

Mongolia

Production Starting
Near-field Exploration
and
Renewable Energy

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### Petro Matad



#### **Mongolia's Leading Independent Energy Company**



#### **AIM Listed (MATD)**

Mongolia focused oil company with experienced Board and Management Team



# Transition into oil production plus Renewable Energy

Block XX Heron development

Two Renewable Energy projects in hand



#### **Two PSCs with Government of Mongolia**

100% working interest and ownership

Block XX Exploitation Licence only the third ever awarded in Mongolia

Two new PSCs pending award



# Strong Government relationships and incountry experience

Highly active E&P Company
Active and agile Renewable Energy JV

Responsible approach to operations, proactively managing all environmental and social risks and working in partnership with local stakeholders to support licence to operate

### **Our Assets**



#### Two new PSCs pending award

Confirmed winner of tender - awards expected late 2024/early 2025

Large blocks covering extensions of basins producing in China

Block V PSC expiring 2024. Commitments fulfilled

#### Block XX

Development, appraisal, exploration
Adjacent to Mongolia's main oil producing area
and sharing infrastructure
Heron field production startup in mid-2024
Low cost, self-funding development

**Blk XIX & XXI Fields** 

### Renewable Energy Projects

Off-grid wind farm/Green Hydrogen demonstration project at major mine On-grid 50MW Battery Energy Storage System with scope for significant upsizing Potentially revenue generating by 2025

> Blk V Exploration Licence

Blk 97 Fields

Blk XI Discovery

Proposed Pipeline

Mongol Refinery (under construction)

Blk XX

**Exploitation Licence** 

Blk XIX

Provincial boundaries

--- Rail

Block XX Heron Field development starting in 2024

Two utility scale Renewable Energy Projects in development

Ulaanbaatar

### Mongolia Oil Industry

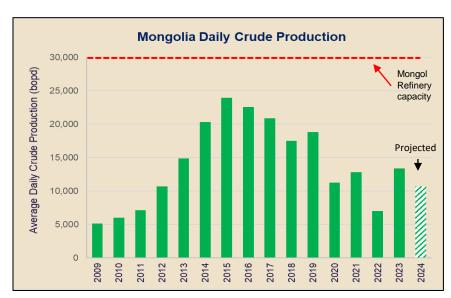


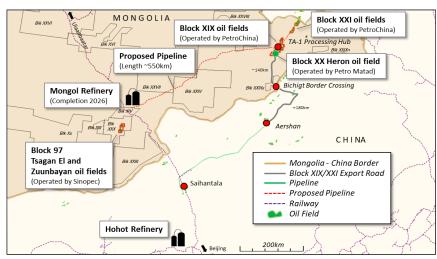
#### **Government supportive of domestic oil industry**

- Mongolia's average daily crude production in 2023 was 13,395 bopd<sup>1</sup>
- PetroChina operates 96% of country's production which is trucked to Chinese refineries
- Mongolia's refined product need end 2023 has increased to over 60,000 bopd<sup>1</sup>
- Government seeking to increase production and investment in upstream oil sector to meet domestic demand

### Mongolian Refinery under construction using \$1.3bn+loan from India

- · Infrastructure connections (rail, road, power) complete
- Support facilities, power plant complete
- Refinery 16% complete. Scheduled on stream 2027<sup>2</sup>
- Designed for 30,000 bopd feedstock. Heron production will help meet this but the government aspires to increase its energy independence and to be an exporter of crude and/or refined products
- Pipeline from Block XIX to refinery: Work under way.
   42% complete





### Block XX: Land access - a work around is found



#### **Regulation 287 process**

- 287 is the long term land access fix whereby central government declares Block XX to be a State Special Purpose Area
- Approved as SSPA by Cabinet in July 2023
- Remaining procedural formalities held up provincial officials for various reasons and latterly by a government created overlap and in 2024 by parliament elections
- Expecting the process to complete in 2H 2024 once the new government is in place

#### Improvement of relationship with local community

- Organised Matad Citizens' representative Committee visit to South-Gobi province to introduce industrial and extractive projects in which cooperation resulted in benefits for the local community
- Executed a Cooperation Agreement with Matad district involving annual funding of community projects as per the Petroleum Law

