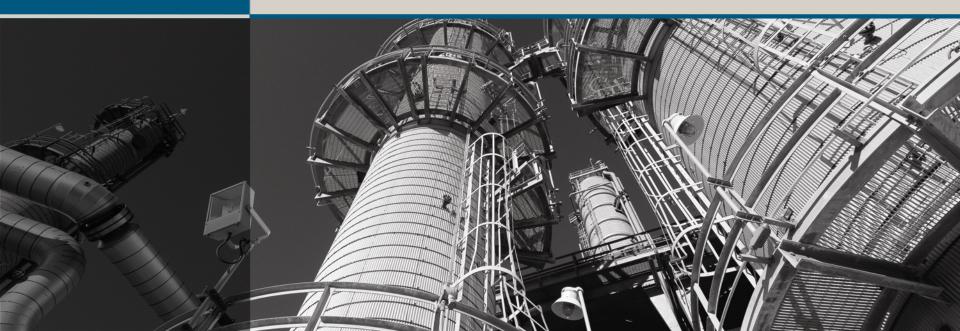




### **Investor Presentation**

July 2012





#### Safe Harbor Statement

Statements contained in this presentation that state the Company's or management's expectations or predictions of the future are forward looking statements intended to be covered by the safe harbor provisions of the Securities Act of 1933 and the Securities Exchange Act of 1934. The words "believe," "expect," "should," "estimates," and other similar expressions identify forward–looking statements. It is important to note that actual results could differ materially from those projected in such forward-looking statements. For more information concerning factors that could cause actual results to differ from those expressed or forecasted, see Valero's annual reports on Form 10-K and quarterly <u>reports on Form 10-Q</u>, filed with the Securities and Exchange Commission, and available on Valero's website at www.valero.com.



### Valero Energy Overview

- World's largest independent refiner
  - 16 refineries
  - 3 million barrels per day (BPD) of throughput capacity, with average capacity of 190,000 BPD (187,000 BPD excluding Aruba)



- Nearly 1,300 company operated in U.S. and Canada
- One of the largest renewable fuels companies
  - 10 efficient corn ethanol plants with total of 1.1 billion gallons/year (72,000 BPD) of nameplate production capacity
    - All plants located in resource-advantaged U.S. corn belt
  - Diamond Green Diesel under construction (renewable diesel from waste cooking oil and animal fat)
- Approximately 22,000 employees

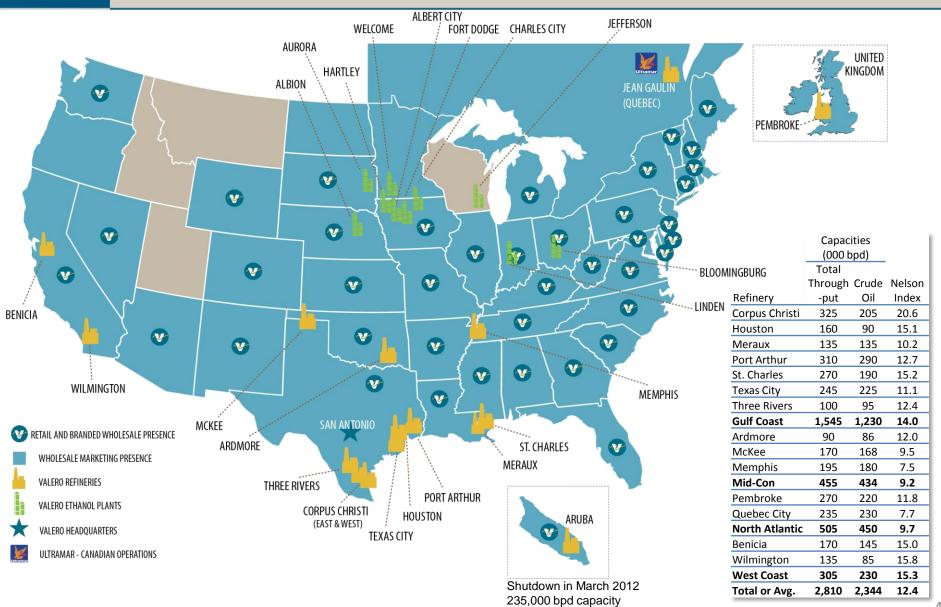








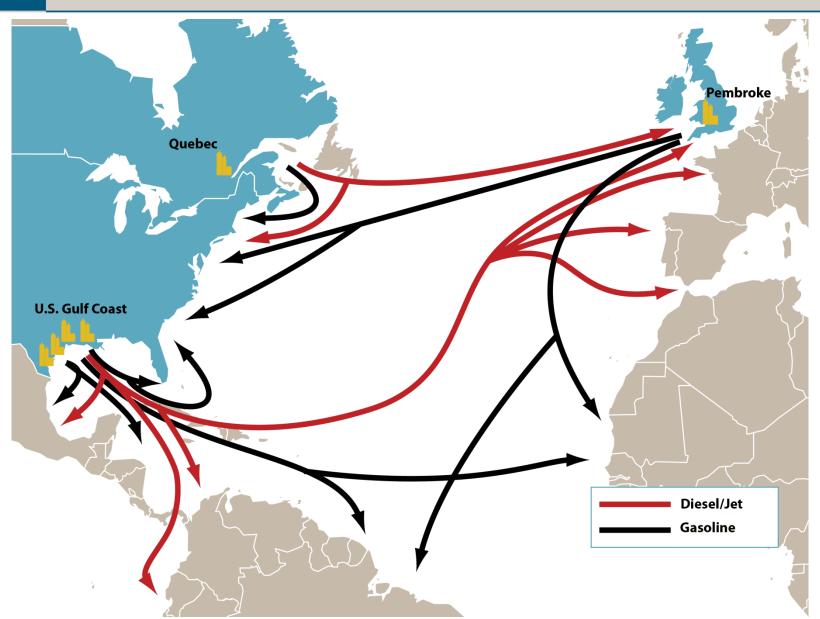
### Valero's Geographically Diverse Operations



Nelson Index of 8



### Valero in the Atlantic Basin





## VLO Well-Positioned to Benefit from Changing Market Trends

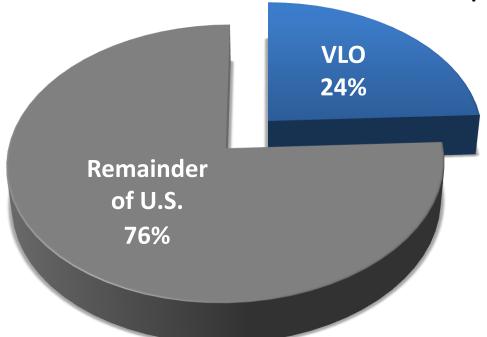
- Competitively exporting into growing markets
- Atlantic Basin closures reducing excess capacity
- Increasing Valero's yield of distillates, which have higher margins and growth
- Expect abundant and growing U.S. shale oil and Canadian production to provide feedstock cost advantage, which increases in the future
- Low-cost U.S. natural gas provides competitive advantage



# Valero's Gulf Coast System Taking Advantage of Global Export Opportunities

- Our large, complex refineries on Gulf Coast are competitive due to low-cost operations, feedstocks flexibility, and comprise a significant portion of U.S. exports
- Strong international demand has been "pulling" products and paying higher values than in the U.S.
- Exports supporting refinery runs on Gulf Coast



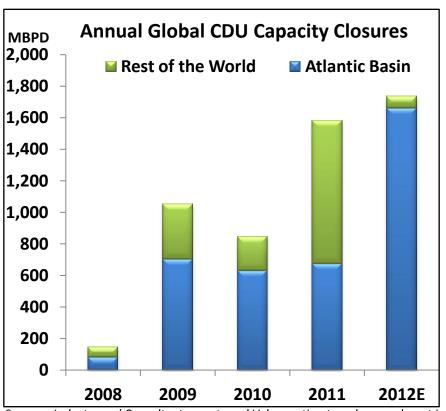


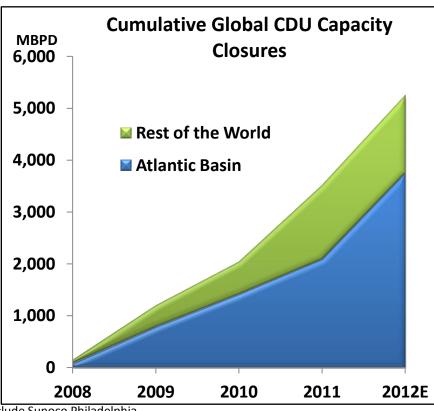
<sup>1</sup>Based on 1,055 MBPD of average total U.S. gasoline and diesel exports from 1Q09 – April 2012



### **Atlantic Basin Closures Reduce Excess Capacity**

- Capacity closures have been concentrated in the Atlantic Basin: U.S. East Coast, Caribbean, Western Europe (expect more will occur)
- Combined with poor utilization in Latin American refineries and demand growth in Latin America, creates opportunity for competitive refineries to export quality products



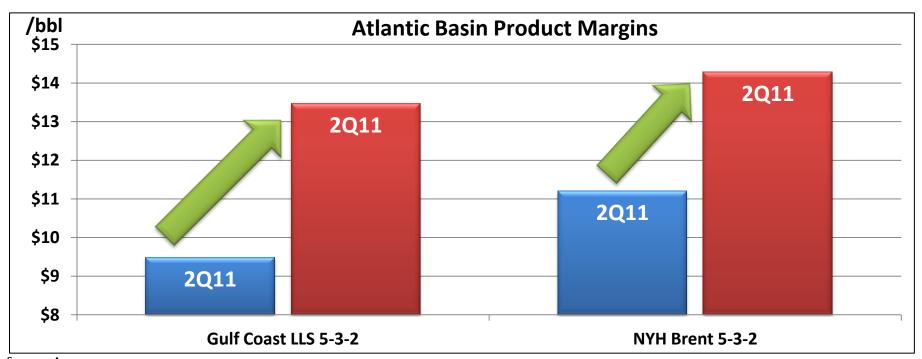


Sources: Industry and Consultant reports and Valero estimates; closures do not include Sunoco Philadelphia



## Product Margins Responding to Atlantic Basin Closures

- With recent closures, Atlantic Basin product margins have increased from prior year levels
  - Market focused on gasoline margin improvements, but more significant impact may be strong diesel support due to tightness in diesel balances
- U.S. product stocks for the four major products (gasoline, diesel, jet, and resid) are near or below 5-year lows providing margin support

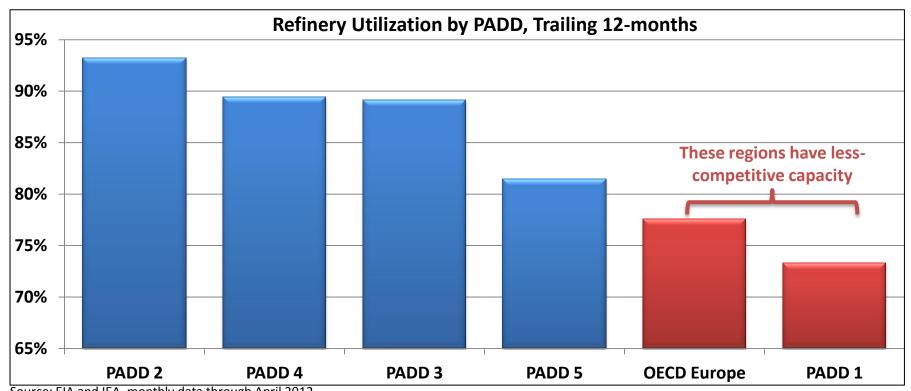


Source: Argus



### **U.S. Refining Capacity Is Globally Competitive**

- U.S. refiners in PADDs 2, 3, and 4 have higher utilization due to structural advantages of increasing access to discounted crude feedstocks and low-cost energy via natural gas
- PADD 1 and Europe have lower utilization due to structural disadvantages of higher crude oil and operating costs
- Planned capacity expansions in PADD 3 will continue to put pressure on marginal refineries in less-competitive regions, including recent restarts of previously closed capacity

