



MARCH 2023

# **TMK ENERGY LIMITED**

## **ASX:TMK**

Focused on the Responsible  
Development of Mongolia's  
Significant Natural Gas Resources

### **Investor Presentation**

# Disclaimer



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**COMPETENT PERSON'S STATEMENT** The information in this document that pertains to the estimates of Contingent Resources and Prospective Resources for the Gurrantes XXXV CSG Project have been taken from a report provided by Netherland, Sewell & Associates (NSAI) on 3 November 2022 and 16 August 2021, undertaken on behalf of the Company. The resources included in the report have been prepared using definitions and guidelines set forth in the 2018 Petroleum Resources Management System (PRMS) approved by the society of Petroleum Engineers (SPE). The resources information included in this report are based on, and fairly represents, information and supporting documentation compiled by Mr. John Hattner, an employee of NSAI. Mr Hattner is a Qualified Petroleum Reserves and Resources Evaluator (QPRRE) and is qualified in accordance with the requirements of ASX Listing Rule 5.41 and consents to the inclusion of the information in this report of the matters based on this information in the form and context in which it appears.

The Resources were independently estimated by NSAI as of 31 October 2022. The Contingent Resources are classified in three categories of 1C, 2C and 3C based on the level of confidence that NSAI has with respect to the recoverability of gas from both the Upper Coal Seam package and Lower Coal Seam package that were intersected in the recent five well Snow Leopard drilling program and have been calculated by NSAI using deterministic methods.

The Prospective Resources have been determined by NSAI using probabilistic methods and are dependent on a CSG discovery being made. If a discovery is made and development is undertaken, the probability that the recoverable volumes will equal or exceed the unrisks estimated amounts is 90 percent for the low estimate, 50 percent for the best estimate, and 10 percent for the high estimate. The risks 1U, 2U, and 3U Prospective Resources have been aggregated by arithmetic summation; therefore, these totals do not include the portfolio effect that might result from statistical aggregation.

For further details on the Resource estimates presented in this report, refer to the 9 November 2022 ASX announcement. The company is not aware of any new information and that all material assumptions and technical parameters underpinning the Resources estimate continue to apply and have not materially changed.

# Investment Highlights



Largest Contingent CSG Resource in Mongolia of 1,214 BCF with 100% success rate on maiden drilling campaign comprising seven exploration wells



Strategically located in close proximity to Chinese energy market & infrastructure



Exploration significantly de-risked with acquisition of 2,500 drillhole dataset covering a significant area of license area



Gas supply is forecast to increase in Asia with core demand coming from China



Initial data highlights a world class resource with superior coal thickness, gas content and permeability in comparison to developed projects worldwide



Clear pathway to commercialisation with farm-in partner secured, de-risking funding through key value add stages



Discussions continuing with leading energy offtake partners in both China and Mongolia with the aim of expediting project development



Management has significant experience in Coal and CSG in Mongolia and abroad, with Mongolian based operations and shareholders driving on-ground management & state based relationships



Key newsflow catalysts from project development milestones in 2023

# Corporate Snapshot



## Strongly aligned Board & Management, with significant Mongolian ownership on the TMK register

- TMK Energy (ASX:TMK) is focused on the responsible development of the Gurvantes XXXV Coal Seam Gas Project in the South Gobi Basin of Mongolia, which is the largest contingent CSG Resource in the country.
- With a farm-in agreement in place with Talon Energy, the Company aims to advance the project to produce gas for much needed domestic supply and exporting gas to China, to meet Asia's increasing demand.

### Share Price Performance<sup>1</sup>



### TMK Energy Limited (ASX:TMK)

Share Price (23 March 2023)	\$0.016
Market Capitalisation	\$74.2m
Shares on Issue	4,637.5m
Options / Performance Rights (m)	75m / 45m
Shares on Issue (fully diluted)	4,758 m
Cash (31 December 2022)	\$2.6m
Enterprise Value	\$71.5m

### Major Shareholders – 23 March 2023

Shareholder	Percentages (%)
Tsetsen Zantav	34.78%
Ganzorig Vanchig	6.66%
Brendan Stats	6.21%
Dunedin Capital Advisors Pty Ltd	3.20%
Aviemore Capital Pty Ltd	1.87%
Bolormaa Erkhembayar	1.73%
Delgermaa Erkhembayar	1.73%
Netwealth Investments Limited	1.68%



# Management Team & Board of Directors



With a track record of developing Mongolian projects and extensive capital market and energy experience



**Brendan Stats**  
Chief Executive Officer

- Geologist with over fifteen years of experience in the Natural Resources industry.
- Bachelor of Science (BSc, Geology (hons)) from the University of Melbourne.
- On the ground living or working in Mongolia since 2011 with a particular focus and expertise on coal projects located within the South Gobi basin.



