

# Company Presentation

JUNE 2024

TSXV: PLSR

OTCQB: PSRHF



The Force in Helium



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# Mission Statement

To produce the helium required to sell into the global shortage

First-mover in two new helium friendly jurisdictions. Pulsar's flagship Topaz project has the highest helium content in North America, and its 100% owned Tunu Project in Greenland is one of very few primary occurrences in Europe



Topaz Project



Max. Helium content

14.5%

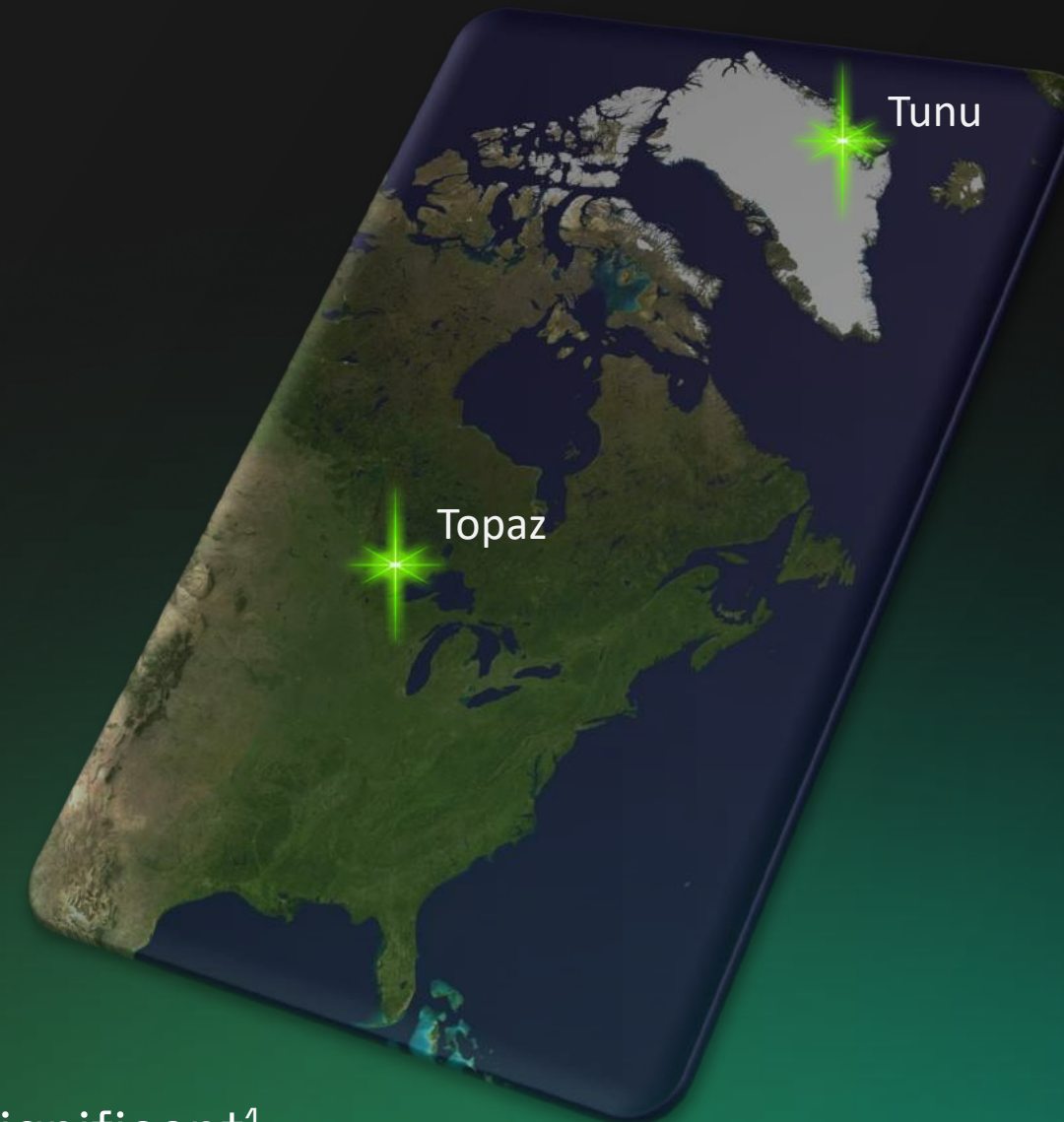
Working Interest

100%

Appraisal well drilled in 2024

Resource calculation due Q3 2024

Ongoing field activities



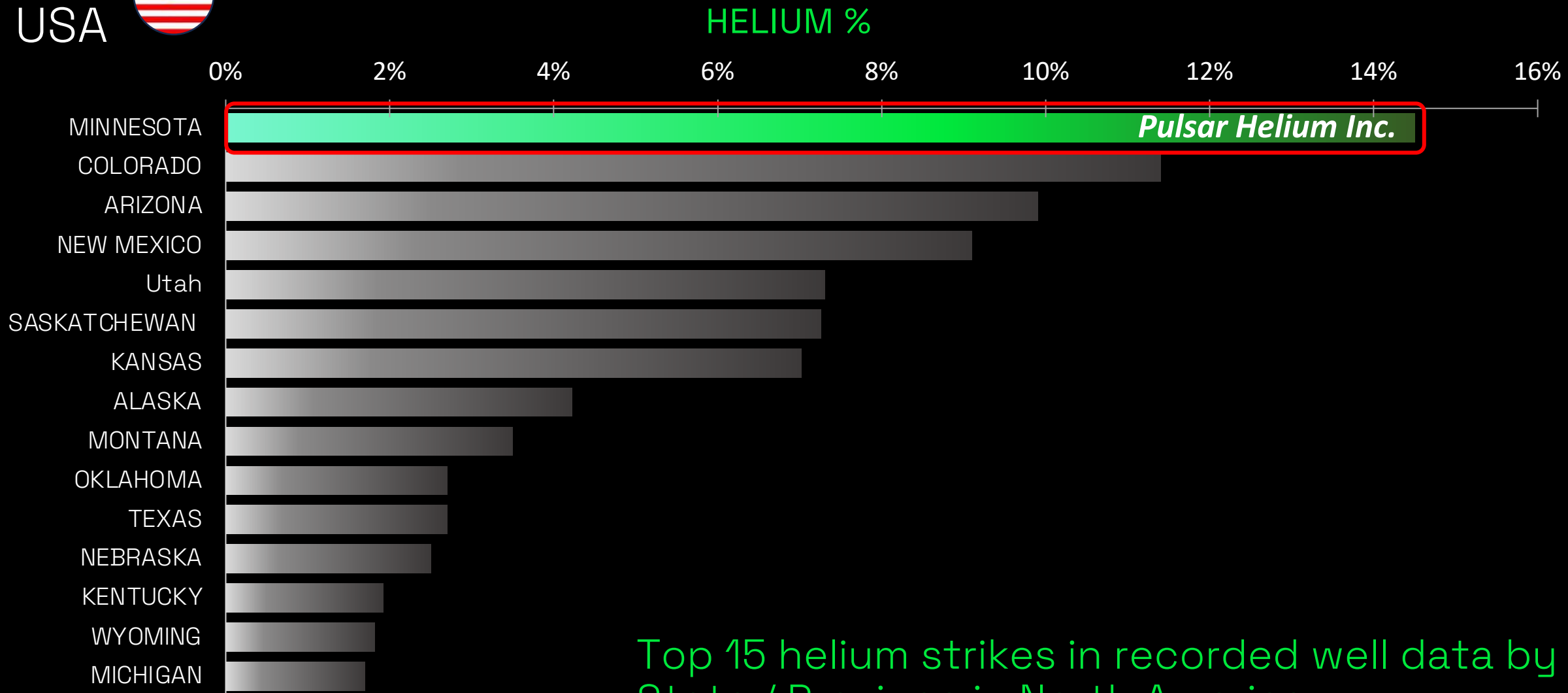
0.3% helium concentration or higher is considered economically significant<sup>1</sup>