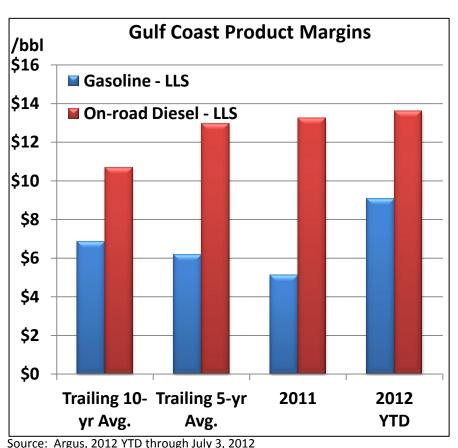


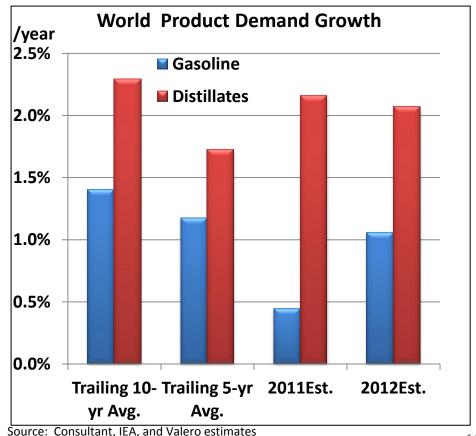
Source: EIA and IEA, monthly data through April 2012



### **Distillates Have Higher Margins and Faster Growth**

- Distillate (diesel, kero, jet fuel) margins are significantly higher than gasoline
- Distillate demand growth rate is much higher than gasoline



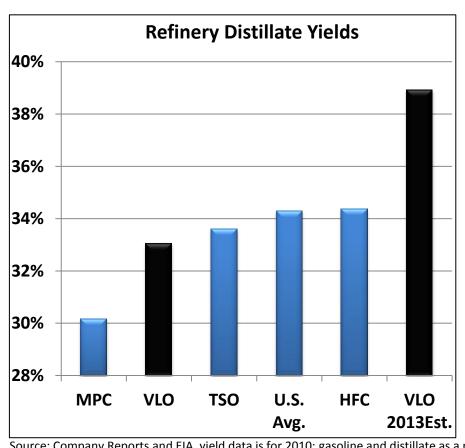


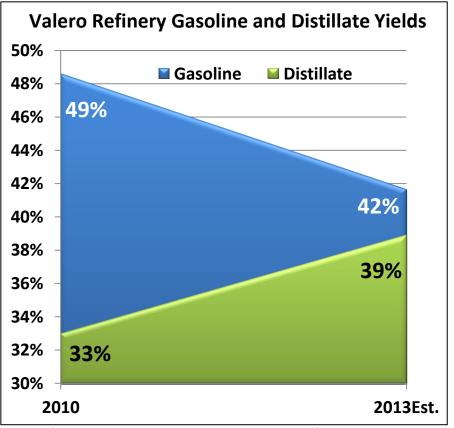
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### Valero Increasing Distillate Yields

- Valero's refining system distillate yields are expected to grow from 33% in 2010 to 39% in 2013
- Primary driver for increase is the completion of hydrocracker projects in 2012
- Recent acquisitions have also increased distillate yields

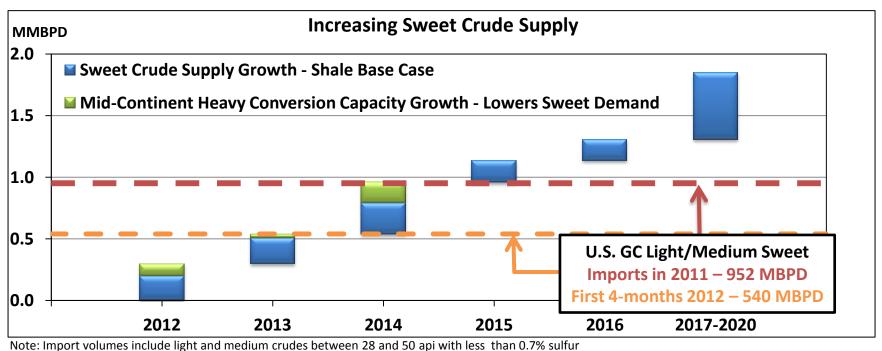






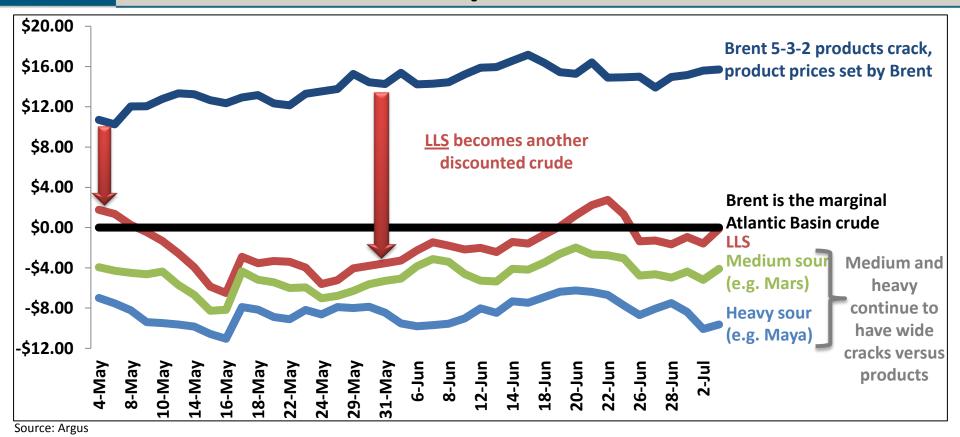
## **Expect U.S. and Canadian Crude Supply to Provide Feedstock Cost Advantage**

- Expect significant growth in U.S. shale crude and Canadian production plus heavy-up projects in Mid-Con that free-up light/sweet crude oil
  - Volumes moving via pipeline, rail, and barge from Mid-Con to U.S. Gulf Coast "LLS"
- Expect all Gulf Coast light/medium sweet imports could be pushed out of PADD III by 2013 to 2014
  - Expect LLS will go from structural ~\$2/bbl premium to parity with, then discount under, Brent
  - Expect Brent will continue to be marginal crude that sets product prices and sets higher feedstock cost for global, coastal (including U.S. East Coast) light/sweet refiners
- Also, expect growing volumes of Canadian heavy sours to reach U.S. Gulf Coast eventually





# LLS Discount to Brent Improves Gulf Coast Competitiveness

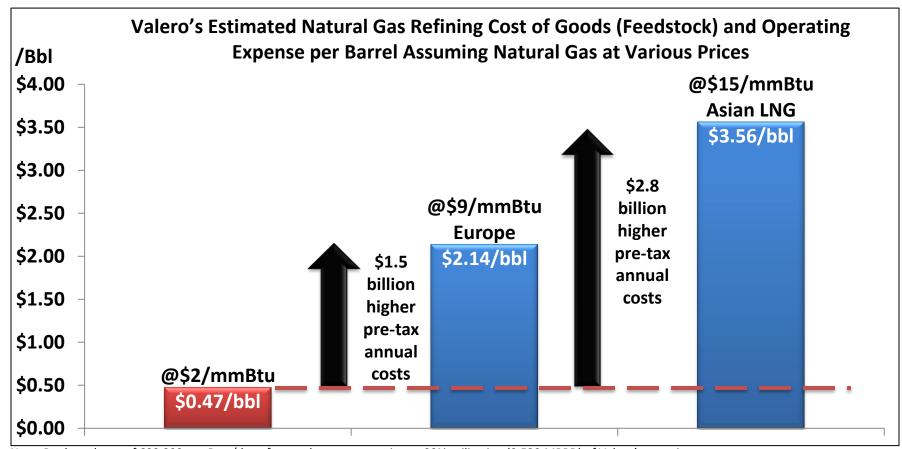


- LLS recently flipped from a historical premium to a discount to Brent, but we expect near-term volatility
- Over time, Valero expects:
  - The LLS discount to Brent will become a structural cost advantage, increasing margins versus other Atlantic Basin refiners that process higher priced Brent-type crude
- LLS pricing-benefit will accrue to Valero's lighter capacity on the Gulf Coast plus Memphis, which can process ~ 500,000 bpd without new investment



# Lower-Cost Natural Gas Provides Structural Advantage to U.S. Refiners

- Expect U.S. natural gas prices will remain low and disconnected from global oil and gas prices for foreseeable future
- VLO refinery operations consume up to 600,000 mmBtus/day of natural gas at full utilization, split roughly in half between operating expense and gross margin





# Valero's Key Economic Projects Capture the Natural Gas to Crude Oil Spread

Refinery	Project	Estimated Annual EBITDA Base Case <sup>1</sup> (millions)	Estimated IRR <sup>2</sup> using Base Case	Estimated Annual EBITDA <sup>1</sup> using 2011 Prices (millions) LLS-based
Port Arthur	New Hydrocracker	\$520	23%	\$634
St. Charles	New Hydrocracker	\$380	17%	\$487

<sup>1</sup>EBITDA = Pretax operating income + depreciation and amortization, excludes interest expense; <sup>2</sup>estimated IRR is unlevered; See appendix for prices

- Projects mainly based on high crude, low natural gas prices outlook
- Estimate Port Arthur HCU mechanical completion mid-3Q12 and operating at high rates in 4Q12

• Estimate St. Charles HCU mechanical completion late 4Q12/early 1Q13 and operating at high rates by

