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# An Unvarnished Look at Tomorrow's Energy Landscape

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# Donovan Ventures – Texas Born and Bred

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- Founded in 2007, Donovan Ventures is an energy-focused financial services firm that screens over 250 opportunities a year
- Donovan Ventures has started or invested in 14 energy companies that have an enterprise value worth nearly $1 billion [1]
- The firm has also advised on $3.5 billion of private equity, M&A, and asset-backed securitization transactions
- Donovan Ventures is employee-owned, Texas-bred (save a few Okies), and focused on investing in the lower middle-market segment of the energy industry

(1) Enterprise value is comprised of the current fair market enterprise value of existing portfolio companies as of December 31, 2022, and the enterprise value of realized portfolio companies at the time of exit

# TEXAS IS A GLOBAL FORCE IN THE ENERGY INDUSTRY

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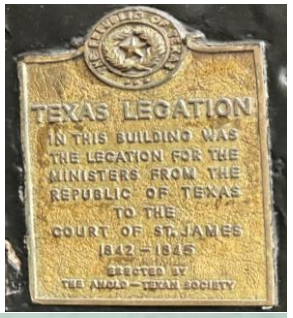
- Oil first discovered in1894 in Corsicana
- **#1** state for oil, gas, and renewable power production[1]
  - 5.5 Mmbpd of crude (45% of US production)
  - 32 Bcfpd of gas (27% of US production)
  - 138 TWh of renewable power (15% of US production)
- As a country, we would be the **5th**, **3rd**, and **10th** largest producer of oil, gas, and renewable power, respectively
- Economic contributions [2]
  - 16% of Texas GDP in 2022
  - $24.7Bn in state and local taxes and royalties in 2022
  - 400,000+ jobs (at double comp the state average)
- 31% of our electricity is renewable[3]



Source: (1) U.S. Energy Information Administration (as of May 2023); (2) Texas Oil & Gas Association; (3) ERCOT for full year 2022

# Energy is Fungible – We Simply Want It to Work

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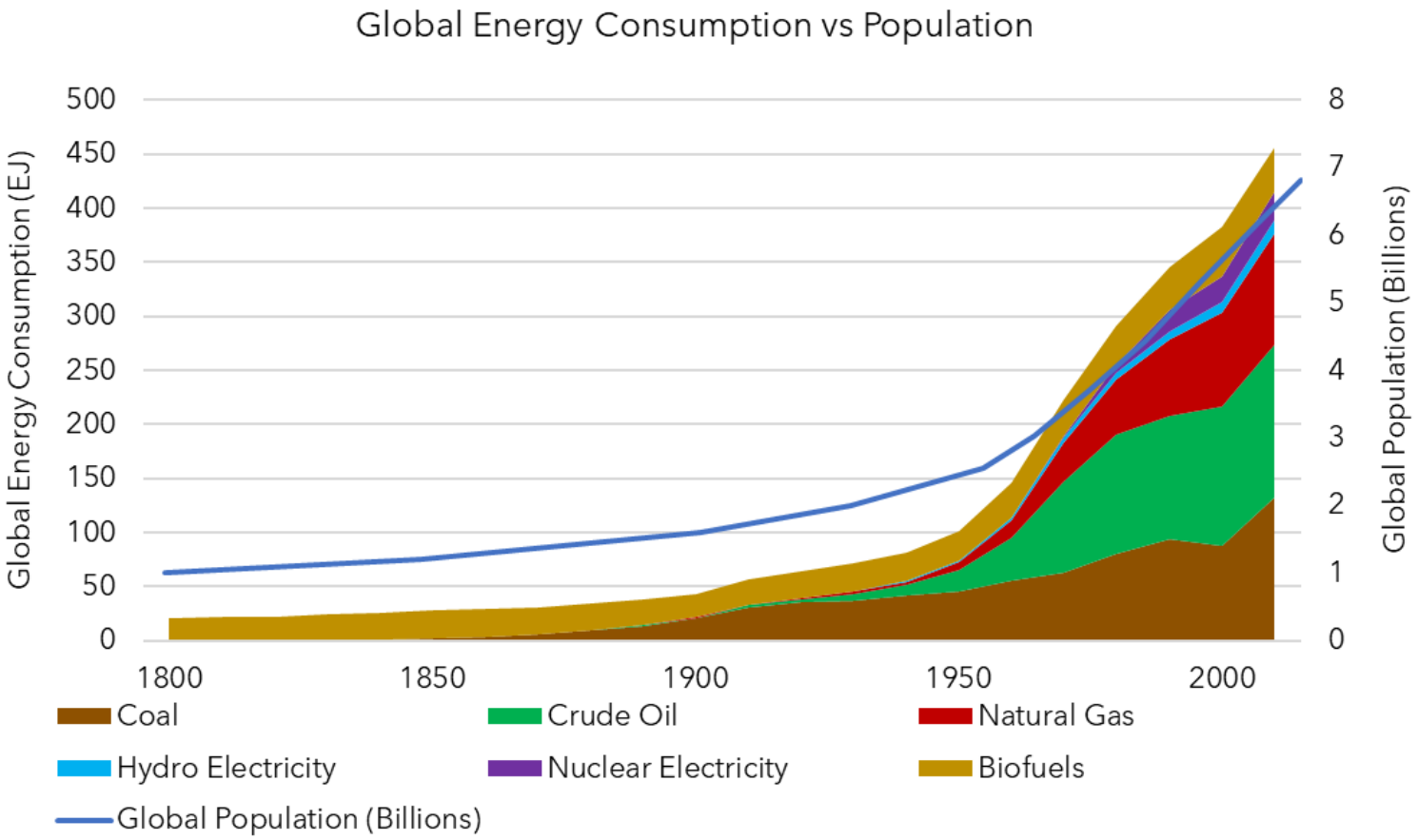
- The economics are simple
  - The more you demand, the higher prices go (with constant supply)
  - The more you supply, the lower prices go (with constant demand)
- Demand's grown exponentially over the past two centuries
- Supply will be the core focus of tomorrow's energy landscape
  - All energy forms are capital intensive
  - Hydrocarbons are required in every scenario
  - Production decline is material




