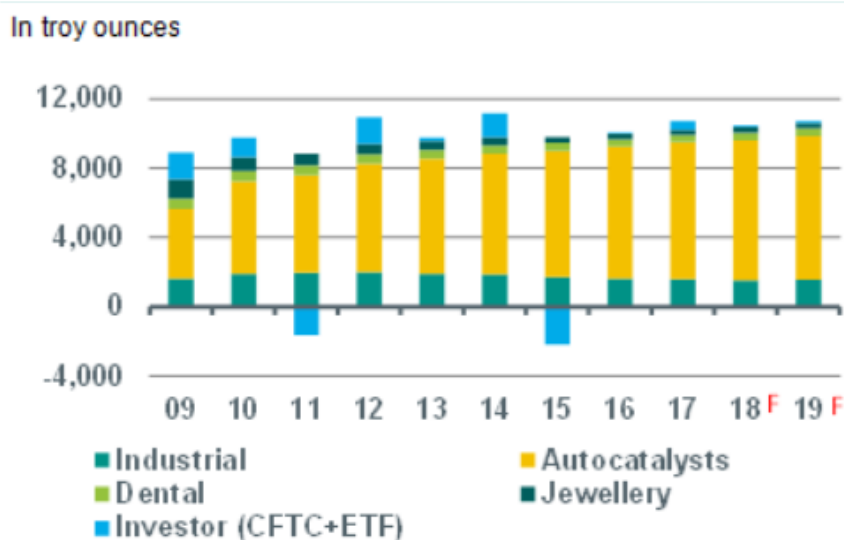
The strong increase in palladium prices was a result of the global supply deficit, as shown in the chart below.



Source: ABN AMRO / GFMS / Thomson Reuters

A key driver of the supply deficit is the demand for the metal within autocatalysts (a pollution control device), which grew at 5.3% p.a. from 2010 to 2017. The demand from autocatalysts accounted for 77% of the total demand in 2017. (Source: Metals Focus).

### Palladium Demand



Source: ABN AMRO / GFMS / Thomson Reuters

In the case of platinum, autocatalysts account for 40%, jewellery accounts for 30%, and industrial uses account for 22% of global demand. Although both palladium and platinum have significant demand from autocatalysts, the reason why platinum has underperformed is the declining market share of diesel cars (which primarily use platinum) relative to petrol cars (primarily uses palladium). Sources indicate that currently, only 7% of the autocatalysts used in petrol engine vehicles use platinum, while 73% of the diesel catalysts use platinum. **As a result of the recent surge in palladium prices, and the steep fall in platinum prices, some sources indicated that auto manufacturers are likely to consider using more platinum in their next generation petrol vehicle models.** Therefore, substitutions risks exist between the two commodities. Overall, we expect stricter emission standards to keep driving the demand for autocatalysts. The longer-term risk is the emergence of electric vehicles. Electric vehicles do not need a catalytic converter to comply with environmental regulations as they do not run on fossil fuels.

We continue to evaluate NAM' shares based on the market valuations of companies that only hold PGM projects. **At just \$1.24 per oz, NAM's shares are significantly undervalued relative to others listed in the table below.**

### Valuation



Company	Stage	Location	Reserves and M&I (PGM Moz)	Inferred (PGM Moz)	Net Resource (PGM Moz)	EV (\$, M)	EV / Resource (\$ / oz)
North American Palladium	Producer	Ontario, Canada	4.50	0.37	4.69	\$687.70	\$146.63
Platinum Group Metals	PFS	South Africa	12.44	5.40	15.14	\$118.15	\$7.80
Nickel Creek Platinum	PEA	Yukon, Canada	21.15	7.13	24.71	\$57.10	\$2.31
New Age Metals	Resource	Ontario, Canada	3.30	1.58	4.09	\$5.08	\$1.24

Net Resource – 100% of Reserves and M&I Resources + 50% of Inferred Resources.

*Source: FRC*

- North American Palladium (TSX: PDL) is the only pure PGM producer in Canada.
- Platinum Group (TSX: PTM) is in pre-production stage, and holds PGM assets in South Africa.
- Nickel Creek (TSX: NCP) holds a large PEA stage project in Yukon, Canada. Although the project holds a significant PGM resource, it is primarily a nickel project.

Due to the wide range and the volatility of EV/Resource of the companies listed in the above table, we estimate our valuation on NAM based on a multiple of \$10 per oz. **Our revised fair value estimate on NAM is \$0.58 per share versus our previous estimate of \$0.49 per share.** We maintain our BUY rating on NAM's shares.

## Risks

We believe the company is exposed to the following key risks (not exhaustive):

- The value of the company is highly dependent on PGM prices.
- Exploration and development risks.
- A PEA may take longer than expected.
- Access to capital and potential share dilution.

As with most junior exploration / development companies, we rate NAM's shares a risk of 5 (Highly Speculative).

#### Fundamental Research Corp. Equity Rating Scale:

**Buy** – Annual expected rate of return exceeds 12% or the expected return is commensurate with risk

**Hold** – Annual expected rate of return is between 5% and 12%

**Sell** – Annual expected rate of return is below 5% or the expected return is not commensurate with risk

**Suspended or Rating N/A**— Coverage and ratings suspended until more information can be obtained from the company regarding recent events.

#### Fundamental Research Corp. Risk Rating Scale:

**1 (Low Risk)** - The company operates in an industry where it has a strong position (for example a monopoly, high market share etc.) or operates in a regulated industry. The future outlook is stable or positive for the industry. The company generates positive free cash flow and has a history of profitability. The capital structure is conservative with little or no debt.

