

Energy drives quality of life

Household & transportation



Energy inputs

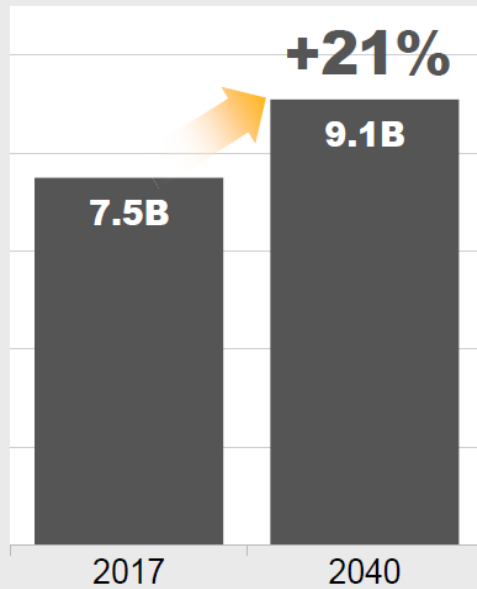


Everyday uses of energy

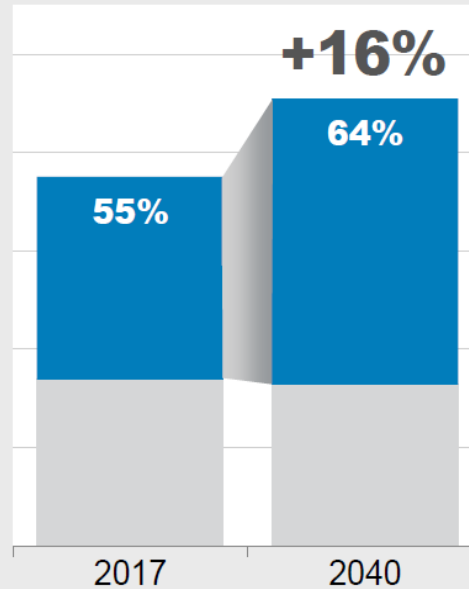


Global energy demand will rise...

