

#### **ENERGY ECONOMICS AND ASSET VALUATION PERSPECTIVES FROM A CHIEF ECONOMIST**

**2022 ASA ENERGY VALUATION CONFERENCE** HOUSTON, TEXAS

# HORACE HOBBS



# BILLIONS OF DOLLARS WORTH\* OF REFINERIES PERMANENTLY CLOSED OVER LAST TWO YEARS



What changed?



#### **ENERGY ASSET VALUATION HAS ALWAYS BEEN COMPLICATED**

NUMEROUS ASSET SEGMENTS AND CLASSES VOLATILE COMMODITY MARKETS UNCERTAIN REGULATORY ENVIRONMENT

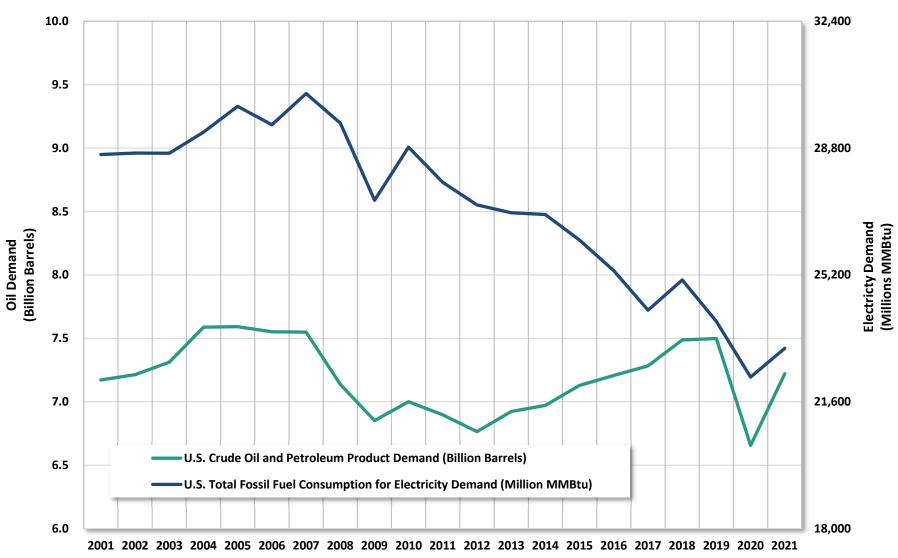
It Is Now Considerably More Difficult: A View of the Future Is Required

#### Today's Agenda

- General State of U.S. Energy Industry
- Global Decarbonatization
  - A New Obsolescence Factor
- New Considerations on Asset Valuation
  - Curating Comparable Sales
  - Diverging Segment Trajectories
  - Increasingly Complex DCF Requirements



