Talga Fast-Tracks Mass-Producible Silicon Anode Product

- **Demand from European and US automotive and battery manufacturers for Talga's silicon anode product Talnode®-Si drives 10x boost in commercial sample production capacity**
- **Customer feedback supports Talga's commercial approach in using lower cost metallurgical-grade silicon and mass production equipment**
- **Production of graphene-graphite precursors required to make Talnode®-Si added to the Niska process flowsheet and scoping study, pushing release to November**
- **Positive market feedback and technical development lead Talga to fast-track preliminary feasibility studies for stand-alone European silicon anode refinery**

Battery anode company Talga Resources Ltd ("**Talga**" or "**the Company**") (**ASX:TLG**) is pleased to provide an update on the commercial progress of its silicon anode lithium-ion ("Li-ion") battery product Talnode®-Si.

Following the concluded Faraday UK 'Safevolt' project (ASX:TLG 26 March 2018) and encouraging early test results (ASX:TLG 24 Oct 2018 and 19 Feb 2019), further technical and commercial development of Talnode®-Si has been underway at Talga's facilities in Europe.

Results from this latest phase of development show continued success of Talga's silicon anode approach which uses lower-cost metallurgical-grade silicon (see Figure 1) for a high-energy density anode with mass-producibility potential.

In conjunction with in-house product optimisation, full-cell customer testing has been progressing under confidentiality and material transfer agreements with multiple battery manufacturers and auto OEMs in Europe and USA. Positive results from initial tests in unoptimised (commercial electrolyte and non pre-litheated) Li-ion battery cells have been received and are encouraging to fast-track further development and potential commercialisation.

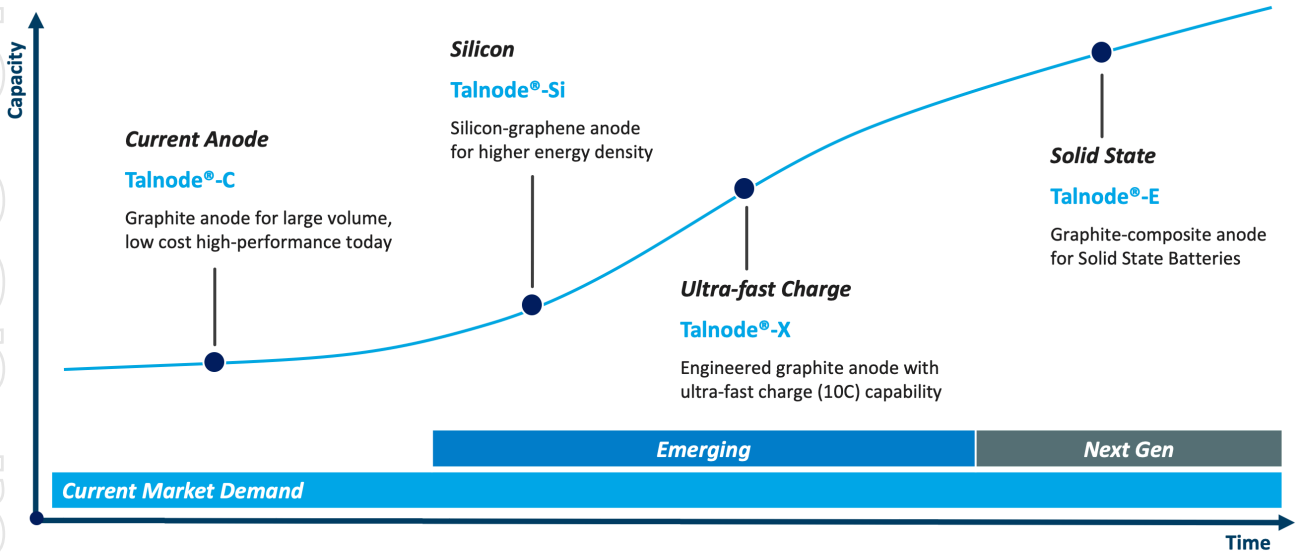
Figure 1. *Talga's supply of metallurgical grade silicon used to produce Talnode®-Si.*

Figure 2. *Talga senior scientist Dr Fengming Liu developing Talnode®-Si at Talga's Cambridge (UK) facility.*

To address the increased commercial sample demand Talga has shifted its Talnode®-Si sample production onto industrial scalable process and production equipment, boosting the Company's Talnode®-Si sample production capacity 10x.