Source: Vaclav Smil, Energy Transitions: History, Requirements, Prospects, 2010

# A Core Driver of Life Expectancy is Access to Energy

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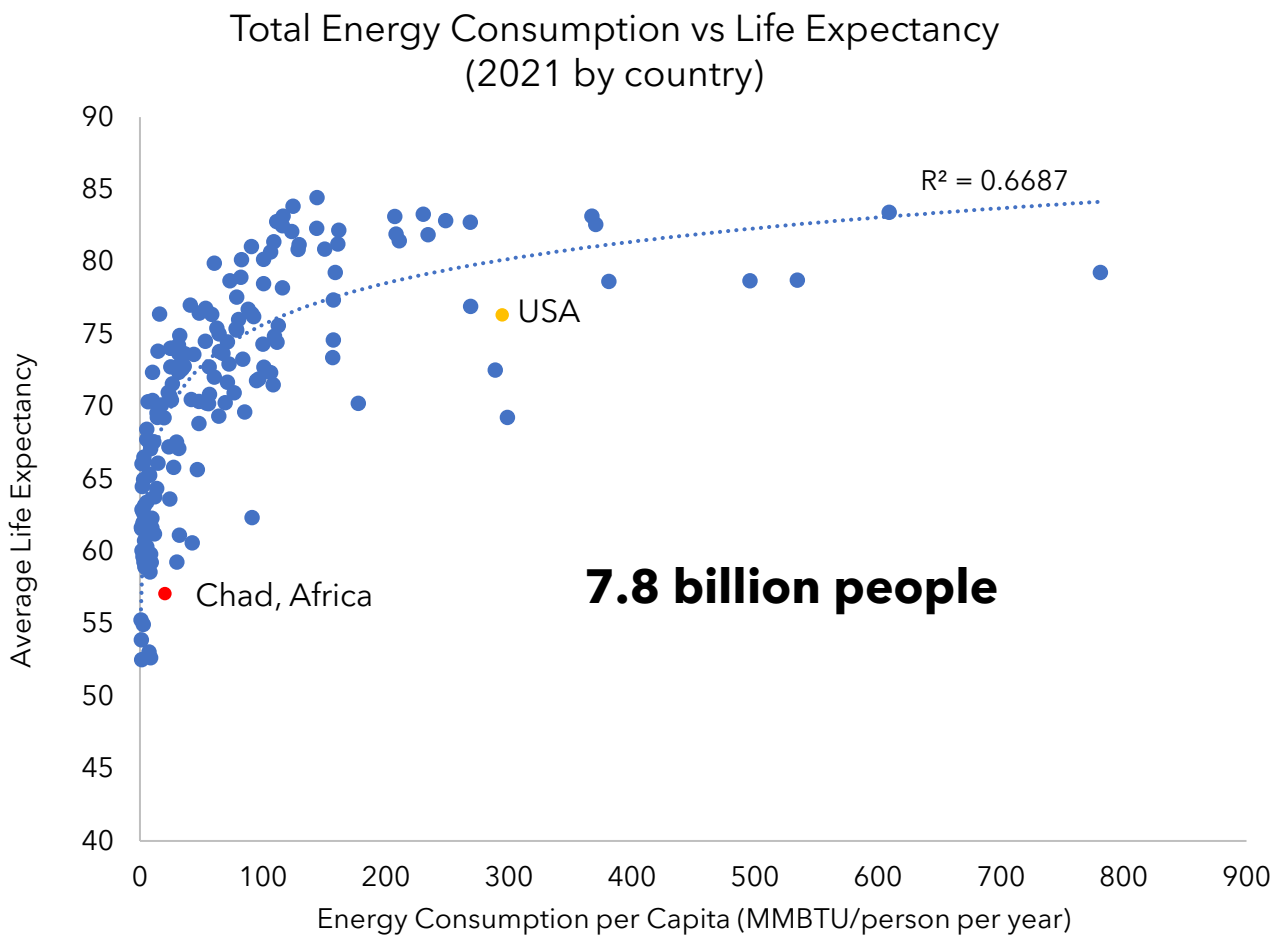


- Access to energy is a strong predictor of life expectancy

Demand → Supply → Investing

Source: U.S. Energy Information Administration and World Bank

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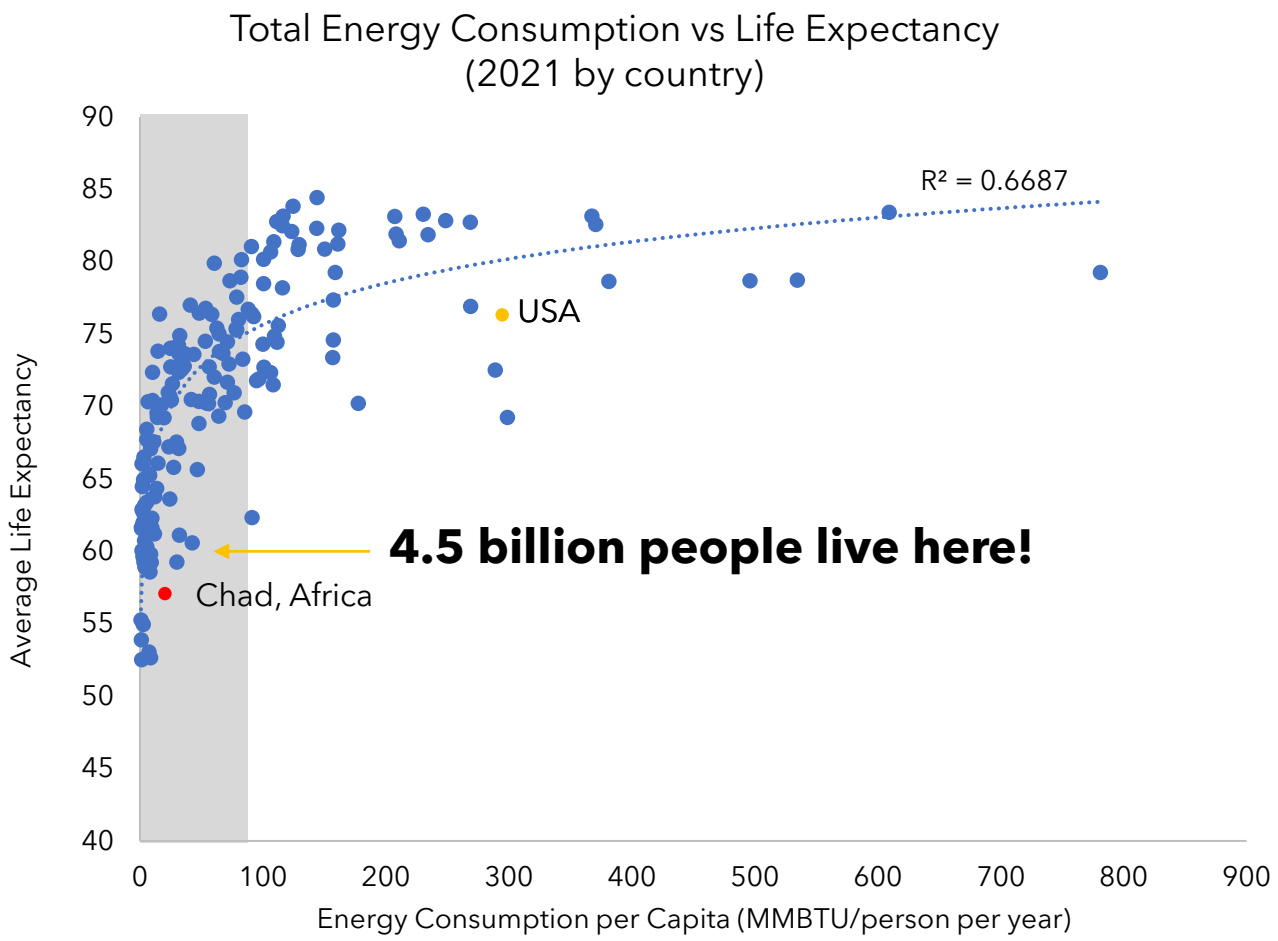
# A Core Driver of Life Expectancy is Access to Energy




