AMERICA'S NEXT ENERGY BOOM

NORTH AMERICAN ROADSHOW AUGUST 2025

AHEAD OF A SPONSORED ADR LISTING ON OTCQX

TOP END ENERGY

THE ENERGY OF TOMORROW

DISCLAIMER

This presentation (Presentation) is dated 6 August 2025 and has been prepared and authorised by Top End Energy Limited (ASX: TEE) (ACN 650 478 774) (the Company) for the sole purpose of providing preliminary background information to enable recipients to review the business activities of the Company.

Unless otherwise stated herein, the information in this Presentation is based on the Company's own information and estimates. This Presentation has been prepared by the Company. Information in this document should be read in conjunction with other announcements made by the Company to the Australian Securities Exchange, which is available at www.topendenergy.com.au

This presentation is not a prospectus and does not constitute an invitation, solicitation, recommendation or an offer to purchase or subscribe for securities. This presentation does not purport to contain all of the information that an investor should consider when making an investment decision. The Slides and the accompanying verbal presentation do not constitute a recommendation regarding any decision to sell or purchase securities in the Company. This Presentation and its contents must not be distributed, transmitted or viewed by any person in any jurisdiction where the distribution, transmission or viewing of this document would be unlawful under the securities or other laws of that or any other jurisdiction.

This Presentation is a summary only and contains summary information about the Company and its respective subsidiaries and activities, which is current as at the date of this Presentation (unless otherwise indicated), and the information in this Presentation remains subject to change without notice. The information in this Presentation is general in nature and does not purport to be accurate nor complete, nor does it contain all of the information that an investor may require in evaluating a possible investment in the Company. This presentation has not been prepared in accordance with the requirements of the Corporations Act 2001 (Cth) (Australia) or the U.S. Securities Act of 1933, as amended, and does not constitute a disclosure document, prospectus, offering memorandum, or other offering document under either law. It has been prepared by the Company with due care but no representation or warranty, express or implied, is provided in relation to the accuracy, reliability, fairness or completeness of the information, opinions or conclusions in this Presentation by the Company, or any other party, except as required by law.

Reliance should not be placed on information or opinions contained in this Presentation and the Company does not have any obligation to finalise, correct or update the content of this Presentation, except as required by law. Certain data used in this Presentation may have been obtained from research, surveys or studies conducted by third parties, including industry or general publications.

Certain statements in the Presentation are or may be "forward-looking statements." Forward-looking statements include, without limitation, statements regarding the Company's future plans, objectives, expectations, projections, forecasts, beliefs, or intentions, including statements relating to operational and exploration results, financial performance, future development, and other anticipated outcomes. These forward-looking statements speak, and the Presentation generally speaks, only at the date hereof. The projections, estimates and beliefs contained in such forward-looking statements necessarily involve known and unknown risks and uncertainties, and are necessarily based on assumptions, which may cause the Company's actual performance, results and achievements in future periods to differ materially from any express or implied estimates or projections. Accordingly, readers are cautioned not to place undue reliance on any forward-looking statements contained herein. Relevant factors which may affect the Company's actual performance, results and achievements include changes in commodity price, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, diminishing quantities or grades of reserves, political and social risks, changes to laws and regulations, environmental conditions, and recruitment and retention of personnel.

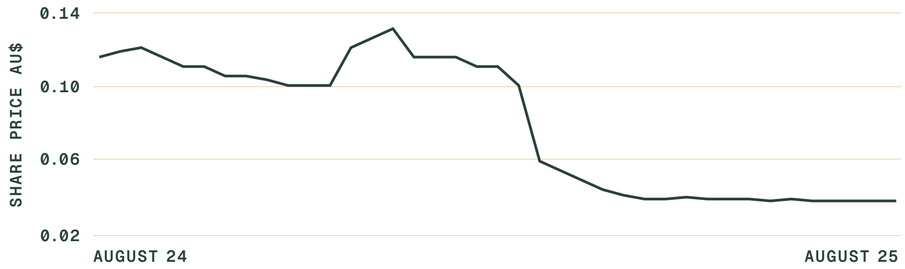
The Company nor any of its advisers, affiliates, related bodies corporate, directors, officers, partners, employees and agents, have authorised, permitted or caused the issue, submission, dispatch or provision of this Presentation and, except to the extent referred to in this Presentation, none of them makes or purports to make any statement in this Presentation and there is no statement in this Presentation which is based on any statement by any of them. To the maximum extent permitted by law, the Company and its advisers, affiliates, related bodies corporate, directors, officers, partners, employees and agents exclude and disclaim all liability, for any expenses, losses, damages or costs incurred by you and the information in this Presentation being inaccurate or incomplete in any way for any reason, whether by negligence or otherwise. To the maximum extent permitted by law, the Company and its advisers, affiliates, related bodies corporate, directors, officers, partners, employees and agents make no representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of information in this Presentation and the statements made in this Presentation are made only as at the date of this Presentation (unless otherwise indicated).The information in this Presentation remains subject to change without notice. This Presentation is not a financial product nor investment advice or a recommendation to acquire securities in the Company. It has been prepared without taking into account the objectives, financial situation or needs of individuals Before making any investment decision, prospective investors should consider the appropriateness of the information having regard to their own objectives, financial situation and needs and seek legal and taxation advice.