**late 1Q13** 

St. Charles

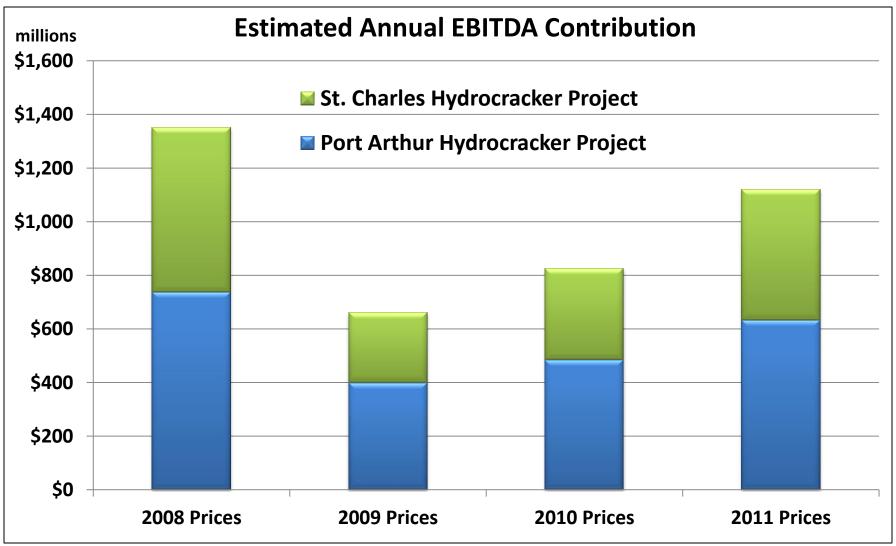








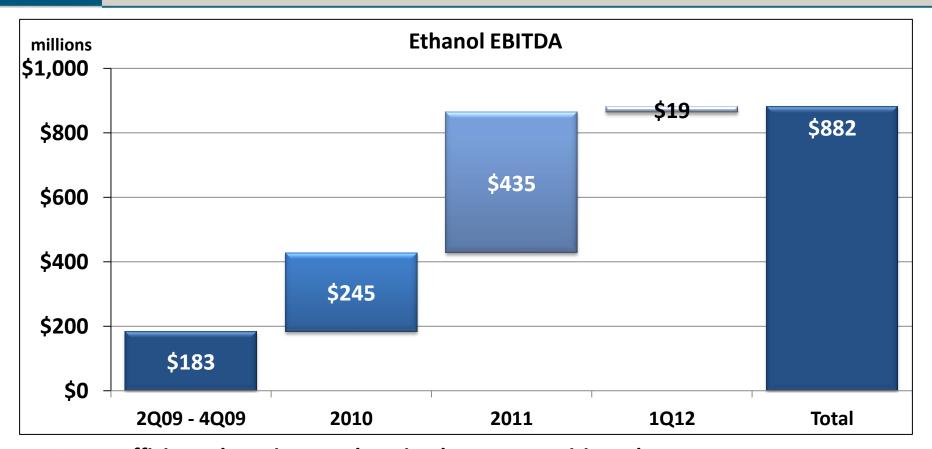
## Valero's Hydrocracker Projects Show Profits Under Various Price Sets



Note: EBITDA = Pretax operating income + depreciation and amortization, excludes interest expense; see details in appendix



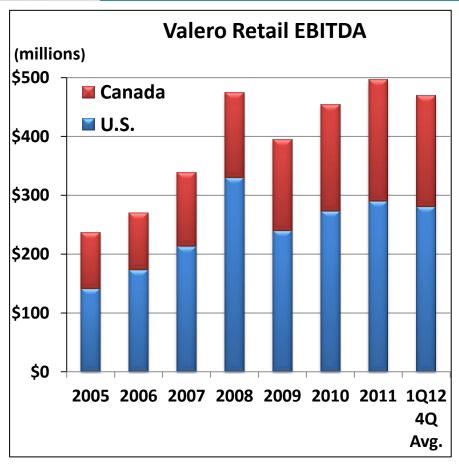
#### Valero's Contribution from Ethanol

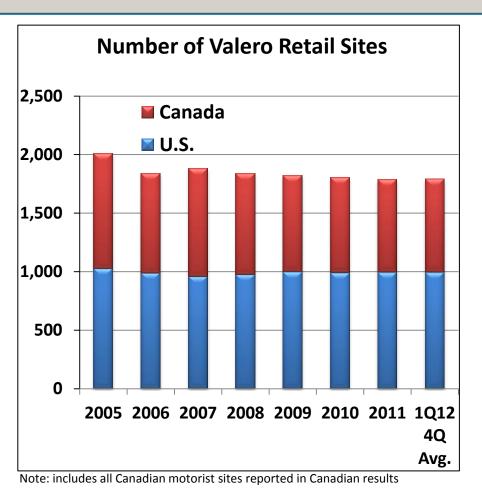


- Large, efficient plants in great location have competitive advantage on costs
- Acquired competitive, world-class ethanol plants at an average of 35% of replacement cost
- In 3 years, cumulative EBITDA was \$882 million, versus \$760 million total purchase price for plants
- Ethanol margins challenged, industry and Valero reducing rates at marginal plants



#### Valero's Retail Performance



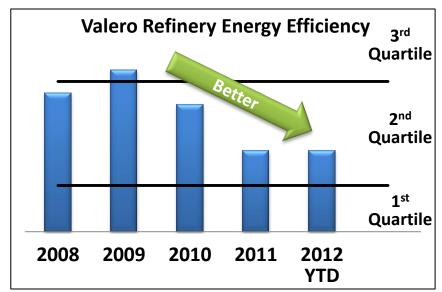


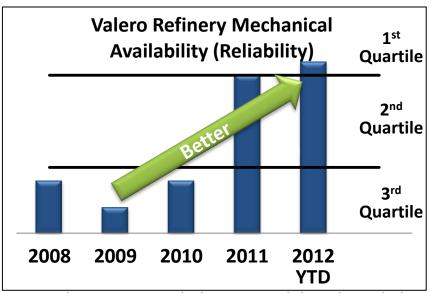
- Retail achieved record results in 2011
- Improvement in retail earnings with smaller asset base = better returns
- Retail business has yielded strong free cash flow
- 2Q12 U.S. retail margins much better than 1Q12



### **Improving Refinery Operations**

- Our goal is to be a 1<sup>st</sup>-quartile refiner
- Refining industry benchmark studies show our portfolio continues to improve
- Seven refineries currently operating in 1<sup>st</sup> quartile for mechanical availability, the most important Solomon metric
- Saw results from improvement initiatives in 2011
  - First full-year with 1<sup>st</sup> quartile portfolio performance in mechanical availability
  - Lowest-ever unplanned downtime
  - Best-ever energy efficiency for refining portfolio
- Working diligently on weaker performers to improve entire portfolio



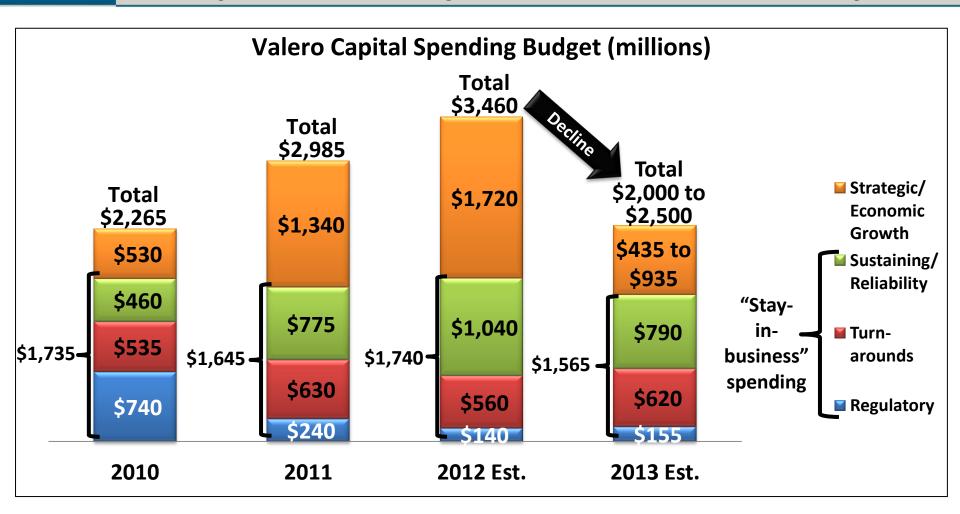


Source: Solomon Associates and Valero Energy; excludes Aruba, Pembroke,

and Meraux; Note: 2012 YTD through May



# **Expect Large Decline in Capital Spending After Completion of Key Economic Growth Projects**

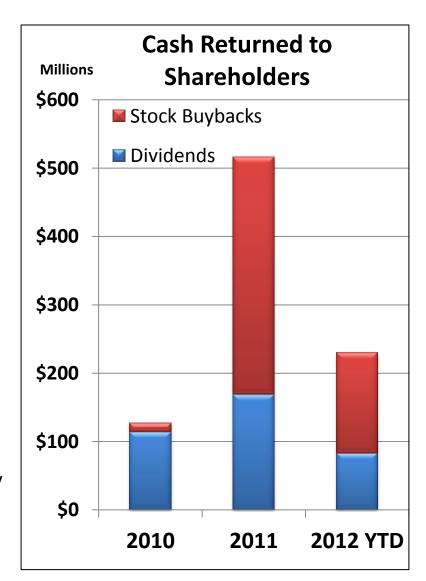


- 2012 capital high due to estimated completion of economic growth projects, mainly the hydrocrackers
- Expect a significant decline in capital spending after 2012



# Managing Financial Strength and Growing Cash Yield

- Expect significant contributions of free cash flow from reduced capital spending and earnings from major capital projects in 2013
- Returning cash to shareholders
  - Tripled quarterly dividend in 4Q11 to \$0.15 per share
  - Bought 6.4 million shares for \$147 so far in 2012
     and 16.7 million shares for \$347 million in 2011
- Goal is to have one of the highest cash yields among peers via dividends and buybacks
- \$1.6 billion of cash and \$4.6 billion of additional liquidity on March 31
- Maintaining investment grade credit rating is a priority
  - Paid off \$778 million in 2011
  - Paid off \$858 million of high-interest debt in 2012,
     but reissued \$300 million of GO-ZONE bonds in May
  - Net debt-to-cap ratio at 3/31/11 was 27.4%
    - Far below credit facility covenant of 60%
    - No other coverage-type ratios or borrowings on bank revolver





## **Valero's Strategic Priorities**

- Constant focus on safety, environmental, and regulatory compliance
- Maintain investment grade credit rating
- Continue improvement in refining performance to 1<sup>st</sup> quartile levels
  - Continue cost reduction efforts
- Complete major, value-added capital projects
- Optimize portfolio continue "high-grading" strategy
  - Evaluate dispositions of poor performing assets
  - Evaluate attractively priced, strategic, and accretive acquisitions that improve competitiveness
- Add selective investments in retail, logistics, and alternative fuels

Goal: Increase long-term shareholder value



# Why We Believe Valero Is an Excellent Buy Today

- Well-positioned to benefit from changing market trends
  - Benefiting from strong export market
  - Atlantic Basin capacity closures have improved refining fundamentals
  - Expect abundant U.S. shale and Canadian crude oil production to provide a cost advantage to U.S. Gulf Coast refiners versus global, coastal (including U.S. East Coast) light/sweet refiners
  - Valero's unique projects focus on taking advantage of low-cost natural gas,
     high oil prices, and higher distillate demand and margins
- Solid performance from ethanol and retail
- Improving performance and competitiveness of refining portfolio
- Key growth projects and falling capital expenditures should contribute significant free cash flow in late 2012 and 2013
- Returning more cash to shareholders
  - Goal to have one of the highest cash yields among peers



## **Appendix**



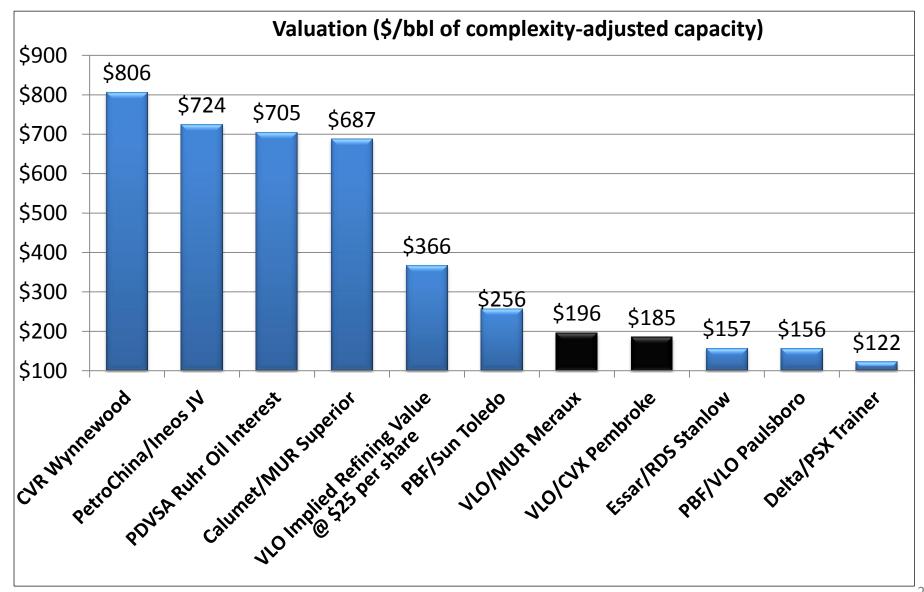
### **Made Excellent Ethanol Acquisitions**