- Access to energy is a strong predictor of life expectancy
- Shaded region represent countries <100 MMBTU/person
  - 58% of global population
  - Average life expectancy of 67 years (population-weighted); <u>10 years lower</u> than countries >100 MMBTU/person

Demand → Supply → Investing

Source: U.S. Energy Information Administration and World Bank

# Energy Demand is Strong

My Fridge

Demand → Supply → Investing

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# Access to Energy is Highly Correlated to Prosperity

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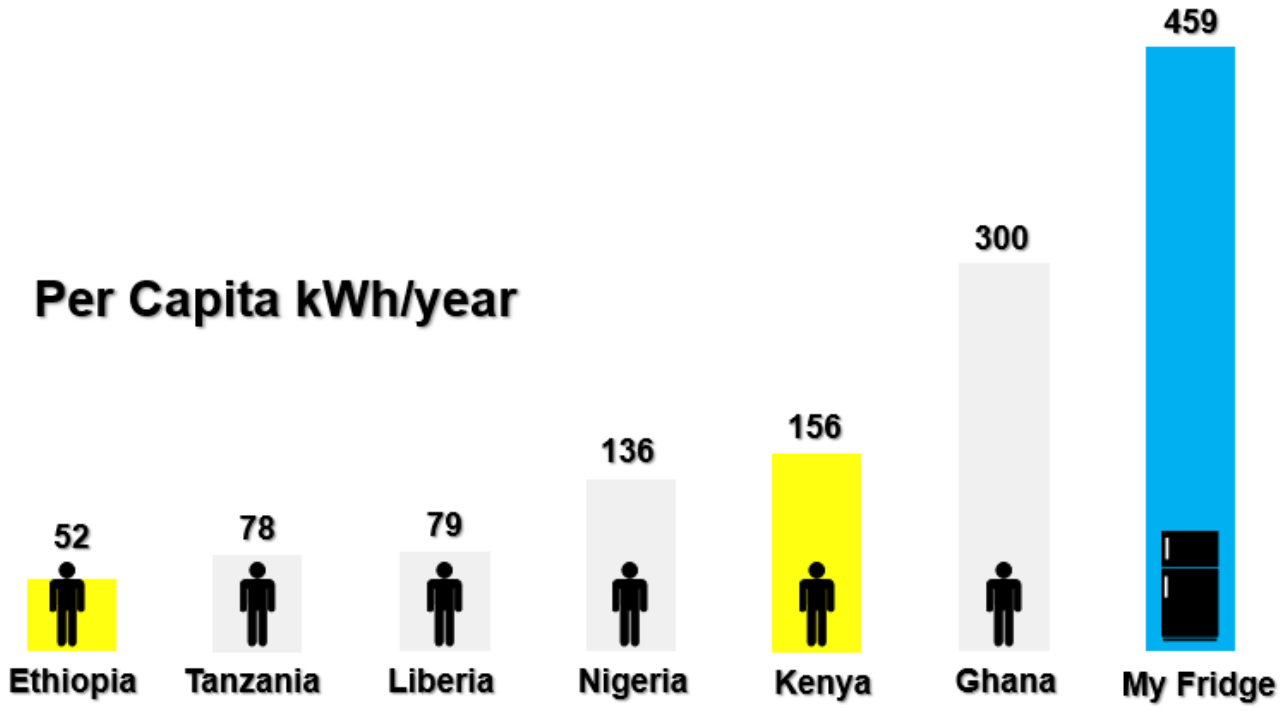
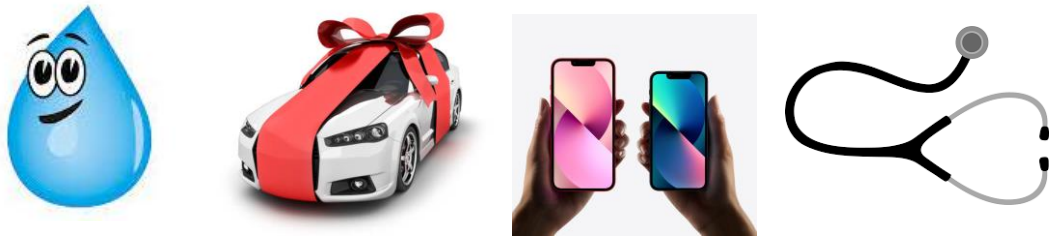
- Billions of people worldwide live in energy poverty
- Many consume less energy per year than the average American refrigerator
- Energy demand is expected to grow exponentially in developing nations as populations increase and the middle class grows



**Energy Poverty**: Many people cannot meet basic energy needs

Demand → Supply → Investing

Source: Scott Tinker 2023 (Switch Energy Alliance)