CORPORATE SNAPSHOT

CAPITAL STRUCTURE (ASX:TEE) (AU$)

Share Price (5 August 2025)	$0.037
Shares on Issue	280M
Market Capitalisation (undiluted)	$10.4M
Cash (end of Q2, 2025)	$3.8M
Implied Enterprise Value	**$6.6M**
Listed $0.15 Options	69M
Performance Rights	22.5M

PENDING ADR LISTING ON OTCQX THIS QUARTER



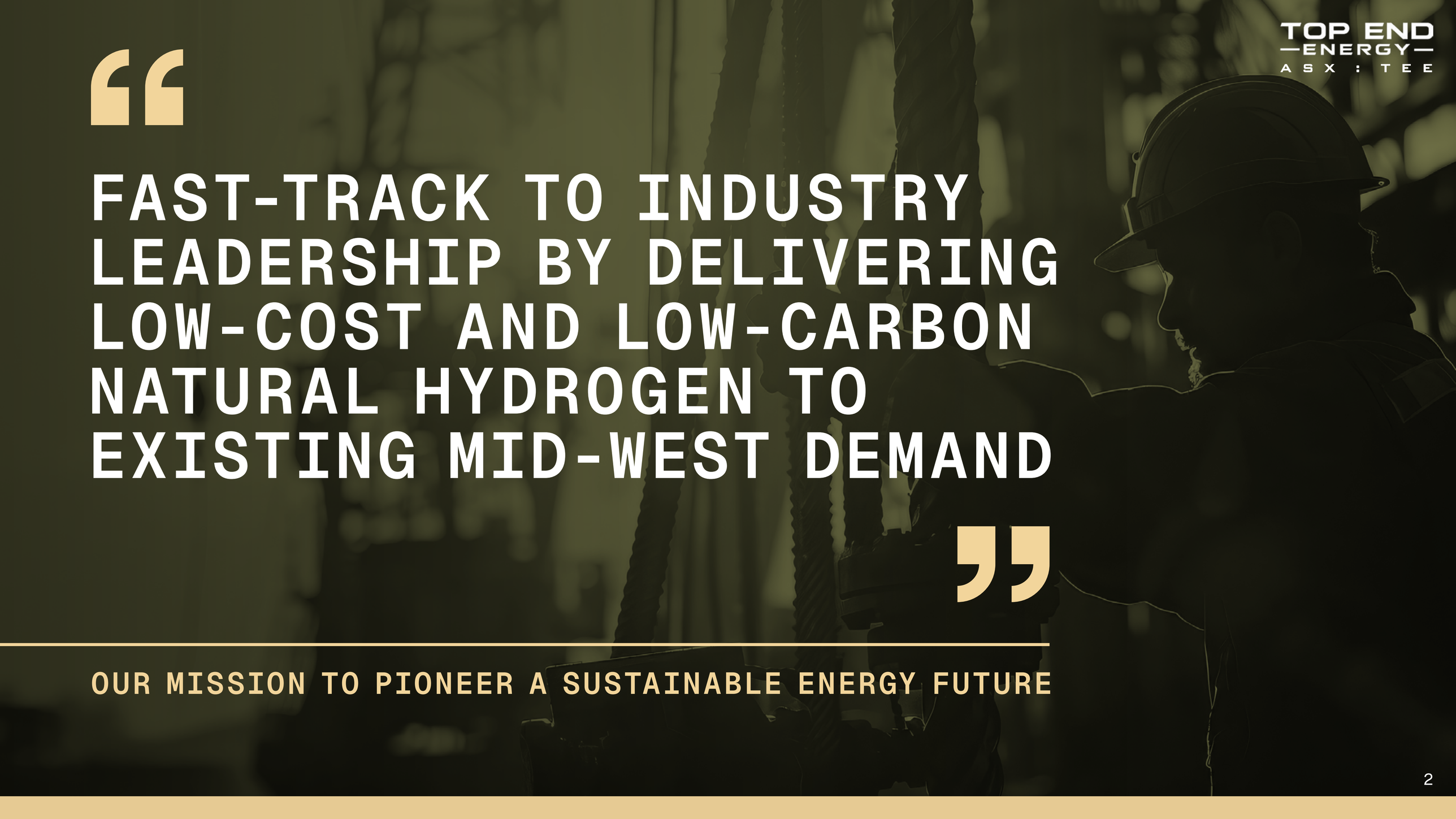
BOARD & MANAGEMENT

Luke Velterop Chief Executive Officer
- Energy exploration & new energy projects
- Founding developer of the Serpentine Natural Hydrogen Project

Pat Burke Executive Chairman
- Corporate Law & Finance
- Former Chairman of Meteoric (ASX: MEI) & Vulcan (ASX: VUL)

Andrew Somoff Non-Executive Director
- Energy exploration & development with Santos
- Founded hydrogen, helium & geothermal companies

Emmanuel Correia Non-Executive Director
- Corporate Finance & Advisory
- Founder of Peloton Capital & Peloton Advisory



TOP END ENERGY
ASX : TEE

FAST-TRACK TO INDUSTRY LEADERSHIP BY DELIVERING LOW-COST AND LOW-CARBON NATURAL HYDROGEN TO EXISTING MID-WEST DEMAND

OUR MISSION TO PIONEER A SUSTAINABLE ENERGY FUTURE

SERPENTINE NATURAL HYDROGEN PROJECT

POSITIONED IN ONE OF THE WORLD'S MOST PROSPECTIVE PLAYS

Global Hotspot

This exploration-stage venture covers more than 30,000 acres in the heart of a globally recognised natural hydrogen play

