Gale Crater Lithium Project

April, 2025

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Barrell Energy - Company History

1997	1997 – Founded Barrell Energy, Inc. - State of Texas
	1997-99 – Cotton Valley Project – Louisiana
2002	2002-04 – Atocha Project - Louisiana
2005	2005 – Founded Amelia Resources LLC
	2005 – Co-Founded Wave Exploration LLC
	2005-11 – Wave Exploration - 65 wells drilled - Louisiana/Texas/Mississippi
2011	2011 – Lease Sale - 60,000 acres – Encana – Tuscaloosa Marine Shale
	2011 – Mineral Rights Sale – 2,100 acres – Blackstone Minerals – Eagle Ford - S. Texas
2012	2012 – 220,000 acres secured – Tuscaloosa Marine Shale – Louisiana, Mississippi
2013	2013 – Lease Sale - 59,716 acres – Halcon – Tuscaloosa Marine Shale
	2013 – Lease Sale - 19,500 acres – Comstock – Tuscaloosa Marine Shale
2014	2014 – Working Interest Sale – Wildhorse – Terryville Sands - North Louisiana
2016	2016 – Mineral Rights Sale – Energen – Permian Basin - Texas
2017	2017 – Mineral Rights Sale – MCM – Permian Basin - Texas
	2017 – Mineral Rights Acquisition – Utica – W. Virginia
	2017-18 – 535,000 acres secured – Austin Chalk - Louisiana
	2017 – Lease Sale – 85,000 acres - ConocoPhillips – Austin Chalk - Louisiana
2018	2018 – Lease Sale – 58,000 acres – Undisclosed Private Equity – Austin Chalk - Louisiana/Mississippi
	2018 – Working Interest Sale – Blackbrush – Austin Chalk - Louisiana
2019	2019 – Mineral Rights Sale – Haynesville Shale - Louisiana
2020	2020 – Acquired initial equity position in Australis Oil
2021	2021 – Co-Founded NuQuest Energy LLC
	2021 – Lease Acquisition – Smackover Lithium Brine - Texas
2022	2022 – Mineral Rights Acquisition – Tuscaloosa Marine Shale - Mississippi
	2022 – Lease Expansion – Smackover Lithium Brine - Texas
2023	2023 – Lease Expansion – Lithium Brine - Texas
	2023 – Leased 1 Gigawatt of utility-scale solar – NuQuest Energy - Louisiana/Mississippi
	2023 – Carbon Sequestration – NuQuest Energy/BKV Corp – Louisiana
	2023 – Development of the Gulf Coast Storage Network - Louisiana/Texas
2024	2024 – Leased 800 MW of utility-scale solar and wind – NuQuest Energy

Founded 1997 – Texas S Corp

BARRELL LITHIUM LLC

Formed in 2024, Barrell Lithium LLC raised investment capital to pursue lithium brine projects in the United States. The company is currently focused on the Smackover Lithium Project.

AMELIA RESOURCES, LLC

Formed in 2005, Amelia Resources develops oil and gas projects across the onshore United States. The company has transacted over $400 million of projects in the Austin Chalk, TMS, Permian, Haynesville, Eagle Ford, and Utica basins.

