13 April 2022

REEgenerate Pty Ltd exercises option to acquire 100% of REEcycle Inc

Reach Resources Limited (ASX: RR1) ("the Company" or "Reach Resources") is pleased to provide an update in relation to its recent strategic investment into REEgenerate Pty Ltd ("REEgenerate") as previously announced to ASX on 21 March 2022.

REEgenerate is an Australian private company that owns 100% of the Coconut Club REE exploration project in Quebec, Canada. REEgenerate also had an option to acquire 100% of REEcycle Inc ("REEcycle"), a US based Rare Earth Element (REE) separation and technology Company focussed on recovering REE from high powered permanent NdFeB magnets.

The Company is pleased to inform shareholders that REEgenerate has now exercised its option to acquire REEcycle, giving Reach Resources direct exposure to this company, whose future is aligned with current global social and political thinking of a cleaner, greener future through the circular economy principle.

New CEO Jeremy Bower commented "Our shareholding in REEgenerate represents an exciting addition to our portfolio of exploration assets, particularly our REE projects. We will continue to update the market on this investment in parallel with the development of our resource projects".

Highlights

- **REEcycle has developed a process that has shown at pilot scale the ability to reclaim 15 of the 17 rare earth elements in discarded permanent NdFeB magnets, with a recovery efficiency in excess of 99%**
- **The patented process developed at the University of Houston uses a proprietary solvent to safely and efficiently extract REEs from permanent magnets found in wind turbines, electric vehicles (cars, bikes, scooters), MRI machines and other electronic waste with low temperatures, low pressures, and minimal energy needs and waste**
- **REEcycle aims to provide an alternative option to traditional mined sources of rare earth metals as well as reduce supply chain uncertainty and geopolitical risk for companies reliant on these materials**
- **The global permanent magnet market size was valued at USD$17.85 billion in 2018 and is projected to reach USD$34.70 billion by 2026, exhibiting a CAGR of 8.7% during the forecast period [1], with the rare earth metals component being valued at US$5.3 billion in 2021 with only 1% of REEs sourced from recycled end of life products [2]**
- **Shanghai Metals Market (SMM) forecast recycling of NdFeB magnets is likely to be the largest growth of neodymium and dysprosium supply from 2021 to 2025**

[1] Advanced Materials: Permanent Magnets Market, 2020.

[2] Drobniak, A., and Mastalerz, M., 2022, Rare Earth Elements—A brief overview: Indiana Geological and Water Survey, Indiana Journal of Earth Sciences, v. 4.