# Energy Supply – Balance is Crucial

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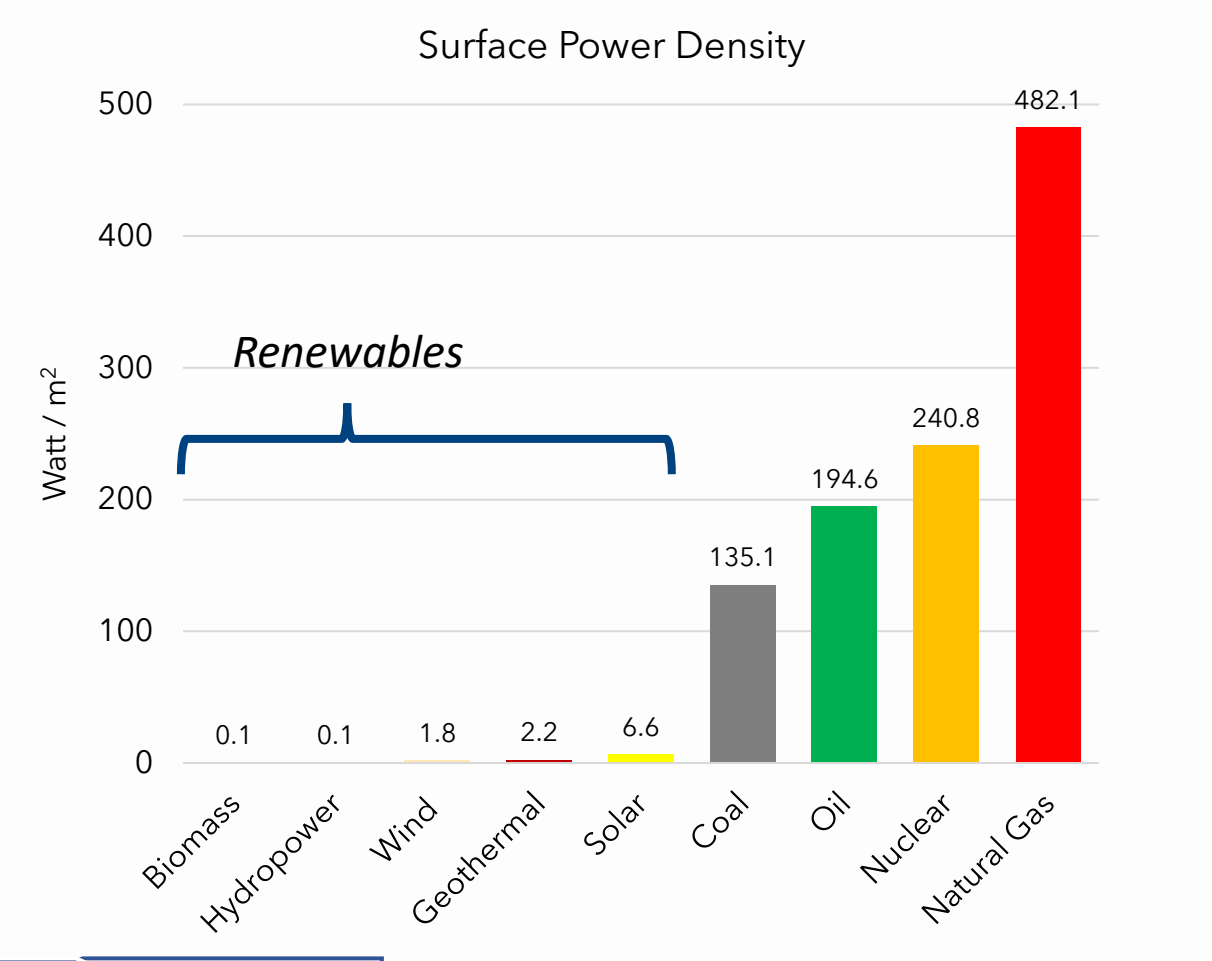
- We've got a trilemma:
  - Three choices, but you can only pick 2!
  - You can't have them all
- Consumers' shifting demand preferences for different sources will require compromise
- For people living in energy poverty in the developing world, cleanliness is a luxury they do not prioritize

Demand → Supply → Investing

# Energy Content Matters

- With energy demand highly concentrated around population centers, the surface area required for power generation is a key logistical factor
- Renewable energy sources require orders of magnitude more land per unit of energy output than hydrocarbon or nuclear sources
- Transmission losses exacerbate the logistical issues of land-intensive renewable power generation in locales outside population centers




Demand → Supply → Investing

Source: van Zalk, John and Behrens, Paul; The spatial extent of renewable and non-renewable power generation; *Energy Policy*, December 2018, Scott Tinker 2022

# "RENEWABLES" HAVE NON-RENEWABLE ATTRIBUTES

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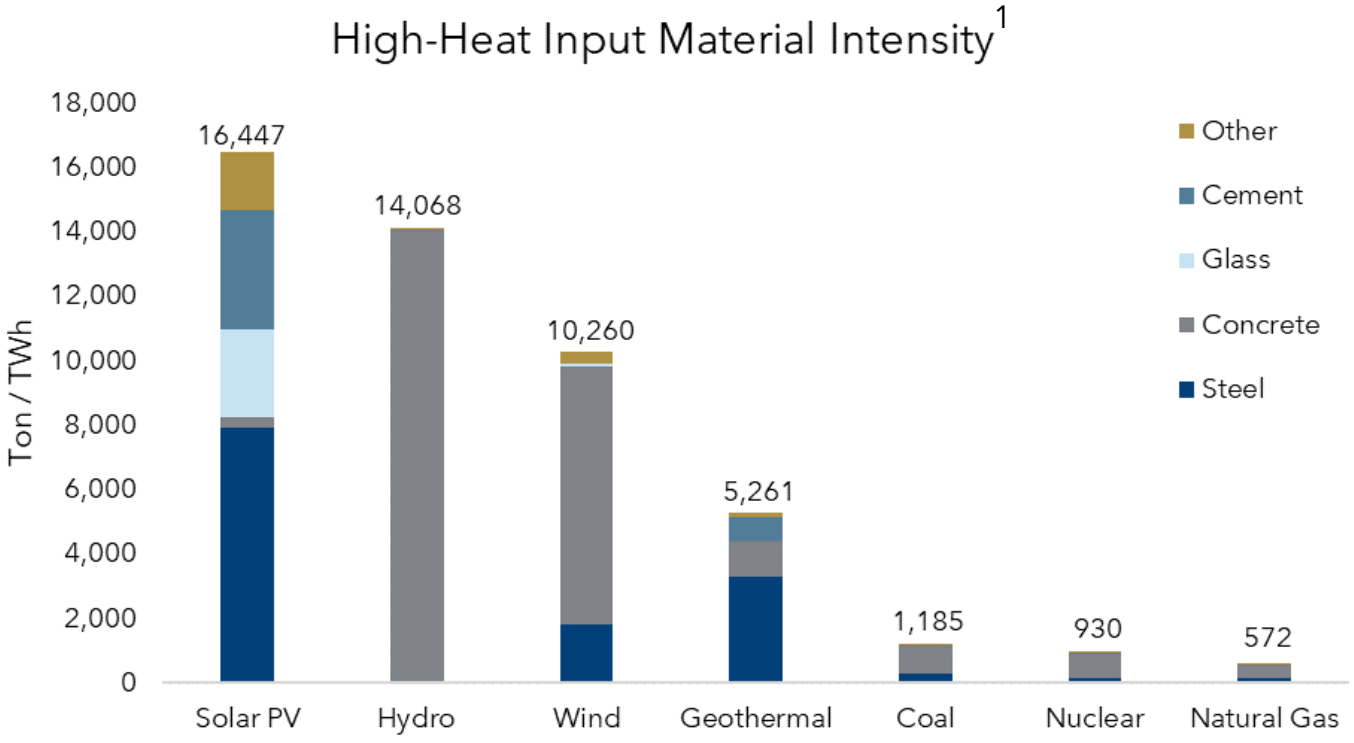
- Renewables must acknowledge and address their mining, manufacturing, and landfill attributes
  - We need to move and process 500+ tons of earth per one ton of battery-grade lithium carbonate [2]
- Non-Renewable energy sources must address the emission and combustion of end users [3]
  - Transportation (28%)
  - Agriculture (10%)
  - Commercial Buildings (7%)
  - Industry (23%)

