

# PETRO MATAD

## OIL & GAS

2 March 2023

### MATD.L

3.1p

Market Cap: £34.5m

#### SHARE PRICE (p)



12m high/low

5.4p/1.7p

Source: LSE Data (priced as at prior close)

#### KEY DATA

Net (Debt)/Cash	\$12.0m (at 03/02/23)
Enterprise value	£24.5m
Index/market	AIM
Next news	Finals, June 2023
Shares in Issue (m)	1,113.9
Chairman	Enkhmaa Davaanyam
Chief Executive	Mike Buck
Head of Finance	Tamir Battogtokh

#### COMPANY DESCRIPTION

Petro Matad is a UK-listed exploration company that is focused on Mongolia.

[petromatadgroup.com](http://petromatadgroup.com)

PETRO MATAD IS A RESEARCH CLIENT OF  
PROGRESSIVE

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### Activity set to pick up in 2023

Petro Matad, the Mongolia-based E&P company, had a difficult year in 2022. China's Covid lockdowns meant that the company was unable to get the required oil services across the border from China to Mongolia, hampering operational progress. However, the restrictions have eased and operating conditions appear to be getting back to normal. The company has also raised US\$6m gross to provide funds to drill the Velociraptor prospect in Block V, which could prove transformational. Petro Matad will also use these funds to participate in Mongolia's new licensing round and to build a renewable energy business. With these developments, we are optimistic that Petro Matad is well-placed to make significant progress in 2023.

- **Block XX.** Petro Matad is now in a position to move ahead with completing the Heron-1 oil discovery into a production well and start generating cash flow. The crews and equipment are ready to be brought in. Management is negotiating with DQE on the contract for a multi-well drilling programme and is in discussion with Petro China over the ability to export crude through its adjacent facilities. The only potential delay could stem from problems with land access, though the company is pushing central government to resolve this issue.
- **Block V.** The company will use some of the funds raised to drill an exploration well on the Velociraptor prospect in Q2. This is a significant prospect, with the company estimating potential recoverable resources of 200 mmbbl. Success would transform Petro Matad's resource base and open up other prospects on the licence. Management believes that this prospect has a 20% chance of success given that the previous well on the licence showed evidence of a working petroleum system.
- **New licensing round.** Management is looking at building up its exploration portfolio through Mongolia's new licensing round, the first for several years. Petro Matad has built up significant expertise in Mongolia, so should enjoy a competitive advantage. Management has identified 4-5 blocks of interest, and success in the licensing round would generate additional momentum for the company's operations.
- **Renewables joint venture.** Petro Matad is looking to move into renewable energy in Mongolia. It has formed a joint venture with Wolfson LLC, which has expertise in renewable energy in Mongolia, and the partners have already identified several potential projects. In our view, Petro Matad can benefit from being an early entrant into a field that the Mongolian government is eager to develop.
- **Valuation.** Our RENAV (Risky Exploration Net Asset Value) is increased to 58.7p/share from 29.0p/share. This is mainly due to the addition of the 200 mmbbl Velociraptor prospect, and success or failure at this well will have a marked impact on future valuations. Excluding the Velociraptor prospect, our RENAV increases to 26.7p/share from 25.2p/share as the beneficial impact of higher oil prices and weaker sterling are, to some degree, offset by a higher risk on Heron (with land access issues).

## Executive Summary

### *Activities picking up in 2023*

Petro Matad has a difficult 2022. China's Covid lockdowns stalled the company's anticipated operations as it was unable to move the required oil field services across the border from China into Mongolia. However, the lockdowns have eased and operating conditions are returning to normal. Also, the company has raised US\$6m gross through the issue of shares, which should be sufficient to carry out its operations over the coming years. As a consequence, 2023 appears a more promising year for Petro Matad to make progress in a number of areas.

### *Block XX – Heron-1 moving to production*

In Block XX, Petro Matad is looking to complete the Heron-1 discovery well as an oil producer, which will allow the company to start generating cash flow. Management is in discussions with DQE Drilling, the main provider of drilling services in Mongolia, for a multi-well development drilling programme that will allow the company to start ramping up production. Management is also finalising negotiations to export through Petro China's adjacent facilities. The only major issue to resolve is that of land access, which could delay operations, although Petro Matad is pushing the central government to expedite this issue (see page 4).