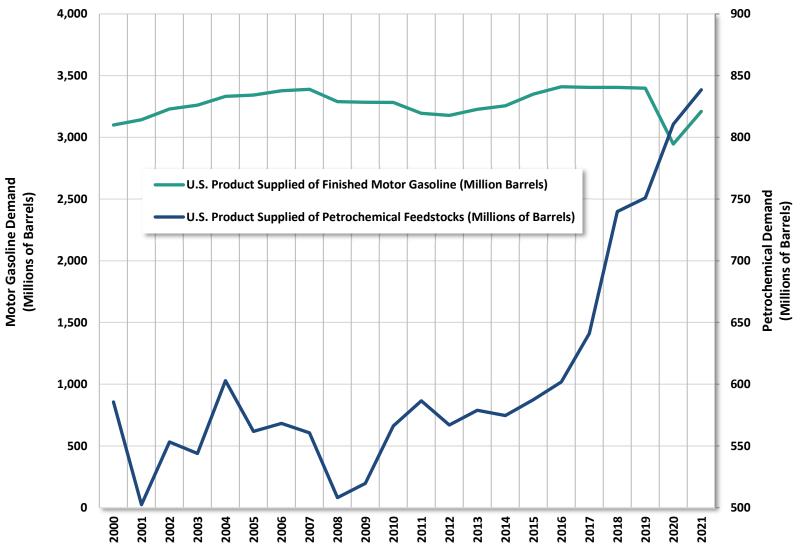
# TRADITIONAL (CARBON) ENERGY IS MATURE INDUSTRY



**U.S. Annual Demand** 



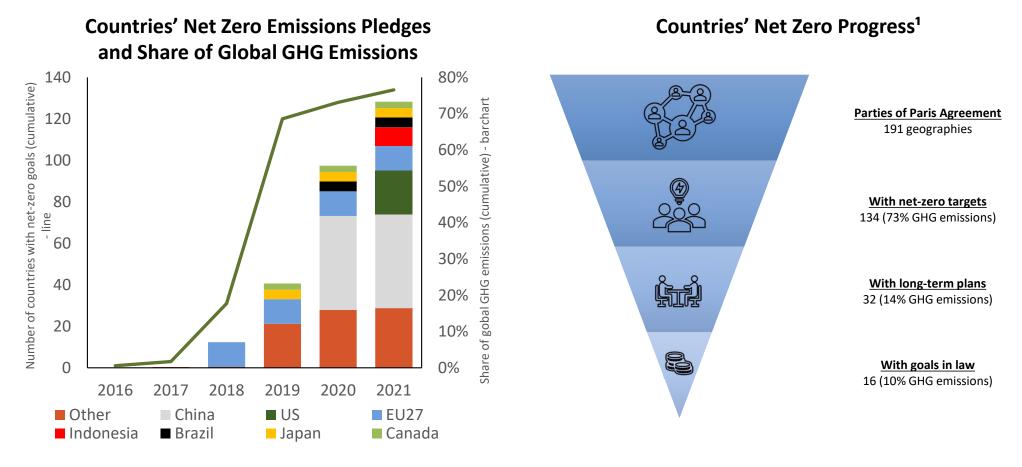
#### **TRAJECTORY VARIES BY SEGMENT**



#### **Demand - Motor Gasoline vs. Petrochemical Feedstock Demand**



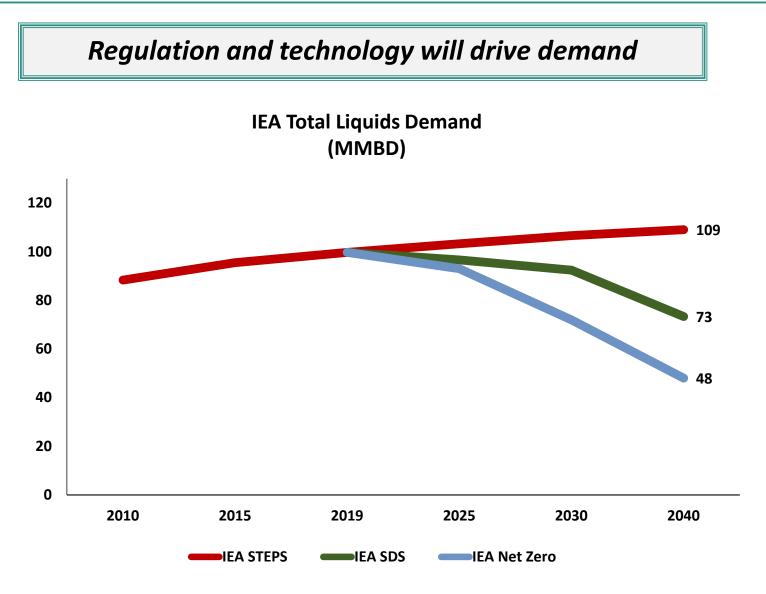
#### THE WORLD WANTS TO DECARBONIZE



Current status as of June 2021
 Source: IHS Markit

PEARSON ADAIR & CO.