**Dougal Ferguson**  
Chief Commercial Officer & Company Secretary

- Experienced oil and gas executive with significant international experience.
- Former Managing Director of several ASX listed oil and gas exploration companies included XCD Energy Limited (ASX:XCD) and Elixir Energy Limited (ASX:EXR).
- Member of the AICD and qualified as a Corporate Secretary and CPA.



**Tsetsen Zantav**  
Strategic Advisor to the Board (Mongolia Based)

- Founding Director of Telmen Resources LLC, the 100% owned subsidiary of TMK Energy Limited.
- CEO of Telmen Group since 2007, which manager responsible for a number of high profile, successful developments in Mongolia, Russia and China.
- Awarded the Polar Star by order of the President of Mongolia for his contribution to the low-income housing development in Nalaikh District.



**Ganzorig Vanchig**  
Chief Operating Officer (Mongolia based)

- General Manager of Telmen Resource LLC.
- Geologist with 12 years experience in the resources industry, working at Mongolian company Energy Resources LLC and ASX listed RPMGlobal.
- Degree in Applied Science from the Mongolian University of Science and Technology.
- Experience in project management, leading exploration projects, due diligence studies, feasibility studies and resource estimation in Mongolia, Australia, Indonesia, Russia, Laos.



**Brett Lawrence**  
Non-Executive Director

- 15 years of diverse experience in the oil and gas industry, having worked with Apache Energy for over 8 years performing roles in drilling engineering, reservoir engineering, project development and commercial management.
- Master of Petroleum Engineering, a Bachelor of Engineering (Mining) and Bachelor of Commerce (Finance) from Curtin University in Western Australia.



**Gema Gerelsaikhan**  
Non-Executive Director

- 10+ years in marketing across several sectors
- Former Director of Communications / Marketing at Shangri-La Hotel, Ulaanbaatar.
- Former Chief Marketing & Business Development Officer of Asia Pacific Investment Partners (APIP) (Singapore and Hong Kong).
- Former Business Analyst at SouthGobi Resources (TSX:SGQ & HKEx: 1878).
- Founding member of various Mongolian Chambers of Commerce
- Master's and Bachelor's degree in Economics and Business Administration from Denmark.



**Tim Wise**  
Non-Executive Director

- Corporate executive experienced in the growth of early stage businesses and providing strategic advice to a broad range of companies.
- Founder and CEO of The Tap Doctor and Kalina Power (ASX:KPO).
- Currently a Non-Executive Director at Environmental Clean Technologies (ASX:ECT), entX Limited and Firesafe.



**Stuart Baker**  
Non-Executive Director

- Over 40 years oil and gas sector experience and currently works as an industry advisor.
- Former Executive Director, Morgan Stanley with dual roles as Co-Head Asia Oil, Gas and Chemicals Research and team leader, Australian energy, mining and utility research, with positions held over a 13-year period.
- Former Petrophysical Engineer / General Field Engineer. at Schlumberger Inc. based in Southeast Asia.
- Investment committee member of Lowell Resources Fund (ASX:LRT) and director of Central Petroleum (ASX:CTP)



**Prof John Warburton**  
Non-Executive Director

- Geoscientist with 40+ years global oil and gas experience in operated and non-operated conventional and unconventional petroleum discovery, development and in business growth.
- 14 years of senior technical and leadership roles at BP, Executive General Manager for Exploration and New Business at Eni in Pakistan, and Chief of Geoscience & Exploration Excellence at Oil Search Ltd.
- Non-Executive Director of Empire Energy Group (ASX:EEG) and Director of Empire's Northern Territory subsidiary, Imperial Oil & Gas Pty Ltd and CEO from 2011 to 2014.
- Former Non-Executive Director of Senex Energy in the six years before takeover by POSCO/Hancock Prospecting.
- Visiting Professor in the School of Earth & Environment at Leeds University UK.

# Highlights: Gurvantes XXXV CSG Project



LOCATION	South Gobi Basin, Mongolia
Tenure	PSC Exploration License
TMK Interest	67%
Tenement size	8,400km <sup>2</sup>
Development stage	Exploration and Evaluation
Infrastructure	<300km from existing gas pipeline network in northern China Chinese border <20 km from tenement
Gas Resource (CSG) gross 100% <sup>3</sup>	1.2 TCF (2C) 5.3 TCF (2U)



<sup>1</sup>Listed in 2008 as Tamaska Oil and Gas before renaming to TMK Energy in 2022, <sup>2</sup>Cash balance per December 2022 quarterly report  
<sup>3</sup>Talon Energy Limited farm-in to earn 33% working interest at which point TMK Energy will have a 67% working interest in Gurvantes XXXV