### *Block V – Velociraptor a significant prospect*

Petro Matad is planning to start its exploration programme in Block V (where it has a 100% interest) in Q2 2023. Initially, the company will probe the Velociraptor prospect, which is updip from the Snow Leopard well that showed evidence of a working petroleum system. Velociraptor is a significant prospect with gross mean potential recoverable resources of 200 mmbbl. Success here would have a material impact on Petro Matad's resource base and open up further prospects in the area. Although this is very much a wildcat well, management believes it has a 20% chance of success (see page 5).

### *New licensing round and a JV in renewables*

Petro Matad's recent fundraise was partly to help expand its operations in-country. The company is looking at participating in the Mineral Resources and Petroleum Authority of Mongolia (MRPAM) 2023 licensing round to help build up its exploration portfolio. Petro Matad has developed significant expertise in Mongolia over the last few years and, as the country's leading explorer, can be viewed as having a significant competitive advantage over new players. Petro Matad is also looking at participating in the growth of renewable energy, which is at the forefront of the government's plans. It has formed a joint venture, SunSteppe Renewable Energy, with Wolfson LLC, which has a proven track-record in renewable energy projects in Mongolia. The partners have already identified several projects. Petro Matad should be able to exploit this segment given that it has operating expertise in-country and can benefit from being an early entrant (see pages 7 & 8).

### *Fundraise has strengthened the balance sheet*

Petro Matad has strengthened its balance sheet with its recent fundraise, which raised US\$6m through the issue of 195m shares at a price of 2.5p/share. This capital will be utilised to fund the Block V exploration programme, participate in the new licensing round and invest in the early stages of the expansion into renewables. The existing funds (US\$6.6m at the interims) will help with the cost of bringing the Heron field on-stream (see page 9).

### *RENAV of 58.7p/share, up 100%, driven by Velociraptor; ex-Velociraptor RENAV of 26.7p/share, up from 25.2p/share*

Our RENAV (Risked Exploration Net Asset Value) is increased to 58.7p/share, which represents a 100% increase on our previous RENAV of 29.0p/share, set in January 2022 (see our [note](#)). This is driven by Velociraptor, which is due to be drilled in Q2 2023 and, at 200 mmbbl of prospective recoverable resources, represents a significant increase in the risked exploration element of the valuation. Success or failure here will have a marked impact on our RENAV. Stripping out the Velociraptor prospect, the RENAV would be 26.7p/share, up from 25.2p/share. This increase is predominantly due to an increase in the long-term oil price after the recent rally in commodity prices and the change in Sterling relative to the US dollar, which will give a translational boost to UK shareholders. This offsets the greater risk in Heron and the higher number of shares (see pages 9 & 10 for detailed valuation and disclaimer).

## SWOT analysis

### Strengths

*Location can benefit shareholders*

One of Petro Matad's main strengths comes from its operations being located in Mongolia. Through being onshore, the costs of exploration, production and development are low and should therefore allow more protection against weaker oil prices than for many other E&P companies operating in arenas such as offshore North Sea. Also, the country has a relatively benign fiscal regime, especially for larger discoveries. Coupled with the low costs, this should allow the company to benefit from high-margin production, which in turn should allow shareholders to benefit substantially from any commercial production and new reserves found.

### Weaknesses

*Finances and crude costs*

Petro Matad's current finances can be viewed as a weakness. The company raised US\$6m gross in February, which will allow it to start the initial development of the Heron field, drill the Velociraptor prospect and invest in renewable projects. However, the company may be constrained in some of its plans to carry out additional exploration in the short term until cash flow can be ramped up. Petro Matad is the operator and has a 100% working interest in its licences. There is the option at some stage to sell/farm out some of these licences, which would lessen its commitments as well providing the potential to receive cash.

Another weakness for Petro Matad relates to crude transportation costs. Before the Mongolian refinery is up and running, crude produced will have to be trucked to a refinery in China, which will be expensive. The start-up of the new domestic oil refinery should allow the company to significantly reduce these costs, although they will remain high relative to other areas.