#### **Local land approval**

- Matad approved our land usage request in 2Q 2024
- Land agreements signed for 3 areas chosen for work in 2024/25. 5 year validity
- All other approvals in place for work to commence



Members of Matad Citizens' Representative Committee visit S Gobi

# Block XX: Development with Exploration Upside



#### Working interests and operatorship

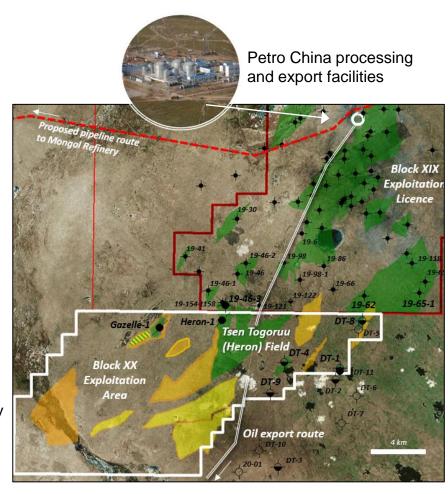
- Heron field located in Block XX
- Petro Matad holds 100% working interest and operates Block XX
- 214km<sup>2</sup> Exploitation Area secured tenure for 25 years+

#### Oil discovery

- Heron 1 discovery made in 2019 drilling campaign
- Heron 1 flowed 821 bopd 44° API to surface. 3rd best exploration well test rate<sup>1</sup> reported in Mongolia

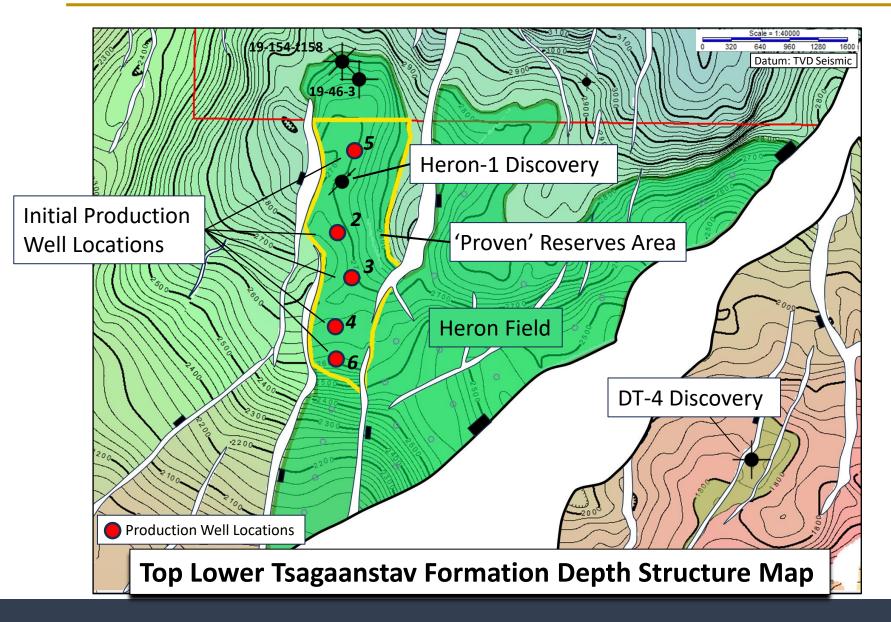
#### **Transformational for the Company**

- First oil forecast 3Q2024 using adjacent infrastructure
- 194 MMbo<sup>2</sup> resource estimated in place, 33 MMbo<sup>3</sup> to >60 MMbo<sup>3</sup> recoverable
- Low-cost appraisal/development
- Funded for production start up at Heron 1 now that land access has been secured
- Production equipment for Heron 1 acquired and in-country
- Tender for drilling contract under evaluation. Multiple bidders, good availability
- Negotiations on oil processing and export underway with PetroChina
- Near-field exploration prospects with high chance of success, low cost drilling, significant resource potential