# Competitive Advantages



The Topaz helium project is in the top tier of listed companies for primary helium discoveries

Topaz Project  
Minnesota, USA 



Top 15 helium strikes in recorded well data by State / Province in North America

Source: Edelgas Group

# Corporate Snapshot



## CAPITAL STRUCTURE

TSXV (Canada) TICKER	PLSR
OTCQB (USA) TICKER	PSRHF
SHARE PRICE (TSXV CLOSE, JUNE 10, 2024)	C\$0.99
ISSUED SHARE CAPITAL	104.5 M
WARRANTS	18.4 M
OPTIONS	9.3 M
PSUs	4.0 M
FULLY DILUTED	136.2 M
BASIC MARKET CAPITALIZATION	C\$103.5 M
CASH	C\$3 M

## SHAREHOLDER BASE

ABCRESCENT B.V.	15%
NEIL HERBERT (EXECUTIVE CHAIRMAN)	12%
THOMAS ABRAHAM-JAMES (PRESIDENT & CEO)	12%
OTHER FOUNDING SHAREHOLDERS	23%
PUBLIC SHAREHOLDING FLOAT	38%

46% of issued share capital is subject to escrow

## TSXV: PLSR



Pulsar listed on the TSX Venture Exchange in Canada on August 15, 2023 via initial public offering (IPO)

## OTCQB: PSRHF



Pulsar was accepted on the OTCQB in the USA on March 20, 2024, and obtained DTC eligibility on April 16, 2024





# Board of Directors

**Thomas Abraham-James** Co-founder, President & CEO



- Corporate executive and chartered geoscientist
- Co-founder & former managing director of Helium One Global Ltd (LSE: HE1)
- 18+ years in mineral resources (10 years in helium)

**Neil Herbert** Co-founder & Executive Chairman



- Corporate executive & accountant
- Former chairman of Helium One Global Ltd (LSE: HE1) and current chairman of Atlantic Lithium (LSE: ALL)
- 30+ years in mineral resources

**Doris Meyer** Independent Director



- Financial professional & corporate executive
- Non-executive with TSXV:AZR, NSU & PEAK
- 40+ years in mineral resources

**Jon Ferrier** Independent Director



- Corporate executive & geoscientist
- Former CEO of Gulf Keystone Petroleum Ltd (LSE: GKP)
- 35+ years in oil and gas

**Brice Laurent** Independent Director



- Financial professional & corporate executive
- Represents ABCrescent B.V. as an investor nominee on the board of Pulsar
- Former investment banker with Morgan Stanley
- 13+ years in finance

**Stu Crow** Independent Director



- Corporate executive & financier
- Chairman of Lake Resources (ASX: LKE)
- 30+ years in mineral resources

# Management

**Josh Bluett**

**Co-founder, Technical Manager**



- Geologist  
Co-founder & former technical director of
- Helium One Global Ltd (LSE: HE1)  
Formerly with d Armour Energy, and AWT
- International  
15+ years in oil & gas (10 years in helium)

**Dan O'Brien**

**Chief Financial Officer**



- Member of the Institute of Chartered Professional Accountants of British Columbia
- CFO for several private and publicly listed exploration companies trading on the TSXV

**Michael Sturdy**

**General Manager - Operations**



- 17+ years of project management and geologist experience in the upstream oil & gas industry
- Formerly with ConocoPhillips, SM Energy, BG Group, and Armour Energy

**Hans Jensen**

**Project Manager - Greenland**



- 10+ years of project management experience
- 30 years' experience in Greenland
- Former Managing Director of Dundas Titanium A/S

**Marc Farrington**

**Public Outreach & Partnerships**



- Founder of multiple digital IPs inc. the 'IWS' eSports platform, now partnered with Warner Bros Discovery
- Established multiple cooperative partnerships with blue chip leaders inc: Samsung, Red Bull, Twitch and many more

**Ben Meyer**

**Corporate Secretary**

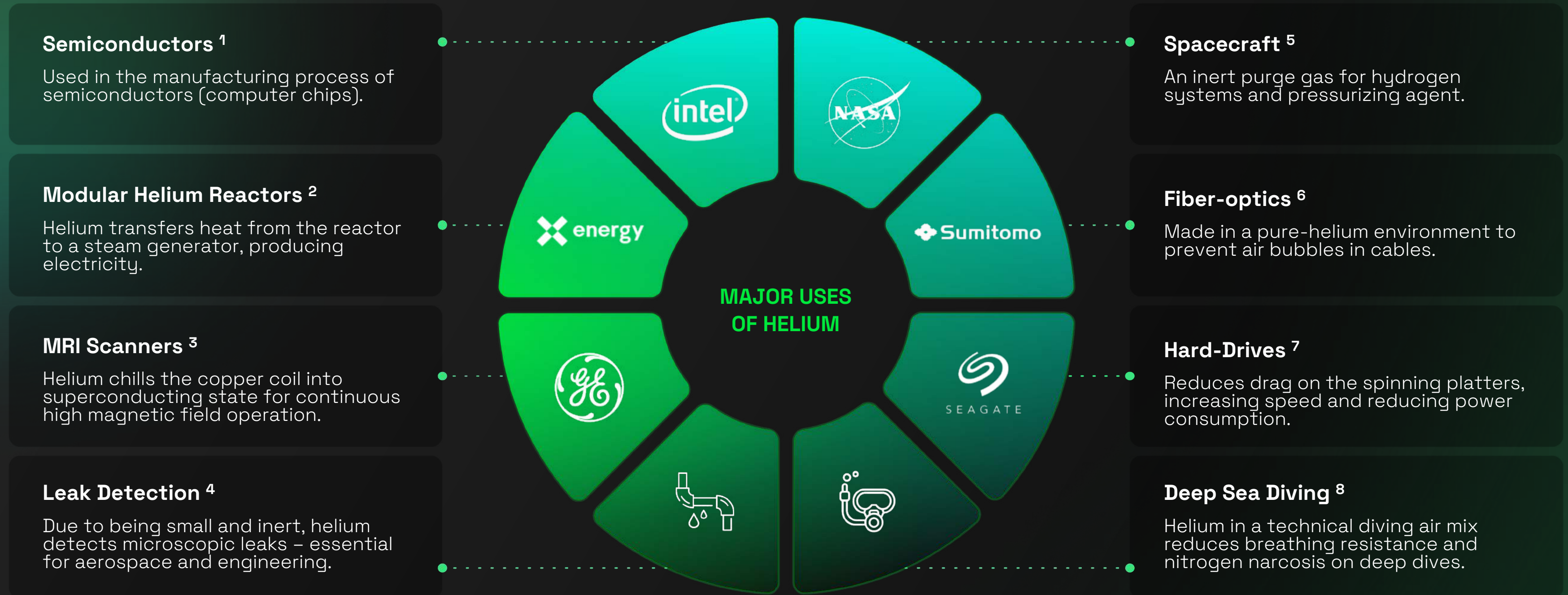


- Corporate Secretary to the Company and Corporate Secretary for a number of publicly listed exploration companies trading on the TSXV