www.ameliaresources.com

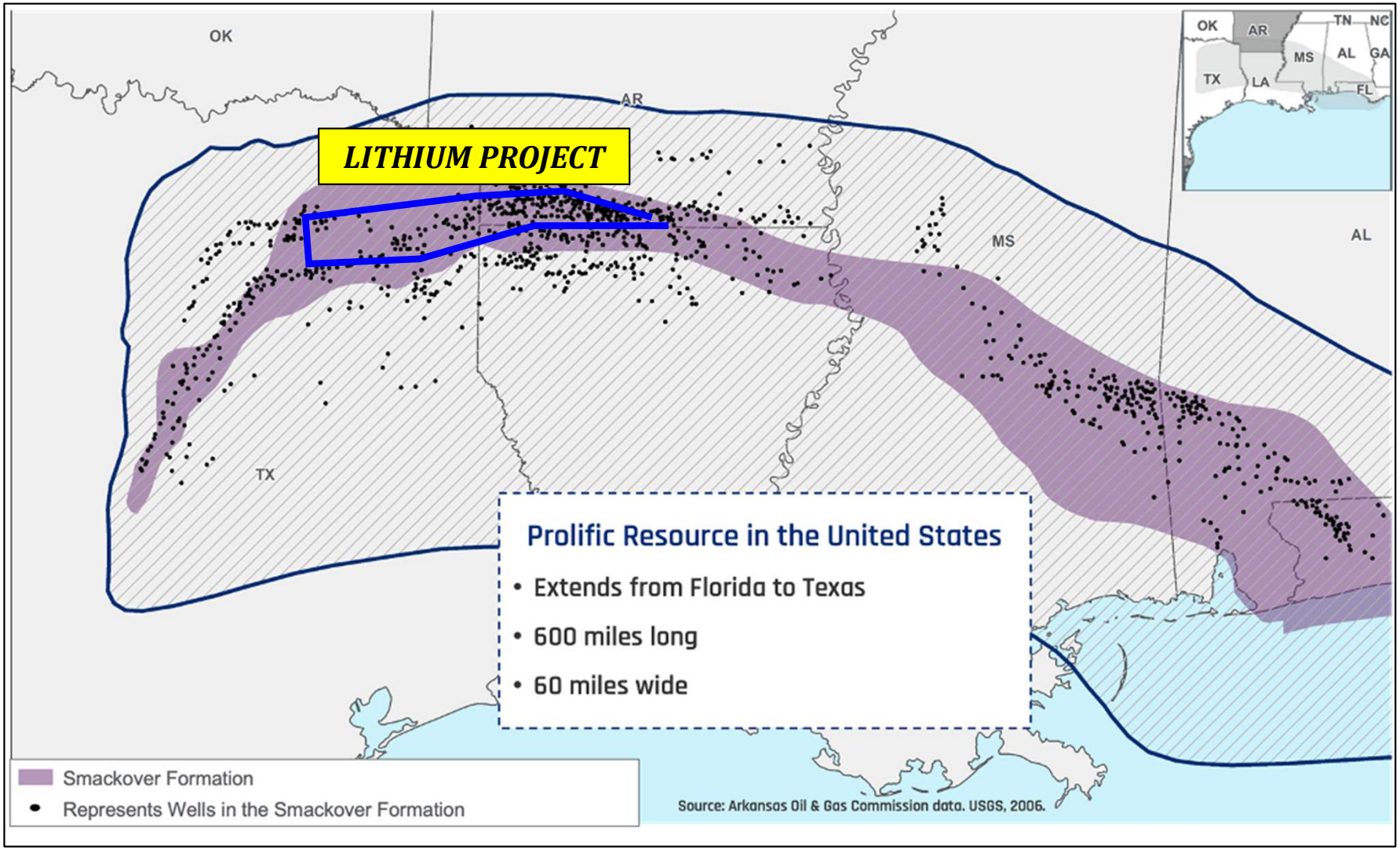
NUQUEST ENERGY, LLC

NuQuest Energy, an early-stage renewable energy developer, is developing a 1800 megawatt portfolio of originated solar and wind across the Gulf Coast region. The company has extended its origination efforts to the ERCOT and SERC markets where it is actively developing a pipeline of hybrid solar and standalone energy storage projects.

www.nuquestenergy.com

SMACKOVER LITHIUM

Smackover Trend



Smackover Trend

- The Smackover Formation is a geological formation that stretches across southern Arkansas and East Texas. It was historically known for oil and gas production, and now it's gaining attention for its lithium-rich brine reserves. This brine is found in deep underground reservoirs within the Smackover Formation (9000-13000').
- The Smackover Formation in southern Arkansas and East Texas is emerging as a significant potential source of lithium in the United States.
- The Smackover Formation boasts some of the highest lithium concentrations in North America, making it an attractive resource.
- The primary focus is on using direct lithium extraction (DLE) technologies to extract lithium from the brine.
- The region has existing infrastructure from the oil and gas industry, which can be repurposed for lithium extraction, potentially reducing development costs.
- The project contributes to securing a domestic lithium supply chain for the US, reducing reliance on imports.