- Built position for average of only 35% of estimated replacement cost
  - 2Q09: Acquired 7 plants with 780 million gallons per year of world-scale capacity in advantaged locations
  - 1Q10: Added 3 plants with 330 million gallons per year of capacity
- Expect margins to improve
  - Recently narrow margins should rationalize less competitive capacity
  - High crude oil prices support ethanol prices
  - International demand supporting margins
  - 2012 corn ethanol mandate grows 4.6% over 2011
- Valero's low-cost acquisitions of high-quality plants imply a competitive advantage in any margin environment
- Provides platform for future production of advanced biofuels



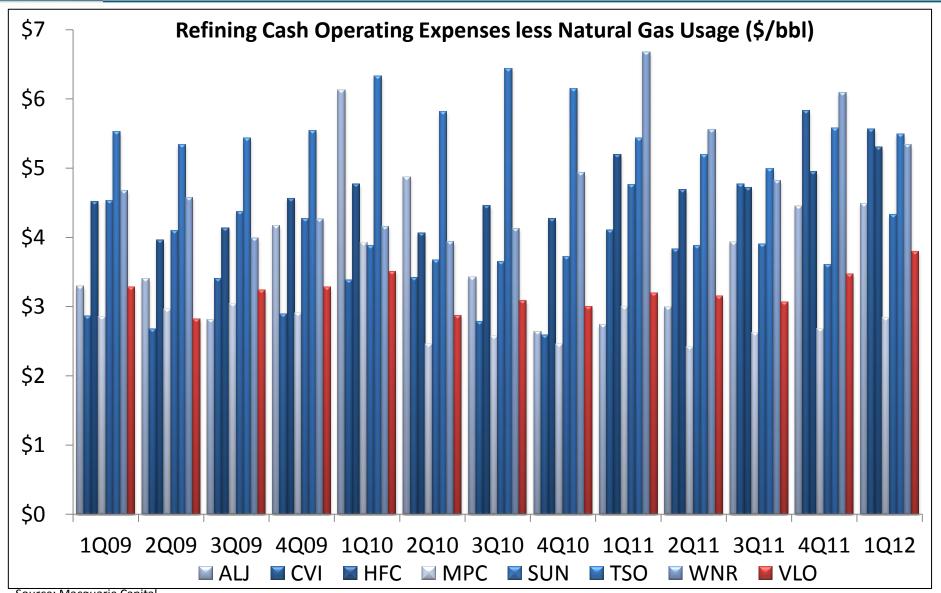


## Attractive Acquisition Prices for Meraux and Pembroke





### Valero Has Competitive, Low-Cost Refining Operations





### **Memphis FCC Revamp Project**

- Favorable economics driven by better reliability and gains on margin and volume
- Improves flexibility to run lowerquality feedstocks
- Improves FCC reliability and increases run length between turnarounds to four years from 1.5 years
  - Increase in run length drives estimated annualized savings of \$0.17/barrel

Summary of Project Status and Eco	nomics <sup>1</sup>
Timing of full benefit	Completed in 2011 <sup>3</sup>
Total investment (mil.)	\$255
Estimated Incremental EBITDA (Operat Income before D&A <sup>2</sup> ) (mil.), Base Case	5/5
Estimated Unlevered IRR on Total Sper Base Case	nd, 20%
Estimated Incremental EBITDA (Operatincome before D&A <sup>2</sup> ) (mil.), 2011 Price LLS	•



### St. Charles MSCC to FCC Conversion Project

- Favorable economics driven by better reliability and gains on margin and volume
- Improves FCC reliability and increases run length between turnarounds to four years from 1.5 years
- Adds 5%+ volume expansion through FCC
- Improves energy efficiency via new power recovery turbine
- Doubles flexibility of FCC to process lower-priced resid feedstocks, backing out higher-priced VGO

Summary of Project Status and Econom	ics¹
Completion date	2Q11
Total investment (mil.)	\$330
Estimated Incremental EBITDA (Operating Income before D&A <sup>2</sup> ) (mil.), Base Case	\$140
Estimated Unlevered IRR on Total Spend, Base Case	28%
Estimated Incremental EBITDA (Operating Income before D&A <sup>2</sup> ) (mil.), 2011 Prices – LLS	\$172



### **Hydrogen Plant Projects**

- Favorable economics driven by cost savings and gains on margin and volume
- Reduces cost of hydrogen by using cheaper natural gas instead of more expensive crude oil
- Natural gas price per mmBtu (energy unit) is significantly lower than the price per mmBtu as WTI crude oil
- Projects were completed at the McKee and Memphis refineries
- Memphis project also includes conversion of a distillate hydrotreater to a mild hydrocracker

Summary of Project Status and Econom	nics¹
Completion/start-up date	4Q11/ 1Q12
Total investment (mil.)	\$183
Estimated Incremental EBITDA (Operating Income before D&A <sup>2</sup> ) (mil.), Base Case	\$105
Unlevered IRR on Total Spend, average, Base Case	39%
Estimated Incremental EBITDA (Operating Income before D&A <sup>2</sup> ) (mil.), 2011 Prices – WTI	\$156
Estimated Incremental EBITDA (Operating Income before D&A <sup>2</sup> ) (mil.), 2011 Prices – LLS	\$176



### Port Arthur Hydrocracker Project

- Favorable economics driven by margin and volume gains
- Main unit is 57,000 barrels/day (rolling 12-month average per permit) hydrocracker plus facilities to process over 150,000 barrels/day of high-acid, heavy sour crudes (e.g. Canadian and Latin American)
- Creates high-value products from low-value feedstocks plus hydrogen sourced from relatively inexpensive natural gas
- Unit has volume expansion up to 30%, but plan to optimize at 20%: 1 barrel of feedstocks yields up to 1.2 barrels of products
- Main products are high-quality diesel and jet fuel for growing global demand for middle distillates
- Located at large, Gulf Coast refinery to leverage existing operations and export logistics

Summary of Project Status and Econo	omics <sup>1</sup>
Estimated mechanical completion date Estimated operation date	Mid 3Q12 4Q12
Estimated total investment (mil.) (Reduced by \$94 mil. from prior estimate)	\$1,510
Cumulative spend thru 1Q 2012 (mil.)	\$1,160
Estimated Incremental EBITDA (Operating Income before D&A <sup>2</sup> ) (mil.), Base Case	\$ \$520
Estimated Unlevered IRR on Total Spend, Base Case	23%
Estimated Incremental EBITDA (Operating Income before D&A <sup>2</sup> ) (mil.), 2011 Prices - LLS	



### St. Charles Hydrocracker Project

- Favorable economics driven by margin and volume gains
- Main unit is 60,000 barrels/day hydrocracker
- Creates high-value products from lowvalue feedstocks plus hydrogen sourced from relatively inexpensive natural gas
- Unit has volume expansion up to 30%, but plan to optimize at 20%: 1 barrel of feedstocks yields up to 1.2 barrels of products
- Main products are high-quality diesel and jet fuel for growing global demand for middle distillates
- Located at large, Gulf Coast refinery to leverage existing operations

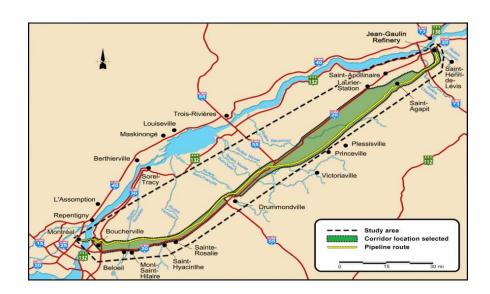
Summary of Project Status and Economi	cs¹
La Estimated mechanical completion date /Ear	te 4Q12 ly 1Q13
Estimated operation date La	te 1Q13
Estimated total investment (mil.) (Increased by \$165 mil. from prior estimate)	\$1,525
Cumulative spend thru 1Q 2012 (mil.)	\$924
Estimated Incremental EBITDA (Operating Income before D&A <sup>2</sup> ) (mil.), Base Case	\$380
Estimated Unlevered IRR on Total Spend, Base Case	17%
Estimated Incremental EBITDA (Operating Income before D&A <sup>2</sup> ) (mil.), 2011 Prices – LLS	\$487



### **Montreal Pipeline Project**

- Favorable economics driven by reducing transportation costs and growing volumes
- New pipeline with 100,000 barrels/day of throughput capacity
- Planned closure of Shell Montreal refinery allows Valero to place additional products into Montreal and Ontario markets
- Quebec refinery is largest refinery in the region with 1<sup>st</sup>-quartile performance and has a cost advantage

Summary of Project Status and Economics <sup>1</sup>		
Estimated completion date	4Q12	
Estimated total investment (mil.)	\$370	
Cumulative spend thru 1Q 2012 (mil.)	\$246	
Estimated Incremental EBITDA (Operating Income before D&A <sup>2</sup> ) (mil.), Base Case	\$55	
Estimated Unlevered IRR on Total Spend	12%	





#### **Diamond Green Diesel Joint Venture**

- Building a 9,300 BPD renewable diesel plant adjacent to Valero's St. Charles refinery
- 50/50 JV project with Darling Int'l, a leading gatherer of used cooking oils and animal fat
- Uses refinery technology to produce highquality diesel from low-quality, low-cost cooking oils and fats
- Diesel production qualifies as biomassbased diesel, a difficult specification under the Renewable Fuels Standard
- Total estimated project cost of \$368 million
- Valero to provide 14-year term loan for up to \$221 million to JV at attractive rates
- Favorable economics assume conservative \$1.25/gal RIN value, when current market is \$1.40/gal to \$1.70/gal

Summary of JV Status and Econor	nics¹
Estimated mechanical completion date Estimated operation date	Late 4Q12 Late 1Q13
Estimated Partner Equity (mil.)	\$106
Cumulative Valero project spend thru 1Q2012 (mil.)	\$89
Estimated Valero EBITDA (Operating Income before D&A <sup>2</sup> ) (mil.), Base Case	\$55
Estimated Unlevered IRR on Partner Equity and Loan, Base Case	21%



### **Project Price Set Assumptions**

- Prices shown below are for illustrating a potential estimate for Valero's economic projects
- Price assumptions are based on a blend of recent market prices and Valero's price forecast

Commodity	Base Case (\$/barrel)	2008 (\$/barrel)	2009 (\$/barrel)	2010 (\$/barrel)	2011 (\$/barrel)
LLS Crude oil <sup>1</sup>	85.00	102.07	62.75	81.64	111.09
LLS - USGC HS Gas Oil	-3.45	2.03	-2.86	-2.72	-5.75
USGC Gas Crack	6.00	2.47	6.91	5.32	5.11
USGC ULSD Crack	11.00	20.5	7.26	8.94	13.24
Natural Gas, \$/MMBTU (NYMEX)	5.00	8.90	4.16	4.38	4.03