# Uses – it is not about party balloons

Helium is critical the technology of today, and the future





# Pricing – significant growth



**>100x the value of natural gas**

## 638% Price Increase

for Grade-A gaseous helium since the year 2000<sup>1</sup>

## Two helium products

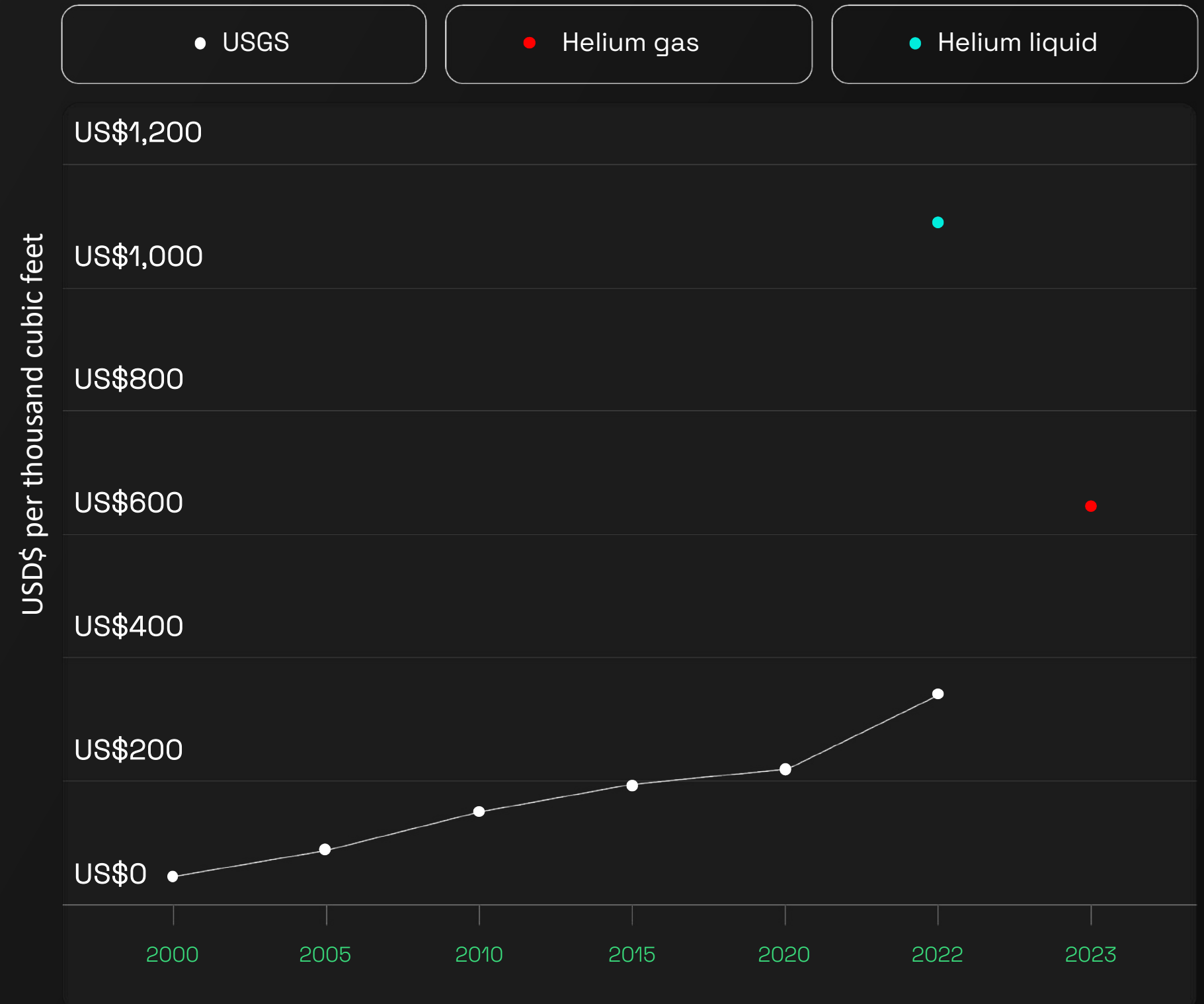
**Liquid helium:** most valuable product, used by tech industry  
**Gaseous helium:** 99.9% or above purity

## Liquid helium pricing

2022 off-take with NASA valued the liquid helium and ancillaries at **~US\$1,100 per Mcf<sup>3</sup>**

## Gaseous helium pricing

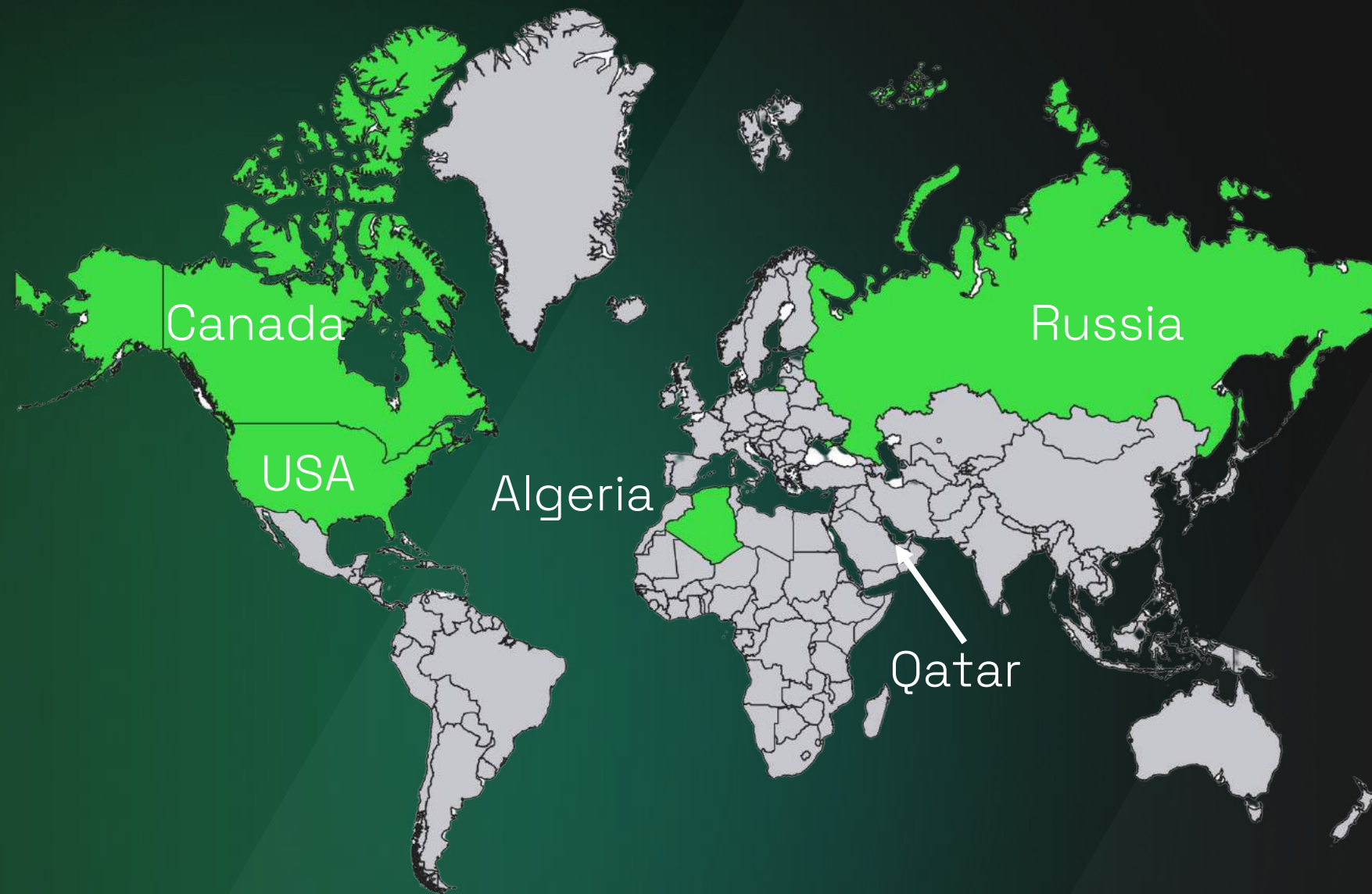
2023 off-take valued at **US\$625 per Mcf<sup>2</sup>** of Grade-A gaseous helium<sup>2</sup>



# Supply – USA in decline

Global helium supply has been constrained for the past decade

The world's big helium producers:



## USA PRODUCTION IS IN SIGNIFICANT DECLINE DUE TO AGEING GAS FIELDS AND THE SALE OF THE FEDERAL HELIUM RESERVE

- ✦ The USA Federal Helium Reserve is near depletion and was privatized in 2024, this was the world's only large primary helium reserve – the flywheel in the system
- ✦ Exxon Mobil (USA) stands as the most reliable source
- ✦ Algerian supply is influenced by Europe's varying LNG demand
- ✦ Qatar is overshadowed by geopolitical risk
- ✦ Russian supply not coming to North America anytime soon



**To the end user, reliability and sustainability of any supply outweigh price and volume.**

Source: Edelgas Group

Disclaimer: Subject to market conditions, risks, and uncertainties. No assurances can be made that such forward-looking market information will occur or prove to be correct.