Strategic Position

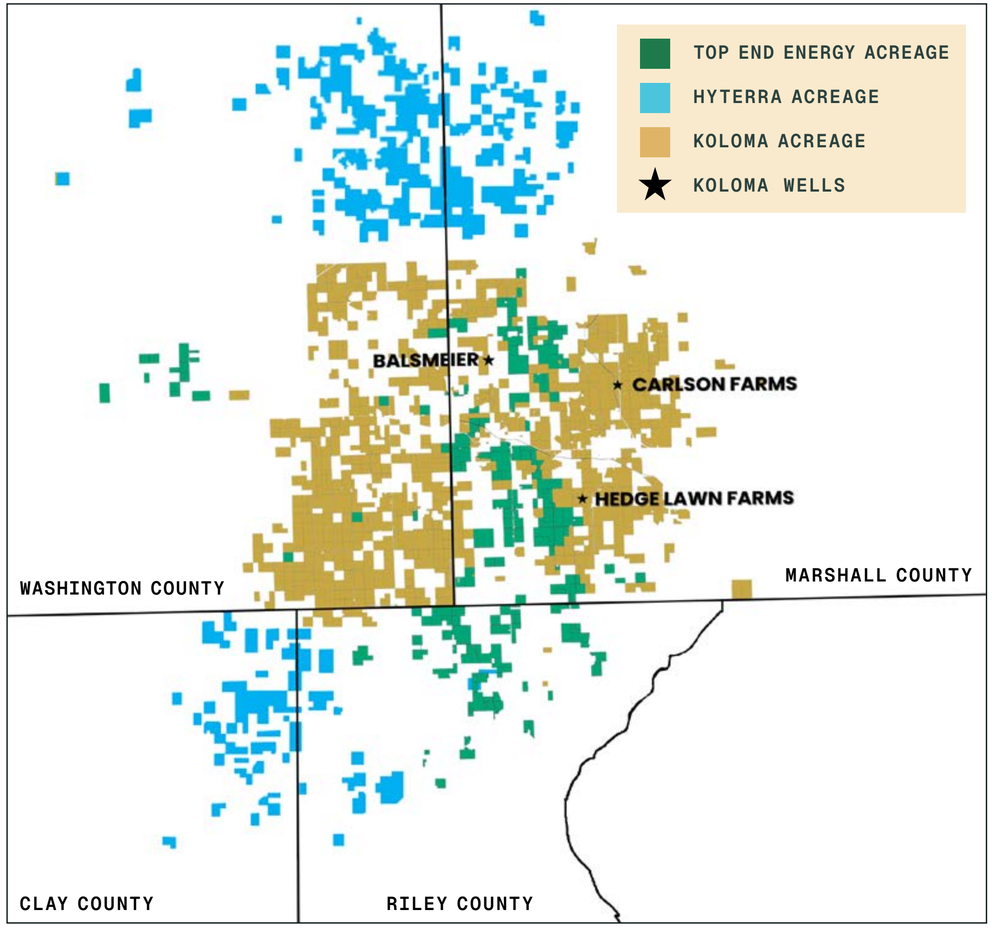
Neighbouring leases are held by Koloma — a U.S. private company and the world's leading natural hydrogen explorer, with over US$400M raised — and HyTerra, an Australian-listed company that is 40% owned by Fortescue, one of the world's largest mining companies

Exploration Drilling

Hydrogen shows of up to 96%[1] have already been confirmed through recent exploration drilling. We are advancing multiple high-impact exploration targets which are on track to be drill-ready in 2025

Partner Engagement

In July, we formally opened a farm-out process, releasing a technically focused presentation and inviting strategic partners to co-develop the Project, with active discussions now underway



In-house map, March 2025
HyTerra lease position sourced from their website
Koloma (High Plains Resources LLC) leases from county records

1: HyTerra (ASX: HYT), Significant Hydrogen Concentrations Found in Sue Duroche 3, 6 May 2025

NATURAL HYDROGEN

THE FIRST SOURCE OF PRIMARY ENERGY TO BE DISCOVERED IN A CENTURY

Why Hydrogen?

A global push towards net-zero has accelerated demand for scalable, low-carbon solutions and positioned hydrogen as a critical industrial and baseload energy source

What is Natural Hydrogen?

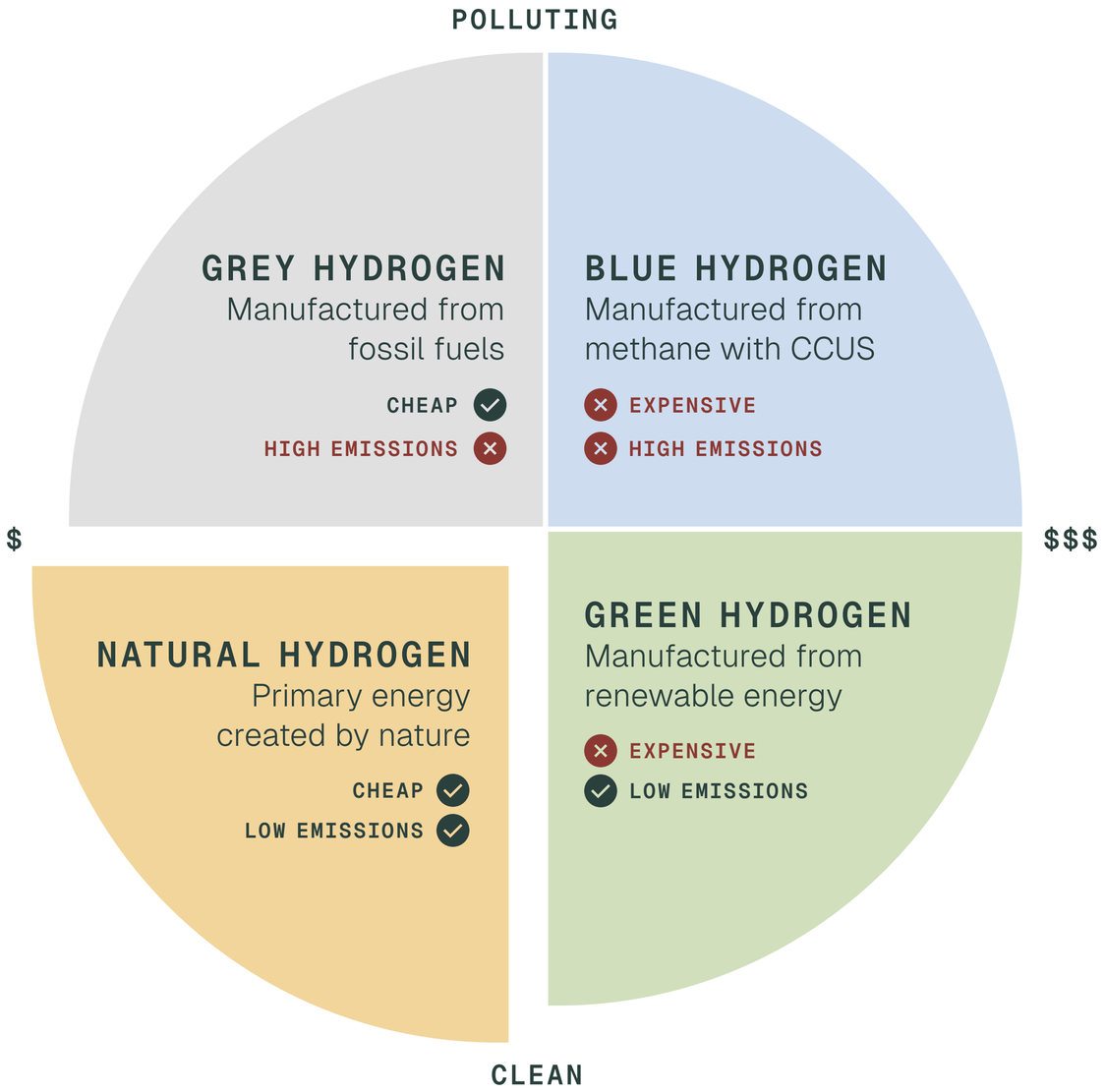
Geologic processes within the Earth's crust generate hydrogen gas, which explorers aim to produce using tools and techniques developed for oil and gas