 $<sup>^{1}</sup> LLS$  prices are roll adjusted



### **Project Price Sensitivities**

- Price sensitivities shown below are for illustrating a potential estimate for Valero's economic projects
- Price assumptions are based on a blend of recent market prices and Valero's price forecast

EBITDA¹ Sensitivities (Delta \$ millions/year)	Port Arthur HCU	St. Charles HCU	Memphis & McKee Hydrogen Plants	Memphis FCC	St. Charles FCC	Montreal Products Pipeline
Crude oil, + \$1/BBL	4	3.6	2.5	0.4	1.4	N/A
Crude oil - USGC HS Gas Oil, + \$1/BBL	16.7	17.8	N/A	N/A	N/A	N/A
USGC Gas Crack, + \$1/BBL	12.9	13.3	0.9	3.6	1.7	N/A
USGC ULSD Crack, + \$1/BBL	18.4	20.8	0.3	(0.7)	(1.2)	N/A
Natural Gas, - \$1/MMBTU	18.3	19.7	6.5	N/A	N/A	N/A
Total Investment IRR to 10% cost	1.3%	1.5%	6.3%	1.9%	2.7%	0.9%



### Key Drivers for a 60,000 BPD Hydrocracker

- Key economic driver is the expected significant liquid-volume expansion of 20%, which primarily comes from the hydrogen saturation via the highpressure, high-conversion design
- Designed to maximize distillate yields

Hydrocracker Unit Feedstocks						
High-sulfur VGO 60,000 BPD						
(Internally produced or purchased)						
Hydrogen	124 MMSCF/day					
(via 40,000 mmbtu/day of natural gas)						

Hydrocracker Unit Products (BPD)						
Distillates (diesel, jet, kero)	44,000					
Gasoline and blendstocks	24,000					
LPGs	3,000					
Low-sulfur VGO	1,000					
Total	72,000					

#### **Hydrocracker Unit Operating Costs**

Heat, power, labor, etc. \$1.50 per barrel

(per barrel amount based on hydrocracker unit volumes)

#### Synergies with Plant

With existing plant ~\$1 per barrel (per barrel amount based on hydrocracker unit volumes)

12,000 BPD (20%) volume expansion

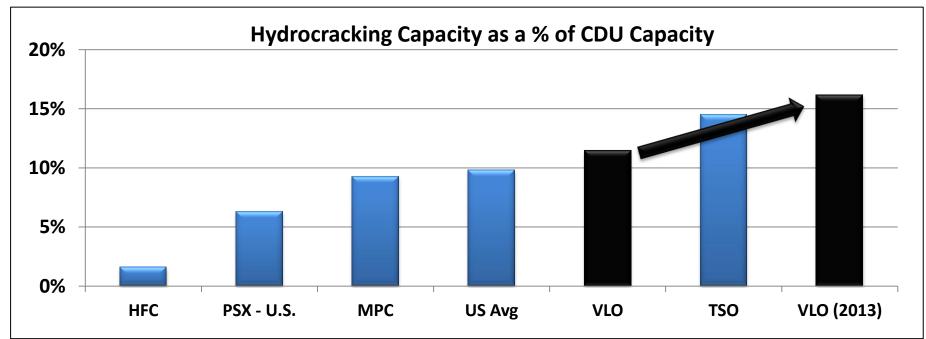


## 60,000 BPD Hydrocracker Model Estimates Under Various Price Sets

Key Drivers and Prices	2008 F	rices	2009	Prices	2010	Prices	2011	Prices	2Q12	Prices
LLS /bbl		\$102.07		\$62.75		\$81.64		\$111.09		\$108.64
LLS – HSVGO /bbl		\$2.03		-\$2.86		-\$2.72		-\$5.75		-\$10.70
GC Gasoline – LLS /bbl		\$2.47		\$6.91		\$5.32		\$5.11		\$8.51
GC Diesel – LLS /bbl		\$20.50		\$7.26		\$8.94		\$13.24		\$14.98
Natural Gas (NYMEX) /mmBtu		\$8.90		\$4.16		\$4.38		\$4.03		\$2.32
Natural Gas to H2 cost factor \$/mmBtu		1.5x		1.5x		1.5x		1.5x		1.5
H2 Consumption SCF /bbl		2,050		2,050		2,050		2,050		2,050
GC LSVGO – HSVGO /bbl		\$4.28		\$2.85		\$3.21		\$3.87		\$2.45
GC LPGs – LLS /bbl		-\$40.02		-\$20.11		-\$23.97		-\$38.30		-\$49.64
Feedstocks (Barrels per day)		Bbl/day		Bbl/day		Bbl/day		Bbl/day		Bbl/day
HSVGO		60,000		60,000		60,000		60,000		60,000
Hydrogen		6,709		6,709		6,709		6,709		6,709
Product Yields										
Distillates (diesel, jet, kero)	61%	43,902	61%	43,902	61%	43,902	61%	43,902	61%	43,902
Gasoline and blendstocks	33%	23,940	33%	23,940	33%	23,940	33%	23,940	33%	23,940
LPGs	4%	3,042	4%	3,042	4%	3,042	4%	3,042	4%	3,042
LSVGO	<u>2%</u>	<u>1,338</u>	<u>2%</u>	<u>1,338</u>	<u>2%</u>	<u>1,338</u>	<u>2%</u>	<u>1,338</u>	<u>2%</u>	<u>1,338</u>
Total Product Yields	<u>100%</u>	<u>72,222</u>	<u>100%</u>	<u>72,222</u>	<u>100%</u>	<u>72,222</u>	<u>100%</u>	<u>72,222</u>	<u>100%</u>	<u>72,222</u>
Volume Expansion on HSVGO		20%		20%		20%		20%		20%
Estimated Profit Model	Per Bbl \$	Mil./day	Per Bbl	\$Mil./day		\$Mil./day	Per Bbl	\$Mil./day	Per Bbl	\$Mil./day
Revenues	\$136.87	\$8.2	\$82.71	\$5.0	\$105.85	\$6.4	\$143.72	\$8.6	\$142.90	\$8.6
Less: Feedstock cost	<u>-\$109.07</u>	<u>-\$6.5</u>	<u>-\$69.83</u>	<u>-\$4.2</u>	<u>-\$88.80</u>	<u>-\$5.3</u>	<u>-\$120.93</u>	<u>-\$7.3</u>	<u>-\$121.69</u>	<u>-\$7.3</u>
= Gross Margin	\$27.80	\$1.7	\$12.88	\$0.8	\$17.05	\$1.0	\$22.79	\$1.4	\$21.21	\$1.3
Less: Cash Operating Costs	-\$1.50	-\$0.1	-\$1.50	-\$0.1	-\$1.50	-\$0.1	-\$1.50	-\$0.1	-\$1.50	-\$0.1
Add: Synergies	<u>\$1.70</u>	<u>\$0.1</u>	<u>\$0.55</u>	<u>\$0.0</u>	<u>\$0.03</u>	<u>\$0.0</u>	<u>\$0.95</u>	<u>\$0.1</u>	<u>\$0.95</u>	<u>\$0.1</u>
= EBITDA	<u>\$28.00</u>	<u>\$1.7</u>	<u>\$11.93</u>	<u>\$0.7</u>	<u>\$15.57</u>	<u>\$0.9</u>	<u>\$22.24</u>	<u>\$1.3</u>	<u>\$20.66</u>	<u>\$1.2</u>
Estimated Annual EBITDA (\$MM/year)		\$613		\$261		\$341		\$487		\$452



# Hydrocracking Enhances Refinery Competitiveness



Source: EIA Refinery Capacity Report as of January 1, 2011; Valero

#### Benefits of hydrocrackers

- Volume gain provides significant margin advantage
- More economic home for VGO than FCCs
- Creates feedstock flexibility

#### More-profitable hydrocrackers...

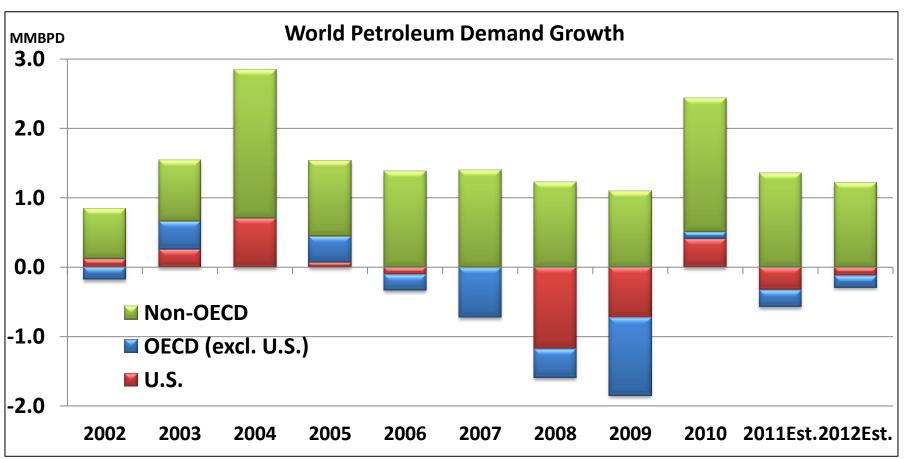
- Make mostly distillates, not gasoline
- Are severe/high pressure, not mild/low pressure
- Get hydrogen from cheap natural gas, not expensive foreign natural gas or oil

... like Valero's new hydrocrackers



# Continued Global Demand Growth Important to Refining Margins

 Emerging markets are taking the lead in terms of global petroleum demand growth – but refining is a global business and world growth impacts refiners in every market

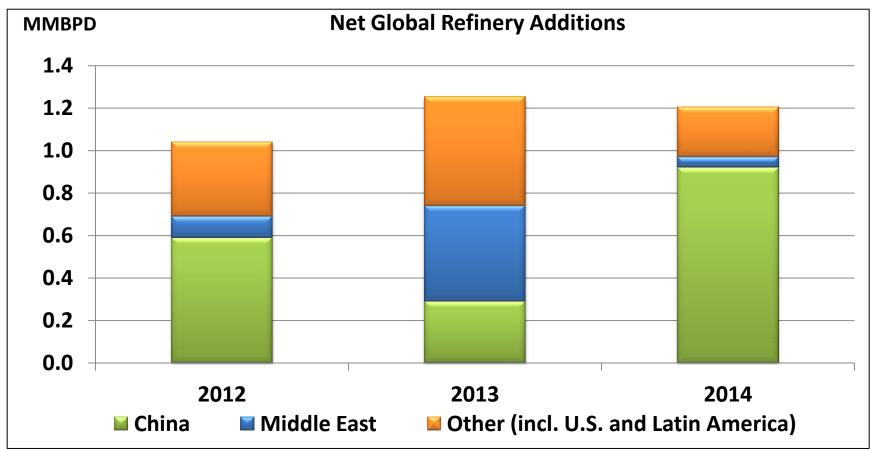


Source: Consultant and Valero estimates



## **World Refinery Capacity Growth**

- Significant new global refining additions seen in the next several years
  - Mainly new plants in Asia and the Middle East
  - Some investment in Latin America