# Demand – constrained by supply

Global helium supply has been constrained for the past decade; not all end-users are receiving their full allocation

**8.1 Bcf** (billion cubic feet)

(2030 EST.)

**6.6 Bcf**

(2025 EST.)

**6.1 Bcf**

(2023)

A growth commodity

Helium is often not something that can be substituted for another product. This is due to helium's unique properties, which are:

- ✦ Inert
- ✦ A liquid at -269°C (-452.2 °F)
- ✦ The boiling and freezing points are lower than those of any known substance
- ✦ Cannot be solidified by sufficient cooling at atmospheric pressure

Source: Edelgas Group

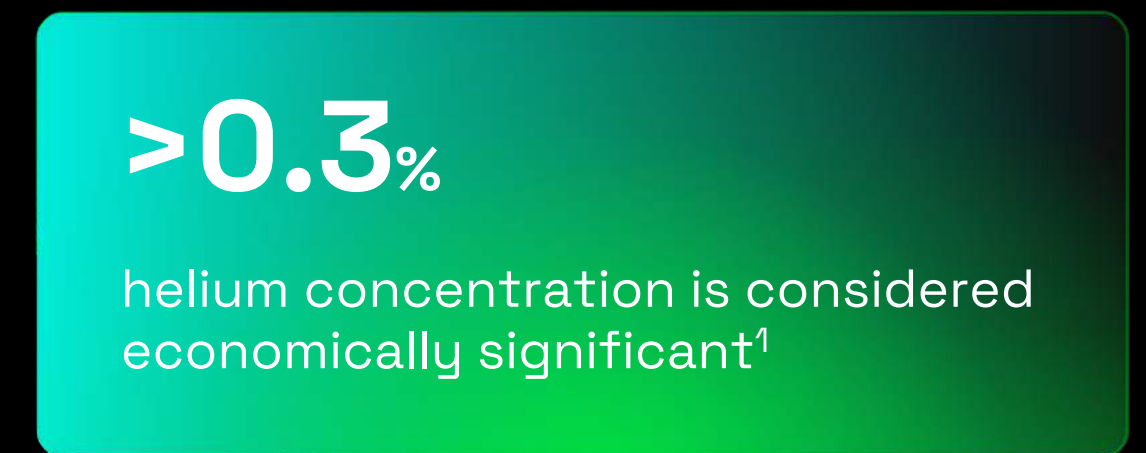
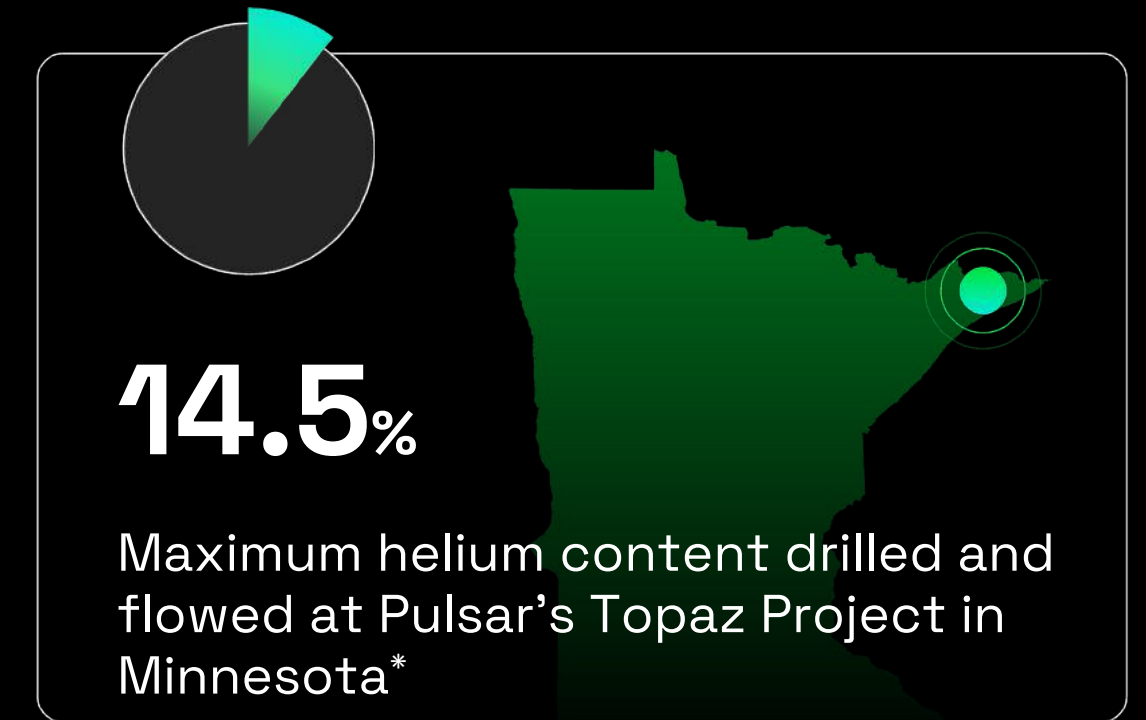
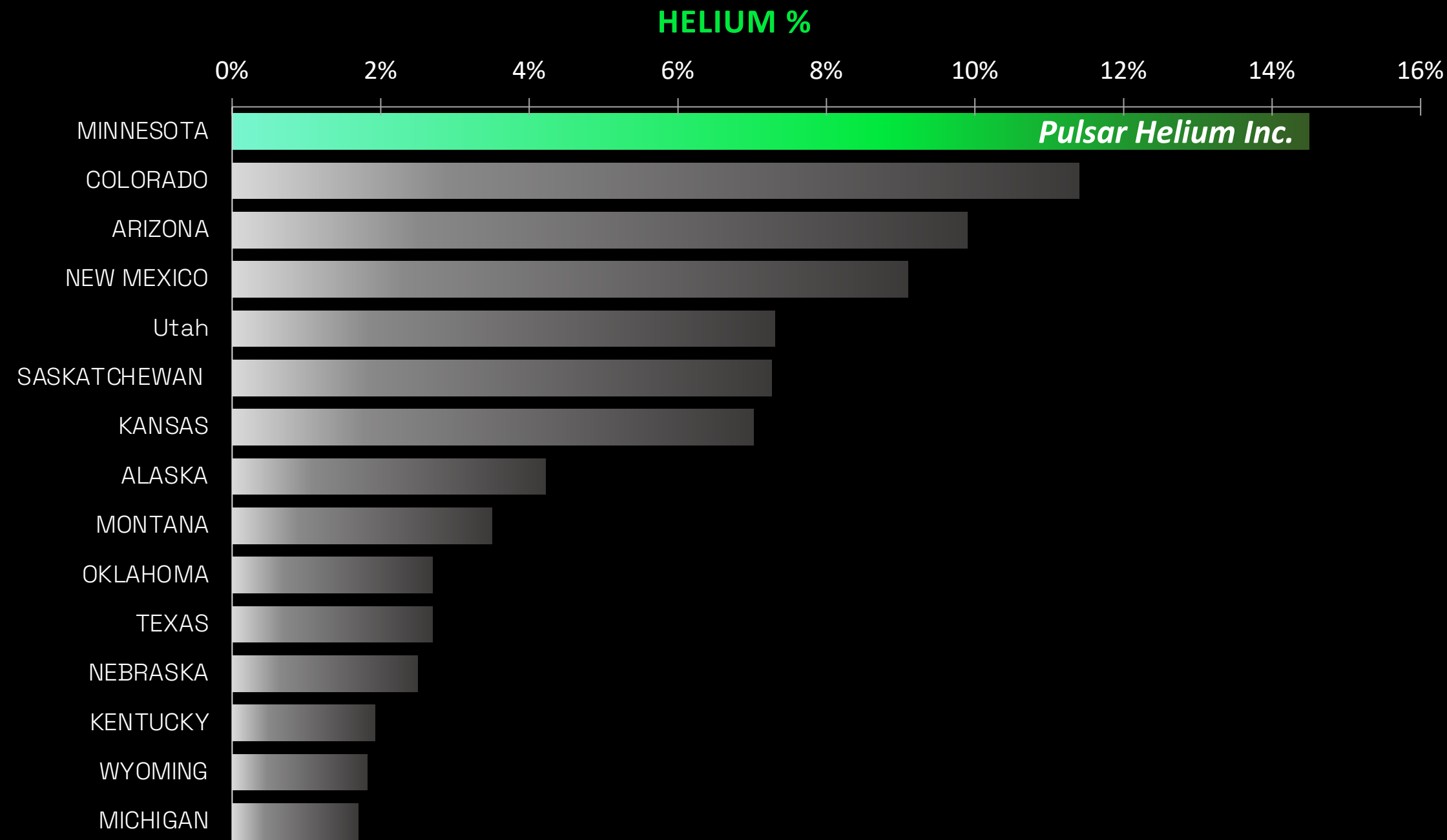
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# Topaz Project, a world-class discovery