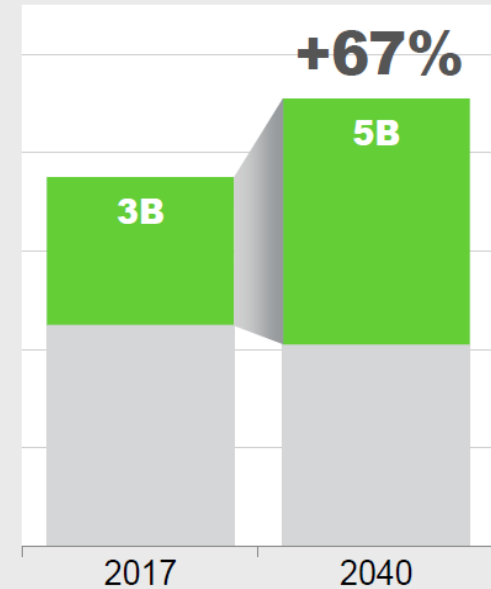
World population



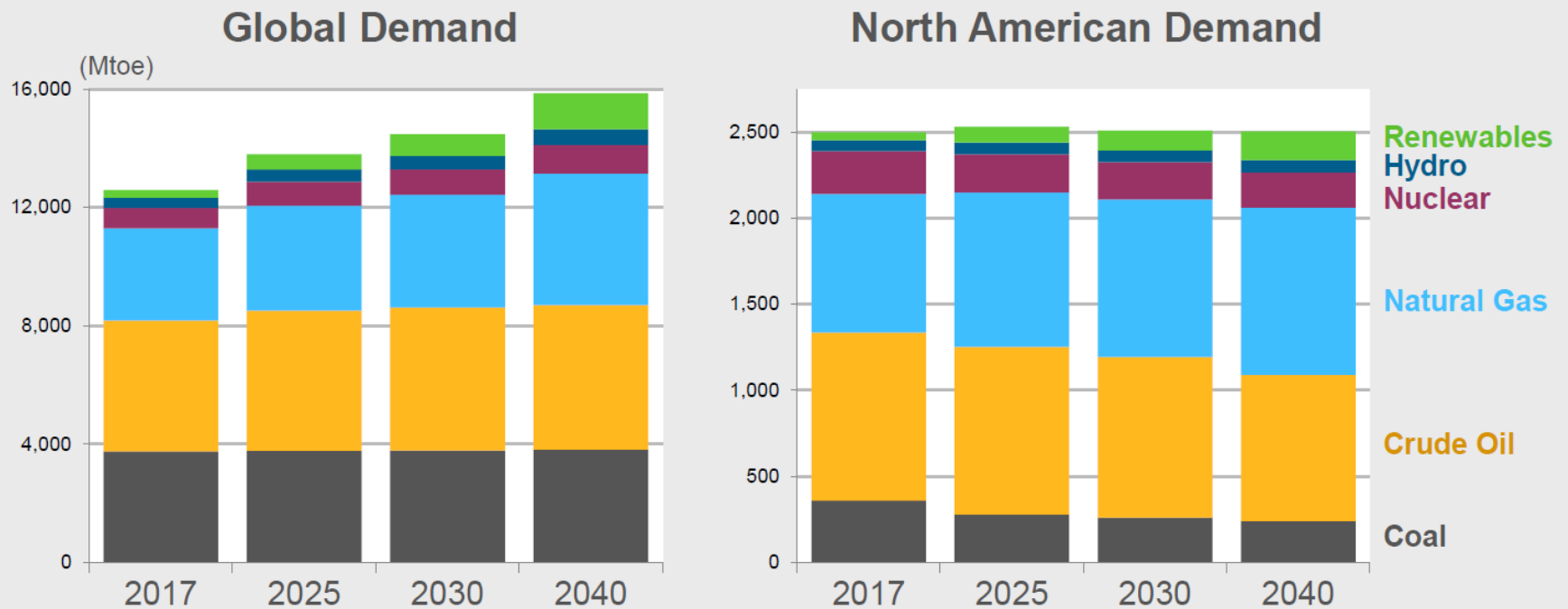
Urbanization growth



Global middle class

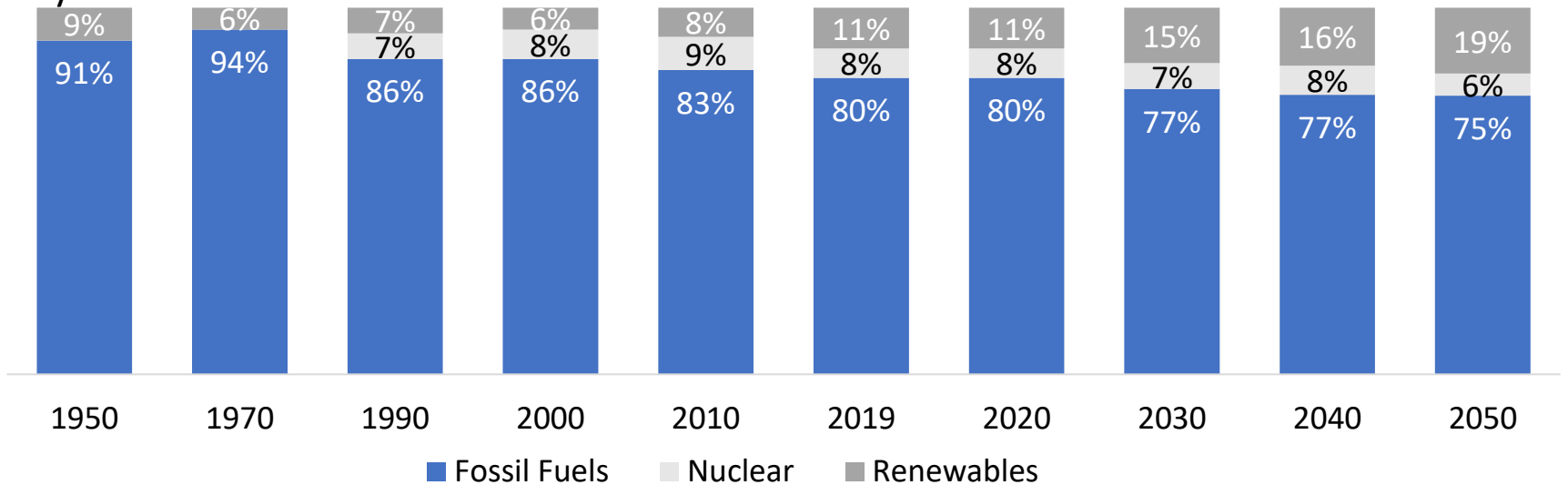


All supplies are needed...