### Opportunities

*Competitive advantage in Mongolia*

Petro Matad is one of the few international players involved in Mongolia. The company has built strong relationships within the country and is now in a position whereby it could build its presence further, should this be required. As evidence of its status in Mongolia, Petro Matad has received 'Leading Explorer' and 'Best Entity' awards from the government.

Petro Matad has a very significant portfolio of acreage, database and knowledge within Mongolia, which gives the company a significant competitive advantage. As mentioned, any new discoveries will have a substantial impact on shareholder value. Once the company has brought its Heron development onstream, discretionary cash flow can be channelled into further exploration. The main focus, outside of the Heron area, will be on Block V where there is very significant prospectivity. New opportunities can also be potentially realised through the new licensing round.

The company also has near-field exploration around the Heron discovery. Although these might be more modest in size, they can be cheaply tied into the development infrastructure that will be put in place and can have a high unit impact on shareholder value.

### Threats

*Oil price and political climate*

The main threat to the business (as for all E&P companies) comes from the operating environment, especially the oil price. A fall in oil prices will affect the potential cash flows and hence the perceived valuation of the assets.

Another potential threat for Petro Matad is its sole focus on Mongolia, which means that it is subject to any changes in the political climate within the country, as has been shown with the issue of land access on Block XX. That said, Mongolia has proved to be relatively stable over the last few decades (since the 1990 democratic revolution) and we believe that this is currently a minor risk.

## Block XX

*Heron-1 – 33-60 mmbbl  
recoverable oil*

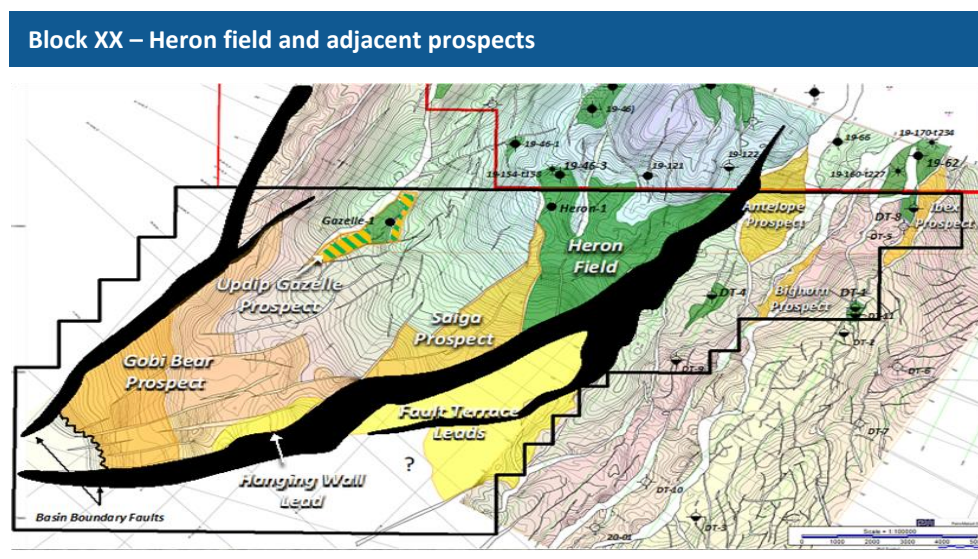
Petro Matad's main asset is Block XX, where it has a 100% working interest. This licence contains the Heron-1 discovery, which management believes has resources in place of 194 mmbbl of oil, of which 33-60 mmbbl is recoverable. We covered the field and development plans in our [initiation note](#) in July 2021.

The initial plan was to complete Heron-1 into a production well in 2022, which would allow the company to start generating cash flow that could be used for drilling further wells in order to ramp up production. However, China's Covid lockdowns caused a delay as Petro Matad was unable to secure access to Chinese oil field service contractors that could move the required equipment (such as oil services and drilling rigs) across the border from China to Mongolia.

China's Covid restrictions appear to have been totally lifted, which will allow Petro Matad to secure the required equipment to complete Heron-1 as a production well when the crews start returning in March/April. Management is in talks with Petro China over the processing, export and sales of the Heron crude through the adjacent Petro China facilities in Block XIX. Petro Matad is also finalising negotiations with DQE Drilling, the main provider of drilling services in Mongolia, over a multi-well development programme which covers the drilling and completion of the wells and includes both fracking and well testing services. Although the company has an existing contract with DQE, Petro Matad is looking to expand this programme, which should reduce drilling and completion costs and allow Petro Matad to defer some of the costs until production is ramped up, thus freeing up more cash flow for the development.