### LESS CO<sub>2</sub> MEANS LESS OIL CONSUMPTION

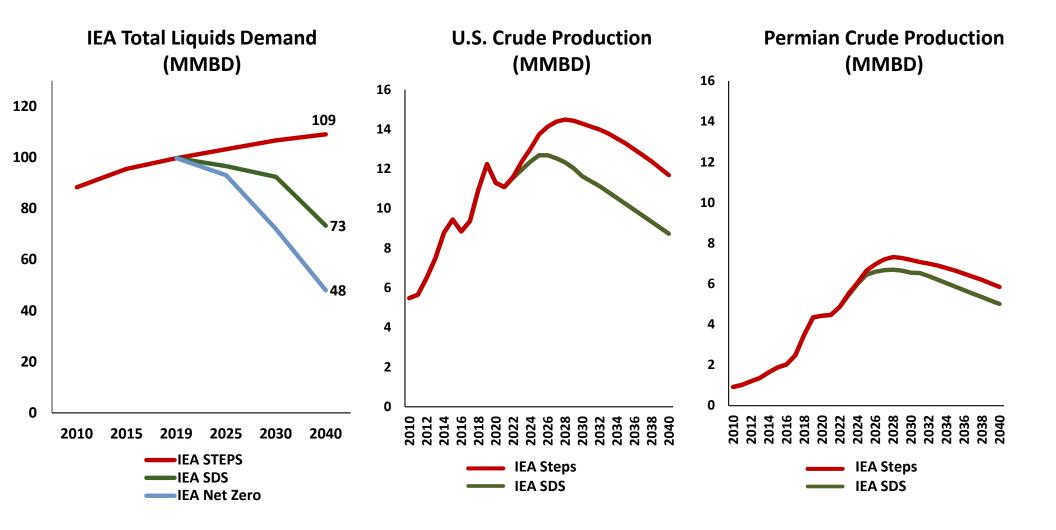


1) Source: IEA: International Energy Agency

2) IEA STEPS – IEA Stated Policies Scenario, IEA SDS - Sustainable Development Scenario, IEA Net Zero Scenario – published in 2021