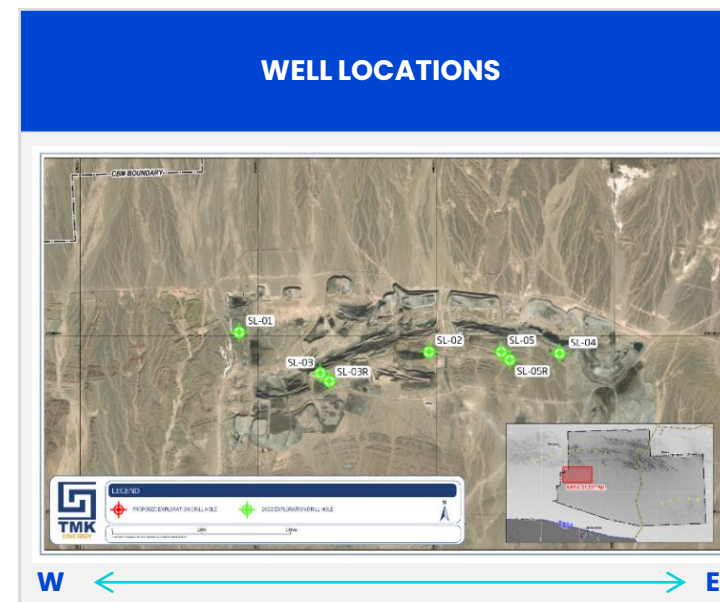
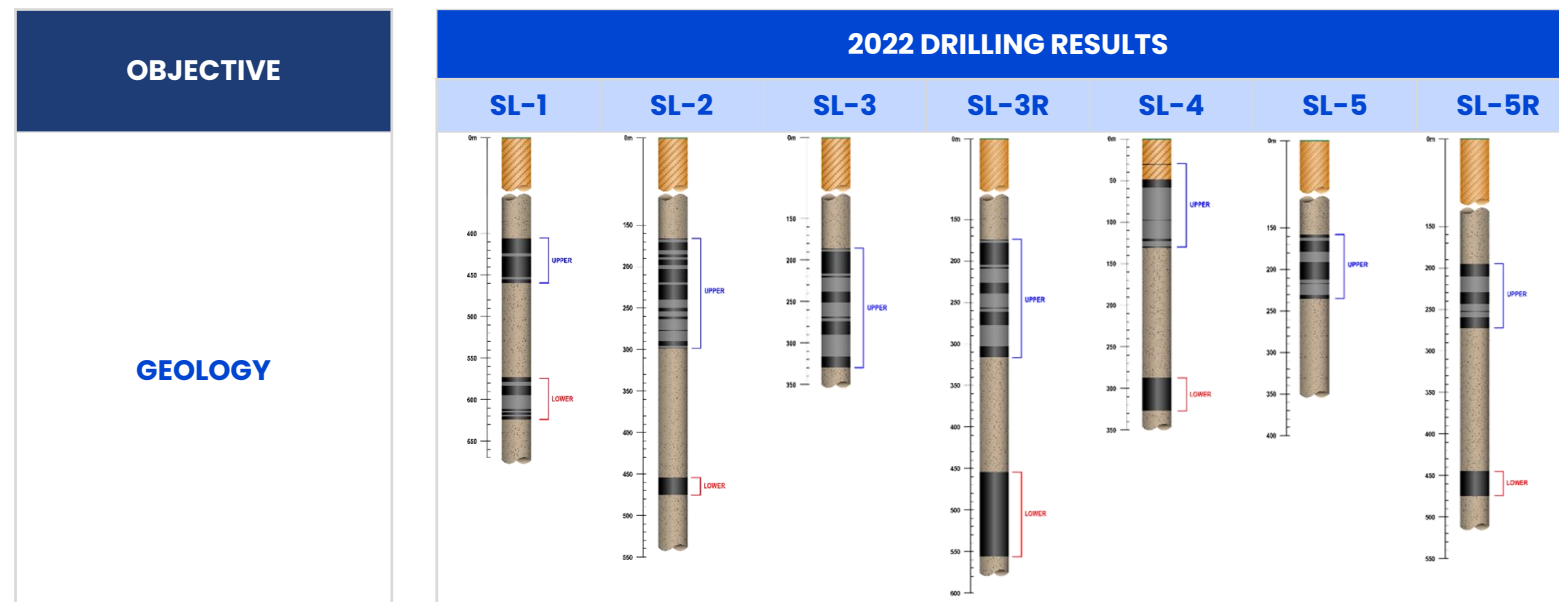
# Drilling Results

All seven maiden exploration wells show significant CSG prospectivity with 100% success rate



COAL RANK QUALITY	High Quality Bituminous						
COAL THICKNESS	60m	91m	60m	175m	40m	40m	59m
GAS CONTENT (AR)	13.2m³/t	9.3m³/t	9.8m³/t	7.5-12.5m³/t	5-7.5m³/t	5-7.5m³/t	5-7.5m³/t
GAS COMPOSITION (CH₄)	96%	97%	95%	92%	98%	97%	99%
PERMEABILITY	0.1mD	47mD	20mD	-	0.13mD	-	56mD