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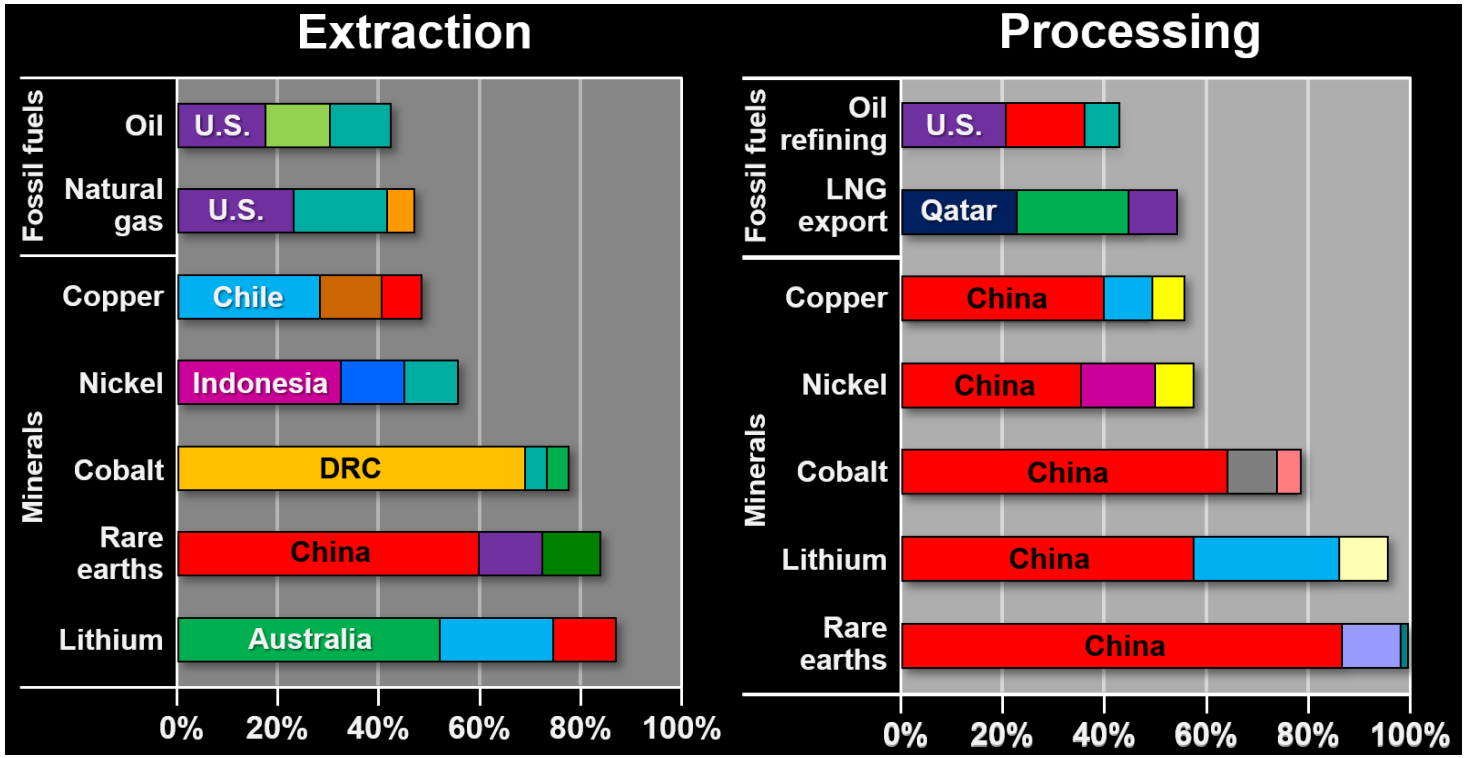
Source: [1] Prof. M. Dunzik-Gougar (ANS) and DOE Quadrennial Technology Review, Table 10 ; [2] Carbon Tax Center; [3] EPA, 2021 data for US

# ENERGY SECURITY

- Geopolitical implications are not insignificant
  - China owns a large majority of the coal mines and critical mineral mines
  - The US and others own the majority of the oil and gas natural resources
  - Yet we export a tremendous amount of manufacturing to China??




Source: Scott Tinker, IEA 2021

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# Emissions Reduction is a Global Effort

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- In 2023, two separate studies by Harvard and Yale have shown great resolve by producers
  - oil & gas producers lead other sectors in green patents
  - Helping "brown" energy company's reduce emissions is far more beneficial than not investing in a "brown" company
- Heck, Exxon's patented portions of the solar cells in the 1970's and practically invented to the lithium-ion batteries

*"Specifically, we find that oil, gas, and energy-producing firms – firms with lower ESG scores, and who are often explicitly excluded from ESG funds' investment universe – are key innovators in the United States' green patent landscape. These energy producers produce more, and significantly higher quality, green innovation."*

- "The ESG-Innovation Disconnect: Evidence from Green Patenting", 2023

*"Our analysis suggests that sustainable investing flows and engagement that targets the incentives of green firms would be more effective if targeted at brown firms."*

- "Counterproductive Sustainable Investing: The Impact Elasticity of Brown and Green Firms", 2023

Demand > Supply > Investing

# THE WORLD REMAINS COMMITTED TO RENEWABLES

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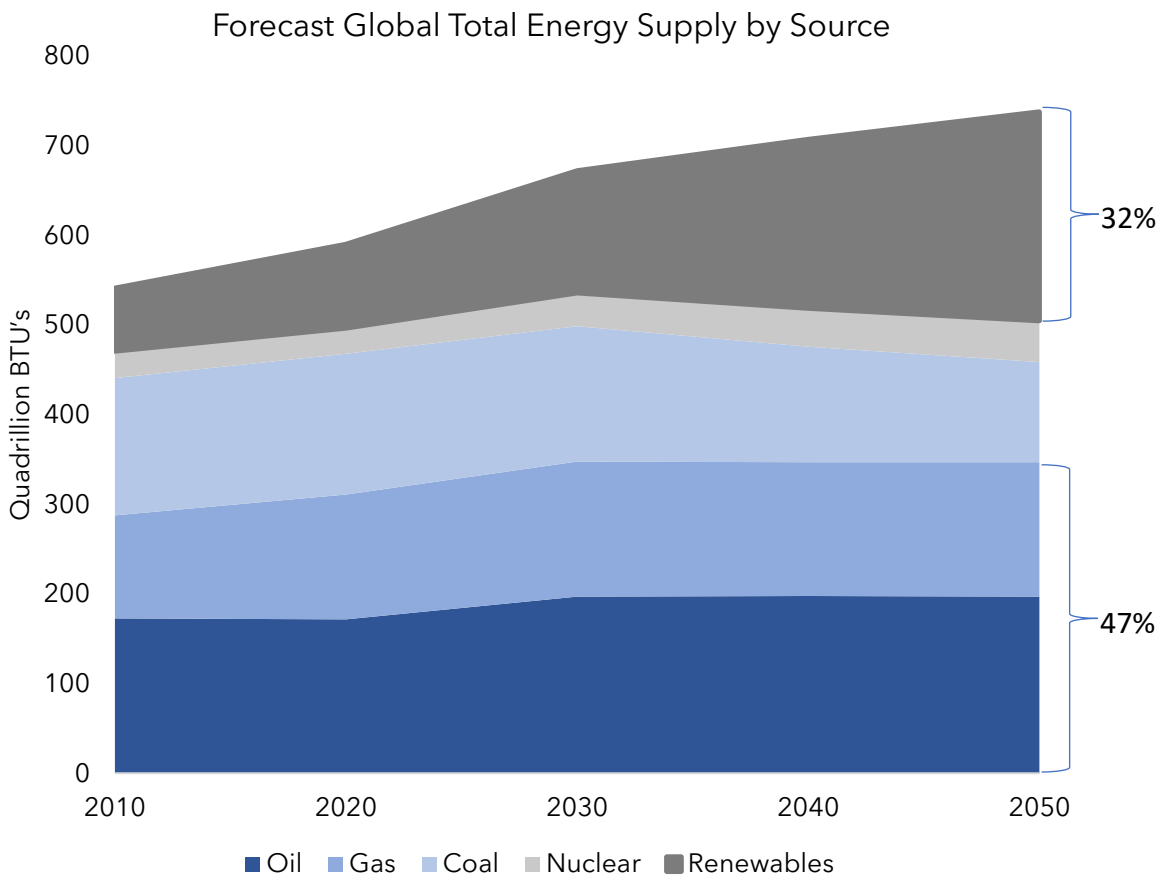
- Under the IEA Stated Policies Scenario:
  - 32% of total energy supplies from renewables by 2050
  - Oil & natural gas accounted for 53% of total energy in 2020
  - Oil & natural gas are still projected to account for 47% of total energy in 2050
- Renewables growth is **additive, not substitutive** for oil & natural gas
- Even under optimistic scenarios, hydrocarbons will comprise a substantial portion of energy supplies in 2050