The company also has some near-field exploration prospects that could also be targeted with the exploitation programme. Additional reserves found would have a high impact on the economics given that any oil found could be processed at the planned facilities at the Heron fields, leaving the drilling of the wells as the only major cost. At present, Petro Matad has identified two prospects to drill, Saiga and Gobi Bear, which are likely to be drilled in 2024.

The other issue delaying production start-up is land access, with Petro Matad encountering problems with local government. This will impact the ability of Petro Matad to operate, and the company is pushing for central government to expedite the issue. Management is looking for the central government to certify its Block XX Exploitation Area as a Special Purpose Area, which would streamline the approvals process and help solve the contradictions of the law. However, this process appears to be progressing at a slower pace than had been hoped.



Source: Petro Matad

## Block V

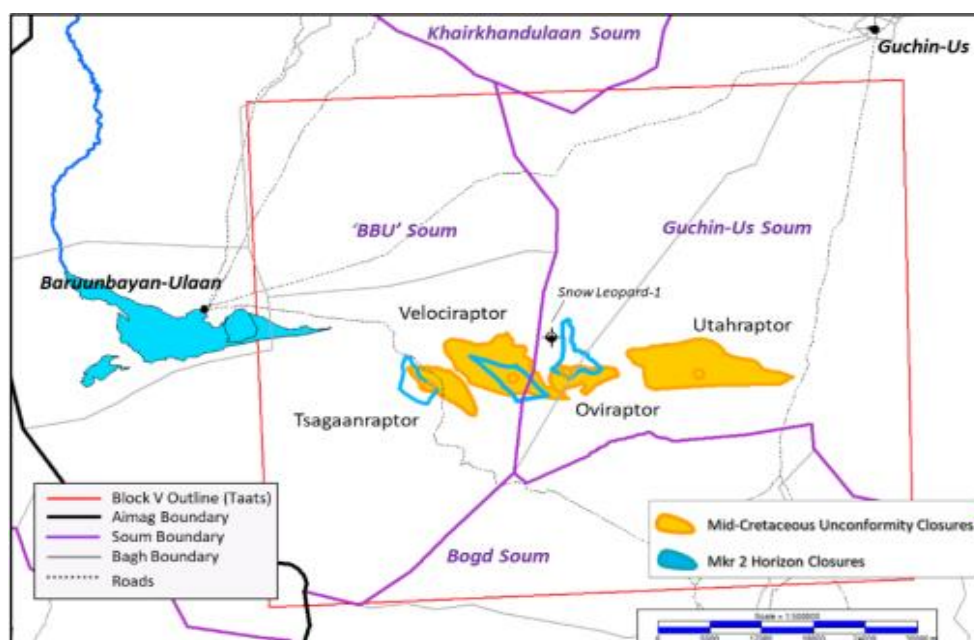
*Velociraptor – 200 mmbbl gross prospective recoverable oil*

In 2023, the main focus for Block V will be on the drilling of a wildcat exploration well that lies in the centre of the country, where Petro Matad currently has a 100% working interest. Here the company is drilling the exciting Velociraptor prospect that could contain gross prospective recoverable resources of 200 mmbbl of oil and could be transformational to the reserve and resource base of the company.

### Background

In 2018, Petro Matad drilled the Snow Leopard prospect in the Taats basin within Block V. The exploration well on this prospect had two targets. In the shallower target, the well showed traces of gas and oil, suggesting that oil had migrated through this prospect. The deeper target was water wet but did find the presence of source rocks. Although this well was not successful, it proved up the potential of a working hydrocarbon system within the licence. The company has now identified a series of prospects (the Raptor Prospects), which are updip of the Snow Leopard well, and management believes that these prospects could be on the migration path from the source rocks. Overall, the company has identified four prospects – Tsagaanraptor, Velociraptor, Oviraptor, and Utahraptor – which have multiple targets and could have combined potential recoverable prospective resources of approximately 600 mmbbl of oil.