**2 (Below Average Risk)** - The company operates in an industry where the fundamentals and outlook are positive. The industry and company are relatively less sensitive to systematic risk than companies with a Risk Rating of 3. The company has a history of profitability and has demonstrated its ability to generate positive free cash flows (though current free cash flow may be negative due to capital investment). The company's capital structure is conservative with little to modest use of debt.

**3 (Average Risk)** - The company operates in an industry that has average sensitivity to systematic risk. The industry may be cyclical. Profits and cash flow are sensitive to economic factors although the company has demonstrated its ability to generate positive earnings and cash flow. Debt use is in line with industry averages, and coverage ratios are sufficient.

**4 (Speculative)** - The company has little or no history of generating earnings or cash flow. Debt use is higher. These companies may be in start-up mode or in a turnaround situation. These companies should be considered speculative.

**5 (Highly Speculative)** - The company has no history of generating earnings or cash flow. They may operate in a new industry with new, and unproven products. Products may be at the development stage, testing, or seeking regulatory approval. These companies may run into liquidity issues, and may rely on external funding. These stocks are considered highly speculative.

#### Disclaimers and Disclosure

The opinions expressed in this report are the true opinions of the analyst about this company and industry. Any "forward looking statements" are our best estimates and opinions based upon information that is publicly available and that we believe to be correct, but we have not independently verified with respect to truth or correctness. There is no guarantee that our forecasts will materialize. Actual results will likely vary. The analyst and Fundamental Research Corp. "FRC" does not own any shares of the subject company, does not make a market or offer shares for sale of the subject company, and does not have any investment banking business with the subject company. Fees were paid by NAM to FRC. The purpose of the fee is to subsidize the high costs of research and monitoring. FRC takes steps to ensure independence including setting fees in advance and utilizing analysts who must abide by CFA Institute Code of Ethics and Standards of Professional Conduct. Additionally, analysts may not trade in any security under coverage. Our full editorial control of all research, timing of release of the reports, and release of liability for negative reports are protected contractually. To further ensure independence, NAM has agreed to a minimum coverage term including an initial report and three updates. Coverage cannot be unilaterally terminated. Distribution procedure: our reports are distributed first to our web-based subscribers on the date shown on this report then made available to delayed access users through various other channels for a limited time.

The distribution of FRC's ratings are as follows: BUY (74%), HOLD (7%), SELL / SUSPEND (21%).

To subscribe for real-time access to research, visit <http://www.researchfrc.com/subscribe.php> for subscription options.

This report contains "forward looking" statements. Forward-looking statements regarding the Company and/or stock's performance inherently involve risks and uncertainties that could cause actual results to differ from such forward-looking statements. Factors that would cause or contribute to such differences include, but are not limited to, continued acceptance of the Company's products/services in the marketplace; acceptance in the marketplace of the Company's new product lines/services; competitive factors; new product/service introductions by others; technological changes; dependence on suppliers; systematic market risks and other risks discussed in the Company's periodic report filings, including interim reports, annual reports, and annual information forms filed with the various securities regulators. By making these forward looking statements, Fundamental Research Corp. and the analyst/author of this report undertakes no obligation to update these statements for revisions or changes after the date of this report. A report initiating coverage will most often be updated quarterly while a report issuing a rating may have no further or less frequent updates because the subject company is likely to be in earlier stages where nothing material may occur quarter to quarter.

Fundamental Research Corp DOES NOT MAKE ANY WARRANTIES, EXPRESSED OR IMPLIED, AS TO RESULTS TO BE OBTAINED FROM USING THIS INFORMATION AND MAKES NO EXPRESS OR IMPLIED WARRANTIES OR FITNESS FOR A PARTICULAR USE. ANYONE USING THIS REPORT ASSUMES FULL RESPONSIBILITY FOR WHATEVER RESULTS THEY OBTAIN FROM WHATEVER USE THE INFORMATION WAS PUT TO. ALWAYS TALK TO YOUR FINANCIAL ADVISOR BEFORE YOU INVEST. WHETHER A STOCK SHOULD BE INCLUDED IN A PORTFOLIO DEPENDS ON ONE'S RISK TOLERANCE, OBJECTIVES, SITUATION, RETURN ON OTHER ASSETS, ETC. ONLY YOUR INVESTMENT ADVISOR WHO KNOWS YOUR UNIQUE CIRCUMSTANCES CAN MAKE A PROPER RECOMMENDATION AS TO THE MERIT OF ANY PARTICULAR SECURITY FOR INCLUSION IN YOUR PORTFOLIO. This REPORT is solely for informative purposes and is not a solicitation or an offer to buy or sell any security. It is not intended as being a complete description of the company, industry, securities or developments referred to in the material. Any forecasts contained in this report were independently prepared unless otherwise stated, and HAVE NOT BEEN endorsed by the Management of the company which is the subject of this report. Additional information is available upon request. THIS REPORT IS COPYRIGHT. YOU MAY NOT REDISTRIBUTE THIS REPORT WITHOUT OUR PERMISSION. Please give proper credit, including citing Fundamental Research Corp and/or the analyst, when quoting information from this report.

The information contained in this report is intended to be viewed only in jurisdictions where it may be legally viewed and is not intended for use by any person or entity in any jurisdiction where such use would be contrary to local regulations or which would require any registration requirement within such jurisdiction.