### Heron Appraisal and Development 1





### Heron Appraisal and Development 2



#### **Heron-1 First Oil Plan**

- Heron-1 re-entered for fracking and completion
- Install and commission production facilities for first oil
- Oil transported to facilities in Block XIX for export and sales

#### Heron-2 and Heron-3

- Both wells drilled and completed as production wells in 2024
- Same single well production facilities, export and sales

#### **Cost Effective Production Enhancements**

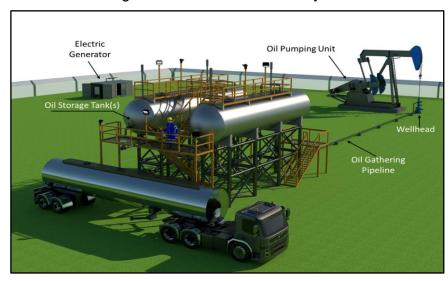
- New reservoir architecture data to inform choice of slanted vs. horizontal wells and/or radial drilling and/or perforation fracking re-design to uplift future well performance
  - Radial Drilling: can improve well recoveries by 20-30%
  - Horizontal wells in PetroChina Block XXI have improved well performance and additional horizontal wells are planned

#### 5 Year Plan

- Evaluate well performance of initial wells to guide further drilling - both locations and well design
- 5+ wells per year complete production well programme build profile to ~3,000 – 5,000 bopd¹
- Decision on reservoir pressure maintenance project water and/or CO2 injection to uplift recovery further

Targeting >30% recovery and peak production c. 9,000bopd<sup>1</sup>

#### Single Well Production Pad Layout



Production Tanks (second-hand from PetroChina)



Beam Pump (purchased and in storage)



1. Company estimates

### Gobi Bear Prospect



#### **Exploration upside**

- There are a number of Prospects and Leads within the Block XX Exploitation Licence with a total inplace resource upside of c. 430 MMbo<sup>1</sup>
- The Exploitation Licence award allows for exploration drilling to target additional resources within the retained area

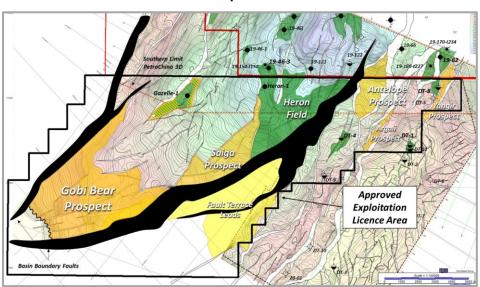
#### **Gobi Bear Prospect Description**

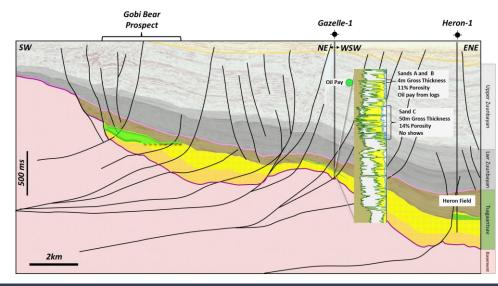
- Comprises an 'End of Basin' stratigraphic/pinch-out trap of the Lower Tsagaantsav Fm sandstones - the main reservoir unit in the Tamtsag Basin
- The trap relies on the effectiveness of lateral and base seals by Upper Tsagaantsav Fm shales and Basement lithologies
- The trap is up-dip of proven oil in Heron-1 and good oil shows in Gazelle-1
- Gross 50m thick sandstone at Gazelle-1 proves presence of good reservoir lithologies in the southern part of the Tamtsag Basin and also provides an excellent oil migration carrier bed allowing charge to up-dip traps

#### **Resource Potential**

- Estimated mean in-place oil resource of 307 MMbo<sup>1</sup>
- Geological Risk assessment 15% main risks are trap definition and migration