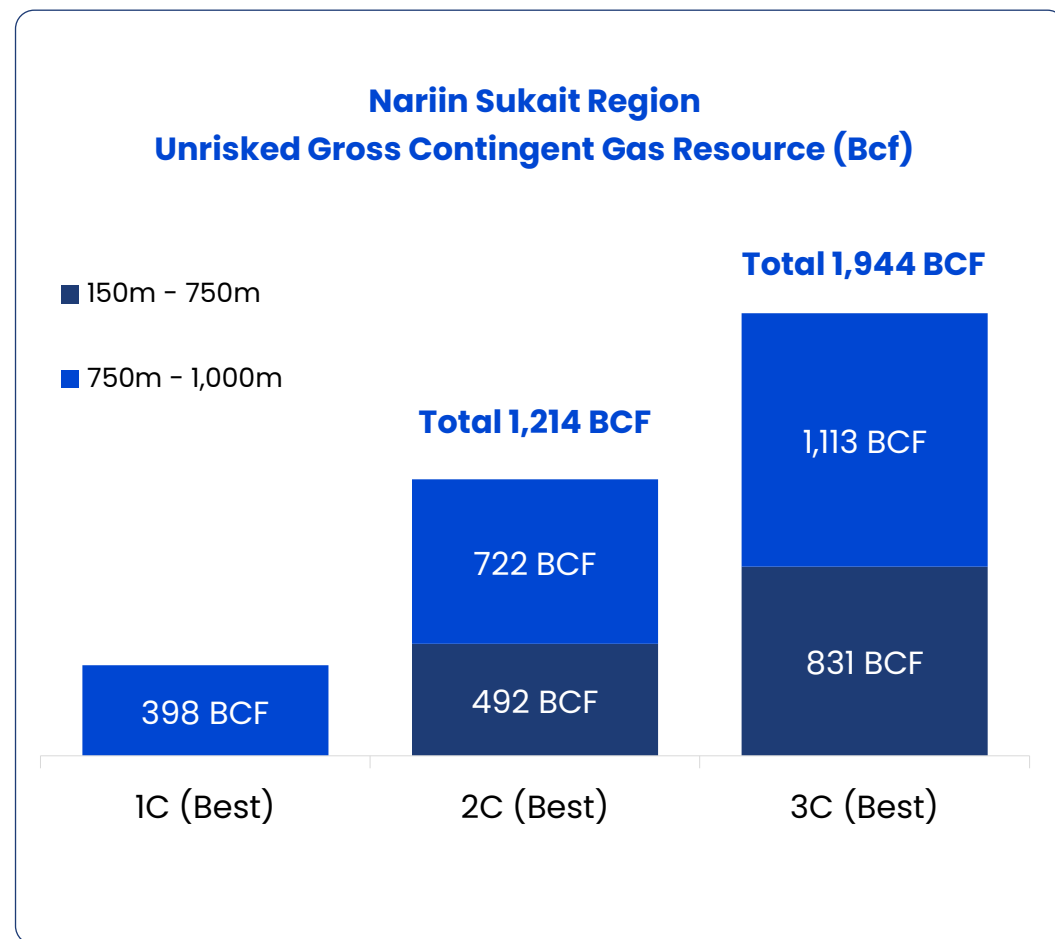
✓	Ideal rank and quality for CSG project
✓	Very thick coal (thicker than any major developed CSG Project) results in higher resource concentration
✓	High gas content and gas saturation associated with high productivity
✓	Suitable for use without processing. Low CO₂, cleaner energy source relative to current energy supply in Mongolia.
✓	High permeability is associated with high production and recovery from unstimulated production wells



# Maiden Contingent Resource



**Maiden Resource of 1.2 TCF (2C) is the largest Contingent Natural Gas Resource in Mongolia**



## Maiden resource highlights



Largest CSG Contingent Resource in Mongolia of 1.2 TCF (2C)



Resource delivered in 9 months based on 5 drill locations at cost of US\$1.5m to Talon Energy (Farmout Partner)



1.2TCF Contingent Resource from only 60km<sup>2</sup> which is less than 1% of the total Project area



Very high recoverable Resource (2C) Concentration 20bcf/km<sup>2</sup> which suggests lower extraction costs cost and high operating margins