How Does it Compare?

Unlike manufactured hydrogen, natural hydrogen is a primary energy source, not just an energy carrier, making it a low-cost, low-carbon alternative

Why Invest?

Natural hydrogen is a transformative energy frontier, on par with the first oil and gas discoveries of the late 19th century or the shale revolution of the 2000s



A PROJECT'S VALUE IS ONLY AS STRONG AS ITS MARKET ACCESS

In Kansas, we're at the crossroads of mature agricultural and industrial markets - a rare alignment of resource, infrastructure and offtake

PROJECT VS POTENTIAL

TARGETING EXISTING HYDROGEN DEMAND WITHIN U.S. MID-WEST

► Mature $5B Mid-West Market

We're focused on established ammonia (NH_3) driven demand across the U.S. Corn Belt (Kansas, Nebraska and Iowa) where fertilizer production depends on fossil-fuel derived hydrogen as a critical feedstock

► Displacing Fossil Fuels

Supply ammonia plants with a low-cost and low-carbon hydrogen feedstock by leveraging existing regional transport networks

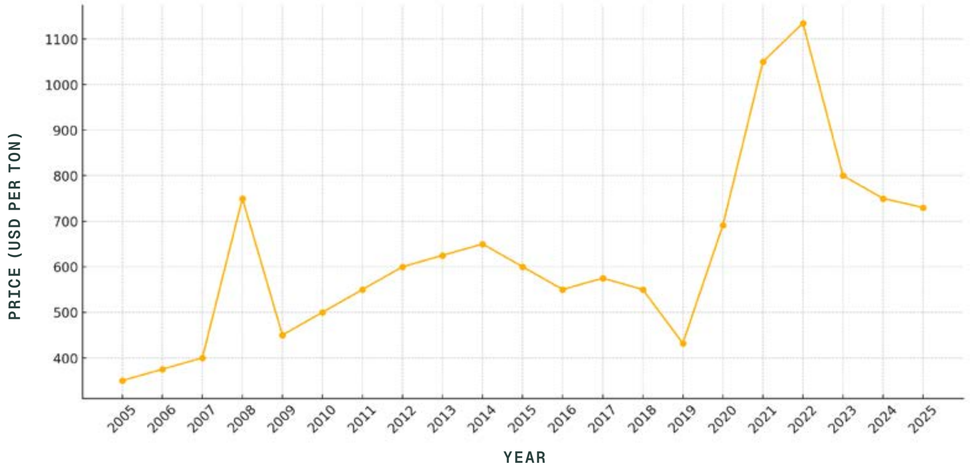
► Scale with Project

Commence with pilot-scale distributed ammonia, reducing the need for on-site hydrogen storage, then scale to purpose-built facilities designed to outcompete natural gas by avoiding costly Steam Methane Reforming

► Active Offtake Interest

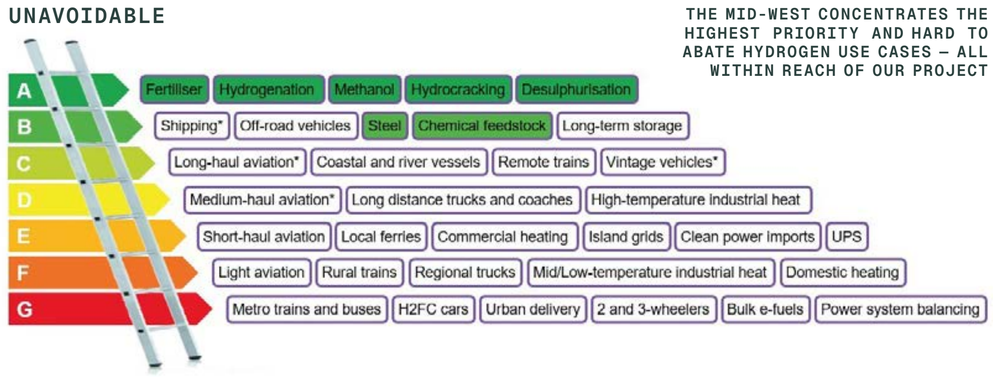
We are actively engaged in offtake discussions. The Project's proximity to major regional consumers, including Koch Industries, CF Industries and CVR Energy provides a strategic advantage