Exxon Enters The Lithium Market

Exxon Joins Hunt for Lithium in Bet on EV Boom

Oil giant quietly laid plans this year for producing mineral in Arkansas

May 22, 2023

- **The Texas oil giant recently purchased drilling rights to a sizable chunk of Arkansas land from which it aims to produce the mineral**
- **Exxon bought 120,000 gross acres in the Smackover formation of southern Arkansas from an exploration company called Galvanic Energy, according to some of the people. The price tag was more than $100 million, people familiar with the matter said, a relatively small transaction for a company of Exxon's size.**
- **Exxon is looking to gain a foothold in a region believed to contain vast lithium reserves, both to produce the mineral and to test the viability of extraction technologies.**
- **Exxon could begin drilling on the prospect in the coming months, people familiar with the matter said, and could expand its operations if it proves profitable.**
- **Galvanic said last year that a third-party consultant it hired estimated the prospect could have 4 million tons of lithium carbonate equivalent, enough to power 50 million EVs.**
- **Lithium production would also diversify Exxon's portfolio and expose it to a rapidly growing market. The company is positioning other parts of its business to accommodate electric vehicles.**

Exxon Activity

"We are bringing sustainable lithium production to North America, which is in great demand by our customers. We have the technology that can extract lithium with fewer carbon emissions, we can deliver a transparent supply chain, and we can scale projects that can reliably execute."

Patrick Howarth,
Lithium Global Business Manager
ExxonMobil Low Carbon Solutions

ExxonMobil drilling first lithium well in Arkansas, aims to be a leading supplier for electric vehicles by 2030

11/13/23

Exxon to start lithium production for EVs in the US by 2027

Exxon aims to make key lithium technology decision by year end

2/15/24

Equinor Enters The Smackover

Standard Lithium and Equinor Form Partnership to Develop South West Arkansas and East Texas Lithium Projects

May 08, 2024 8:00am EDT

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Equinor Commits to Contribute up to a US$160 million Gross Investment for a 45% interest in two special purpose entities with SLI to develop a sustainable lithium business in the United States

May 8, 2024

- **The transaction includes Equinor's contribution of up to US$160 million, representing its total gross project-level investment and reflecting its 45% ownership stake in the two entities.**
- **Investment includes a US$30 million cash payment to Standard Lithium at closing, a work program solely funded by Equinor of US$60 million, representing a US$33 million carry by Equinor for Standard Lithium's portion, and US$27 million for Equinor's portion, at the South West Arkansas Project (SWA) and East Texas (ETX) properties (ETX and together with SWA, the "Projects"), and up to US$70 million in payments to Standard Lithium subject to both parties taking positive Final Investment Decisions.**
- **Standard Lithium and Equinor will each own 55% and 45% of the Projects respectively, with Standard Lithium retaining operatorship.**

USGS Report

SCIENCE ADVANCES | RESEARCH ARTICLE

GEOLOGY

Evaluation of the lithium resource in the Smackover Formation brines of southern Arkansas using machine learning

Katherine J. Knierim[1]*, Madalyn S. Blondes[2], Andrew Masterson[2], Philip Freeman[2], Bonnie McDevitt[2], Amanda Herzberg[2], Peng Li[3], Ciara Mills[3], Colin Doolan[2], Aaron M. Jubb[2], Scott M. Ausbrooks[3], Jessica Chenault[2]