**Block V – Prospect map**



Source: Petro Matad

As mentioned earlier, the first well to be drilled would be on the Velociraptor prospect, which could have prospective recoverable resources of 200 mmbbl. This was identified as the more likely target to be successful as it was close to the Snow Leopard well and hence would have lower geological risks – with the biggest risks being reservoir presence and trapping mechanism. Management has estimated the chance of success at approximately 20%, which is high compared to much wildcat exploration drilling. Success here would significantly de-risk the other raptor prospects. These would be drilled before the end of the exploration phase, which currently runs through to July 2024.



Petro Matad has signed a rig contract with Major Drilling, a Canadian company that has been operating in the country for over two decades. The two parties are in discussions over the rig to be used and it is expected that they will soon confirm a spud date in Q2 2023. The well has an anticipated TD (Total Depth) of 1,500 metres and is expected to take approximately 30 days to drill. In the event of success, management would intend to immediately drill an appraisal well on the structure and then move to test the initial well.

### Fiscal regime

On this licence, there is a royalty of 8% on the gross production. The profit sharing starts with the contractor getting 57.5% of the profit oil below 5,000 bbl/day and this declines incrementally, as production increases, to a rate of 50% of profit oil. There are modest bonus payments to be made on production milestones (US\$0.5m on first oil, US\$1.0m on achieving 20,000 bbl/day and US\$4.0m on reaching 75,000 bbl/day). With the licence being onshore, Petro Matad should benefit from low drilling and construction costs, making any discovery relatively valuable.

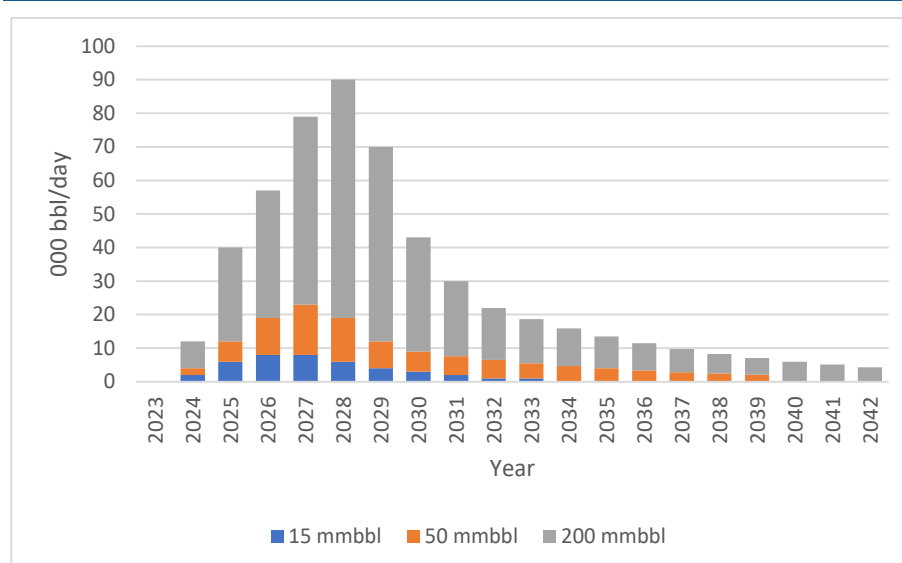
### Main scenario

As mentioned earlier, Petro Matad believes that the Velociraptor prospect could contain recoverable resources of 200 mmbbl. In this scenario, management believes that it could achieve first oil as early as 2024 and that this discovery could reach a peak production of 90,000 bbl/day in 2028. On the costing side, the exploration well is expected to cost a mere US\$1.7m, while for a full-scale development we believe that capital expenditure and drilling is expected to be approximately US\$1bn, representing a modest level of capex of US\$5/bbl.

### Resource size

We have looked at the potential value of a discovery under differing recoverable resource scenarios. Our main scenario is a 200 mmbbl discovery. However, we have looked at three potential scenarios: main case (200 mmbbl), low case (50 mmbbl) and base case (15 mmbbl). The anticipated production profile of each scenario is detailed in the chart below.