Top 15 helium strikes in recorded well data by State / Province in North America

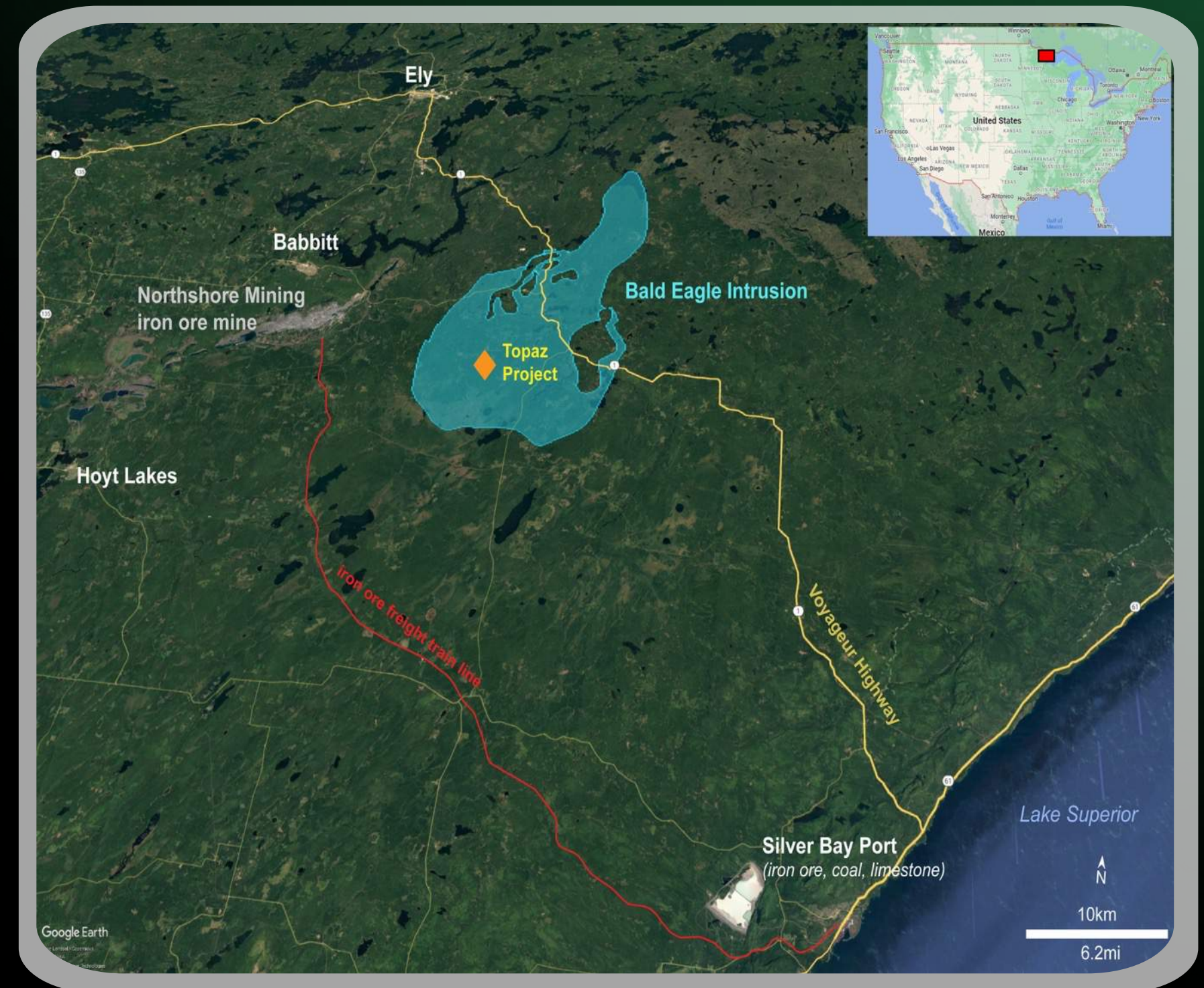


\* Refer to Pulsar News Release dated June 6, 2024



# Topaz - Location, location, location

- ✦ Located in Lake County, northern Minnesota.
- ✦ The State of Minnesota passed new helium-specific legislation in May 2024, giving certainty moving forward.
- ✦ Natural resources have been the backbone of the local economy for 150 years.
- ✦ Grid power nearby (the only consumable required for helium production).
- ✦ Next to the Voyageur Highway that leads to Duluth (125 km / 78 mi) and Minneapolis (380 km / 236 mi).
- ✦ Liquid helium is transported in 40' containers that are moved by truck or vessel.
- ✦ Private mineral rights over 2,089 net acres, with an exclusive option for 2,092 additional net acres. Applications for mineral right leases also submitted with the State of Minnesota and additional private holders.



Topaz location map



# Topaz - Jetstream #1 appraisal well

The first dedicated helium well drilled in Minnesota, designed to replicate the original discovery made in 2011

The original discovery was a mineral exploration hole that encountered gas by chance, with a reported content of 10.5% helium. Jetstream #1 was drilled 50ft (15m) away and is a successful appraisal (proof of concept)

- ✦ Drilled in Feb '24 to a total depth (TD) of 2,200 feet (671 meters) - open at depth
- ✦ Helium and associated gases flowed naturally to surface in a free gas phase
- ✦ Flow testing recorded a maximum rate of 821 Mcf per day (23,248 m<sup>3</sup> per day) under well-head compression
- ✦ Bottom hole-pressure of 162 psi (1,117 kpa), flowing tubing head pressure of 20 psi (138 kpa) on a 1" choke
- ✦ Laboratory results confirm helium concentrations between 8.7–14.5%
- ✦ Fractured basement-style reservoir

Pulsar President and CEO, Thomas Abraham-James, stated:

“The results of the Jetstream #1 flow test and laboratory analysis confirm a major new helium discovery, putting Topaz in the top tier of global primary helium projects.”