MIDWEST U.S. ANHYDROUS AMMONIA PRICES



CLEAN HYDROGEN LADDER

VIABLE USES BASED ON ECONOMIC COMPETITIVENESS & NECESSITY



THE MID-WEST CONCENTRATES THE HIGHEST PRIORITY AND HARD TO ABATE HYDROGEN USE CASES – ALL WITHIN REACH OF OUR PROJECT

Liebreich Associates, Clean Hydrogen Ladder, 2025

AMERICA'S NEXT ENERGY BOOM

APPLYING THE U.S. SHALE PLAYBOOK TO UNLOCK A NEW ENERGY FRONTIER

Stage 1: Proof of Concept

In the late 1990's and early 2000's, the advent of fracking combined with horizontal drilling transformed tight reservoirs into high-rate producers

Stage 2: Scale

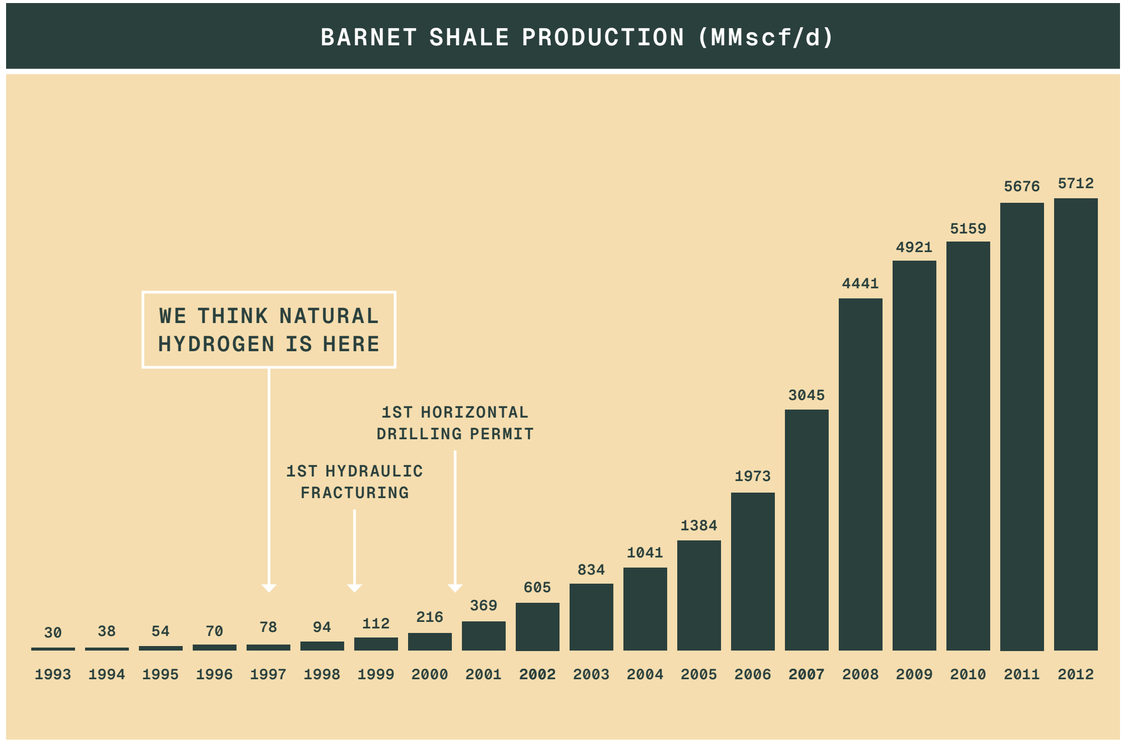
Expanding scale and cost optimisation, saw production expenses plummet and output surge

Stage 3: Diversify

Once the playbook was defined, it was replicated and repeated, from the Marcellus to the Eagle Ford to the Bakken

Why it Matters

After more than a century of exploration, the shale boom created an entirely new chapter in energy. **We're on the verge of the next breakthrough — an overlooked resource is now within reach through new ways of thinking and targeted exploration**



Texas RRC, Production Data Query

2025 EXPLORATION STRATEGY

Leasing Phase
Q1, 2025

- Completed acquisition of Serpentine Energy
- Secured strategic position in natural hydrogen fairway amid global leaders
- Expanded infill lease holding to 30,000 acres
- Awarded operator licence in Kansas

Pre-Drill Phase
Q2 & Q3, 2025

- Technical appointments
- Prospective Resource assessment
- Identification of well sites
- Preparing technical data room
- Progress farm-out strategy to attract development partners

Exploration Phase
Q4, 2025

- Joint development with farm-in partners
- Advance site works and vendor contracts
- Commence multi-well exploration drilling program with partners

TOP END ENERGY
ASX : TEE

USGS has unveiled its natural hydrogen prospectivity map

WE CALCULATE THE ENERGY CONTENT OF THE ESTIMATED RECOVERABLE AMOUNT OF HYDROGEN TO BE ROUGHLY TWICE THE AMOUNT OF ENERGY IN ALL THE PROVEN NATURAL GAS RESERVES ON EARTH

UNITED STATES GEOLOGICAL SURVEY, 2024

INDEPENDENT ASSESSMENT OF THE RECOVERABLE HYDROGEN RESOURCE VOLUMES

Resource Density

Recoverable volumes across the Project lease holding indicate a strong resource density that underpins its technical viability and supports the case to advance exploration drilling

Additional Resource Upside

Resource volumes are based on conventional potential of the Hunton, Viola, Simpson and Arbuckle through to the unconventional potential of the basement

Additional upside in shallower intervals, such as the Lansing where HyTerra recently recorded 96% H_2 at depths of less than 1,000 ft has not been factored in

Future Work

Ongoing evaluation, subsurface interpretation and exploration activities - including drilling and geophysics are expected to improve the risking profile, narrow resource ranges and incorporate additional volumes from shallow reservoirs

NET RECOVERABLE PROSPECTIVE HYDROGEN RESOURCE			
1U	2U	Mean	3U
71 BCF	**234 BCF**	**304 BCF**	**629 BCF**
168 k tonnes	552 k tonnes	716 k tonnes	1,485 k tonnes

Cautionary Statement: The estimated quantities of hydrogen that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both a risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially recoverable hydrogen.