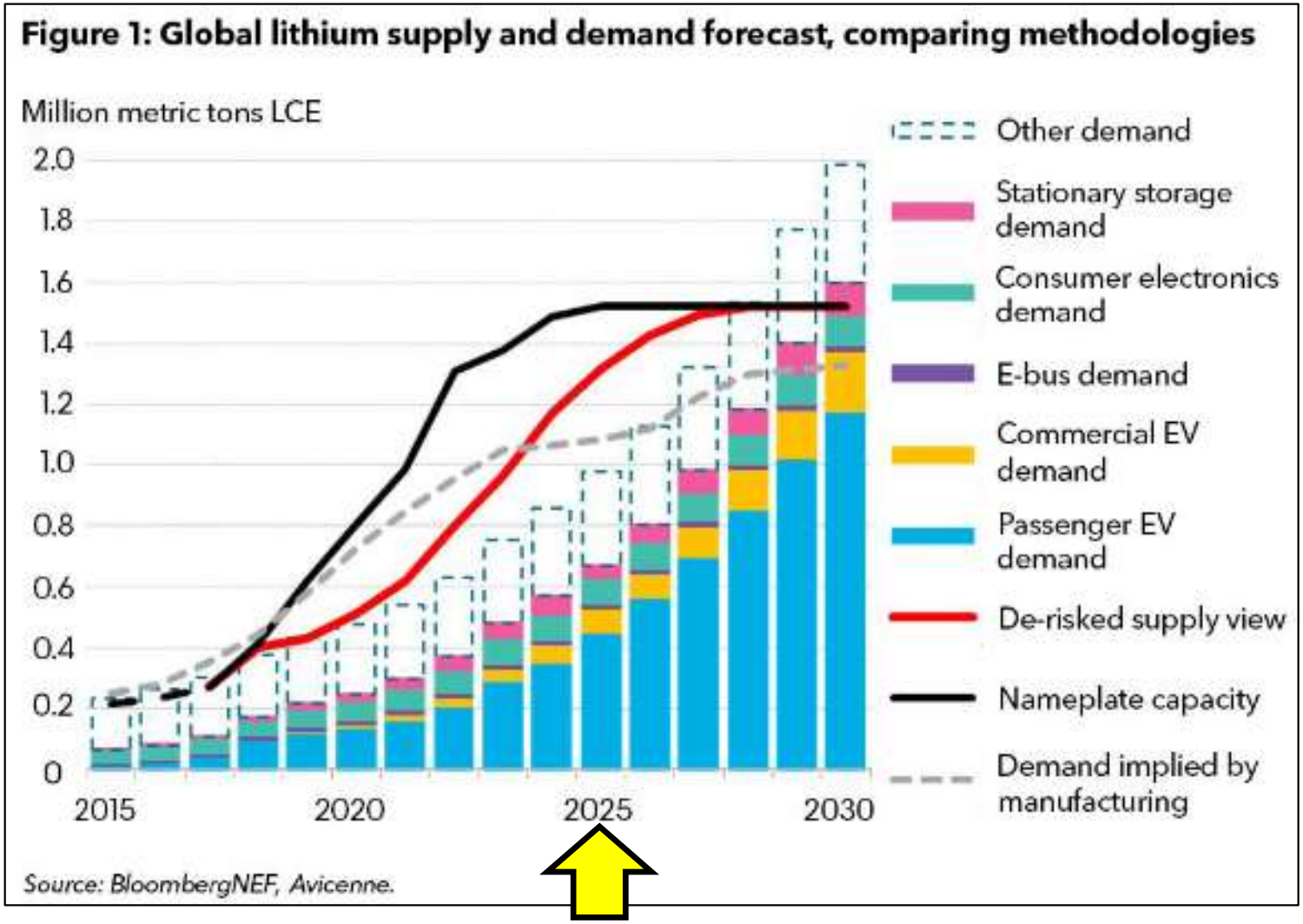
Forbes

New Study Confirms Huge U.S. Lithium Reserve - 9 Times Global Demand

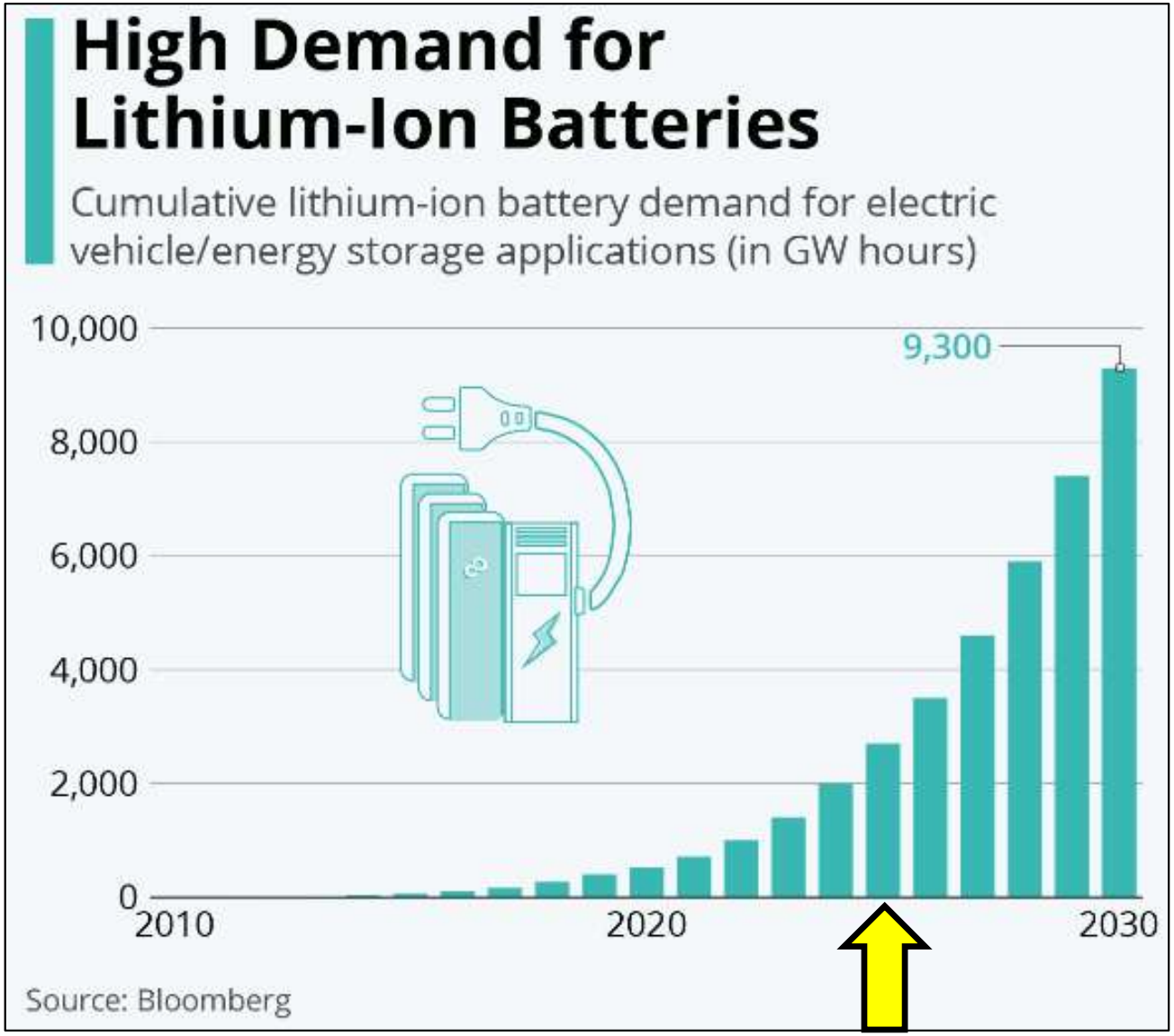
Oct-2024

- **High concentrations of lithium in brines have been observed in the Smackover Formation in southern Arkansas (>400 milli-grams per liter).**
- **Using these pre-dicted lithium maps with reservoir parameters and geologic information, we calculated that there are 5.1 to 19 million tons of lithium in Smackover Formation brines in southern Arkansas.**
- **The mass of predicted lithium in the Reynolds oolite unit of the Smackover Formation ranged from 5.1 to 19 million tons (or 27 to 100 million tons of lithium carbonate equivalent) based on the prediction maps.**
- **The 2023 estimated global lithium resource was 105 million tons, of which 14 million tons were estimated in the US.**
- **The lithium resource in the Smackover Formation brines within southern Arkansas would represent approximately 136% of the current (2023) US resource estimate.**
- **On the basis of the volume of brine extracted in 2022 (5000 tons-or less than 0.1% of the available lithium resource in the Smackover Formation) has been brought to the surface within brines as waste streams of the oil, gas, and bromine industries. Assuming 100% extraction efficiency of lithium from the brines, this would cover the estimated US consumption in 2022**