U.S. Energy Consumption

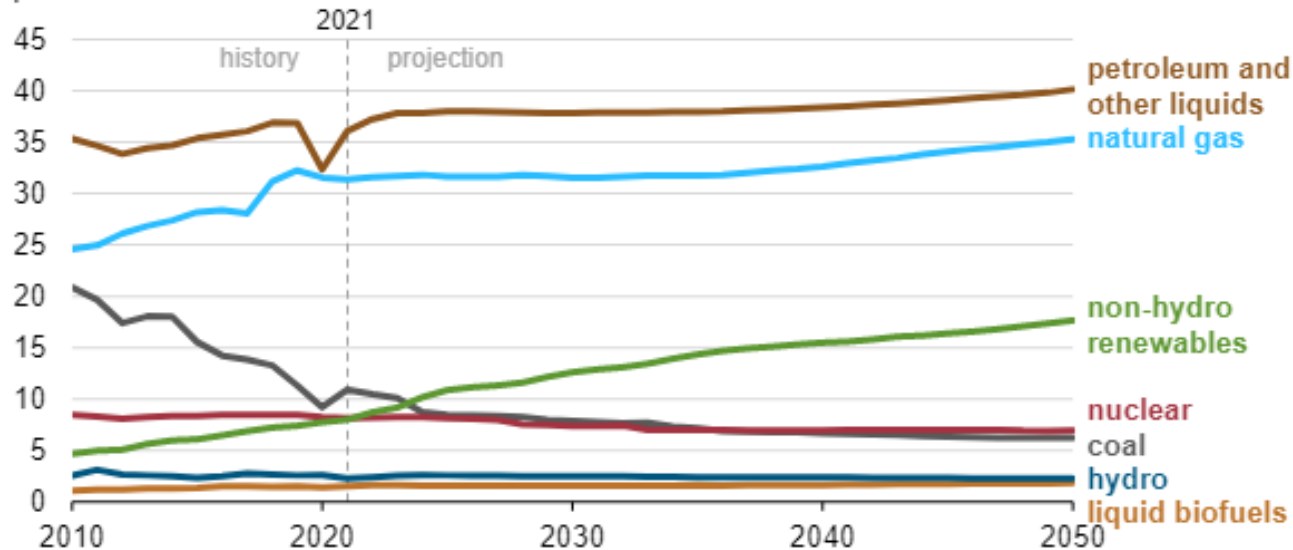
by fuel source



Truth: domestic petroleum demand is forecasted to grow through 2050

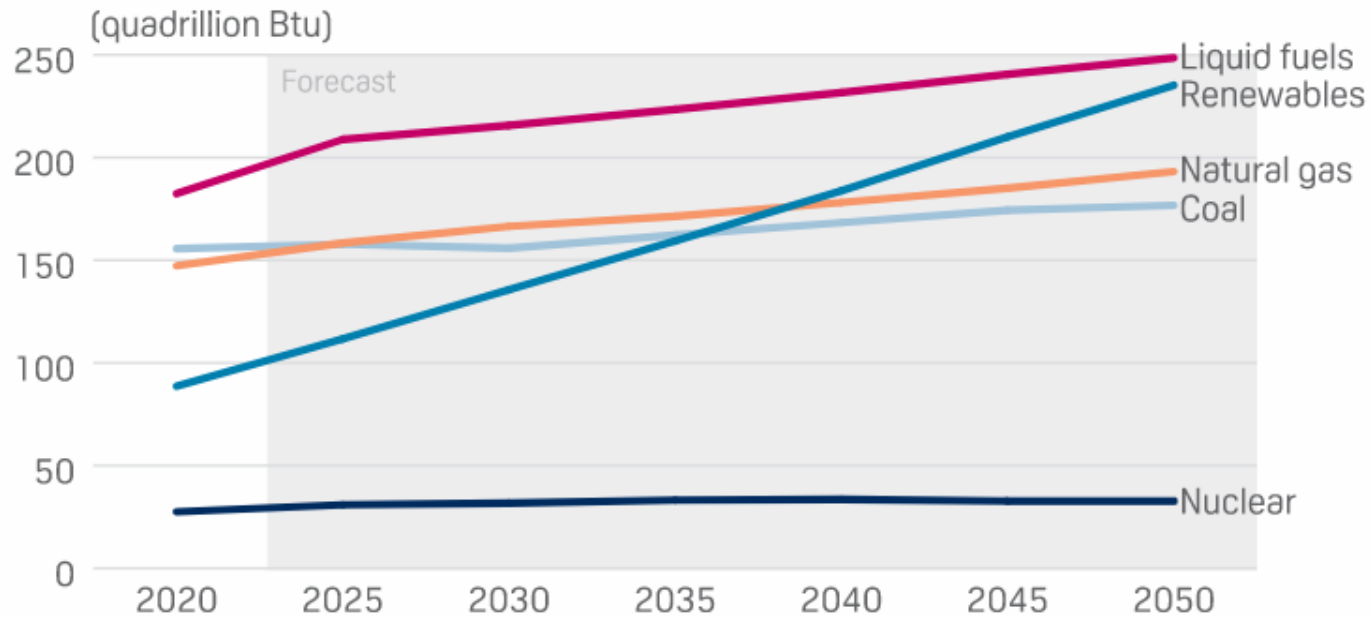
U.S. energy consumption by fuel source, AEO2022 Reference case (2010–2050)