This is sufficient to deliver into fast-growing product development and customer qualification programs, and further highlights the scalability of Talga's silicon anode production approach (see *Silicon Anode Market & Product Background* below).

Figure 3. *Talga anode technology roadmap showing Talnode® range designed for growth and 'future-proofing'*



Commenting on the silicon anode advancements, Talga Managing Director Mark Thompson said: *"The positive trajectory of interest in Talnode®-Si from battery customers and our emerging project development partners is most pleasing. The recent market recognition of our pragmatic approach in using metallurgical-grade silicon to provide performance at significantly lower potential cost is a sign that our team had great forethought in the development of this unique product and process.*

We look forward to fast-tracking the development and commercialisation of Talnode®-Si as part of our vertically integrated business strategy to provide high performance anode material at a competitive price and produced to the highest environmental standards."

Next Steps

To support the advancing product and market development of Talga's silicon anode, and following successful metallurgical tests (ASX:TLG 5 Aug 2020), the Niska Scoping Study has been expanded to include production of the graphene-graphite precursors used to make Talnode®-Si.

The incorporation of this precursor material production into the process flowsheet could provide significant upside to the Niska expansion of the Vittangi project, and as a result the study will now be available November 2020.

Talga will additionally move to fast-track Talnode®-Si preliminary feasibility studies targeting stand-alone commercial production options in Europe. The studies are planned to be finalised in the first quarter of 2021.

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1 Benchmark Mineral Intelligence, August 2020: https://www.benchmarkminerals.com/megafactories/assessments/

2 Lux Research, AABC Europe, January 2020: Li-ion battery innovation roadmap – EV battery future outlook

Silicon Anode Market & Product Background

Today's Li-ion batteries use anodes made almost exclusively from graphite as the active material and this technology underpins nearly all existing Li-ion battery production and the global battery Gigafactories currently under construction.

This market, set to demand ~3.2 million tonnes of graphite anode by 2030[1], forms the target market for Talga's flagship battery graphite anode product Talnode®-C and is forecast to be the predominant technology by volume over coming decades.

Li-ion battery producers are however planning for the future, actively seeking batteries with higher capacity that can extend the range of EVs or increase the work time of portable electronic devices. Higher energy density can be achieved by using graphite anodes with increasing amounts of silicon and the automotive sector is expected to be the major source of growth, with predictions up to 40% of all EV batteries will contain some minor amount of silicon by 2026[2].

However, greater amounts of silicon in anodes tends to create problematic swelling, cracking and lithium consumption leading to various issues including shorter battery life. Additionally, the production costs of most silicon-based anodes is significantly higher than graphite based anodes. Talnode®-Si is a highly engineered composite of silicon and graphene-graphite, with materials and construction of the anode particles designed to manage swelling and increase performance, while using low-cost metallurgical-grade silicon for increased commerciality.

Talnode®-Si forms part of Talga's anode product roadmap which outlines the Company's battery materials development for next generation anodes that will be sold in addition to Talnode®-C and be commercialised in line with future market demands.

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About Talga

Talga Resources Ltd (ASX:TLG) is building a European source of battery anode and graphene additives, to offer graphitic products critical to its customers' innovation and the shift towards a more sustainable world. Vertical integration, including ownership of several high-grade Swedish graphite projects, provides security of supply and creates long-lasting value for stakeholders. Joint development programs are underway with a range of international corporations.

Company website: **www.talgagroup.com**