Timah Resources

#### **INVESTOR PRESENTATION** March 2018

# TIMAH RESOURCES LIMITED

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#### Section 1

Capital Structure			Board of Directors		
ASX Code	TML		Executive Chairman	Tan Sri Mah King Thian	
Current Share Price (as at 2 March)\$0.050Total Shares on Issue93.48 million			Managing Director	Dato' Seri Mah King Seng	
			Executive Director	Soong Swee Koon	
Market Can	\$4.67 million		Independent Director	Billy Lee Chong Hoe	
Market Cap	φ4.07 Πιιιιοπ		Independent Director	Michelle Siew Yee Lee	
			Independent Director	Jack Tan	
			Company Secretary	Andrew Wallis	

**Timah Resources Limited** ("Timah"), incorporated in Australia in 2007, was listed on the National Stock Exchange ("NSX") in 2008. Subsequently, it was listed on the Australian Securities Exchange ("ASX") on 16th September 2015. The Company focuses on generating energy to meet the needs of society in a sustainable manner.

Timah creates shareholder value through the generation of biogas renewable energy undertaken by its wholly owned Malaysian-based subsidiary, Mistral. Mistral is a green technology company that produces green power from Palm Oil Mill Effluent (POME).

Timah aims to become a leading biogas renewable energy producer in Malaysia, adopting proper standards of occupational health and safety, environmental management and ethics.

- Timah Resources Limited ("Timah") (ASX: TML) and its subsidiary, Mistral Engineering Sdn Bhd ("Mistral") are principally involved in the renewable energy power generation business in Malaysia
- Mistral owns and operates a biogas power plant of approximately 4.0MW located in Sabah, Malaysia
- The biogas power plant processes the waste water from the adjacent palm oil mill and convert it into bio-fuel to generate electricity
- Timah is a subsidiary of Cepatwawasan Group Berhad ("CEPAT"), a Plantation Group listed in Malaysia Stock Exchange (KLSE: CEPAT)
- CEPAT has over 30 subsidiary companies incorporated in Malaysia involved in milling, quarrying, power generation and owns 10,290 hectares of oil palm plantations in Sabah



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The Plant is registered as a **Clean Development Mechanism ("CDM")** project under the Kyoto Protocol whose main objective is to reduce emissions of greenhouse gases

It is one of the very few Certified Emission Reduction Projects in Malaysia that are registered with **United Nations Framework Convention on Climate Change ("UNFCCC")** 



**United Nations** Framework Convention on Climate Change

### Key Management

#### Section 2

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#### **EXECUTIVE CHAIRMAN: Tan Sri Mah King Thian**

Tan Sri Mah King Thian has almost 29 years of experience in palm oil cultivation, milling and construction.

He graduated from Monash University with a Bachelor of Economics Degree majoring in Accounting. He also holds a Bachelor of Law and was admitted and enrolled as an Advocate and Solicitor of the High Court of Malaya in 1988. He is also a Fellow Member of Certified Practising Accountant Australia (FCPA).

Tan Sri Mah King Thian is also the Managing Director of MHC Plantations Bhd and Executive Chairman of Cepatwawasan Group Berhad, both of which are listed on the Bursa Malaysia exchange.

Tan Sri Mah King Thian currently resides in Malaysia.

#### MANAGING DIRECTOR: Dato' Seri Mah King Seng

Dato' Seri Mah King Seng has more than 38 years of experience in palm oil cultivation, milling and construction.

He graduated from University of Minnesota with a degree in Agricultural Science in 1978. In 1980, he attended the Palm Oil Mill Engineer/Executive Training course on palm oil milling organised by the Malaysian Oil Palm Growers Council. He subsequently obtained his Bachelor of Laws Degree in 1985 from the University of Buckingham, United Kingdom, and was admitted and enrolled as an Advocate and Solicitor of the High Court of Malaya in 1990.

He is also the Executive Chairman of MHC Plantation Bhd and Managing Director of and Executive Chairman of Cepatwawasan Group Berhad, both of which are listed on the Bursa Malaysia exchange

Dato' Seri Mah King Seng currently resides in Malaysia.

### Key Management

#### **CHIEF OPERATING OFFICER:** Soong Swee Koon

Soong Swee Koon is a qualified engineer and holds a Steam Engineers' Certificate of Competency (First Grade).

He started his career in power generation with Perak Hydro Electric Power Company (UK firm) in 1974. In the following years, he trained and specialised in power generation, Hydro and Steam Thermal Power Plants, and in the field maintenance and workshop overhaul of Cummins Diesel Engines and generators. Subsequently, from 1980 to 1996, he worked as a mill engineer in United Plantations Bhd. The palm oil mill under Mr Soong's management was the winner of the Award for Best Palm Oil Mill in Malaysia (2nd Place from year 1990- 1995).

From 1996 to 2010, Mr Soong served as senior engineer, technical advisor, project manager and regional consultant to a number of companies involved in power generation. He joined his current company, MHC Plantations Bhd, in 2010 and is currently its Chief Operating Officer.