Drilling Jetstream #1



# Topaz - Jetstream #1 appraisal well

February 2024





# Topaz - Jetstream #1, knowledge learned

Insights into reservoir characteristics are significant

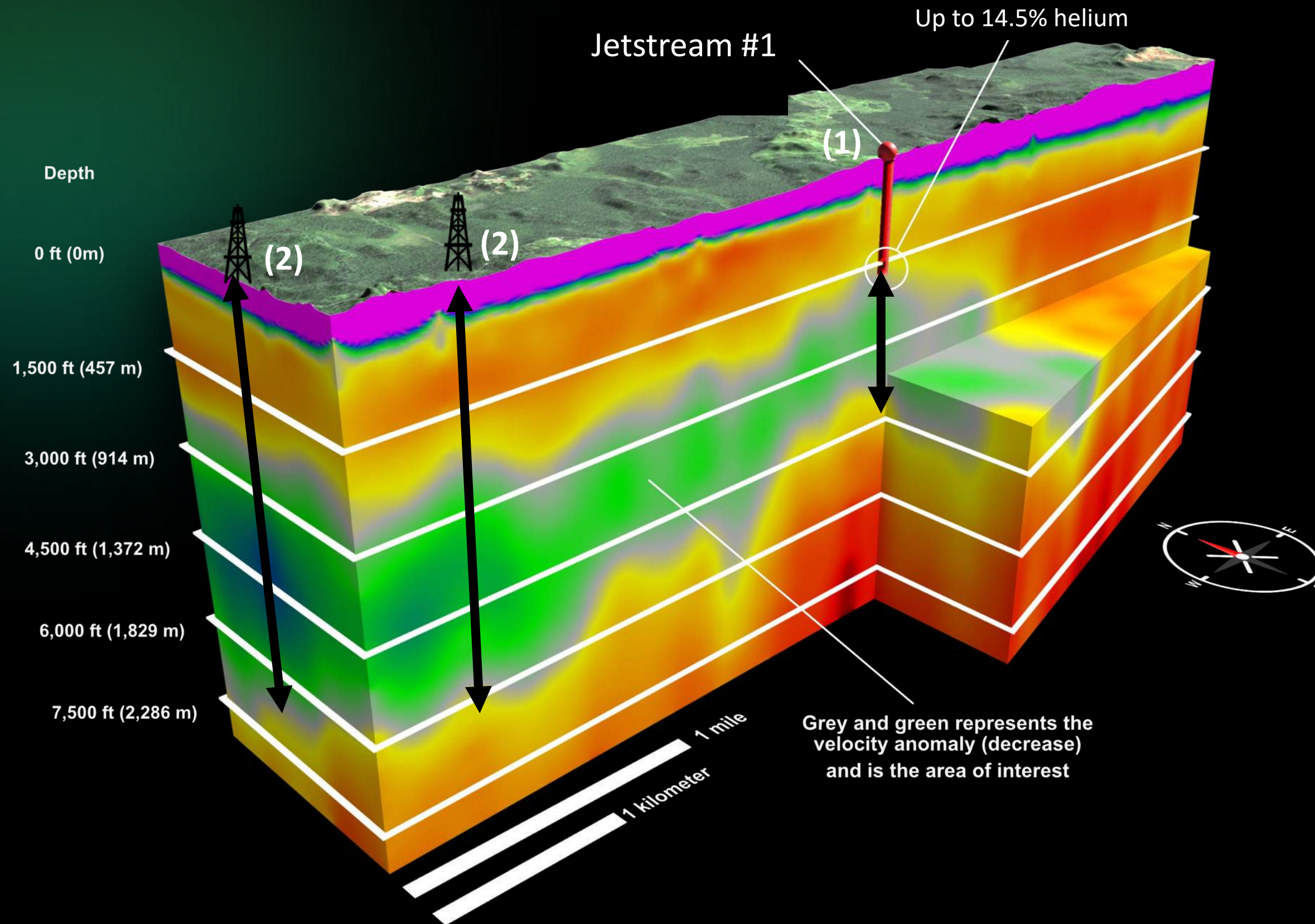
## Reservoir Insights

- ✦ Downhole logging (optical televiewer & vertical seismic profile) data supports a preliminary interpretation that the passive seismic highlights a gas-charged fracture system which extends vertically and laterally from Jetstream #1. Giving potential for large prospective rock volume, to be the target of future drilling. Additional seismic acquisition is proposed.
- ✦ The gas-charged zone exhibits no evidence of formation water.
- ✦ The helium content is very high. This has significant implications:
  - Less overall gas in place required to support a large commercially viable resource,
  - Less gas required to be processed per Mcf of helium produced in comparison to gas streams containing lower helium content. Likely to see commercial efficiencies in plant capital and operating costs.





# Topaz - Building on our success



Existing seismic data indicates that the helium-rich, gas charged fracture sets correlate with a velocity decrease (displayed in green).

Now that proof of concept is confirmed, the objective is to drill additional wells to contribute to any potential production facility and prove up the resource size.

We aim to achieve this by:

(1) Deepening Jetstream #1 by a further ~700m, and

(2) Drill two wells targeting step-out intersections of the helium bearing fracture system (locations to be determined).



# Topaz - the CO<sub>2</sub> opportunity

The USA has been experiencing a CO<sub>2</sub> shortage and Minnesota is an importer

CO<sub>2</sub> content at Jetstream #1 is very high (up to 71.3%) and has the potential to be a significant value add, with prices surging up to U\$600 per ton (US\$28 per Mcf) for bulk purchases<sup>1</sup>

## Uses

**Beverages:** to carbonate drinks.



**Medical:** during surgeries such as endoscopy, laparoscopy and arthroscopy. Also mixed with other gases for breathing.



**Potable water treatment:** used to reduce the pH level, forming carbonic acid (H<sub>2</sub>CO<sub>3</sub>) when dissolved in water.



**Food preservation:** controlled atmosphere for storage and transportation. It is also used to extend the shelf life of dairy and baked products.



## The Shortage

There are multiple contributing factors: (1) **Jackson Dome:** a geological deposit in Mississippi that has become increasingly contaminated with hydrocarbons. This requires more cleanup which has slowed production., (2) **Ammonia production:** CO<sub>2</sub> is a byproduct of ammonia production. Summertime plant closures for maintenance further exacerbate supply woes, and (3) **Increased demand:** in particularly for dry ice for shipping, and enhanced oil recovery, without sufficient new sources coming online.