**Potential gross production from Velociraptor**



Source: Petro Matad

## Value

In terms of value, we have used a DCF (discounted cash flow) analysis based on a flat oil price of US\$70/bbl on the three potential scenarios mentioned above, with the NPVs listed in the table below. As a side note, a field size of 10 mmbbl is still economic to develop with a positive NPV. It should also be noted that at this stage these are all estimates, and if the well is successful more data will be available to firm up potential development plans.

### Velociraptor size and value

	Resources mmbbl	NPV US\$ million
Main	200	2136
Low	50	530
Base	15	126

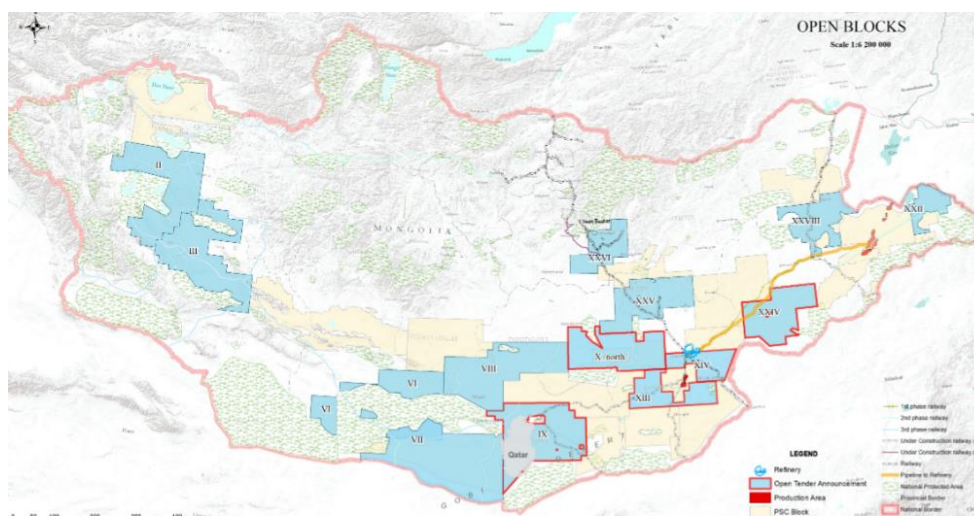
Source: Progressive Research estimates

## New exploration round

First MRPAM exploration block tender round since 2016

MRPAM (Mineral Resources and Petroleum Authority of Mongolia) has announced a new exploration block tender round, its first since 2016. Fourteen exploration blocks are on offer, with five now available and the remainder to follow during 2023. As one of the few international players involved in Mongolia, Petro Matad has been able to build a very strong technical team, databases, operating experience and industry contacts, leaving the company in a very strong position to expand its operations. Management has identified 4-5 exploration blocks of interest and would hope to be in a position to bid for these. We believe that this would be viewed as a positive move as it would build up the company's acreage portfolio and allow it to benefit from any success achieved.