Soong Swee Koon currently resides in Malaysia.

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## Environmentally Sustainable Business Model

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Section 3



- The waste water discharged from the crude oil extraction process is generally referred to as Palm Oil Mill Effluent ("POME")
- POME is traditionally processed through an anaerobic digester system. POME produces biogas gas from an anaerobic process. One of the components of biogas is methane gas which has 21 times Global Warming Potential compared with carbon dioxide
- At the biogas power plant in Sabah, the biogas is captured and scrubbed before being channelled to biogas engines. The mechanical power generated by these engines is converted to electrical power and exported to the national grid
- This renewable energy will be sold to the national utility distributor under a long term agreement at a premium price subsidised by the National Renewable Energy Fund



## Environmentally Sustainable Business Model



#### SUPPLIER

Input/raw material: POME

- POME is a liquid waste from palm oil milling. Palm Oil Mills incur cost to treat and dispose their waste and the conventional method of treatment is an open ponding system to hold and treat the POME before releasing it to land application or waterways
- Mistral has secured a long term supply of the POME from Prolific Yield Sdn Bhd ("PYSB"). All the POME from PYSB's Oil Mill will be supplied directly to the Group at zero cost
- PYSB is one of the subsidiary companies of Cepatwawasan Group Berhad

## Biogas Electricity Generation Process



#### Section 4



The diagram shows the electricity generation process in 4 steps:

- 1. Reception and conditioning of the POME
- 2. Methane recovery from the POME in digester tanks
- 3. Power generation from gas engines
- 4. Waste water and sludge treatment

# Biogas Electricity Generation Process



In Step 1 and Step 2, the Plant captures the biogas gas emitted from the POME, which is supplied by the adjacent Palm Oil Mill, through digestion in close digester tanks, replacing the conventional open ponding system to hold the POME as practiced by most palm oil mills and thereby avoiding the emission of the Methane gas to the atmosphere.

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 In Step 3, the Plant utilises the captured biogas as fuel to combust in biogas Engines to generate green and renewable electricity.



# Biogas Electricity Generation Process

 Step 4 channels the remaining POME from the Digester Tanks to a water water treatment and polishing system, which polishes the POME further to meet the local environmental regulation standard before final discharge of the polished water to land application.

The solid sludge from the POME polishing above can be recycled into fertilizer for various agricultural applications, which is a potential business for Mistral.



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### **Continued Improvement**

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#### Section 5

- Mistral will replace four existing engines (1 x 1.204 MW engine, 3 x 900kW engines) with three new 1.200MW biogas engines assembled locally in Malaysia
- These new biogas engines will meet the bonus criteria for Sustainable Energy Development Authority Malaysia (SEDA) that requires the units to have an electrical efficiency above 40%. The local assembly of the engines also meets the additional bonus criteria
- The new biogas engines are expected to generate an additional revenue estimated around AU\$1.59 million (RM\$5 million) per annum, in comparison to the existing revenue before the engine replacement
- This additional revenue is expected to be generated from Mistral meeting the additional SEDA bonus criteria and the improvement in performance
- The new engines will be expected to achieve higher operational efficiency, lower maintenance costs and improved plant performance

# Renewable Energy (Biogas) Industry Overview

#### **Local Industry Overview**

#### Local business environment

- Malaysia is one of the largest palm oil producers in the world, accounting for 39% of world palm oil production
- In 2012, Malaysia produced 18.79 million tonnes of palm oil, resulting in 59.8 million tonnes of Liquid waste (POME) and 19.0 million tonnes of Solid waste (Empty Fruit Bunch "EFB")
- Less than 30% of the waste is utilised in the production of renewable energy. The remaining 70% provides huge potential for Mistral to expand its palm oil related renewable energy business - (Supplier Market)
- In addition, CEPAT owns a total of 10,290 hectares of oil palm plantation in Sabah, Malaysia, which will ensure adequate internal supply of POME to Mistral to sustain its growth - (Safe Growth)

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Section 6

# Renewable Energy (Biogas) Industry Overview

#### **Supportive Authorities in Malaysia**

#### **Government Support**



#### Feed-in Tarriff (FiT)



In the 10th Malaysian Plan (2011-2015), the Malaysian Government set up the Sustainable Energy Development Authority ("SEDA") to further support and promote the development of the Malaysian RE industry. **Feed-in Tariffs** have been introduced and implemented by SEDA to ensure the profit sustainability of local renewable energy projects.

Government declared Renewable Energy ("RE") as the country's fifth fuel in the nation's energy supply mix to diversify its energy

source and launched the Green Technology Financing Scheme

("GTFS") to provide **subsidised financing** to approved renewable

In the 8th Malaysian Plan (2001-2005), the

energy projects. The Plant is a beneficiary of the scheme.

#### **Pioneer status**

The Malaysian Industrial Development Authority ("MIDA") has granted Investment Tax Allowance to the Group as additional tax credit against the income tax.

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# **THANK YOU**