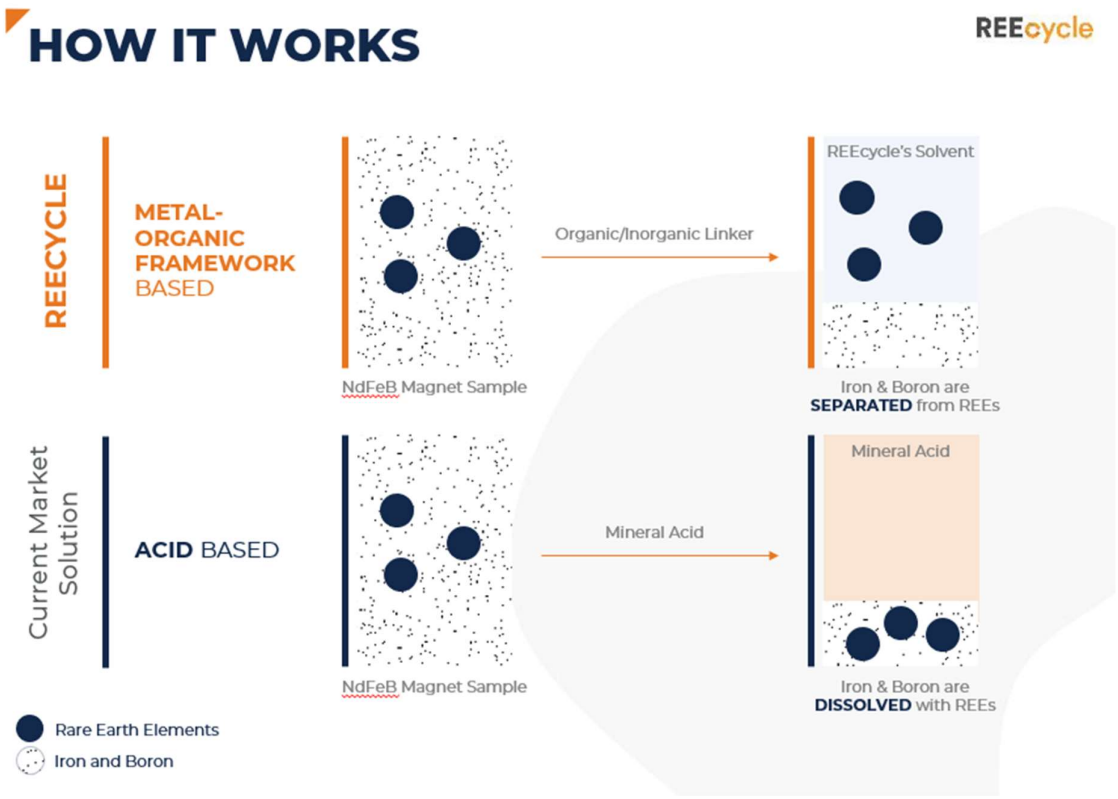


Figure 1: REEcycle Separation Technology

In pilot testing, REEcycle has been able to achieve up to **99.8% separation/recovery efficiency** of pure rare earth elements from the other materials in the magnet (Iron and Boron). The process is carried out at atmospheric pressure, under mild temperatures, producing water (pH 6) which contains Iron and Boron at concentrations compliant with those specified by municipal sewage treatment systems. **Rare Earth Oxide (REO) concentrate exists in carbonate form but can easily be converted to an oxide.**

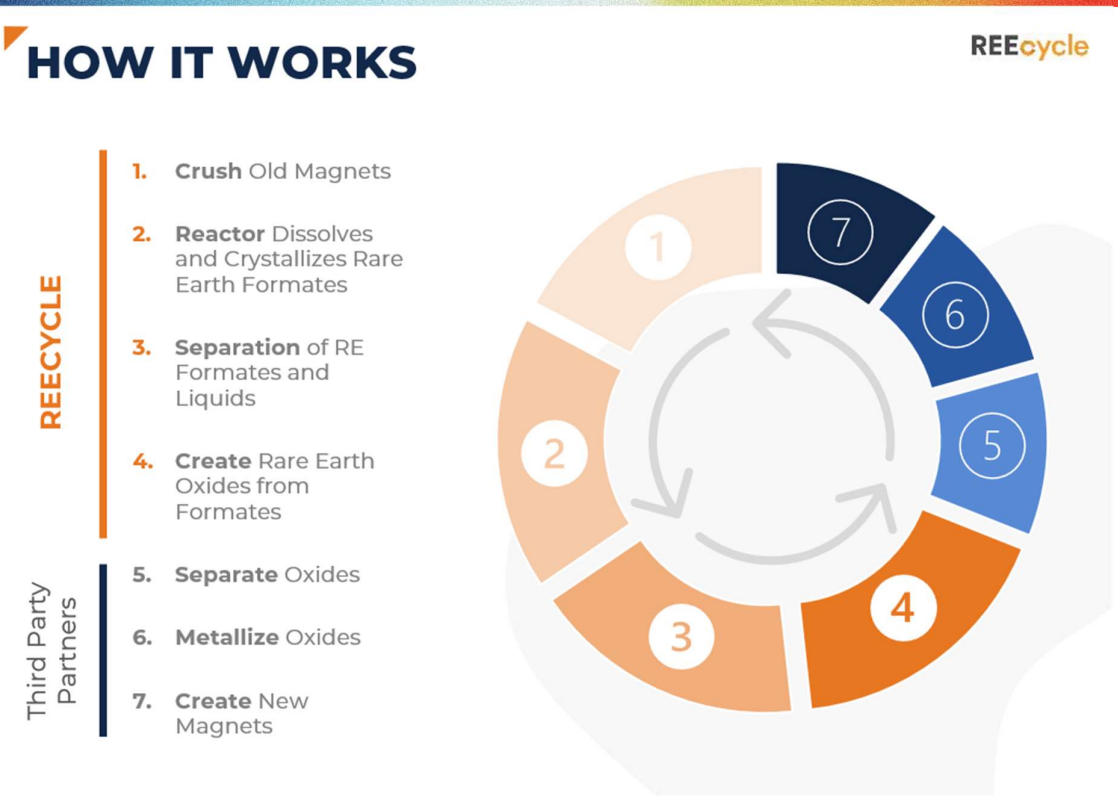


Figure 2: REEcycle Flow Sheet

REEcycle PROCESS

- Extracts using Metal-organic Frameworks (MOFs)
- Uses controlled temperatures < 100 °C
- Uses autogenous pressure
- REEs selectively grouped in crystalline structure
- Allows for simple gravity separation
- Leaves behind no acidic waste

PROCESS ADVANTAGES

- High Selectivity
- Ease of REE Isolation
- Purity of Raw Materials

ENVIRONMENTAL BENEFITS

- Low Temperature Requirements
- Low Disposal Costs
- Low Hazardous Waste
- Low Energy Consumption

Figure 3: REEcycle Technology Characteristics

REEcycle aims to provide an alternative option to traditional mined sources of rare earth metals as well as reduce supply chain uncertainty and geopolitical risk for companies reliant on these materials. Some benefits of this process include:

- New revenue stream from electronic waste
- Dependable, renewable, secure source of REEs
- Source REEs domestically
- Reduce landfill waste and support sustainable end-of-life process
- Truly circular and sustainable product
- Very low carbon footprint process.