### 2022/23 MRPAM exploration block tender round



Source: MRPAM

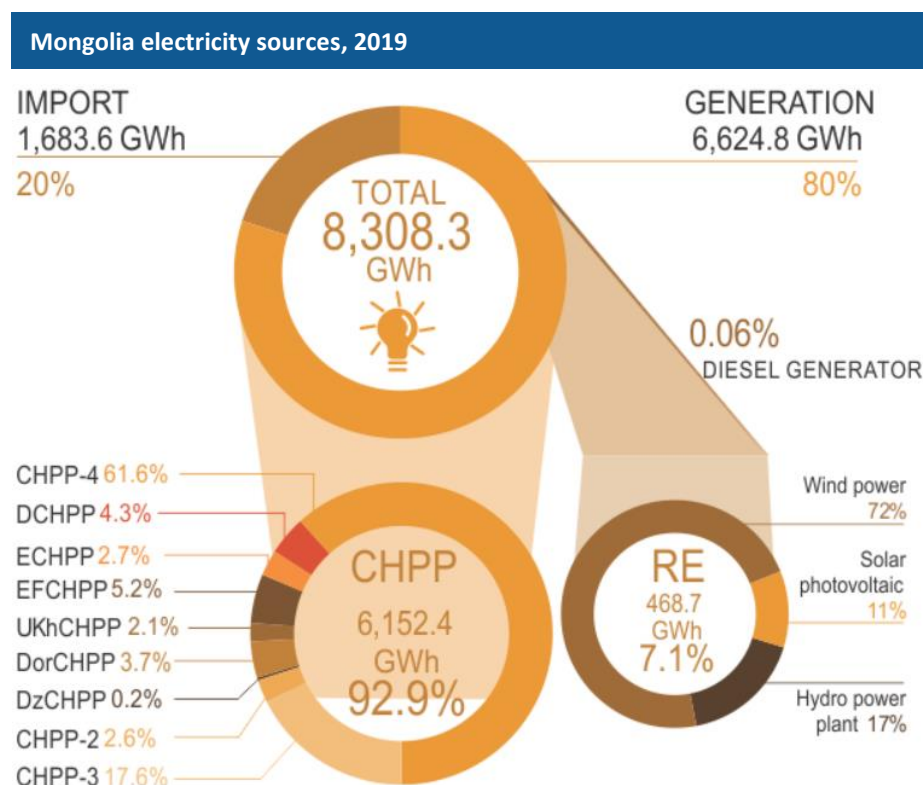
## Renewable energy

*JV to participate in Mongolia's push for renewables*

The Mongolian government is looking at the potential to significantly increase the country's renewable power capacity. Electricity demand in Mongolia increased by 40% between 2015 and 2021, with most of this being met by coal-fired CHPP. However, Mongolia's large land mass and low population mean that it is ideally placed to benefit from renewables, especially wind and solar. The government recently announced targets for 2030 that include 30% of domestic power generation coming from renewables (from c.10% currently), with a 36% reduction in traditional thermal power. According to IRENA (International Renewable Energy Agency), Mongolia's solar and wind resources alone could reach 15,000 terawatt-hours per year.

As might be expected, Petro Matad is very eager to take part in this high-growth activity. In 1Q 2023, the company formed a joint venture, SunSteppe Renewable Energy, with Wolfson LLC to look at renewable projects in Mongolia. Wolfson is an investment management company focusing on the Mongolian market and provides renewable experience, expertise and government contacts, while Petro Matad provides skills in project execution capability and in country infrastructure. A majority Mongolian management has been put in place led by Zula Luvsandorj, who has experience in the Mongolia renewables sector.

The JV has identified a raft of projects from battery storage through to wind and solar generation. Although there will be some small outlay, it is envisaged that much of the funding will come from government grants, bank financing (development and commercial) and vendor financing. Petro Matad would look to exploit its early entrant advantages and there is the potential that, as the market expands, it could sell to larger players.



Source: Energy Regulatory Commission



*Fundraise provides sufficient funds for its firm work programme*

## Finances

At its interim results in September, Petro Matad had net cash of US\$6.6m. Since then, the company has conditionally raised a further US\$6m gross through a capital raise of 195 million shares at 2.5p/share to retail and institutional shareholders. We believe that this fundraise will give the company sufficient funds to carry out its firm work programme (proposed exploration in Block V, new licence rounds and renewable projects). The firm programme is expected to cost approximately US\$4m, of which half will be the initial exploration well on Velociraptor, with the remainder being used on the licensing round and renewable projects. Petro Matad will prioritise the Heron-1 well once the land access issue is resolved. This will allow the company to start generating cash flow that can be used to fund the business.

## Valuation

### Methodology

For valuing E&P companies, we take the traditional approach to asset valuation that is used by the industry. Investors should therefore view any valuation in the context of their own assessments of the relevant risks. This valuation is derived through using a DCF (discounted cash flow) methodology to the known fields and discoveries of the company. The field production profiles, capital expenditure and operating costs are modelled under the appropriate fiscal regime to give a cash flow profile, which is discounted to provide a net present value for each asset. We usually add an element of value for the risked exploration upside to give an indication of how this asset value may change over the next 12 months. The risk that we take is based on the play chances (reservoir, source and seal) coupled with the local chances (seal, migration and trap). Adding these together, we can derive a RENAV (Risked Exploration Net Asset Value).

### Oil prices

We have assumed a flat oil price. In our base case, we use a Brent oil price of US\$70/bbl. This is below the current level of approximately US\$85/bbl but is the level that the forward futures curve tends to gravitate to over the next few years. This is higher than the previous forecast we used, set at US\$60/bbl, which reflected the global recovery after Covid and the increased uncertainty after Russia's invasion of Ukraine.