#### **IEA CRUDE OIL PRODUCTION**

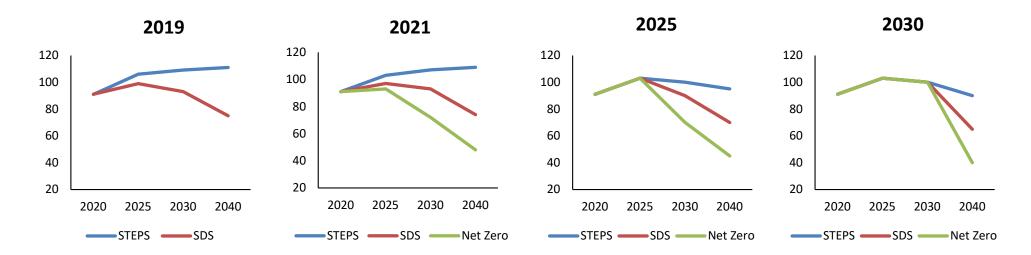




#### **IEA FORECAST DILEMMA**

The long-term Base Case changes every year

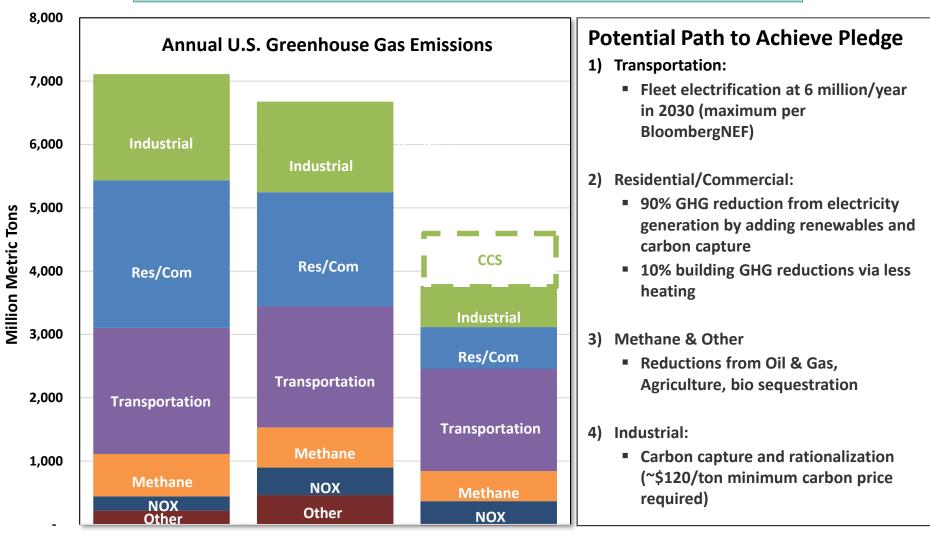
- 70% of emissions pledged away in the last 18 months
- IEA STEPS is based upon codified regulation and only 10% of pledges in law
- IEA STEPS projection adjusted annually to account for changes in economic and efficiency outlooks.
- More recently, changes in future oil demand are overwhelmingly dictated by CO<sub>2</sub> related government regulation and technology advancement.





#### APRIL 2021 BIDEN CLIMATE PLEDGE

#### 50% reduction of GHG by 2030, net zero by 2050



2005 GHG Emissions 2019 GHG Emissions 2030 GHG Emissions



#### **ANOTHER NON-SALE**



Transactions Have Become Rare In Most Downstream Segments and Those That Are Public May Not Translate

Buyers currently lack access to capital markets



# STARTING POINT HAS CHANGED IN MATURE ENERGY SEGMENTS

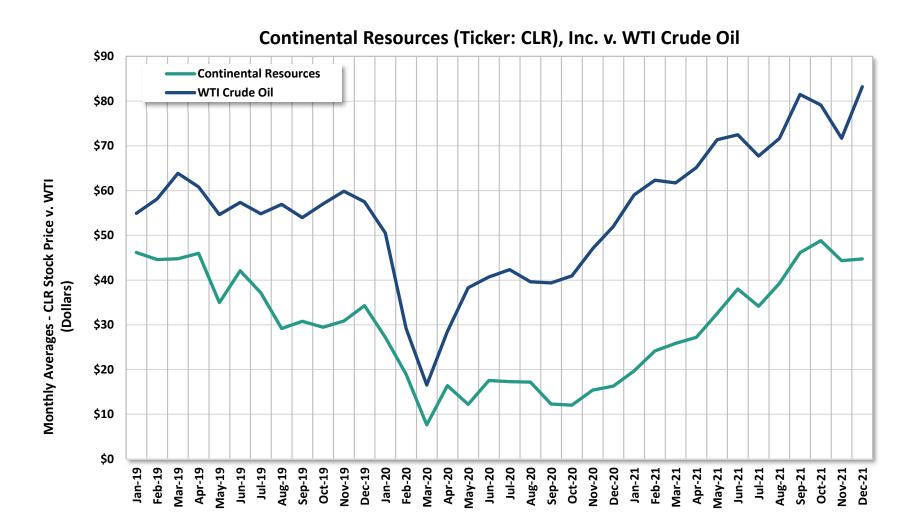
#### Traditional definition of Fair Market Value:

- "The price at which property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts."
- Kit, location, contracts, regulation and costs are "facts;" market prices and margins are "expectations"
- A transaction occurs when the buyer's view (expectations) of the asset economics relative to its cost exceeds the seller's view relative to its costs
  - The relevant operating costs are small and mostly stable relative to the capital investment and margin available
  - The Participant's view of asset economics vary widely

