

Commercial Supply and Development Agreement with Haydale

Talga Resources Ltd

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Corporate Information

ASX Codes **TLG, TLGOA**

Shares on issue **202.4m**

Options (listed) **44.9m**

Options (unlisted) **33.5m**

Company Directors

Terry Stinson

Non-Executive Chairman

Mark Thompson

Managing Director

Grant Mooney

Non-Executive Director

Stephen Lowe

Non-Executive Director

Ola Mørkved Rinnan

Non-Executive Director

- **Talga and Haydale enter binding agreement (“the Agreement”) for the supply of Talga graphite and graphene materials for Haydale’s conductive ink products being sold into Asia**
- **The Agreement follows successful trials of Talga materials in producing Haydale’s ‘PATit’ anti-counterfeiting graphene based printing ink**
- **Haydale to secure supply of Talga conductive materials at agreed pricing**
- **The Agreement can be expanded in stages to cover a range of emerging graphene opportunities in Asia**
- **Talga and Haydale aligned to leverage from one another’s technologies, facilities and commercial relationships**

Australian technology minerals company, Talga Resources Ltd (“Talga” or “the Company”) (ASX: TLG), is pleased to announce that it has signed a commercial supply and development agreement (“Agreement”) with Haydale Limited (AIM: HAYD) for the production, marketing and sales of graphene based transparent conductive ink products for industrial applications in Asia.

Pursuant to the Agreement, Haydale will purchase Talga conductive materials to produce conductive inks to be used in Haydale’s recently announced anti-counterfeiting ‘PATit’ product (see below). This follows initial tests by Haydale demonstrating that Talga material can enhance the electrical conductivity of the inks by 15% or more above synthetic graphite.

Talga and Haydale will also collaborate to:

- further enhance the properties of graphene conductive ink and develop it for use in larger scale, high speed “Roll to Roll” printing; and
- jointly develop new formulations of graphene conductive inks for emerging applications in the Asian packaging and whitegoods markets.

The term of the Agreement is for an initial twelve-month period with the option of extending the Agreement as agreed between the parties.

The first shipment of Talga’s material to Haydale is to commence immediately. Many of the specifics surrounding the key terms of the Agreement remain ‘commercial in confidence’, including the agreed pricing. Supply volumes are currently unquantifiable as they will be dependent on the scale up and commercial success of the initial products.



Talga Managing Director Mark Thompson commented: *“Talga is delighted to enter into this commercial relationship with Haydale to provide Talga’s graphene based conductive materials for use in their exciting market opportunity for transparent conductive inks. This allows both parties to leverage from each-others unique strengths and provides a path for the first sale of Talga material in the Asian region”.*

Ray Gibbs, CEO of Haydale said: *“We have been working with Talga for some time and our initial test results on our patent-pending transparent conductive ink have been very positive. In November 2017, we announced the development of our PATit anti-counterfeiting technology utilising proprietary software codes and graphene-based ink formulation. This exclusive Agreement marks the next step in the commercialisation of that technology by creating the supply chain enabling the production of commercial quantities of our ink to meet anticipated demand from enquiries received from Asia and the EU. The addition of a transparent conductive ink to our existing opaque conductive inks opens up a far more significant market opportunity for our technology.”*

‘PATit’ technology

‘PATit’ technology prints transparent codes onto packaging for the purpose of anti-counterfeiting surveillance and product tracking using proprietary mobile phone software. Users range from governments and manufacturers seeking to protect brands and curb income loss to counterfeit goods in markets ranging from tobacco, pharmaceuticals and food and beverage.

Market for Conductive inks

Conductive inks contain components that provide the function of electrical conductivity. Such components may be comprised of silver, copper, carbon, graphite, indium tin oxide or other base or precious material. The inks can be applied in various ways, including screen printing, flexographic or rotogravure, spray, dip, and more.

The current market value for conductive inks is estimated to be more than US\$2.3 billion (IDTechEx) across a wide range of printed applications including photovoltaics, circuit boards, biomedical sensors, RFID tags, electronic touch screens, automotive (i.e. Henkel’s ‘Loctite’ product series), food and beverage packaging and many more. The key players in the market include DuPont, Henkel, Agfa-Gevaert, Heraeus, Johnson Matthey, Novacentrix, Sun Chemical, Poly-Ink and others.

Graphene has the potential to substitute into these applications as it can be transparent in addition to conductive, graphene is non-metallic and can be cheaper than some materials (lower loading for the same conductivity).

For further information, visit www.talgaresources.com or contact:

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About Haydale

Haydale Limited is a global technologies and materials group that facilitates the integration of graphene and other nanomaterials into the next generation of commercial technologies and industrial materials. With expertise in graphene, silicon carbide and other nanomaterials, Haydale is able to deliver improvements in electrical, thermal and mechanical properties, as well as toughness. Haydale has granted patents for its technologies in Europe, USA, Australia, Japan and China and operates from six sites in the UK, USA and the Far East.

About Talga

Talga Resources Ltd ("Talga") (ASX: TLG) is a technology minerals company enabling stronger, lighter and more functional graphene and graphite enhanced products for the multi-billion dollar global coatings, battery, construction and carbon composites markets. Talga has significant advantages owing to 100% owned unique high grade conductive graphite deposits in Sweden, a test processing facility in Germany and in-house product development and technology. Advanced product testing is underway with a range of international corporations including industrial conglomerate Chemetall (part of BASF), Heidelberg Cement, Tata Steel, Haydale, Zinergy and Jena Batteries amongst others.