Total Resources 2C + 2U (risked) increased by 500BCF



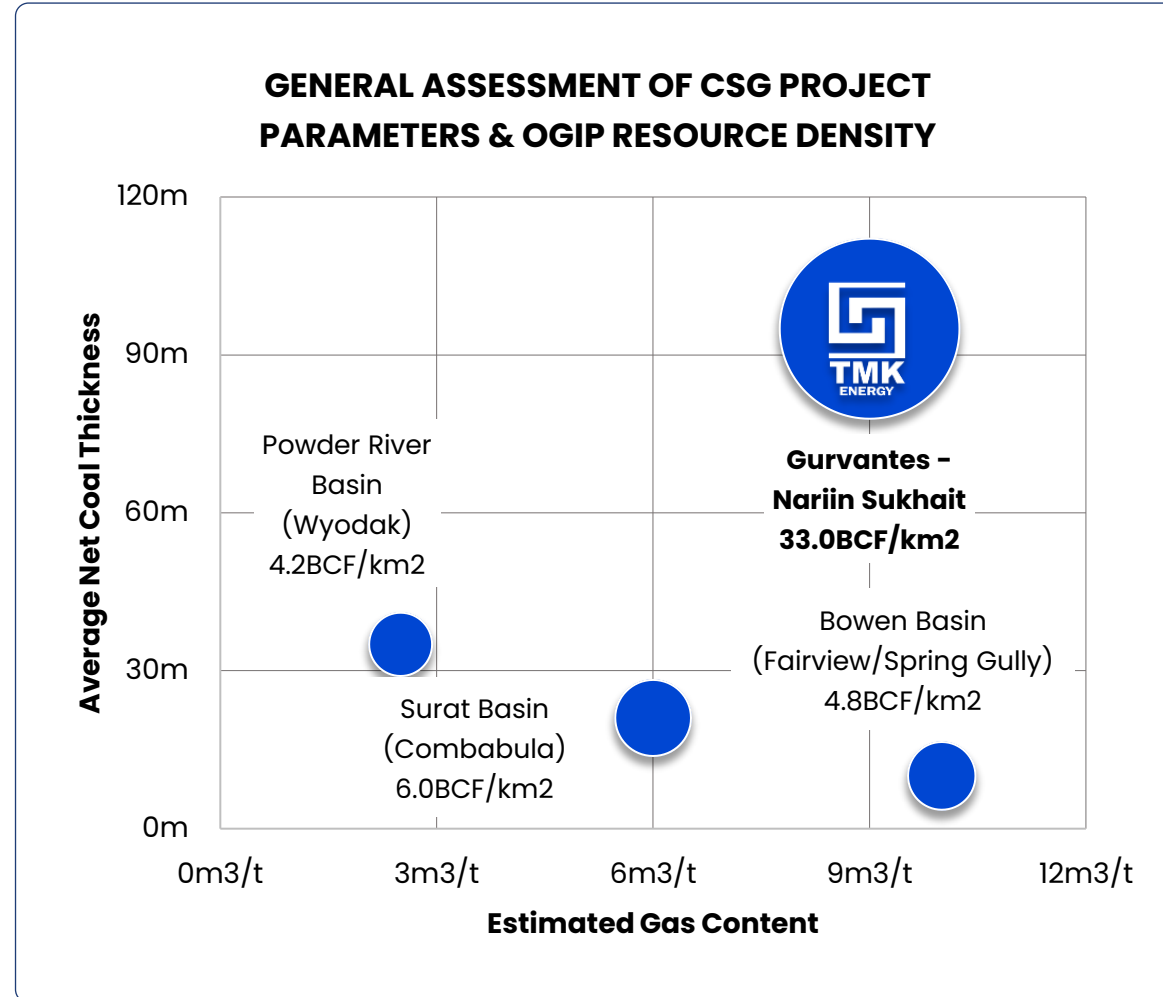
1.2 TCF (~1,280PJ) of gas at US\$10/GJ equates to US \$12.8 billion

\*Cautionary Statement: The estimated quantities of petroleum that may be potentially recovered by the application of a future development project relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration, appraisal and evaluation are required to determine the existence of a significant quantity of potentially moveable hydrocarbons.



# Coal Seam Gas Field Comparison

**Gurvantes XXXV represents a world class coal seam gas Project, comparing favourably to existing world leading CSG basins**



COAL COMPARISON			
LOW QUALITY		HIGH QUALITY	
LIGNITE	SUBBITUMINOUS	BITUMINOUS	ANTHRACITE
Brown coal, the lowest grade coal with the least concentration of carbon typically used for power generation	Lower grade coal containing 35-45% carbon and mainly used for electricity generation. Suitable for CSG	<b>Black coal, has high heating properties and is used in steel production. Suitable for CSG</b>	Hard coal, containing a high percentage of fixed carbon and low percentage of volatile matter
		<b>GURVANTES XXXV</b>	

- Based on net coal thickness, gas content, and estimated OGIP resource density, the Gurvantes XXXV prospect compares very favourably to leading CSG fields worldwide
- The Gurvantes XXXV Project represents a potential world class discovery with technical parameters equal to or better than existing CSG fields worldwide
- The results point to relatively simple and low cost development, high operating margin
- Very few surface constraints, supportive jurisdiction for developing natural gas

# China Supply Opportunity

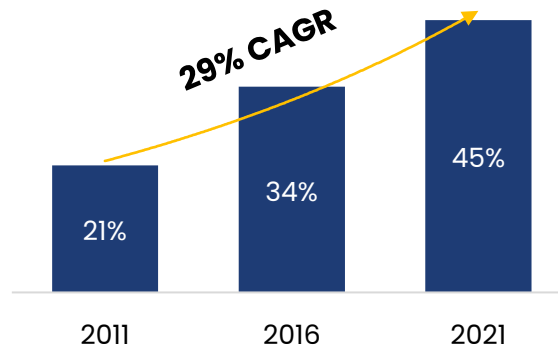
China is the largest energy user globally with significant gas infrastructure in close proximity to Gurvantes XXXV



## Chinese Energy Market

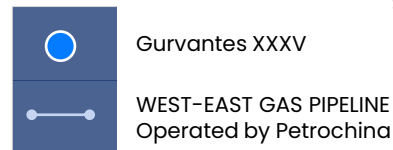
Chinese 2020 gas demand estimated to double by 2040\*  
Forecast Chinese consumption 2040 between 497bcm and 655bcm\*\*. Supply deficit of between 56bcm and 214bcm to be filled by LNG imports an additional pipeline volumes (Mongolia?)