quadrillion British thermal units



global petroleum demand is forecasted to grow through 2050

GLOBAL OIL DEMAND TO GROW THROUGH 2050 DESPITE SURGING RENEWABLES



Source: US Energy Information Administration

global petroleum demand is forecasted to grow through 2050

“Oil products continue to increase and meet most demand for transportation energy over the next 30 years as the need for passenger and freight travel increases along with the growing population”

Source: EIA

<https://www.eia.gov/todayinenergy/detail.php?id=51478>

let's vacation in Norway



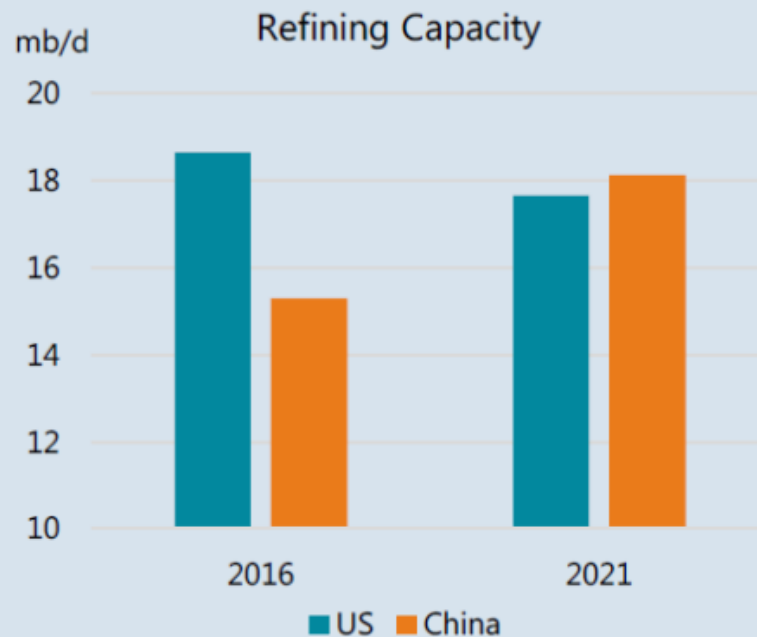
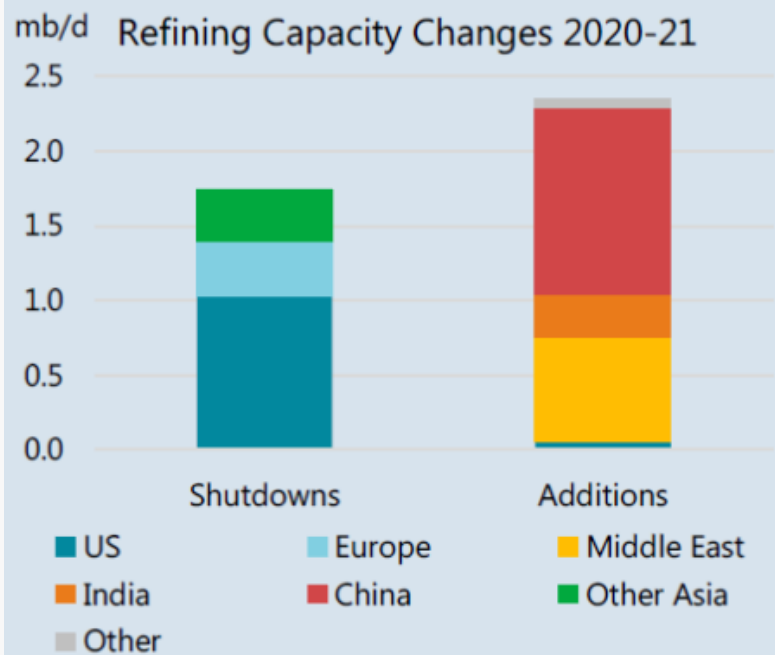
Last September, EV sales market share was 77.5% in Norway.