Source: Consultant and Valero estimates

Net Global Refinery Additions = New Capacity - Closures



## **Global Refining Capacity Rationalization**

		CDU Capacity Closed	Year
Location	Owner	(MBPD)	Closed
Perth Amboy, NJ	Chevron	80	2008
Bakersfield,CA	Big West	65	2008
Westville, NJ	Sunoco	145	2009
Bloomfield, NM	Western	17	2009
Teesside, UK	Petroplus	117	2009
Gonfreville, France*	Total	100	2009
Dunkirk, France	Total	140	2009
Japan*	Nippon Oil	205	2009
Toyama, Japan	Nihonkai Oil	57	2009
Arpechim, Romania *	Petrom	70	2009
Cartagena*	REPSOL	100	2009
Bilboa*	REPSOL	100	2009
Arpechim, Romania	OMV	70	2010
Japan*	Cosmo	94	2010
Nadvornaja, Ukraine	Privat Group	50	2010
Montreal, Canada <sup>1</sup>	Shell	130	2010
Yorktown, Virginia	Western	65	2010
Reichstett, France	Petroplus	85	2010
Wilhemshaven, Germany	Phillips 66	260	2010
Ingolstadt, Germany	Bayernoil	90	2010
Cremona, Italy	Tamoil	94	2011
St. Croix, U.S.V.I,*	Hovensa	150	2011

		CDU Capacity	
		Closed	Year
Location	Owner	(MBPD)	Closed
Funshun, China	PetroChina	70	2011
Keihin Ohgimachi, Japan	Showa Shell	120	2011
Clyde, Australia	Shell	75	2011
Trainer, PA <sup>2</sup>	Phillips 66	185	2011
Porto Marghera, Italy	ENI	70	2011
Marcus Hook, PA	Sunoco	175	2011
Harburg, Germany	Shell	107	2012
Berre, France	LyondellBassel	105	2012
Coryton, U.K.	Petroplus	220	2012
Petit Couronne, France <sup>1*</sup>	Petroplus	60	2012
Cressier, Switzerland <sup>3</sup>	Petroplus	68	2012
Ingolstadt, Germany <sup>4</sup>	Petroplus	110	2012
St. Croix, U.S.V.I	Hovensa	350	2012
Aruba	Valero	235	2012
Gela, Italy*	ENI	50	2012
Rome, Italy	TotalErg	82	2012
Fawley, U.K.*	ExxonMobil	80	2012
Paramo, Czech Republic	Unipetrol	20	2012
Lisichansk, Ukraine	TNK-BP	175	2012
Japan	Indemitsu Kosan	100	2014
Japan	Nippon	200	2014

<sup>\*</sup>Partial closure of refinery captured in capacity Note: This data represents refineries currently closed, ownership may choose to restart or sell listed refinery Sources: Industry and Consultant reports and Valero estimates

<sup>&</sup>lt;sup>1</sup>The Petit Couronne refinery has reduced capacity by 60 MBPD with Shell to supplying crude via a processing agreement at 100 MBPD starting in mid-June

<sup>&</sup>lt;sup>2</sup>The Trainer refinery remains closed, but Delta Airlines has announced its intent to purchase the refinery, which would likely result in a restart of this facility

<sup>&</sup>lt;sup>3</sup>The Cressier refinery remians closed, but Varo Holding SA has agreed to purchase the plant and has indicated that it may restart

<sup>&</sup>lt;sup>4</sup>The Ingolstadt refinery remians closed, but Gunvor has agreed to purchase the plant and has indicated that it may restart



# Global Refining Capacity For Sale or Under Strategic Review

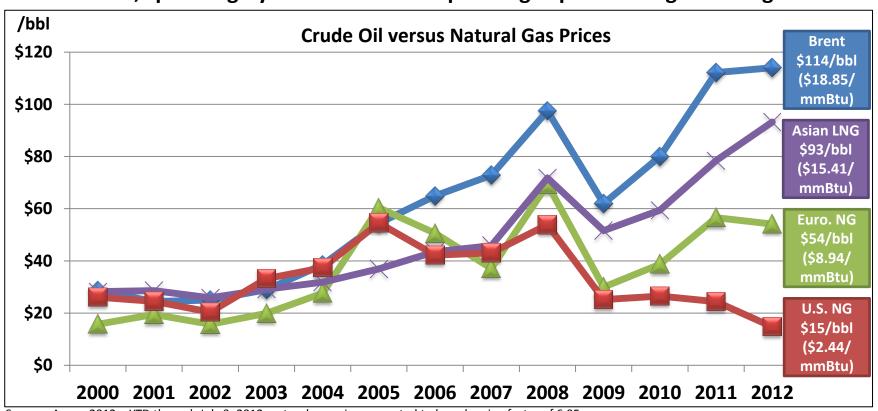
		CDU Capacity
Location	Owner	(MBPD)
Gothenburg, Sweden	Shell	80
Kapolei, HI	Chevron	54
Milford Haven, UK	Murphy	108
Whitegate, Ireland	Phillips 66	70
Belle Chase, LA	Phillips 66	247
Mazeikai, Lithuania	PKN	190
Various Japanese Locations	JX Energy	400
Incheon, South Korea	SK Group	275
Texas City, Texas	ВР	475
Carson, California	ВР	265
Kapolei, HI	Tesoro	94
Philadelphia, PA	Sunoco	330
Okinawa, Japan	Petrobras/Nansei Sekiyu	100
Sydney, Australia (Kurnell)	Caltex	135
Brisbane, Australia (Lytton)	Caltex	109
Mongstad, Norway	Statoil	220
Dartmouth, Canada	Imperial Oil	88

Sources: Industry and Consultant reports and Valero estimates



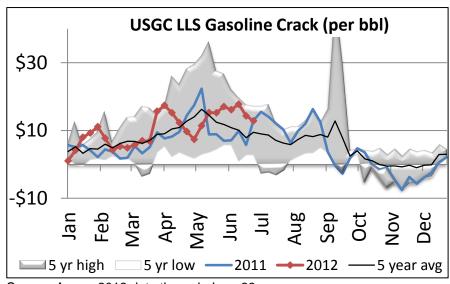
# Low-Cost U.S. Natural Gas Provides Competitive Advantage

- U.S. natural gas trading at a significant discount to Brent crude oil price (on energy equivalent basis)
- Expect U.S. natural gas prices will remain low and disconnected from global oil and gas prices for foreseeable future
- VLO refinery operations use up to 600,000 mmBtus/day of natural gas at full utilization, split roughly in half between operating expense and gross margin

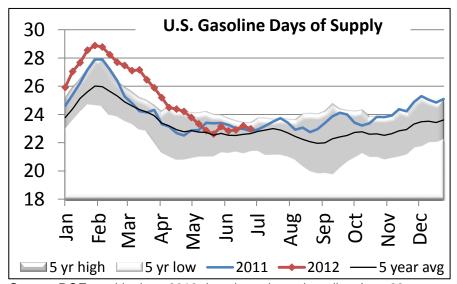




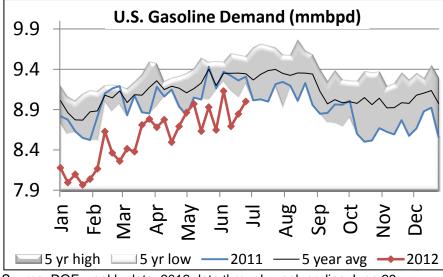
#### **Gasoline Fundamentals**



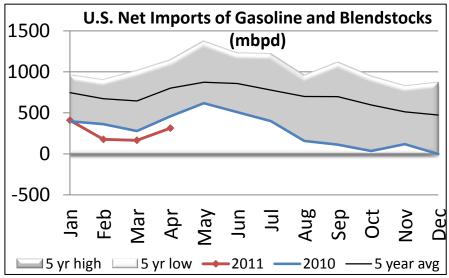
Source: Argus; 2012 data through June 29



Source: DOE weekly data; 2012 data through week ending June 29



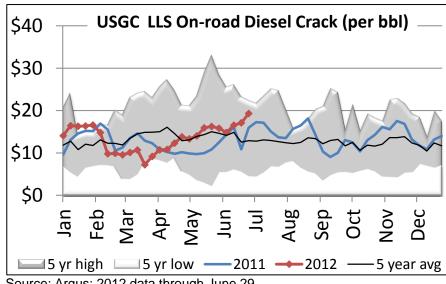
Source: DOE weekly data; 2012 data through week ending June 29

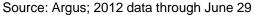


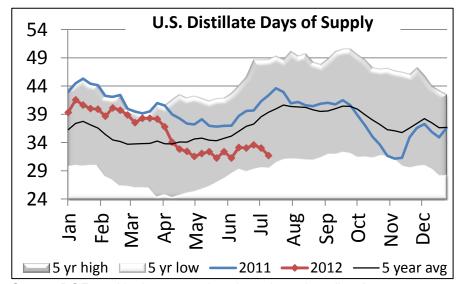
Source: DOE monthly data; 2011 data through April 2012



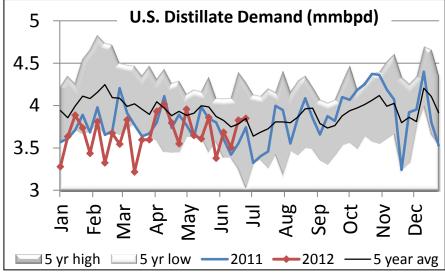
#### **Distillate Fundamentals**



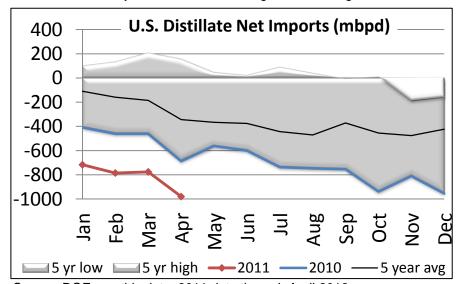




Source: DOE weekly data; 2012 data through week ending June 29



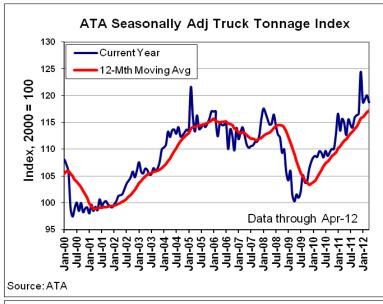
Source: DOE weekly data; 2012 data through week ending June 29

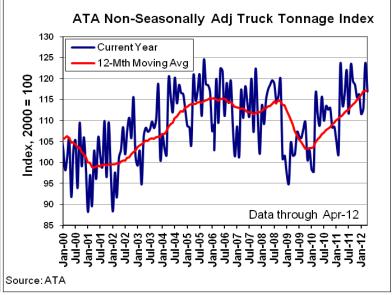


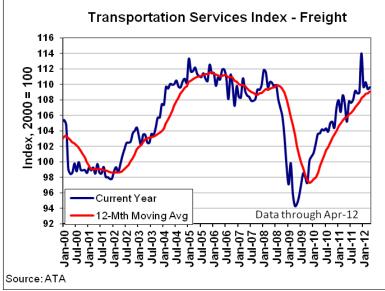
Source: DOE monthly data; 2011 data through April 2012