### DOMESTIC CONSUMPTION OF IMPORTED GAS



## Neighbouring Oil & Gas Infrastructure

Gurvantes XXXV is less than 20km from Chinese boarder and close to existing gas infrastructure in northern China



Mongolian gas has a significant cost advantage over current suppliers to China due to low production and delivery costs



## Developing Relationships in China

Discussions continuing with leading energy offtake partners in both China and Mongolia with the aim of expediting project development



TMK's Board and Management developing strategic relationships with key operators in the downstream energy market in Mongolia and China

\*Shell's LNG Outlook 2020

\*\*International Energy Agency's (IEA) 2019 World Energy outlook

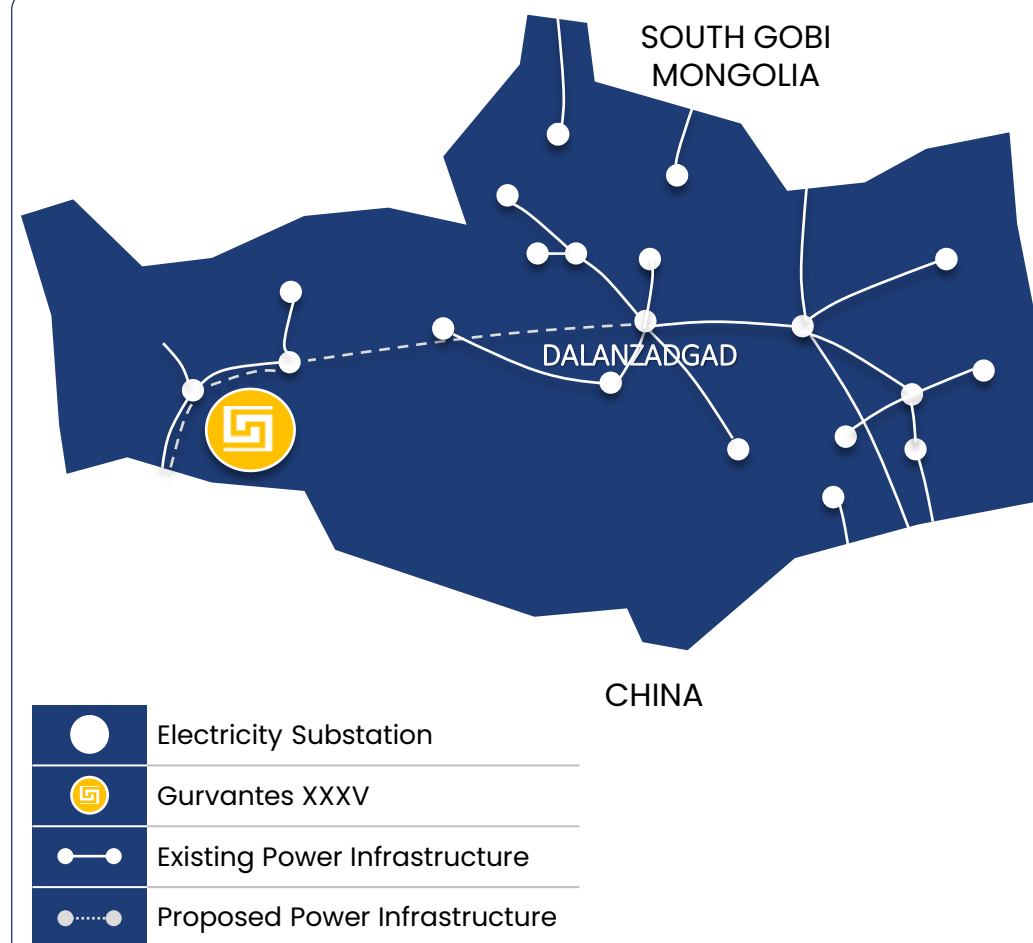
# Domestic Supply Opportunity

Significant opportunity exists for TMK to cement themselves as a key supplier of gas and power to Mongolia