Oil demand is higher than it was 10 years ago when EVs entered the market.

Selected major global refinery projects scheduled for 2022 and 2023



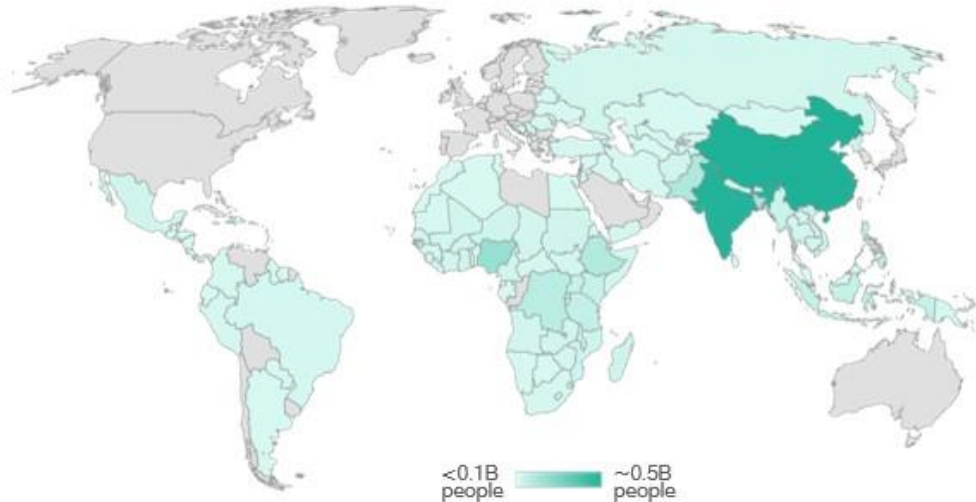
Data source: U.S. Energy Information Administration



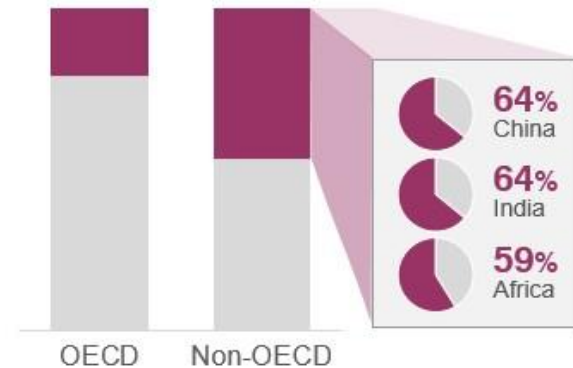
Source: IEA Monthly Report

Access to Energy is Not Universal

~2.6B people live without electricity or natural gas for cooking¹



~46% of non-OECD energy demand remains coal and traditional biomass²



Sustainably addressing energy poverty is critical to meeting Sustainable Development Goals

(1) Tracking SDG 7 – The Energy Progress Report as of 2019. Access to cookstoves that use electricity or gas. (2) As of 2019, International Energy Agency – World Energy Outlook 2020