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Source: IEA World Energy Outlook 2022 – Stated Policies Scenario

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# THE RED QUEEN CONUNDRUM

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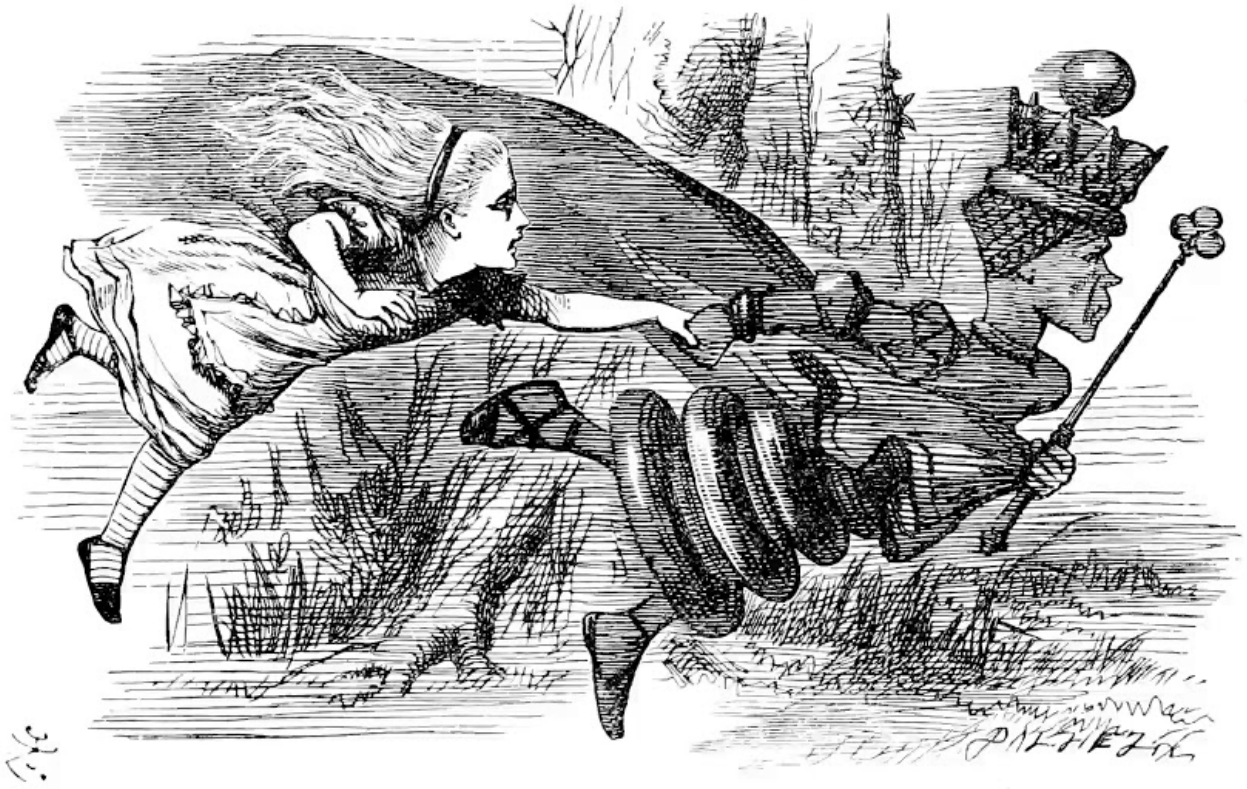
"Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!"

Lewis Carroll's Red Queen in Through the Looking-Glass



# Perspective on Satisfying Oil Demand

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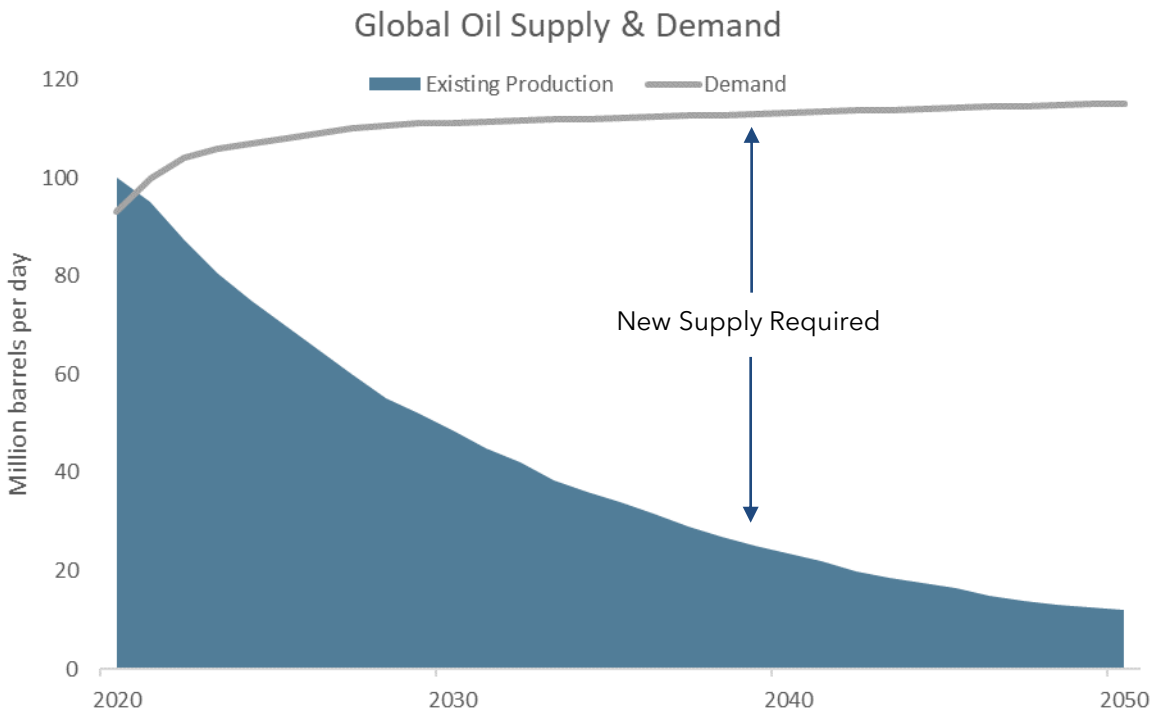
- April 2023 Exxon announced the addition of another 1.3B barrels of oil reserves to their 10B+ barrel fields in Guyana
  - Exploration started in 2008; 1st well drilled in 2015
  - Guyana production is projected to reach 1.2+ million barrels per day by 2027 from ~0 in 2018
  - Total projected net capex of $43B through 2027