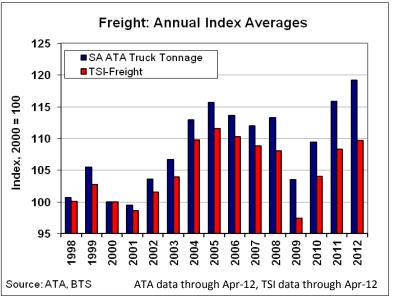


# U.S. Transport Indicators: Trucking Indicators



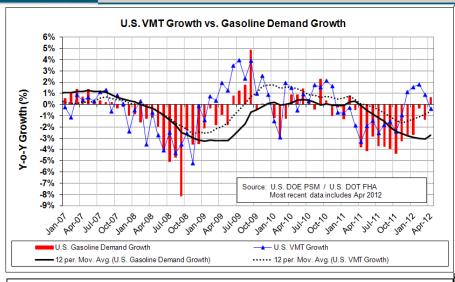


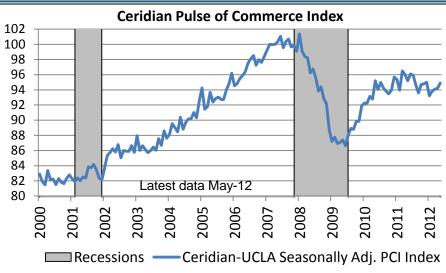


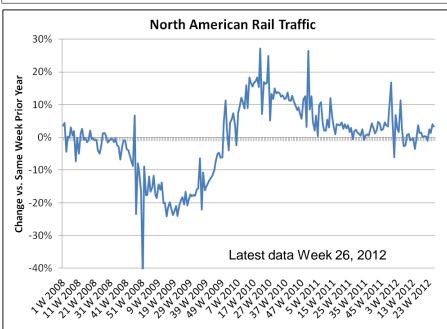


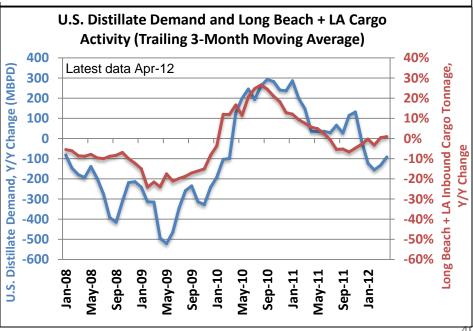


## **U.S. Transport Indicators**



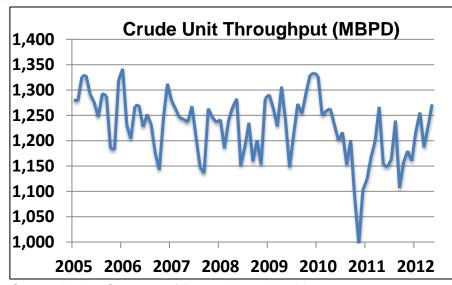




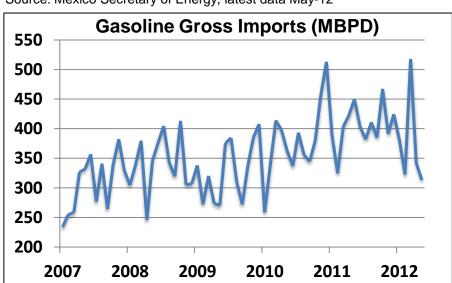




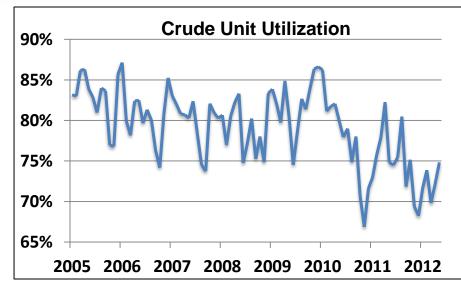
#### **Mexico Statistics**



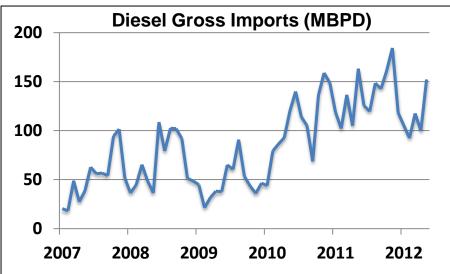
Source: Mexico Secretary of Energy, latest data May-12



Source: PEMEX, latest data May-12



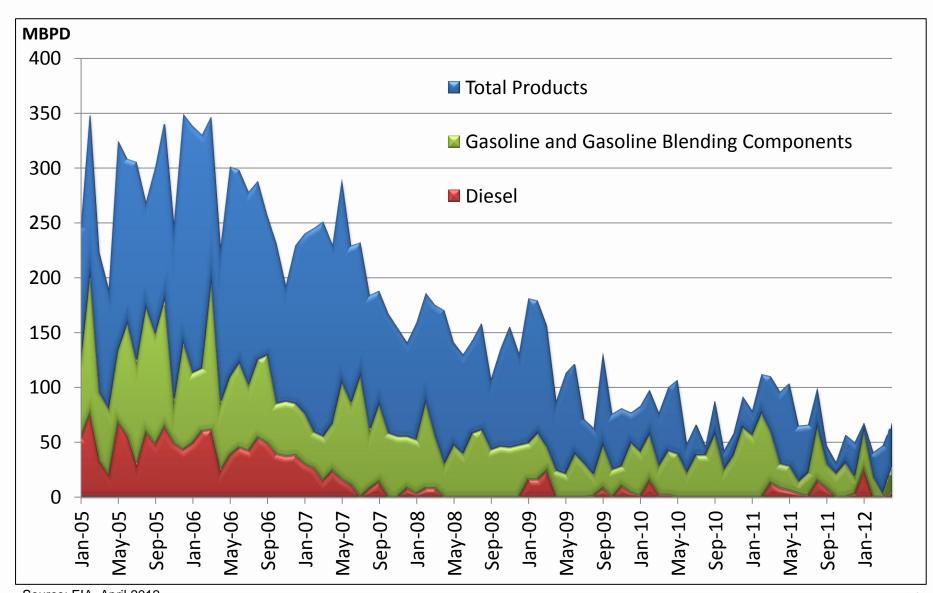
Source: Mexico Secretary of Energy, latest data May-12



Source: PEMEX, latest data May-12



### Venezuelan Exports to the U.S.

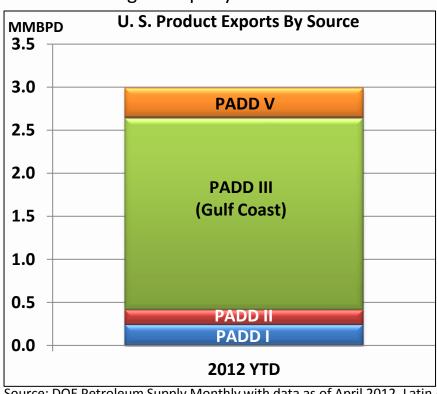


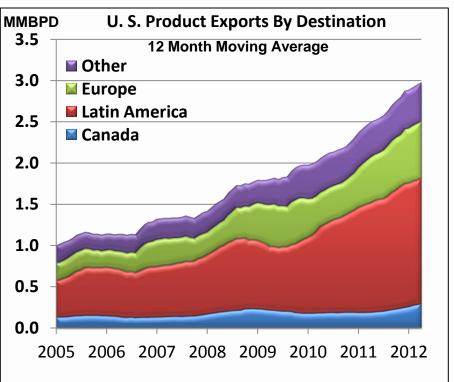
Source: EIA, April 2012



### **Competitively Exporting into Growing Markets**

- U.S. has become a net exporter of refined products due to growth in developing countries, Atlantic Basin capacity closures, Western European diesel demand, and Latin American refining operating issues
- U.S. Gulf Coast (PADD III) is largest source of exported products
- Latin America continues to be the largest U.S. export market, followed by Western Europe
  - Latin American petroleum demand has been increasing 2.5% per year over the past 5 years versus U.S. decreasing 1.8% per year



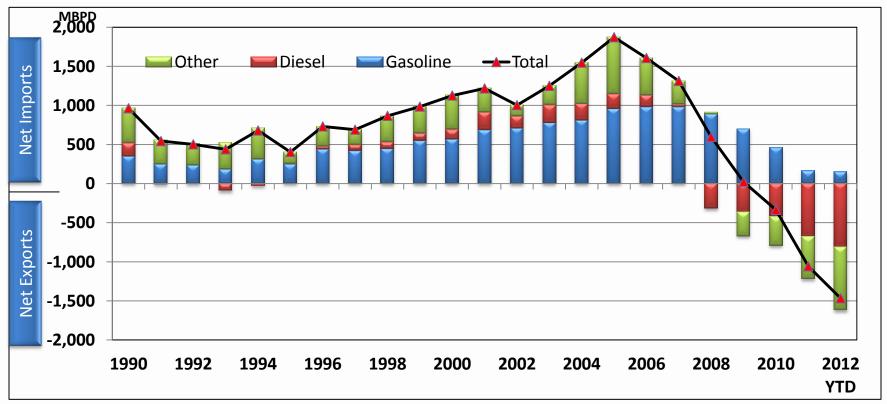


Source: DOE Petroleum Supply Monthly with data as of April 2012, Latin America includes South and Central America plus Mexico



### **U.S. Shifted to Net Exporter**

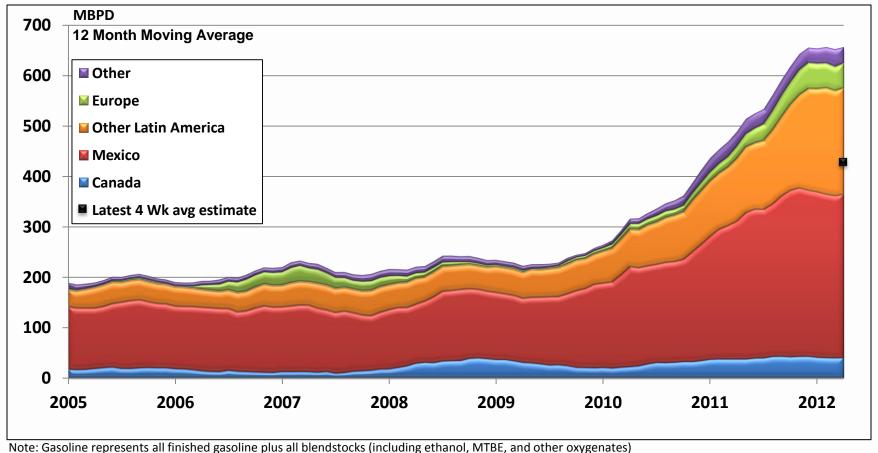
- As a result of the continued shift towards exports, U.S. net exports of petroleum products have increased from 335 MBPD in 2010 to 1470 MBPD in 2012 YTD
  - Diesel net exports continue to rise significantly, with U.S. refiners sending a net of 815 MBPD to other countries in 2012 YTD
  - Gasoline net imports have fallen from almost 1 MMBPD in 2006 to only 150 MBPD in 2012
  - Still, gasoline and blendstocks are the only product category where the U.S. remains a net importer





### **U.S.** Gasoline Exports by Destination

- Most of the gasoline export growth this year has been to Latin America, including Mexico
- Latin American requirements are growing due to increased demand and poor performance of refineries in Venezuela and Mexico



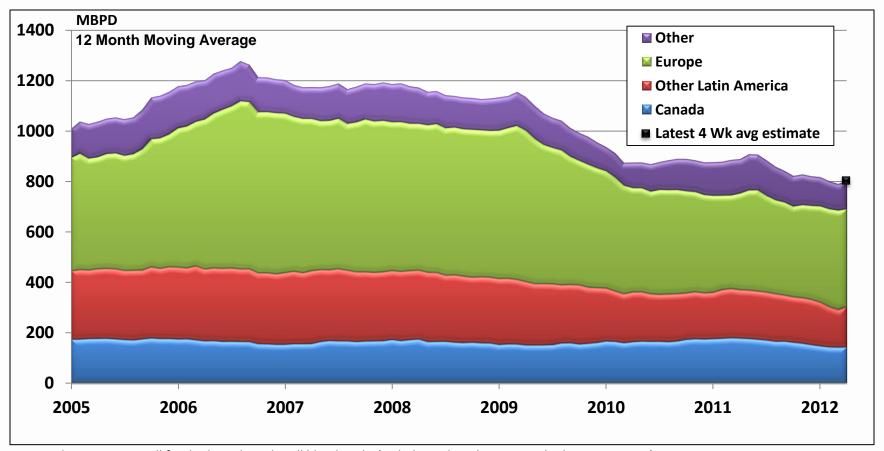
Source: DOE Petroleum Supply Monthly with data as of April 2012. 4 Week Average estimate from Weekly Petroleum Statistics Report and VLO estimates