Conventional Energy Is Essential

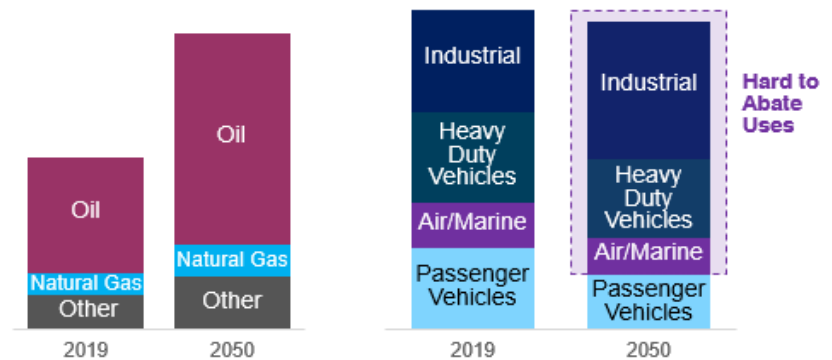
Everyday Products Depend on Conventional Energy



Critical to Meeting Petrochemical, Industrial and Transportation Energy Requirements

Petrochemicals¹
(Mtoe)

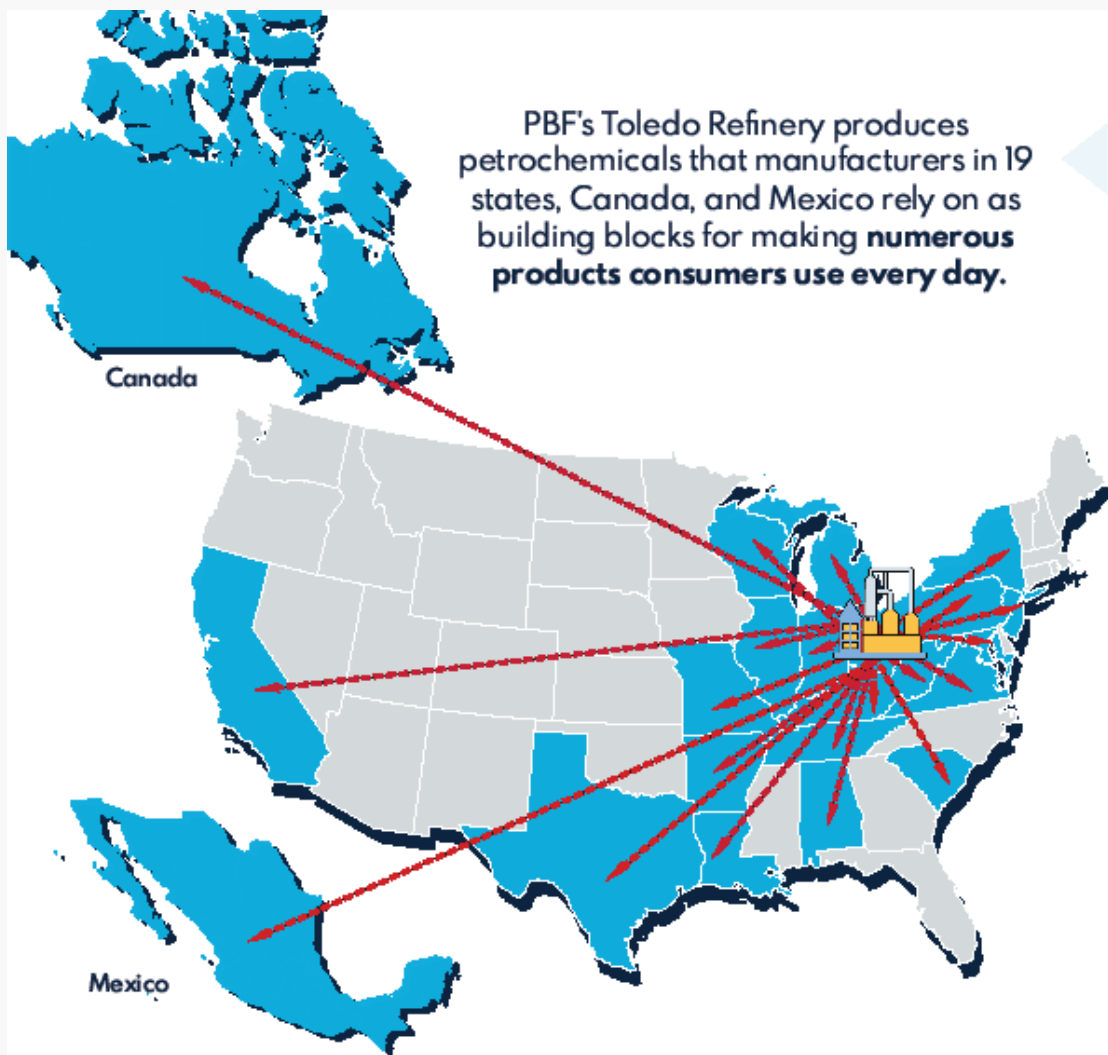
Oil (liquids) demand¹
(MMb/d)