-  The capital of Mongolia, Ulaanbaatar, is heavily polluted and in 2022, Mongolia had an average Particle Matter (PM) of 2.5 concentration – 5.9 times the WHO annual air quality guideline value
-  Over the past 30 year Mongolia has transformed into a vibrant democracy, tripling its GDP per capita since 1991.\*
-  Significant push to decarbonise Mongolia's energy sector, with political desire to seeking greener forms of energy generation
-  Mongolia currently has no gas production resulting in significant issues around energy security and reliability
-  Strong political desire to develop natural gas industry to reduce pollution and address energy security, reliability, and independence
-  Mongolia currently imports all gas products leaving significant growth potential for local production
-  Mining accounts for 40% of Mongolia's energy consumption

\* <https://www.worldbank.org/en/country/mongolia/overview>

## South Gobi province energy infrastructure



# Operating In Mongolia

A proven & growing mining jurisdiction with under-explored terrains

## Jurisdiction overview



### Strong Mining Jurisdiction

Mining sector leading 90% of exports and the country's largest employer



### Stable Political Environment

Democratic government that is supportive of foreign investment, haven taken key steps to improve infrastructure, building new roads, power plants, and railways, to facilitate the development of the mining sector



### New Revival Policy

Mongolia's Post Pandemic policy seeks to be:

- Investor friendly
- Open borders for trade & travel
- Increase rail infrastructure
- Grow as a technology hub



### China's Strategy

Mongolia is critical to China's Belt & Road Initiative, connecting Asia with Africa and Europe, improving regional integration, increasing trade and stimulating economic growth



### Low Labour Costs

Mongolia has a relatively low labour cost compared to other countries, making it an attractive destination for mining companies looking to reduce costs



### Stable Economic Profile

Strong economic growth is forecast to accelerate to above 6% in 2023-2024

## Ulaanbaatar



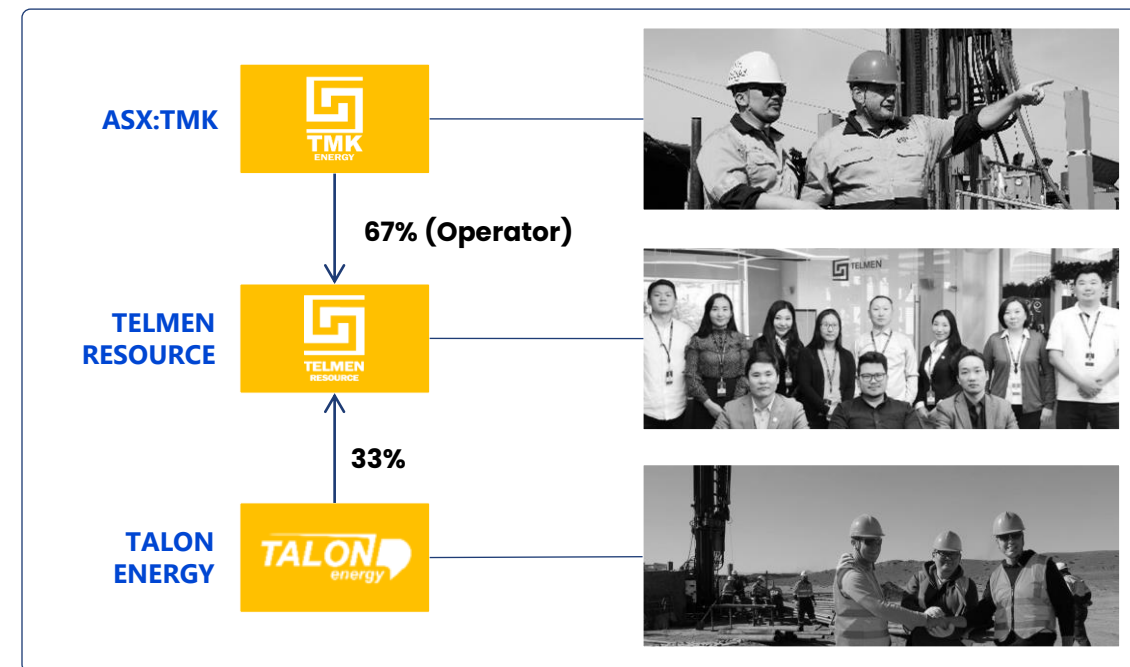


# Current Development Framework

Established relationships, legal framework, and funding solutions to drive commercialisation



Farmout Agreement	Talon Energy Limited (ASX:TPD)
<b>Overview</b>	Farmout agreement with Talon Energy Limited (ASX:TPD) to earn a 33% working interest (US\$4.65m spend + US\$1.35m cash)
<b>STAGE ONE</b>	
<b>Terms</b>	Fund 100% of drilling costs of at least four core holes up to US\$1.5m
<b>Use of Funding</b>	Funding has been used to deliver a 1.2TCF Contingent Resource
<b>STAGE TWO</b>	
<b>Terms</b>	Talon elected to proceed with the second stage on the 1 <sup>st</sup> December 2022, providing Talon with a 33% interest in the project
<b>Use of Funding</b>	Fund 100% of the initial US\$3.15m for the Pilot Well Program