# Topaz - making the headlines



## Pulsar Helium's Jetstream well roars

JUNE 1, 2024 / CONVERSATIONS



BUSINESS

## "A dream. It's perfect": Helium discovery in northern Minnesota may be biggest ever in North America



By Jonah Kaplan  
Updated on: February 29, 2024 / 9:06 PM CST / CBS Minnesota



MINNESOTA Published March 3, 2024 10:50am EST

## Helium discovered in Minnesota as US supplies dwindle



Helium has applications in medical, tech, defense industries



STREAMING ON  
CBS NEWS  
MINNESOTA

# HELIUM MINING

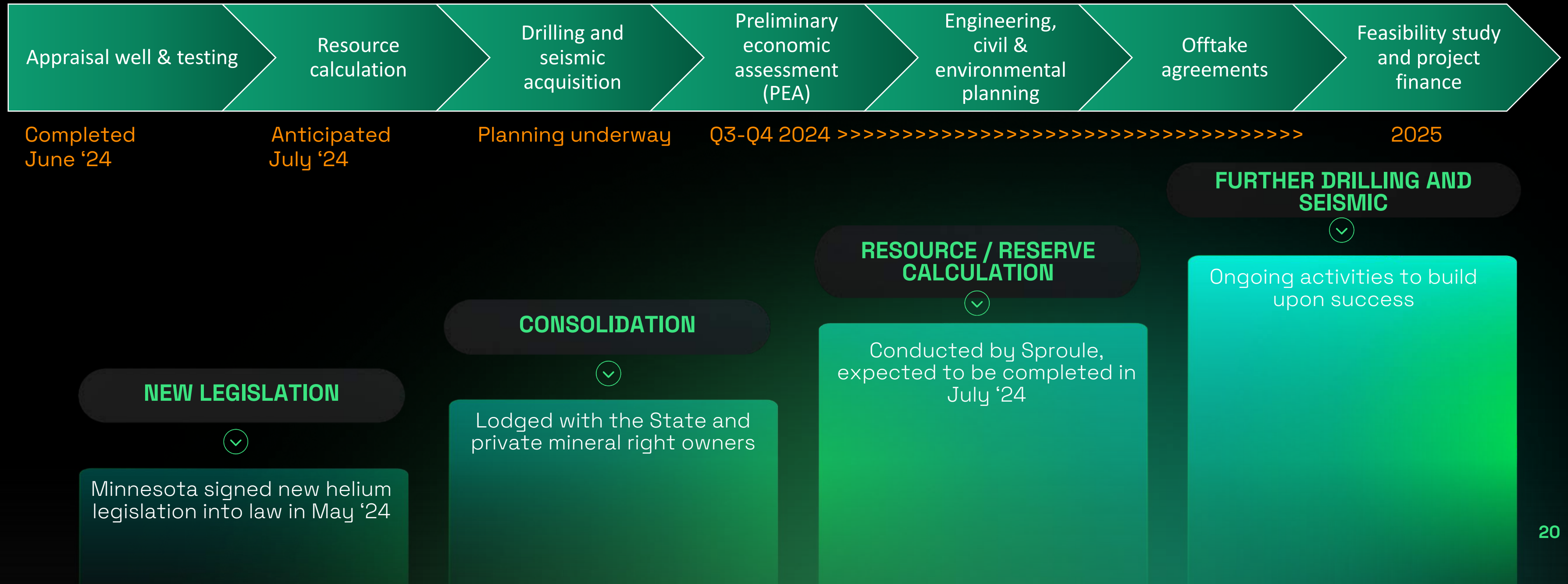


# Topaz - short pathway to production



Successful appraisal (proof of concept) at Topaz has given the encouragement to realize production potential


Work completed to date is just the tip of the iceberg. The proposed work program consists of steps that are intended to determine and increase the volume of the gas reservoir, increase its size, and increase daily helium production potential. All proceeding well, this is anticipated to culminate in a feasibility study and final investment decision for plant build.




# Contact




**Connect today and join  
our vibrant community  
of investors!**

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#PULSARHELIUM

#PULSARSCHOLARS

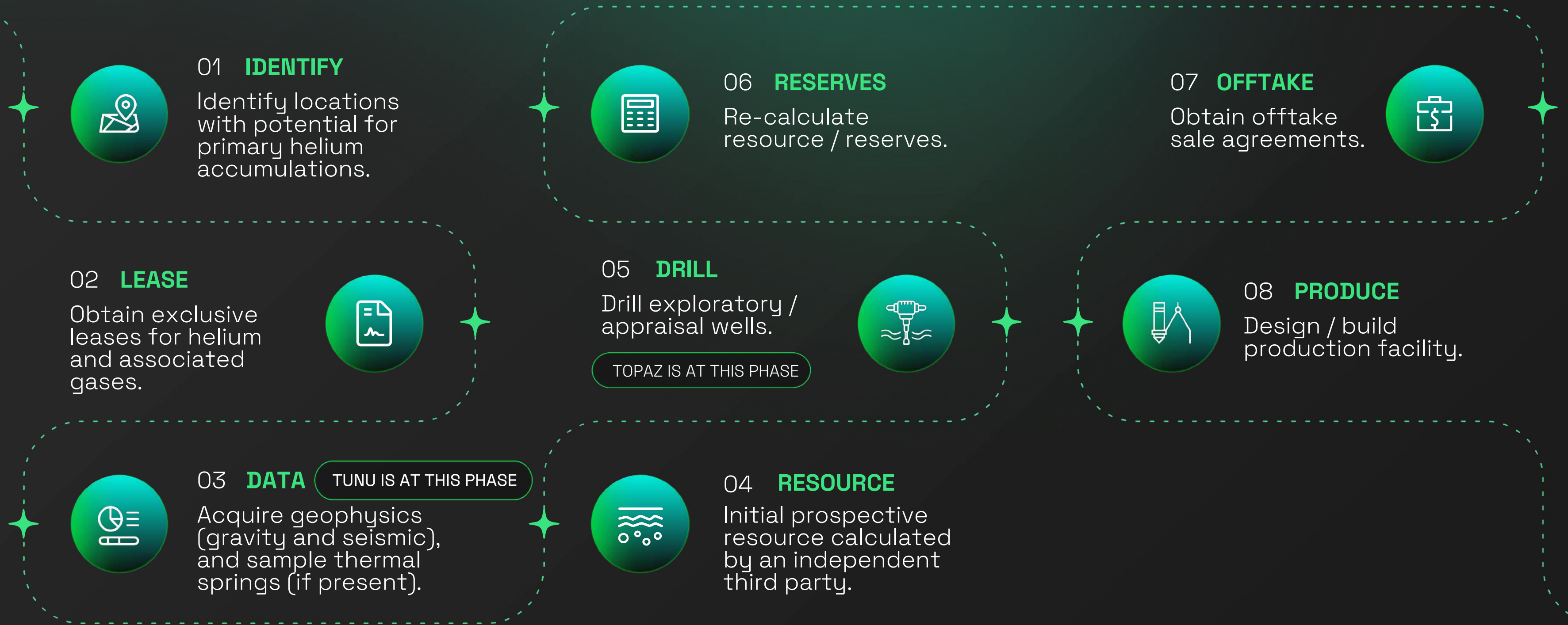
#PULSARIGNITE



# Appendix



# Roadmap to success





# Tunu Project - overview

First mover in Greenland, the first to obtain a licence for helium and hydrogen

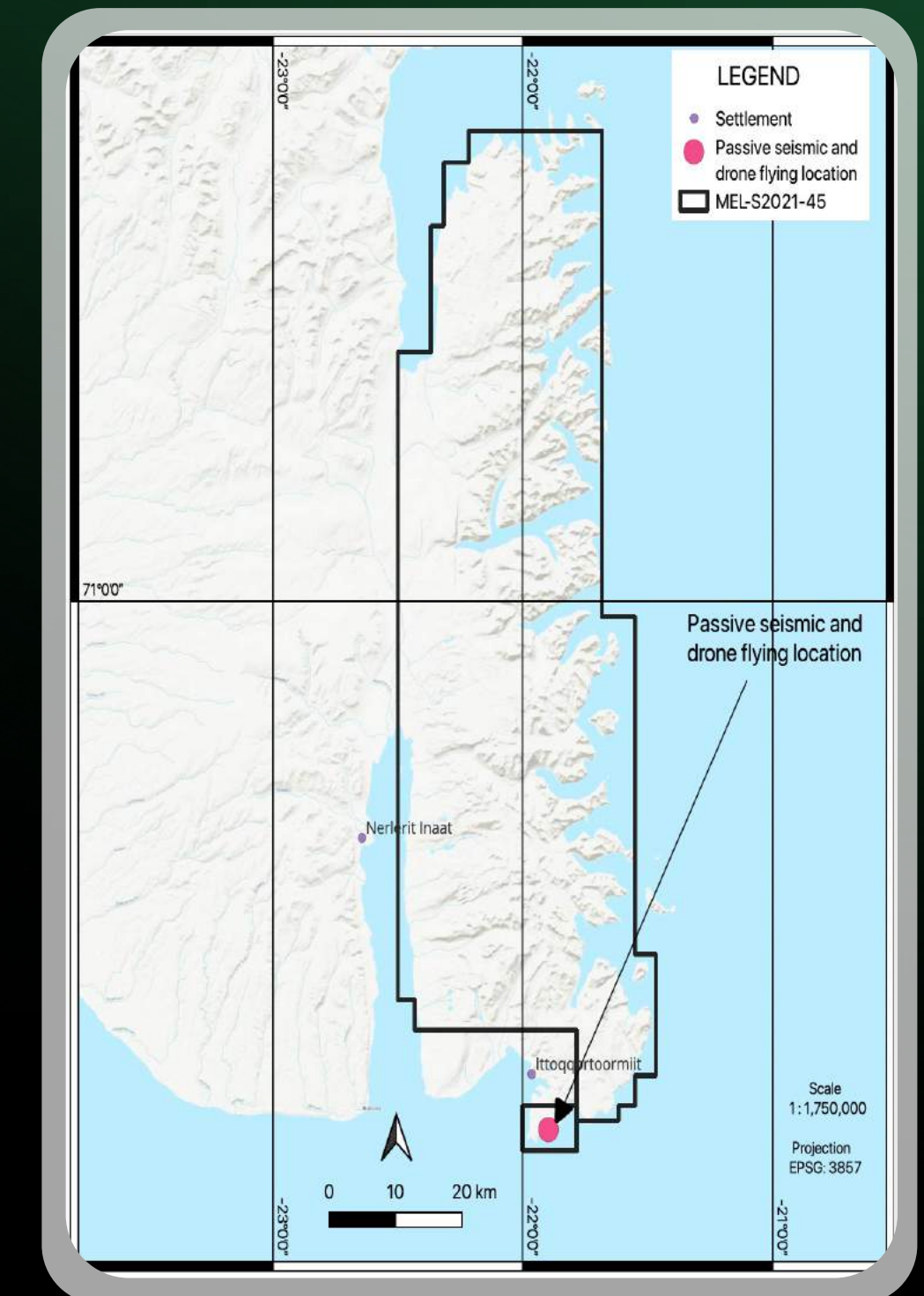
On the European Commission's list of critical raw materials