Society will continue to depend on conventional energy

(1) IHS Markit Inflections Scenario (base case). Oil (liquids) demand excluding biofuels.

PBF's Toledo Refinery produces petrochemicals that manufacturers in 19 states, Canada, and Mexico rely on as building blocks for making **numerous products consumers use every day.**



Toledo Refining Company

Manufacturing the Building Blocks for Products You Rely on Every Day

In addition to being a prime fuel supplier to customers throughout the Great Lakes region, PBF's Toledo Refinery is the area's largest benzene, toluene, and xylene producer. Everyday products made from these petrochemicals include:

PBF Benzene

Laundry detergent, auto parts and tires, fiberglass, food packaging, plastic cups



PBF Toluene Products

Cosmetics, paints, sneaker soles, caulking

PBF Xylene Products

Soap and shampoo, cancer diagnostics, printer toner, athletic wear (polyester)

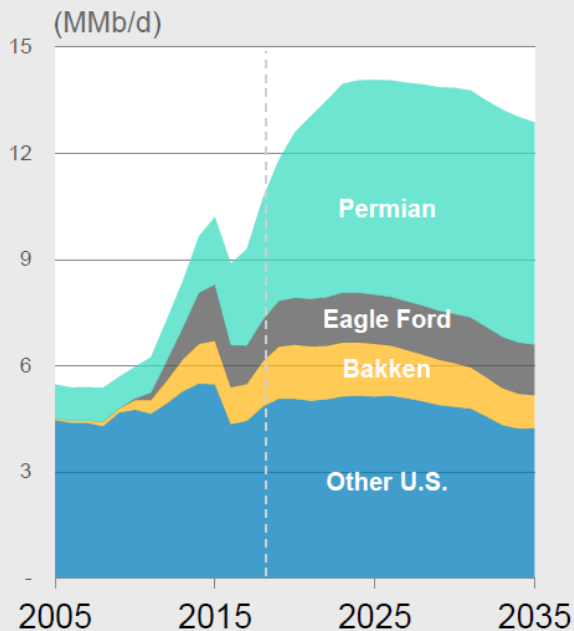


PBF Nonene Products

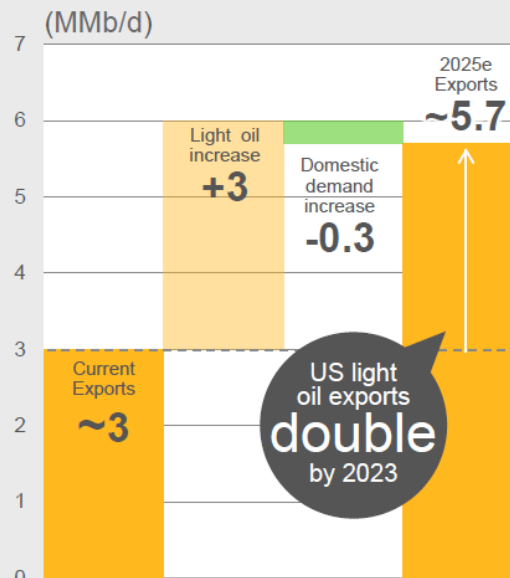
Shower cleaner, industrial coatings, epoxy