REEcycle has received significant positive support from reputable sources like the Scientific American, stating *"With their innovative (and proprietary) approach to recycling a pair of critical rare earth materials, the REEcycle team introduced the energy industry to an innovative way to turn waste into a domestic stream of rare earth elements."*

Figure 4: REEcycle Strategy

REECYCLING VS MINING

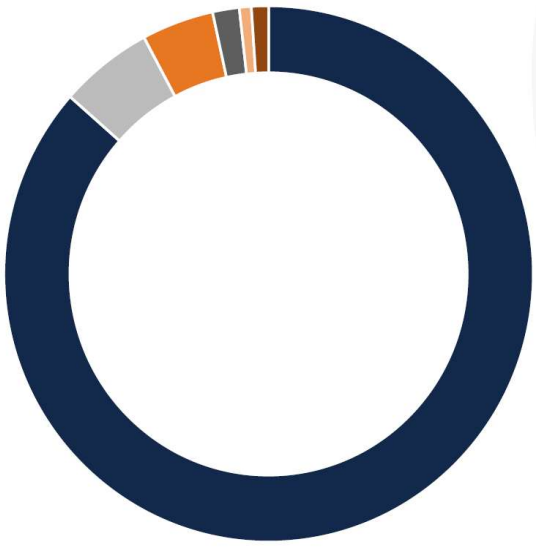
	REECYCLE	MINING
Capital Intensity	Low	High - Very High
Carbon Footprint	Very Low	High – Very High
Element Location	Collection at Source Final Process at Central Hub	At the Deposit
Impact on First Nations	Nil	Potentially Large
Permitting	Limited and Fast	Extensive and Long
Time to Market	Fast	Slow

Figure 5: REEcycle vs Rare Earth Mining

OUTPUT BREAKDOWN

REEcycle

Per kilogram from patented REE Process



86.5% Nd203
Neodymium

5.7% Pr203
Praseodymium

4.4% Dy203
Dysprosium

1.63% Tb203
Terbium

0.73% Fe203
Ferric Oxide

1.04%
Combination of Cu, Ni, Cu, and B

Figure 6: Pilot Plant REE Output Breakdown per kg

Rare Earth Elements are a part of the unstoppable macro-environment movement with the global economy transitioning to cleaner energy sources. Market applications of NdFeB magnets include wind turbines, electric vehicles, electric bikes and air conditioning with demand increasing by 17.5% annually [3]. REEcycle is positioned to take advantage of growing applications of NdFeB magnets by recycling end-of-life products and supply ethically sourced REEs to the market.

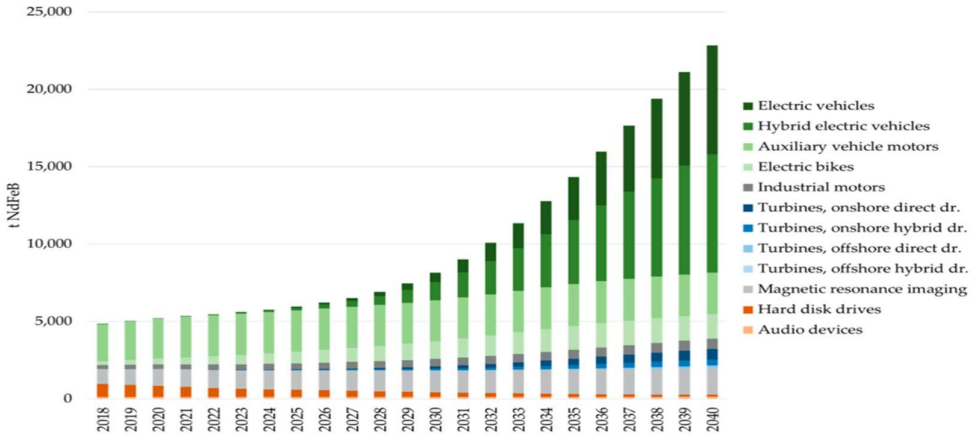


Figure 7: ***Potential Return Flows by Application I Tons of NdFeB Magnets*** [4]

[3] Green Car Congress, 2021, Roskill: rare earth magnet applications to account for ~40% of total RE demand by 2030, up from 29% in 2020.
[4] Reimer, Maximilian, 2018, "Recycling Decisions in 2020, 2030, and 2040—When Can Substantial NdFeB Extraction be Expected in the EU?", Metals - Open Access Metallurgy Journal