#### **Block XX Prospect and Leads**





1. Company estimates

## Mongolia: Renewable Energy



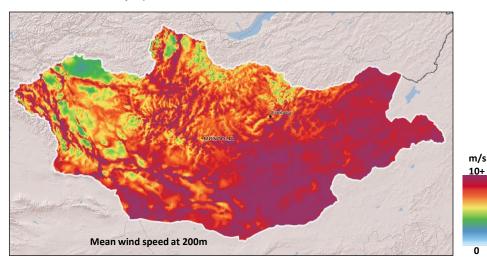
#### **Government Strategy**

- Government Energy Strategy and COP26/27 pledges. By 2030:
  - ➤ 30% domestic generation from renewables (currently 9%)
  - > 23% reduction in reliance on thermal power
  - Meet 100% of national energy demand from domestic supply and become an energy exporting country

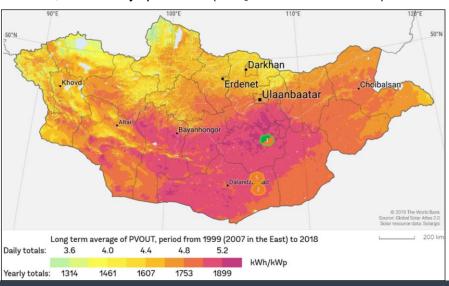
#### **Opportunities**

- Huge potential for sector growth given world class wind and solar PV potential
- Huge area of flat land for large scale projects
- · Domestic and export demand
- Early entrant advantages available as sector at very early stage of growth
  - First wind farm 2013, first PV project 2017
  - Fiscal framework in place and working. Tariffs in US\$. Take or pay provisions exist
  - Projects offer double digit rate of return
- SunSteppe focusing on off-grid supply to mining projects and on-grid Battery Energy Storage Systems (BESS)
- Ministry of Energy needs to stabilise the grid and meet peak demand. BESS is its top priority

Wind: 2,550 TWh/yr potential 1,2



Solar: 4,774 TWh/yr potential (3rd highest from worlds deserts)1,2



# SunSteppe JV: Projects, Opportunities and Team



#### **Projects under development**

#### 50MW Battery Energy Storage System (BESS) at Choir, Central Mongolia

- Urgently needed by Ministry of Energy to stabilise grid
- 2<sup>nd</sup> BESS in country, the first to involve a private company
- Huge growth potential. Ministry has identified a need for 350MW BESS in country
- Project approved by Ministry with request to execute by 2025. Licence to construct application being prepared

#### Green Hydrogen demonstration project at Oyu Tolgoi (OT) mine

- Exclusive MOU in hand. Project involves 24MW wind farm to generate power for Hydrogen production to heat mine camps and replace coal fired power
- Phase 1 targeted online in early 2025
- Japanese government grant funding approved. Application for a further grant to be lodged in 2H 24

#### Export to China initiative

MOU signed with major Chinese utility for 1.5GW electricity export to China

#### **Team**



Mike Buck Chairman



**Zula Luvsandorj, Co- Founder/CEO**15 years Intl finance/banking
9 years in Mongolian RE



Turbat Banzragch, Snr Eng Advisor 32 years in Mongolian Energy Including with National Dispatch Centre



Enkhbaatar Sambuu, Snr Eng 26 years in Mongolian Energy: ADB BESS, Salkit, OT



Ganchimeg Mujaan, Gov Rel Advisor 40 years in Mongolian Energy including with Energy Regulatory Commission



Oyunsuren Vandandorj, RE Specialist /Engineer 34 years in Mongolian Energy including ERC. Worked on ADB BESS

### 2024/25 Work Programme



#### **Goals**

- Commence production and development of Heron discovery in Block XX
- Near field low-cost exploration drilling
- Develop renewable energy projects to bankable ready to build status
- Achieve self-sustainability and deploy oil production revenue on development drilling, near-field exploration, new PSCs and developing renewable energy projects

#### **Timing**

- Heron-1: re-perforation, stimulation and completion July. Put on production targeting late 3Q 2024
- Heron-2: drill, complete late 3Q. Put on production 4Q 2024
- Gobi Bear-1: drill late 3Q/early 4Q dependent on rig availability
- Sign two new PSCs late 2024/early 2025
- Choir 50MW BESS to bankable, ready-to-build status early 2025
- OT Green Hydrogen, phase 1 onstream in 2025



# Thank you

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