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Source: ExxonMobil 2021 Outlook for Energy

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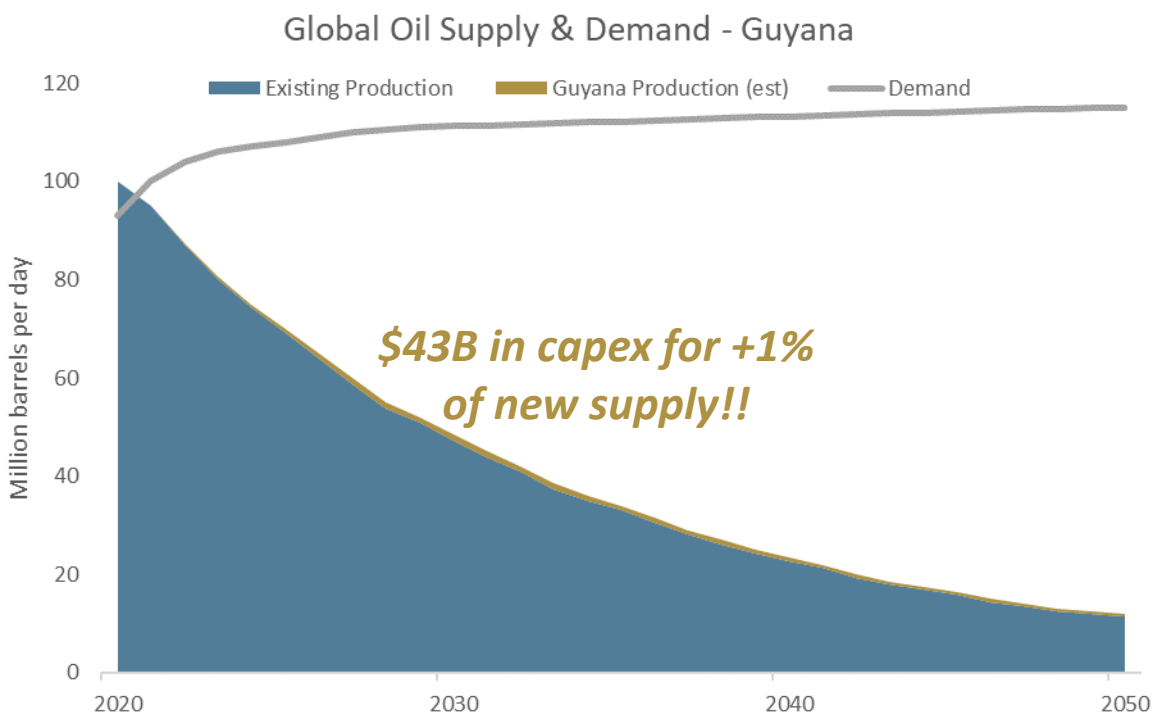
  - Total projected net capex of $43B through 2027
- Consider the fact we consume 100 million barrels a day globally
- Simple math says that 10B+ billion barrel field will satisfy 120 days of demand – if demand doesn't grow…
- …and it will haven taken nearly 20 years

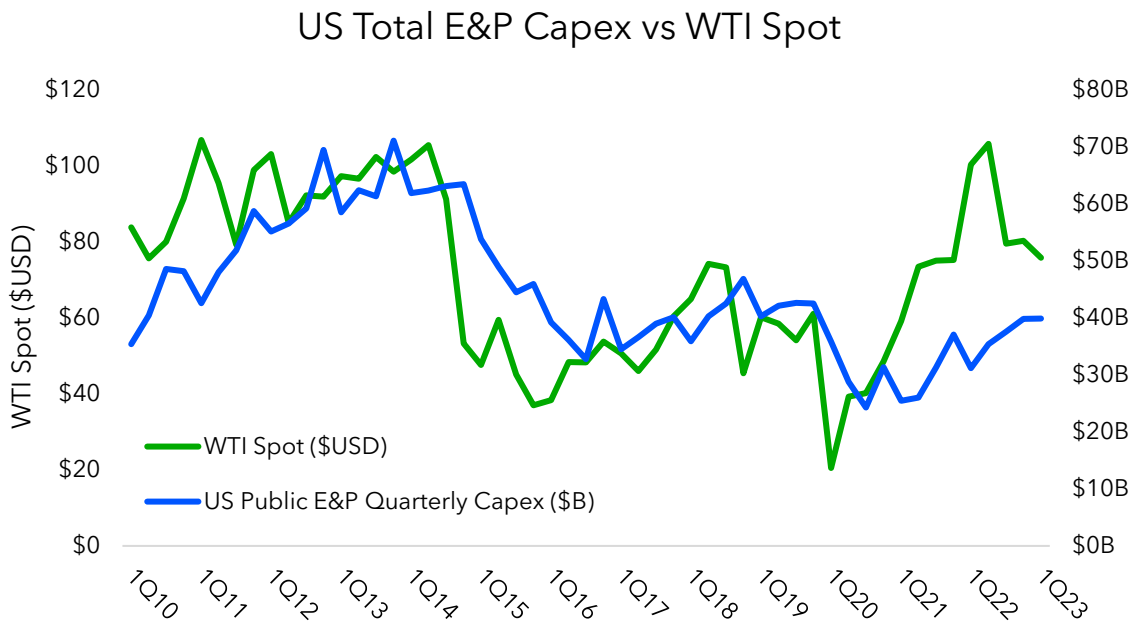



Demand → Supply → Investing

Source: ExxonMobil 2021 Outlook for Energy; Guyana production estimated as linear growth to 1.2mmbopd in 2027, 10% annual decline thereafter

# Energy Investing – Capex Trends

- Historically capex levels have tracked commodity pricing
- In recent years producers' spending has diverged from this trend, remaining near maintenance levels
- With existing production declining at 10%+ annually, sustained underinvestment in new reserves and production growth creates scarcity

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Source: Bloomberg

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# Energy Investing – Why Now?