U.S. is a leading producer & exporter

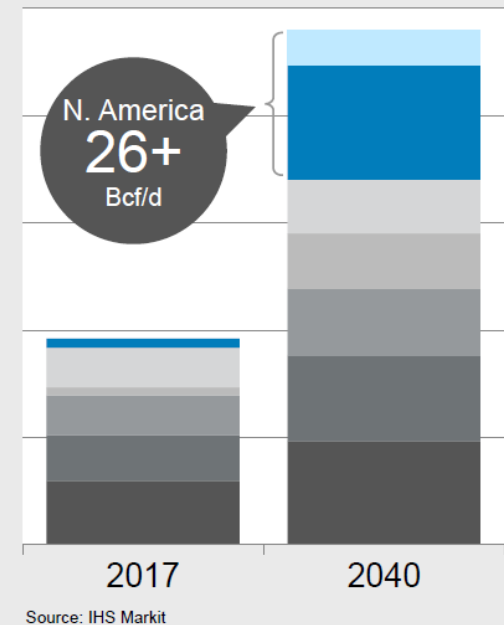
U.S. crude production



U.S. crude exports



LNG export growth



What the industry is doing

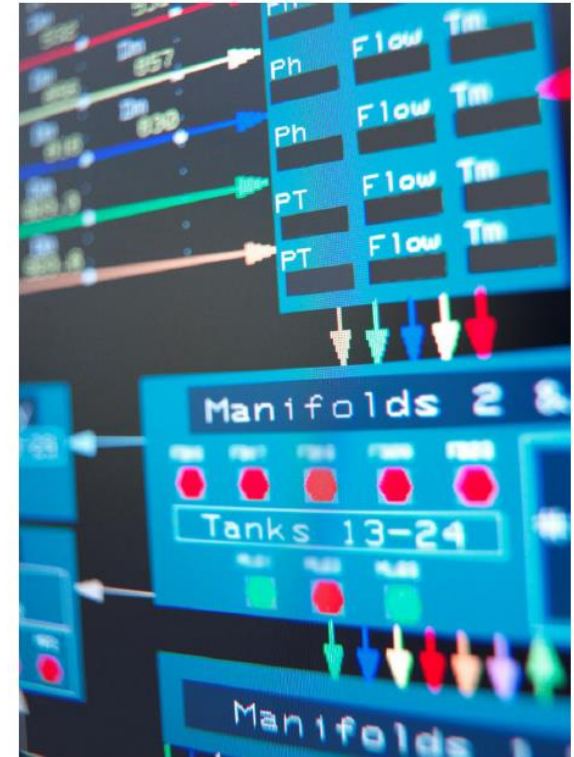
Reducing emissions



Investing in renewables



Leveraging technology



Toledo Refining Company

- ✓ **585 Direct Jobs**
(mechanical, chemical, civil engineers, accountants, hard craft, building trades, operators)
- ✓ **600 Contractor Jobs**
- ✓ **\$5.8 Billion Annual Economic Output**
- ✓ **\$9.2 Million Payroll Taxes**

Toledo Refining Company

- ✓ **\$2.2 Million Monthly
Electric Bill**
- ✓ **\$2.7 Million Monthly
Gas Bill**
- ✓ **\$1.1 Million Monthly
Water/Sewer Bill**

Toledo Refining Company Produces Daily:

- ✓ **Enough gasoline to fill 224,000 cars**
- ✓ **Enough diesel to drive a semi from NY to LA 2700 times**
- ✓ **Enough jet fuel to fly around the world 42 times**

Toledo Refining Company Produces Daily:

- ✓ **Enough propane to fill
45,000 grill propane
tanks**
- ✓ **Enough butane to fill
160 Million Bic lighters**

Toledo Refining Company Produces Daily:

- ✓ **\$400,000 gallons of heavy fuel oil**
- ✓ **Numerous chemicals for other industries (building blocks for plastics, synthetic fibers, etc.)**
- ✓ **50 tons of sulfur**

Current Dilemma:

- ✓ **Administration's narrative on ending fossil fuels**
- ✓ **Investors discouraged to fund energy projects**
- ✓ **Attack on infrastructure**
- ✓ **Reduced Refining Capacity**

Current Dilemma:

- ✓ **Renewable Fuel Standard**
- ✓ **Shareholders**
- ✓ **World Demand > Supply**

Attack on Refiners:

- ✓ **Both crude and finished products trade on a global commodities market**
- ✓ **Although capacity is reduced, refiners have increased utilization**
- ✓ **Closed refineries can't easily be reopened**

Diesel Dilemma:

- ✓ **30-40% of typical yield**
- ✓ **Europeans swing higher and demand is higher**
- ✓ **Lack of Russian crude**
- ✓ **Recession will help but not solve high diesel prices**
- ✓ **Effect of Amazon et, al.**