Ch 5 LR: The Prospective Resource estimates are quoted on an unrisked basis and are aggregated arithmetically by category. The Company is not aware of any new information or data that materially affects the information included in the ASX release and all material assumptions and technical parameters underpinning the estimates in the ASX release continue to apply and have not materially changed. Refer to ASX release 2 July 2025, Independent Prospective Hydrogen Resource in Kansas.

WHY INVEST?

De-Risking Underway

Recent exploration drilling confirms an active hydrogen system, with independent resource estimates reinforcing the Project's potential

Fast Follower Advantage

We're moving fast using a proven road-map and exploration strategies defined by first movers

Engaging Strategic Partners

Our farm-out strategy can unlock resource upside while minimising dilution

Technically Advanced

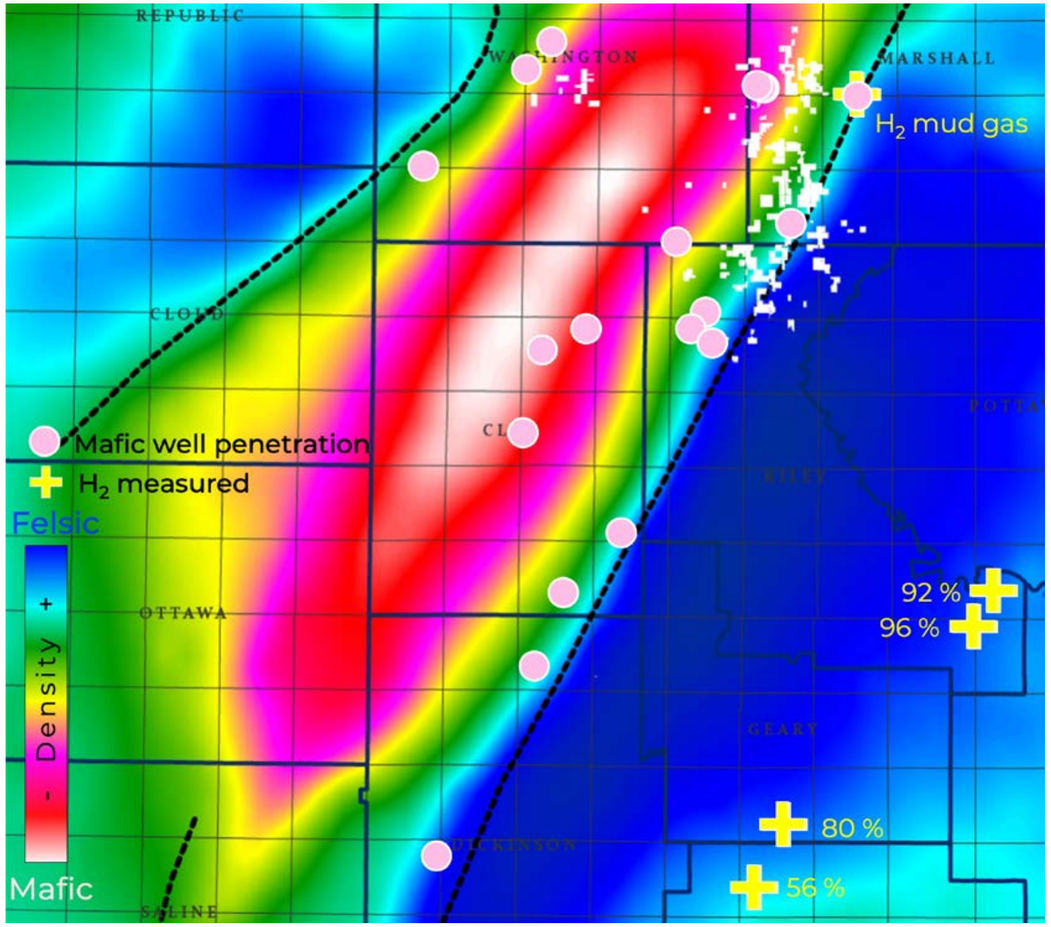
We have developed a robust geological model and are fully funded to advance multiple exploration targets to drill-ready status

Growth Potential

Trading at a deep discount to peers, with exposure to the same high-potential geological plays

Window is Now

Early entry – before strategic partnerships and drilling drives a re-rate



Residual Bouguer Gravity (700m), Kansas Geological Survey

BEETALOO SUB-BASIN, NORTHERN TERRITORY, AUSTRALIA

Proven Basin

EP 153 and EP 154 are located in the Beetaloo Sub-basin directly north of Tamboran Resources (NYSE: TBN, ASX: TBN) EP 98 and the Shenandoah prospect

Key Results

Flow testing of SS-2H ST1 well delivered record flow results in line with production from U.S. Marcellus Shale wells