Global Lithium & Supply Demand



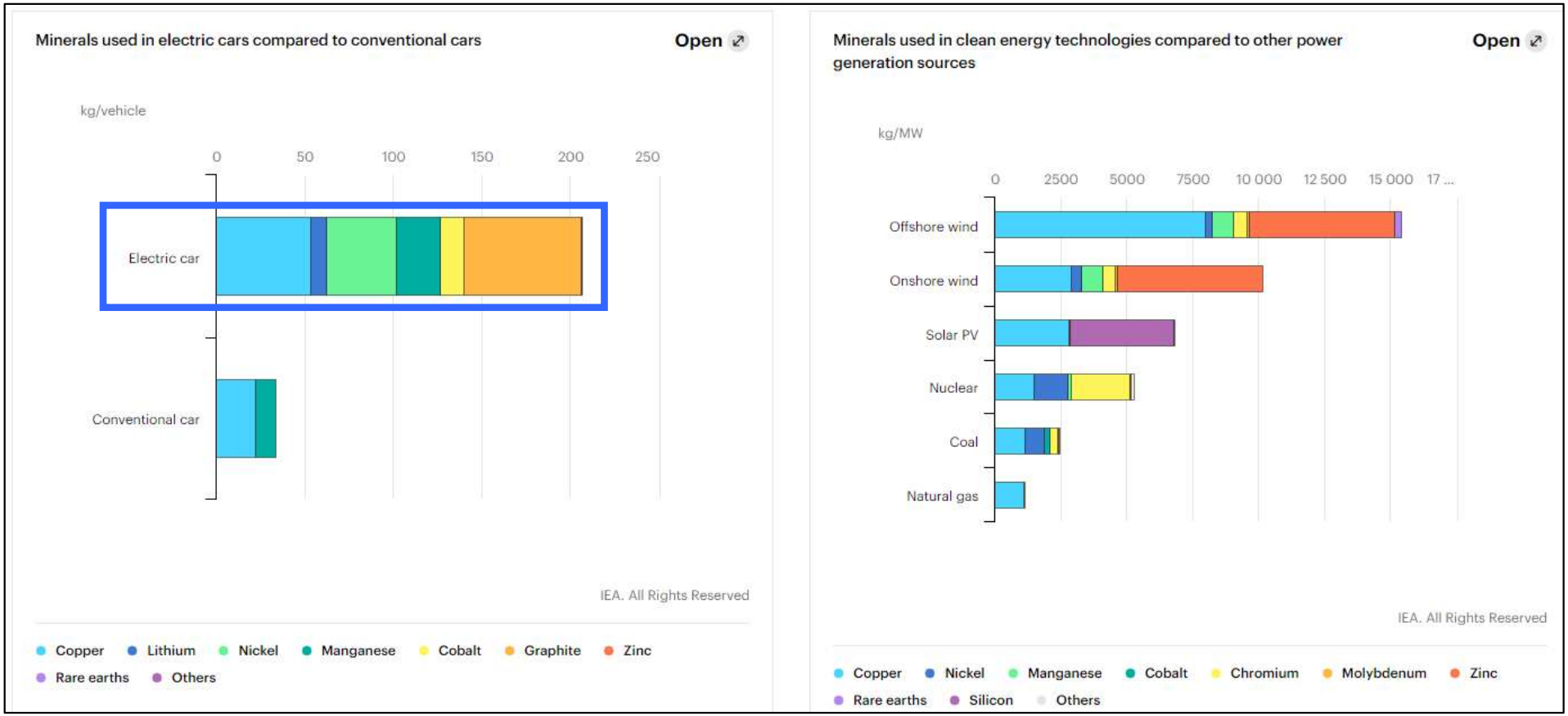
Lithium-Ion Battery Demand



Mineral Uses - Clean Energy

An energy system powered by clean energy technologies differs profoundly from one fueled by traditional hydrocarbon resources. Solar photovoltaic (PV) plants, wind farms and electric vehicles (EVs) generally require more minerals to build than their fossil fuel-based counterparts. A typical electric car requires six times the mineral inputs of a conventional car and an onshore wind plant requires nine times more mineral resources than a gas-fired plant.

iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions/executive-summary



Mineral Uses - Other

MINERAL	MAJOR USES
SODIUM (Na)	Food, glass, soap, detergent, textiles, pulp and paper industries, road de-icing
MAGNESIUM (Mg)	Aluminum, steel, chemical and construction industries, fertilizer
CALCIUM (Ca)	Soil amendment, construction industries, fertilizer
POTASSIUM (K)	Fertilizer
BROMINE (Br)	Fire retardant, agriculture, well drilling fluids, petroleum additives
BORON (B)	Glass products, soap and detergents, fire retardants, fertilizer
STRONTIUM (Sr)	Ceramics, glass and pyrotechnics industries, ceramic ferrite magnets, fireworks, phosphorescent pigments, fluorescent lights, oil drilling mud
LITHIUM (Li)	Batteries, glass manufacturing, lubricants, greases, pharmaceutical products
RUBIDIUM (Rb)	Fibre optics, lamps, night vision devices, laser technology
URANIUM (U)	Nuclear fuel in nuclear power reactor

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