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## Inflation

- Provides inflation protection
- Strong historical correlation between commodities and rising prices

## Diversification

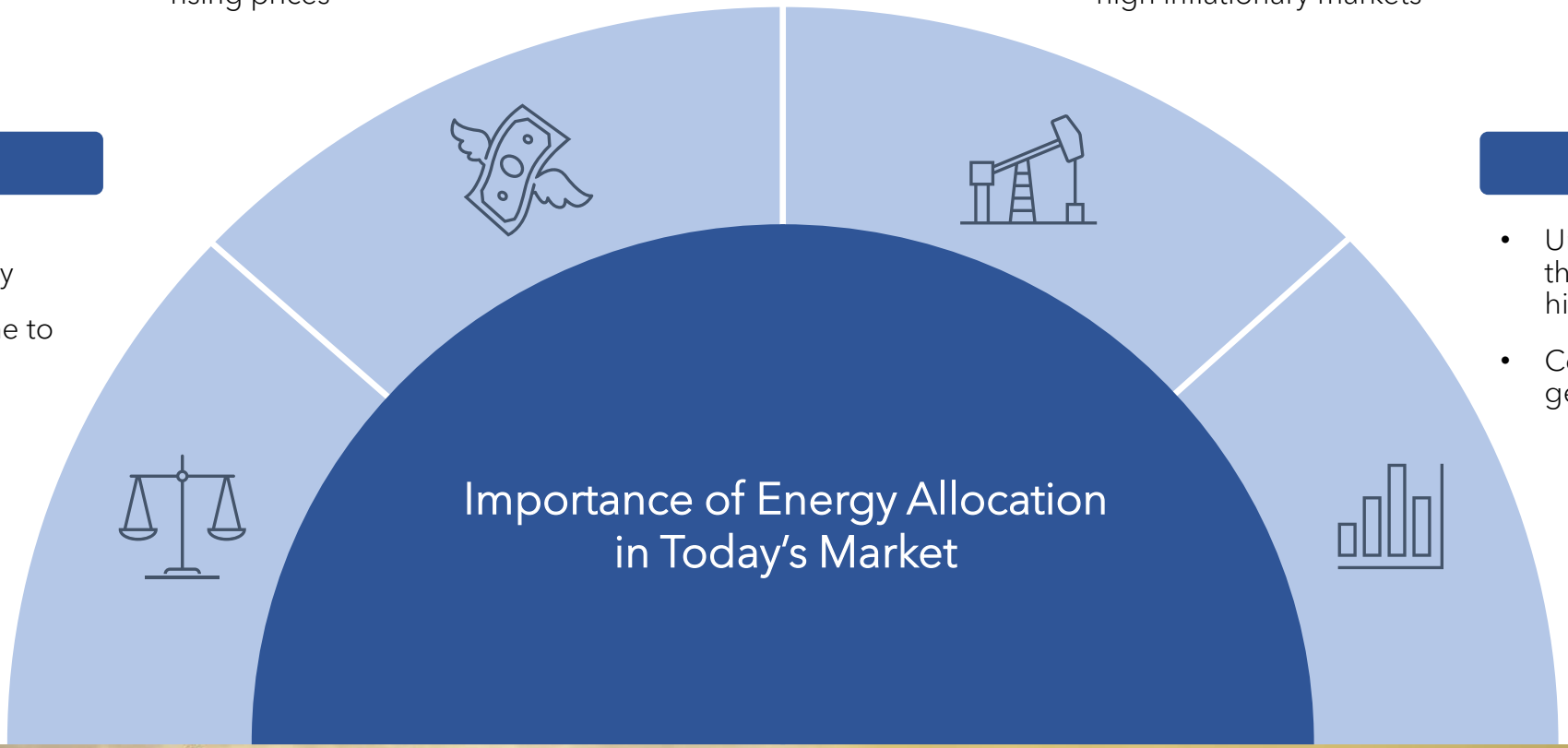
- Low historical correlation with public equities
- Historical outperformance in high inflationary markets

## Allocation

- Many portfolios are underweight energy
- Now is the right time to re-balance

## Returns

- Under-valued asset class that is trading below historical levels
- Core real asset with income generation potential



# How Should You Invest in the Energy Sector?

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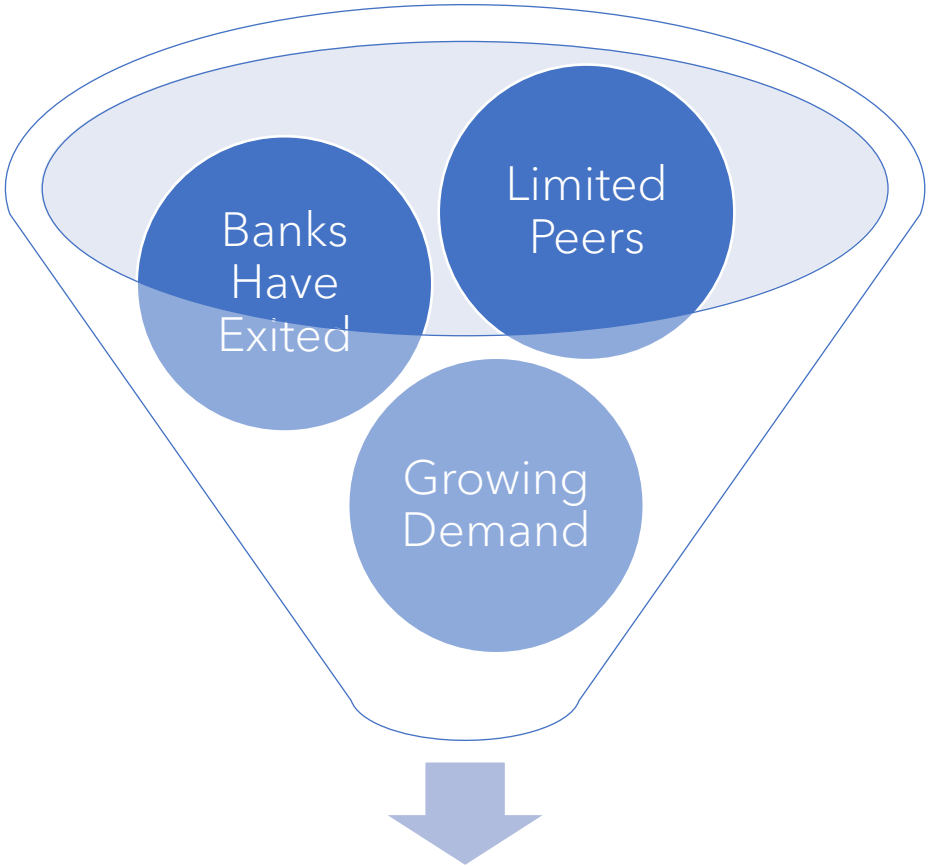
- We believe the private lower middle-market offers the highest return potential
- Successful managers are raising >$1 billion, while unsuccessful managers have exited the industry
- Banks have reduced lending
- Limited capital for growing companies has driven down valuations
- Proven lower middle-market managers have a competitive edge in finding attractive investment opportunities




Lower Middle-Market

# Questions and Follow Up

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