Ongoing Drilling

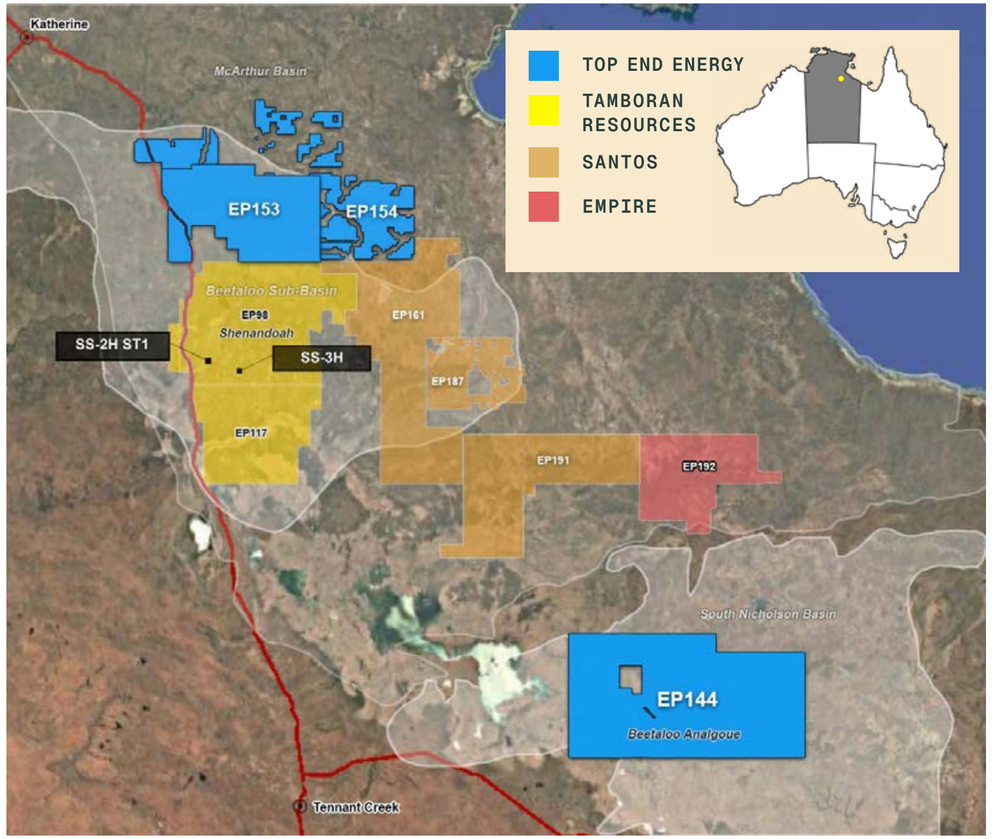
Tamboran has commenced its three-well Shenandoah South Pilot Project, with the spudding of the SS-4H well using a Helmerich & Payne (NYSE: HP) rig mobilised from Texas

Strategic Position

Our Exploration Permits have an infrastructure advantage, being adjacent to the Amadeus Gas Pipeline and Northern Gas Pipeline for future market access

Beetaloo Analogue

EP 144 is an underexplored permit in the heart of the South Nicholson Basin



Contact

Luke Velterop
Chief Executive Officer
+1 (785)-410-3840
luke@serpentineenergy.com

Top End Energy Ltd (ASX: TEE, US ADR Pending) is an industrial gas explorer

In Kansas, USA, the Company is advancing the Serpentine Natural Hydrogen Project, with exclusive rights over more than 30,000 acres in one of the sector's most advanced and competitive natural hydrogen plays

In Northern Territory, Australia, the Company holds exploration permits on the northern flank of the Beetaloo Sub-basin, directly north of Tamboran Resources and adjacent to the key pipelines for future market access

TOP END ENERGY
THE ENERGY OF TOMORROW

ASX:TEE

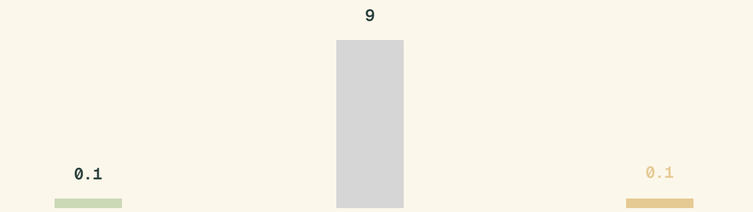
Top End Energy Ltd

@TopEndEnergy

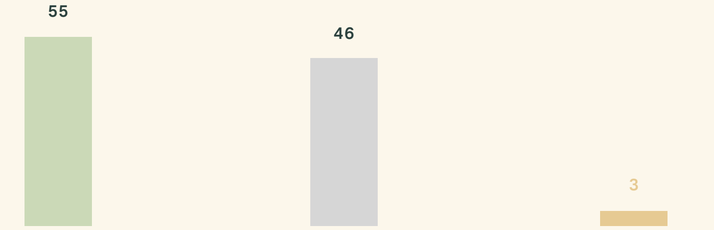
topendenergy.com.au

LOW CARBON, LOW IMPACT, EFFICIENT & SUSTAINABLE

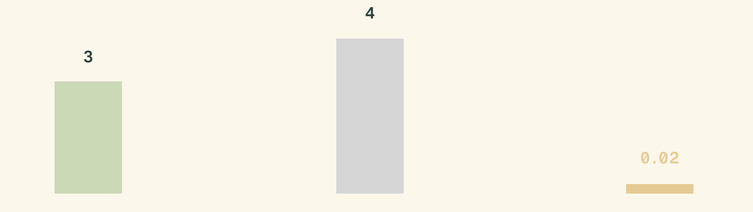
CARBON INTENSITY (kg CO_2e/kgH_2)