Government framework		Progress
<b>PSA Overview</b>	Production Sharing Agreement (PSA) - contract between TMK subsidiary Telmen Resource LLC (local subsidiary) and the Mineral Resource Petroleum Authority of Mongolia (MRPAM)	✓
<b>Royalty &amp; Profit Share</b>	<ul style="list-style-type: none"> <li>a) 5.5% Royalty</li> <li>b) Profit share (after cost recovery) subject to production rates</li> <li>c) Attractive fiscal terms in comparison to other jurisdictions</li> </ul>	✓

Exploration camp
















# 2023 Newsflow Catalysts

Clear pathway from exploration to pilot production at Gurvantes XXXV with several near-term milestones



WORK PROGRAMS
<b>2023 PILOT WELL PROGRAM OBJECTIVES</b>  <ul style="list-style-type: none"> <li>a) Flow gas to surface</li> <li>b) Confirm production profiles</li> <li>c) Demonstrate commerciality aspects of the Project</li> </ul>
<b>2023 EXPLORATION PROGRAM OBJECTIVES</b>  <ul style="list-style-type: none"> <li>a) Explore significant potential outside core area</li> <li>b) Grow Contingent Resource within licence area</li> <li>c) Demonstrate scale</li> </ul>

ACTIVITY
Environmental & Regulatory Approvals
Pilot Well Program - Drilling
Pilot Well Program – Production Testing
Feasibility Studies (Commercialisation)
Early Commercialisation (Local Power)
2023 Exploration Program
Updated Resources and Reserves Estimate

CY23			
Q1	Q2	Q3	Q4
			
			
			
			
			
			
			

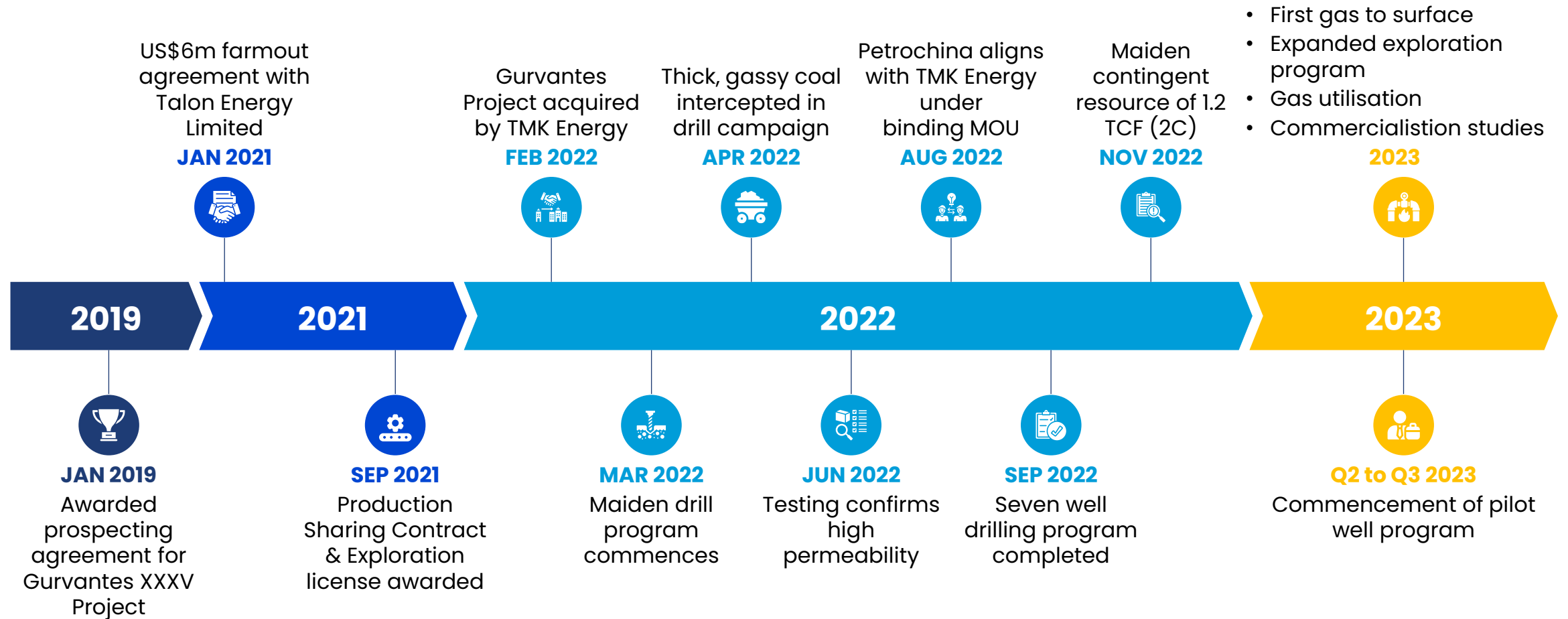


## **Appendix**

# Significant Milestones & Achievements



Project has been materially de-risked following a staged approach to exploration, drilling & commercialization







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