### Discount rate & exchange rates

The discount rate used in the valuation is the standard 10%. Although it could be argued that this should be adjusted to reflect the company's WACC (weighted average cost of capital), this is the standard rate that is widely used by the industry in making acquisitions.

The oil and gas industry works in US dollars. Therefore, we have modelled the assets in US dollars and translate this through at the current exchange rate to allow investors to see a Sterling-based valuation. Sterling is currently trading at a USD/GBP level of approximately 1.20, lower than the previous forecast we used (1.40) reflecting the weakness in the UK economy. A stronger US dollar would prove to be beneficial for UK shareholders. This change in exchange rate gives an approximate 17% translational increase in the Sterling value.

## Asset valuation

For the asset valuation we have taken the value of the Heron Base development with a chance of success being a conservative 80%, which reflects the uncertainty of the land access issue that might delay the project. There is still some uncertainty with the Heron Target development, which has recently increased with the issue of land access. Although the reserves are in place, there are questions over the ability to get the recovery rate higher. We have therefore assumed that there is a 50% chance of achieving this compared to the Heron Base development. We have also added the potential risked upside in the exploration. As a risking, we have assumed the GCOS (Geological Chance of Success), which on the prospects to be drilled in the next two years is as follows: Saiga (57%), Gobi Bear (17%) and Velociraptor (20%). As mentioned earlier, the Velociraptor prospect would prove significant to our risked exploration value. We have adjusted the balance sheet to reflect the recent fundraise and higher number of shares.

The table below details the asset value we derive for the company. For the Heron Base development, we derive a value of approximately 11.2p/share, which compares with our previous valuation of 10.1p/share as the beneficial impact of exchange rates and commodity prices more than offsets the higher risking and higher number of shares. The Heron Target development upside and risked exploration in Block XX add a further 7.3p/share and 7.5p/share. The big swing factor is Velociraptor. This prospect adds 32p/share compared with our previous estimate of a mere 3p/share given management's view of the high 200 mmbbl prospective resource potential, which represents significantly higher reserves than our previous estimate of 50 mmbbl, and management's expectation of production start-up. Success or failure here will have a marked impact on our RENAV. Stripping out the Velociraptor prospect, the RENAV would be 26.7p/share, up from 25.2p/share.

Petro Matad RENAV (p/share)				
	Risking %	NPV US\$m	NPV £m	p/share
<b>Fields</b>				
Heron Base	80%	149.7	124.8	11.2
<b>Exploitation upside</b>				
Heron Target	40%	98.0	81.7	7.3
<b>Exploration upside</b>				
Gobi Bear	17%	50.8	42.3	3.8
Saiga	57%	48.8	40.7	3.7
Velociraptor	20%	427.2	356.0	32.0
Balance sheet	100%	10.0	8.3	0.7
<b>Total</b>		<b>784.5</b>	<b>653.8</b>	<b>58.7</b>

Source: Progressive Equity Research estimates

Note: The above analysis is for information purposes only and does not represent a stock price valuation or target price. Investors should view any valuation in the context of their own assessment of the relevant risks.

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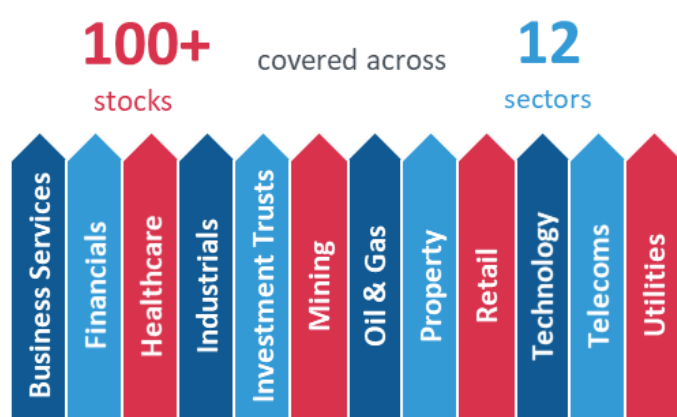
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