### **U.S.** Gasoline Imports by Source

#### Gasoline imports have declined steadily since 2007

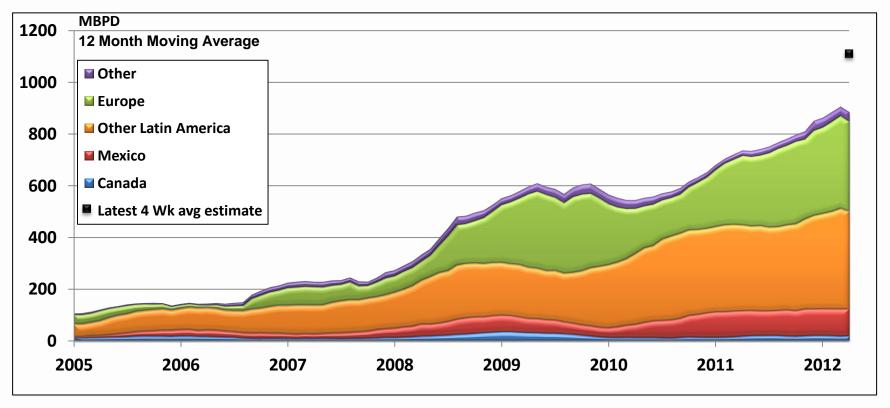
- Shutdown of the Atlantic Basin refineries will keep pressure on this trend in 2012
- Although the shutdown of U.S. East coast refineries will require more gasoline to balance





### **U.S. Diesel Exports by Destination**

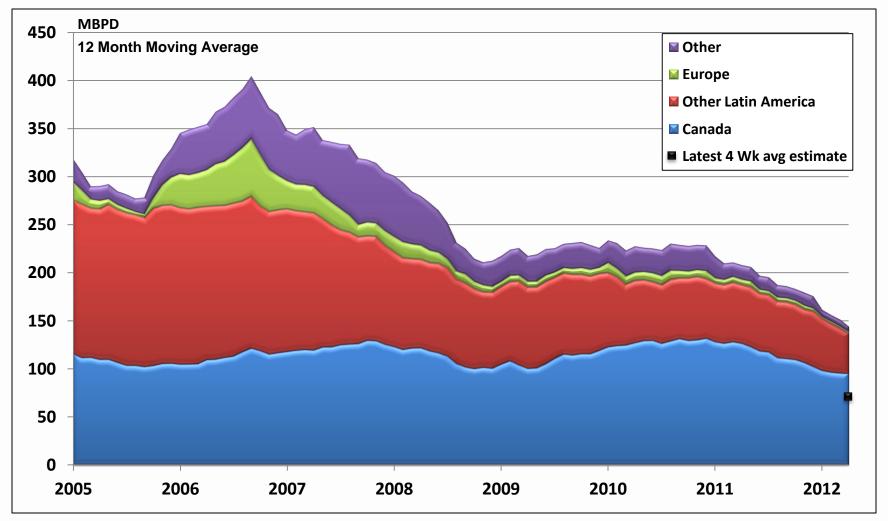
- Diesel exports to Latin America continue to exceed exports to Europe, but over twothirds of diesel export growth in 2011 was to Europe
  - Lower European refinery runs on challenging economics forced the region to import more diesel
  - Expect Petroplus' refinery shutdowns will add to European diesel deficit
  - Latin America needs remain high on good demand growth and continued challenges running refineries in key countries





#### **U.S. Diesel Imports by Source**

- Diesel imports have fallen slightly in 2012 due to less volume from Latin America
  - Expect the St. Croix shutdown will reduce 2012 imports



Source: DOE Petroleum Supply Monthly with data as of April 2012. 4 Week Average estimate from Weekly Petroleum Statistics Report



# U.S. Crude and Natural Gas Production – Tight Oil Supply Growth

The new U.S. shale plays are located in places that should provide additional barrels into the Rockies and Gulf Coast - pressuring crude imports and lowering natural gas prices

#### The furthest along in development are in North Dakota (Bakken) and South Texas (Eagle Ford)

- Each could see 500+ MBPD of growth in the next few years and potentially more thereafter
- Utica (Ohio) is potentially a large play, but is not as far along in development

#### **Shale Oil Plays in North America** Bakken, Three Forks Cardium, Viking Heath Niobrara Utica Mowry Cane Creek Marcellus Wasatch Green River Monterrey Niobrara Tuscaloosa **Granite Wash** Bone Spring/Avalon Expect supply growth will Woodford exceed regional demand, and Spraberry excess will clear toward the Gulf **Eagleford** Coast, pushing out imports

Source: Map from CERA



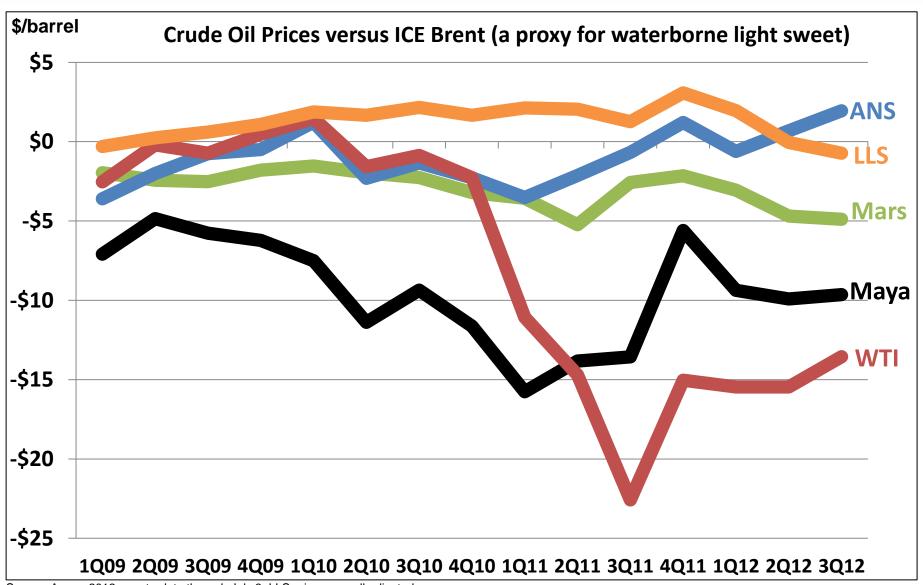
## Ethanol and Retail Reconciliation of Operating Income to EBITDA

Ethanol (millions)	2Q09 – 4Q09	2010	2011	1Q12
Operating Income	\$165	\$209	\$396	\$9
+ Depreciation and amortization expense	<u>\$18</u>	<u>\$36</u>	<u>\$39</u>	<u>\$10</u>
= EBITDA	<u>\$183</u>	<u>\$245</u>	<u>\$435</u>	<u>\$19</u>

Retail (millions)	2005	2006	2007	2008	2009	2010	2011	1Q12
U.S. Operating Income	\$81	\$113	\$154	\$260	\$170	\$200	\$213	\$11
+ U.S. depreciation and amortization expense	<u>\$60</u>	<u>\$60</u>	<u>\$59</u>	<u>\$70</u>	<u>\$70</u>	<u>\$73</u>	<u>\$77</u>	<u>\$18</u>
= U.S. EBITDA	<u>\$141</u>	<u>\$173</u>	<u>\$214</u>	<u>\$330</u>	<u>\$240</u>	<u>\$273</u>	<u>\$290</u>	<u>\$29</u>
Canada Operating Income	\$73	\$69	\$95	\$109	\$123	\$146	\$168	\$29
+ Canada depreciation and amortization expense	<u>\$23</u>	<u>\$27</u>	<u>\$31</u>	<u>\$35</u>	<u>\$31</u>	<u>\$35</u>	<u>\$38</u>	<u>\$9</u>
= Canada EBITDA	<u>\$96</u>	<u>\$96</u>	<u>\$126</u>	<u>\$144</u>	<u>\$154</u>	<u>\$181</u>	<u>\$206</u>	<u>\$38</u>

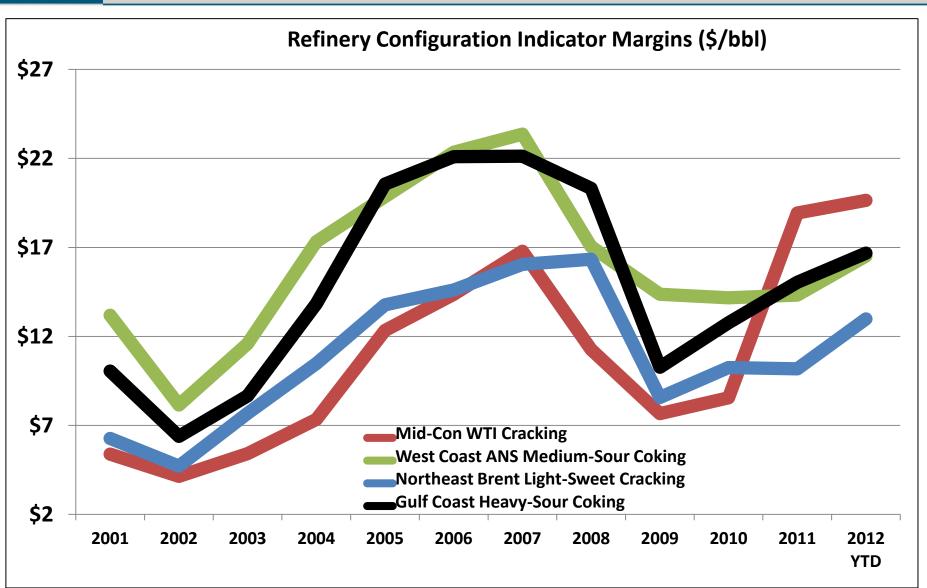


### **Most Crude Oil Discounts Improving**





### **Regional Refinery Indicator Margins**





## **Assumed Regional Indicator Margins**

- **Gulf Coast Indicator:** (GC Conv 87 Gasoline Prompt LLS) x 60% + (GC ULSD 10ppm Colonial Pipeline LLS) x 40% + (LLS Maya Formula Pricing) x 40% + (LLS Mars Month 1) x 40%
- Mid-con Indicator: [(Group 3 Conv 87 Gasoline prompt WTI Month 1) x 60%
   + (Group 3 ULSD 10ppm prompt WTI Month 1) x 40%] x 60% + [(GC Conv 87 Gasoline Prompt LLS) x 60% + (GC ULSD 10ppm Colonial Pipeline LLS) x 40%] x 40%
- West Coast Indicator: (San Fran CARBOB Gasoline Month 1 ANS USWC Month 1) x 60% + (San Fran EPA 10 ppm Diesel pipeline ANS USWC Month 1) x 40%
- North Atlantic Indicator: (NYH Conv 87 Gasoline Prompt ICE Brent) x 50% + (NYH ULSD 15 ppm cargo prompt – ICE Brent) x 50%
- LLS prices are Month 1, adjusted for complex roll



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