#### Comparable Sales Analysis Will Often Overvalue Assets



### **UPSTREAM ASSET VALUATIONS REFLECT RESOURCE PRICE**

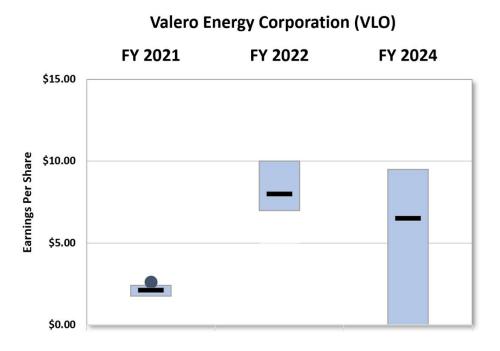


The Futures Market Is Not A Reliable Predictor Of Longer Term Crude Price



#### **DOWNSTREAM VALUATION ANALYSIS RESULTS IN GREATER RANGE**

#### Sell Side Analysts View of Multi-Asset Refiners



Valero Energy Corporation (VLO)					
Enterprise Value	FY 2021	FY 2022	FY 2024		
High Earnings	16.80	70.00	66.50		
Low Earnings	12.25	49.00	-		
Consenus	14.70	56.00	45.50		

# FY 2021 FY 2022 FY 2024 \$4.00 \$2.00 \$2.00 • \$0.00 • • • \$0.00 • • • \$2.00 • • • \$0.00 • • • \$0.00 • • • \$2.00 • • • \$4.00 • • •

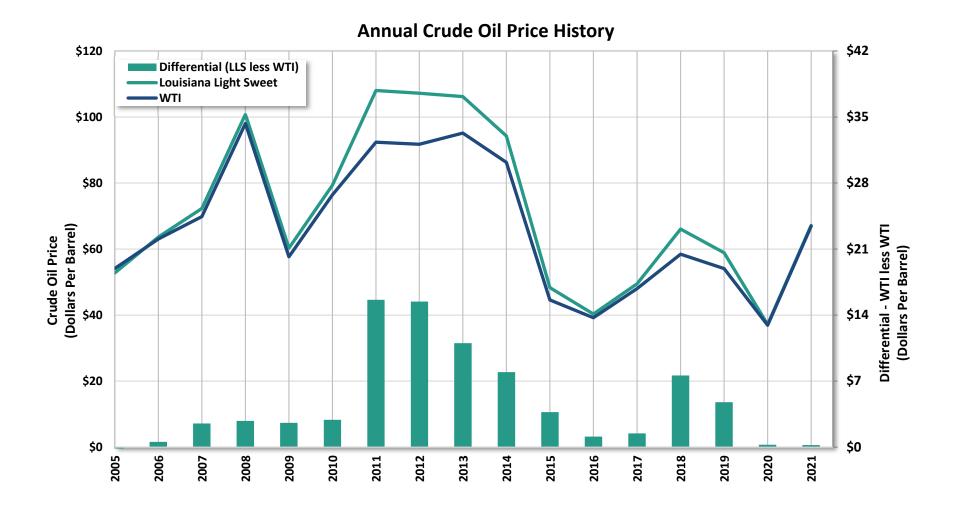
CVR Energy, Inc. (CVI)				
Enterprise Value	FY 2021	FY 2022	FY 2024	
High Earnings	-	17.50	12.25	
Low Earnings	-	1.75	5.25	
Consenus	-	10.50	7.00	

**Consensus View Suggests Decline In Asset Values** 



CVR Energy, Inc. (CVI)

# **EVEN PIPELINES & TERMINALS HAVE GOTTEN TRICKY**



The Value Generated From Transporting Petroleum Has Substantially Diminished – Tariffs Will Follow



- The Fair Market Value of most all existing Energy Assets today is substantially less than just a few years ago
- Valuations will most often be driven by near-term cash flow accounting for decline, obsolescence, and carbon capital
  - A cost approach to valuing assets in a declining segment may be totally meaningless
  - Comparable sales analysis in a declining segment is increasingly difficult to translate or employ

 An decarbonization consistent economic basis or view of the future is the starting point for an asset valuation

- Needs to include a view of both the global and local pace of Decarbonization
- Requires a rationale for the subject asset's place in that future