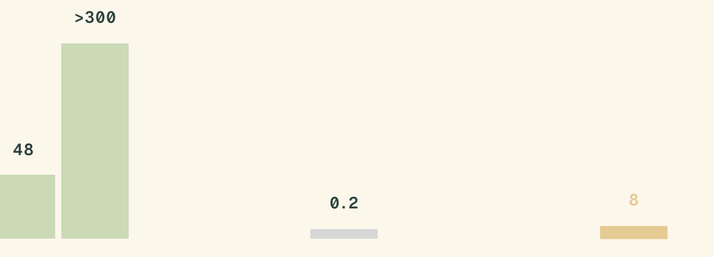
ENERGY REQUIRED (kWh/kgH_2)



WATER USE (gal/kgH_2)



SURFACE FOOTPRINT (mi^2)



koloma.com/geologic-hydrogen

HYDROGEN PLAY CONCEPTS

PAIRING CONVENTIONAL TRAPS WITH A VAST UNCONVENTIONAL BASEMENT PLAY

Key Elements of Hydrogen System

Hydrogen exploration shares many of the same critical success factors as hydrocarbons, allowing us to leverage existing knowledge to develop prospects and reduce risk

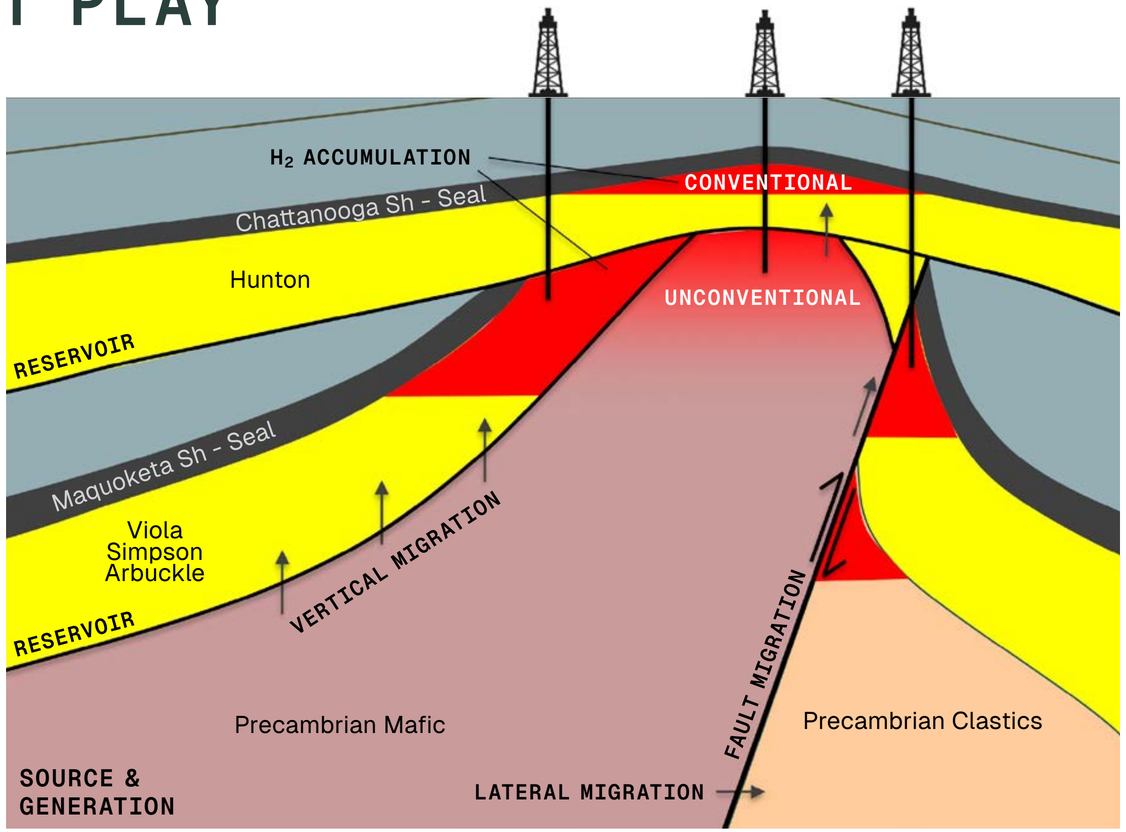
- Source
- Reservoir
- Trap / Seal

Conventional Play

Hydrogen is generated in basement source rocks and migrates into porous sedimentary sandstone and carbonate reservoirs, where it accumulates under shale seals

Unconventional Play

Hydrogen is generated in situ and accumulates within the fractured mafic basement, forming a laterally extensive direct source-reservoir system



In-house, Play Concepts

ADDED VALUE AND NEAR-TERM COMMERCIALISATION

Co-Existing Gases

Natural hydrogen exploration is increasingly detecting significant helium concentrations. Both gases are generated in or adjacent to crystalline basement and migrate together along the same fracture networks and fault corridors. A coexisting H_2–He system not only enhances project economics through a high-value secondary product but also creates a pathway to near-term revenue.

Recent examples include:

- **HyTerra in Kansas:** 96% H_2 / 5% He; and 16% H_2 / 4% He
- **Gold Hydrogen in South Australia:** 96% H_2 / 17% He
- **Helix Exploration in Montana:** 55% H_2 / 2% He

Kansas Drives Helium Supply

Kansas is America's leading helium state, with eight helium processing plants and discoveries dating back over a century, the state has a long history of extraction, processing and transport. The supportive state framework and established infrastructure ensure reliable production and scalable growth. With global demand surging and spot helium prices reaching $1,000–$1,500 Mcf, Kansas is well-positioned to deliver into a high-value and supply constrained market

Source:

HyTerra (ASX: HYT) announcement 6 May 2025 and 3 July 2025
Gold Hydrogen (ASX: GHY) announcement 5 March 2024
Helix Exploration (AIM: HEX) investor presentation, 25 April 2025