## Overview

- ✦ East coast of Greenland, Europe facing
- ✦ Competent Person's Report written by Sproule International Limited (2022) & exploration potential report written by SRK Exploration Services Ltd. (2023)
- ✦ Helium concentrations of up to 0.8% from hot spring sampling
- ✦ Close to the EU market:  
Shipping to Aarhus, Denmark = ~4 days\*

## Licence Terms

- ✦ A total licence area of 2,816km<sup>2</sup> (~685,000 acres)
- ✦ Exclusive rights to all mineral resources (including helium and hydrogen), except hydrocarbons and radioactive elements



\* Distance is ~2,500 kilometers, and a container vessel averages 29.6km/hr. Therefore  $2,500 / 29.6 = 84.5$  hours



## Proposed 2024 Field Activities

- ✦ Ambient Noise Tomography (ANT) passive seismic survey
- ✦ Drone geothermal and aeromagnetic surveys
- Assess geothermal energy potential with partners in Iceland

## Summary

- ✦ The results to date justify the theory that East Greenland has the required geology for an active primary helium system
- ✦ Potential for funding from the European Commission, helium is on the critical raw material list and geothermal energy may benefit the local community



2022 hot spring sampling



<b>Term</b>	<b>Description</b>
Air contamination	Contamination of atmospheric air within a sample
Appraisal well	Exploration well drilled to establish the extent and size of a helium deposit that has already been discovered by a wildcat well
Bcf	Billion cubic feet
Concentration	For a gas mixture, concentration refers to the number of gas particles (percent) of a particular type that exists in the mixture
Grade-A	Means a grade that is 99.995 percent pure helium, or better by volume
ISO container	An intermodular container, also referred to as a shipping container
Lease	An agreement between a mineral owner (lessor) and a mineral right holder (lessee) permitting the lessee to explore, drill and produce helium and associated gases from the tract of property. Typically, the lease provides that lessee will pay a Royalty to the lessor. Also referred to as a "mineral lease"
LNG	Liquified Natural Gas
Mcf	Thousand cubic feet
MMcf	Million cubic feet
Mineral right	The legal ownership rights to underground mineral resources
Net acre	The minerals in a tract of land may be owned by one or more owners. Each owner may lease its respective percentage share of the minerals. The "net acres" refers to the lessor's percentage share of the gross acres
Reserve	A subcategory of resources, where gas deposits are regarded as technically and economically feasible to extract from a geological formation
Resource	Gas deposits that have been considered to be physically present in a geological formation using a method of exploration
Royalty	A percentage share of production, or the value derived from that production, paid from a producing well
Surface right	The legal ownership rights to land or property

## Slide

## Reference(s)

3	<sup>1</sup> <a href="https://repository.mines.edu/handle/11124/172822">https://repository.mines.edu/handle/11124/172822</a>
9	<sup>1</sup> <a href="https://www.instituteforenergyresearch.org/fossil-fuels/helium-is-instrumental-in-semiconductor-manufacturing/">https://www.instituteforenergyresearch.org/fossil-fuels/helium-is-instrumental-in-semiconductor-manufacturing/</a> . <sup>2</sup> <a href="https://www.energy.gov/ne/articles/x-energy-developing-pebble-bed-reactor-they-say-cant-melt-down">https://www.energy.gov/ne/articles/x-energy-developing-pebble-bed-reactor-they-say-cant-melt-down</a> <sup>3</sup> <a href="https://www.europhysicsnews.org/articles/epn/pdf/2012/04/epn2012434p26.pdf">https://www.europhysicsnews.org/articles/epn/pdf/2012/04/epn2012434p26.pdf</a> . <sup>4</sup> <a href="https://www.tqc.co.uk/our-services/leak-testing/helium/guide-to-helium-leak-testing/">https://www.tqc.co.uk/our-services/leak-testing/helium/guide-to-helium-leak-testing/</a> <sup>5</sup> <a href="https://www2.jpl.nasa.gov/basics//cassini/he.html#:~:text=Helium,valves%20in%20the%20propulsion%20system.">https://www2.jpl.nasa.gov/basics//cassini/he.html#:~:text=Helium,valves%20in%20the%20propulsion%20system.</a> <sup>6</sup> <a href="https://summitsourcefunding.com/helium-used-for-internet-access-fiber-optics/">https://summitsourcefunding.com/helium-used-for-internet-access-fiber-optics/</a> <sup>7</sup> <a href="https://blog.westerndigital.com/race-to-seal-helium/">https://blog.westerndigital.com/race-to-seal-helium/</a> (8) <a href="https://www.envinsci.co.uk/use-helium-deep-sea-diving/#:~:text=Benefits%20of%20helium%20for%20divers&amp;text=In%20some%20dives%20%20both%20nitrogen,surface%20%20without%20suffering%20decompression%20sickness.">https://www.envinsci.co.uk/use-helium-deep-sea-diving/#:~:text=Benefits%20of%20helium%20for%20divers&amp;text=In%20some%20dives%20%20both%20nitrogen,surface%20%20without%20suffering%20decompression%20sickness.</a>
10	<sup>1</sup> <a href="https://www.usgs.gov/centers/national-minerals-information-center/helium-statistics-and-information">https://www.usgs.gov/centers/national-minerals-information-center/helium-statistics-and-information</a> <sup>2</sup> <a href="https://royalheliumltd.com/investors/corporate-presentation/">https://royalheliumltd.com/investors/corporate-presentation/</a> <sup>3</sup> <a href="https://www.nasa.gov/press-release/nasa-awards-contract-for-liquid-helium-acquisition-at-kennedy">https://www.nasa.gov/press-release/nasa-awards-contract-for-liquid-helium-acquisition-at-kennedy</a>
19	<sup>1</sup> <a href="https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/us-risks-industrial-co2-shortage-by-paying-suppliers-to-sequester-emissions-77767528">https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/us-risks-industrial-co2-shortage-by-paying-suppliers-to-sequester-emissions-77767528</a>