



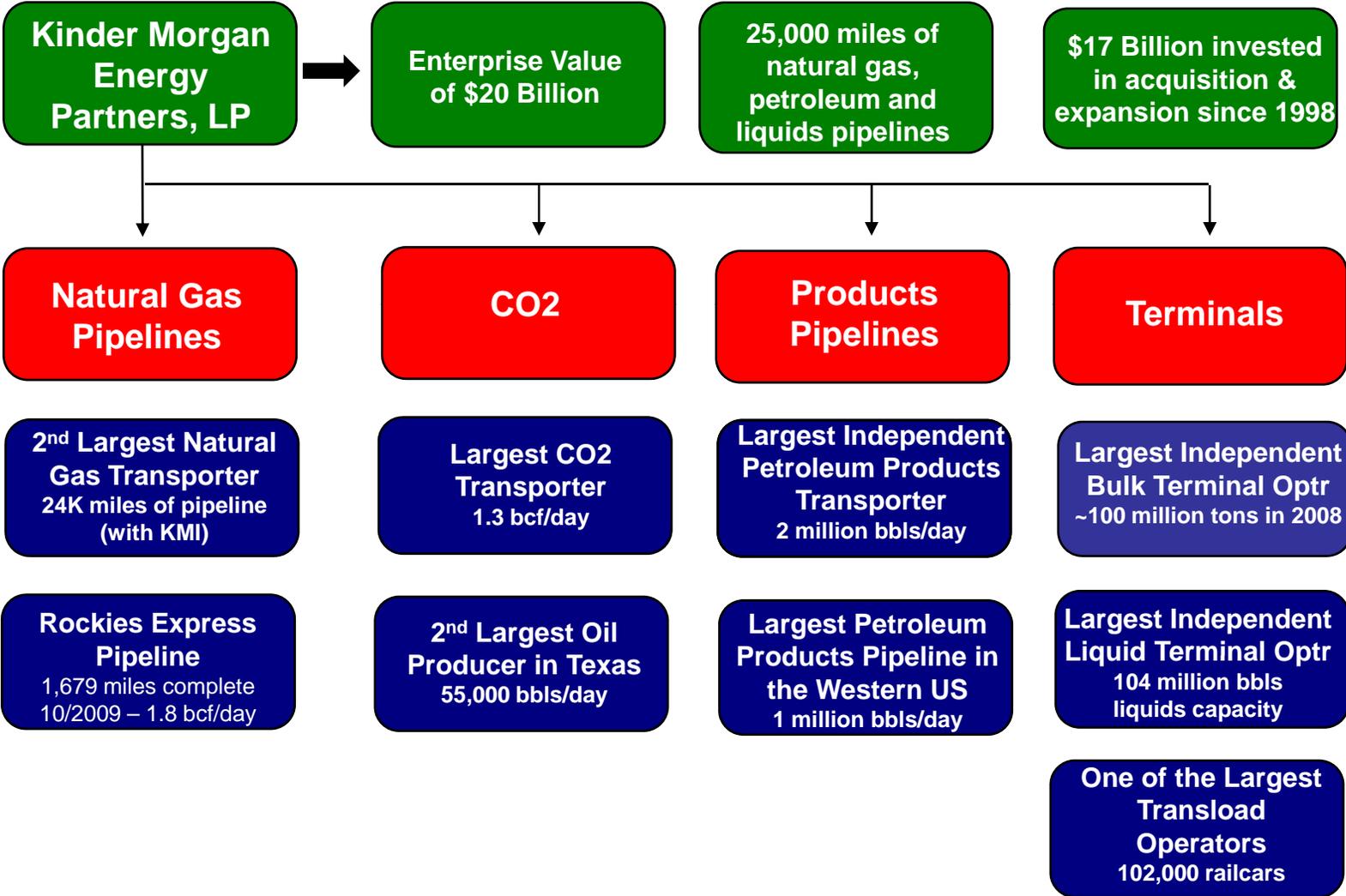
# KINDER MORGAN



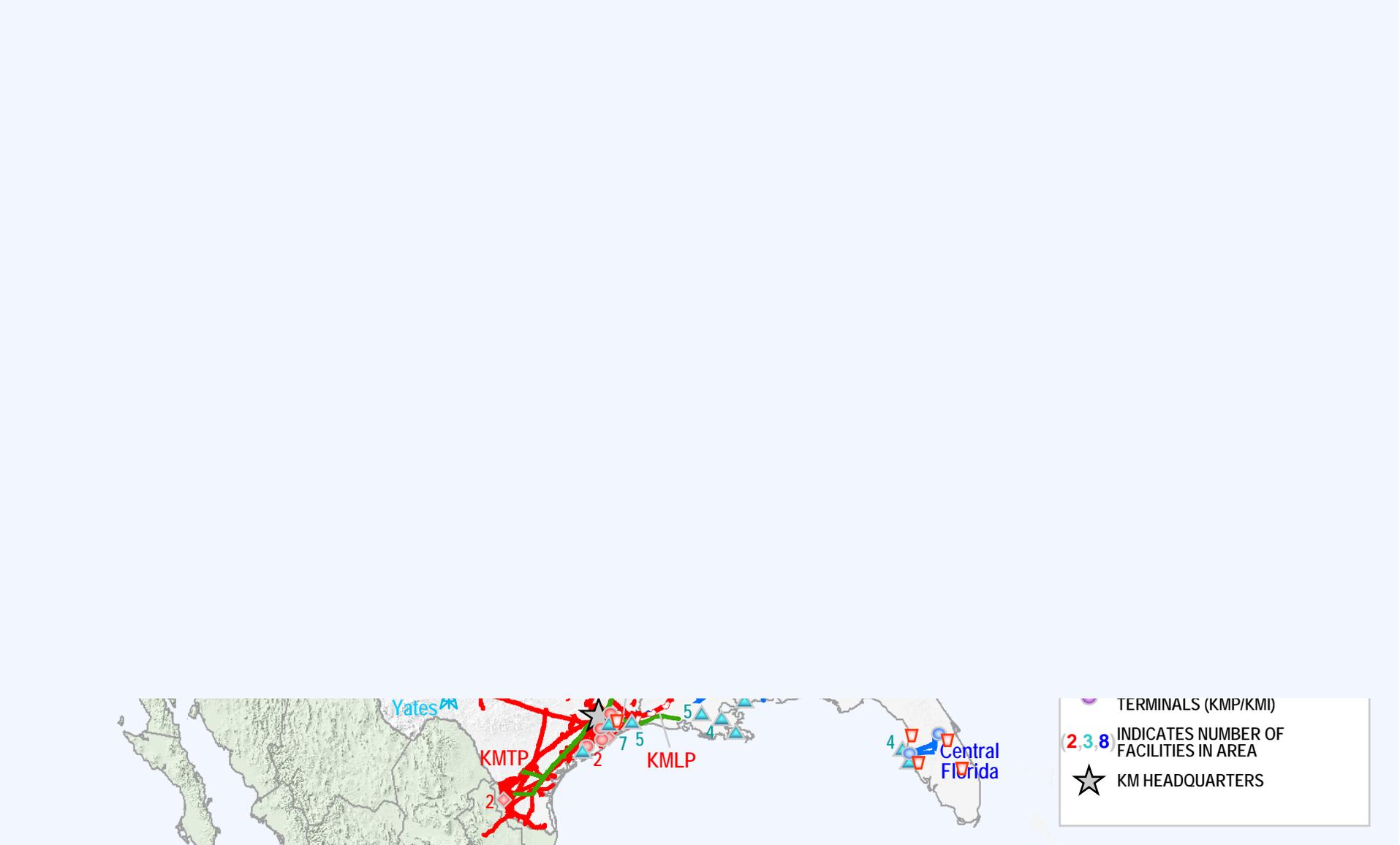
**CEC Offices**  
**Sacramento, CA**  
**August 24, 2009**

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# Kinder Morgan has evolved into a strong, multi-product terminal & pipeline operator nationwide



# KMI & KMP Asset Map



# Kinder Morgan Terminals - Ethanol Role

The diverse nature of the KM assets allows for an array of solutions to meet the needs of the market...

KM Terminals Ethanol	2006	2007	2008	2009p
Storage (Mbbls)	2,500	3,038	3,543	3,900
Throughput (Mbbls)	22,184	25,624	31,110	35,100



## Ethanol logistics issues have been challenging

- Production facilities were designed for unit train shipments outbound, fragmented across a wide geographic area.
- Very few destinations can actually handle trains and discharge into blending assets – LA Basin was the first, NY Harbor (Albany, Linden & Sewaren), Baltimore, Dallas (2), Houston.
- KMPP was successful in developing a pipeline solution in Florida, however, few other pipeline projects of any distance have been undertaken.
- Single car transloading operations have been set up across the US, and make sense for smaller markets, but travel at a premium to unit trains (2-4 cpg). Consistent rail service is an issue.

# California Market for Gasoline & Ethanol

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- **Assumed market size for gasoline sold\*:**
  - 2006 1.049MM BPD
  - 2007 1.017MM BPD
  - 2008 965.3M BPD
  - 2009 (thru May) 961.3M BPD (989 in May)
  - Working assumptions based off 1.0MM BPD, which include:
    - 57,000 BPD current ethanol blending
    - 100,000 BPD blending January 1, 2010 – 43,000 BPD additional product
    - Split 60/40 Southern and Northern California, respectively
- **What it means:**
  - 26,000 BPD additional consumption in Southern California (Lomita, Colton, San Diego)
  - 17,000 BPD additional consumption in Northern California (Selby, Richmond, Stockton)

\*Source: EIA website - "Prime Supplier Sales Volumes"

# Lomita Rail Terminal – Current Situation

## Current Situation

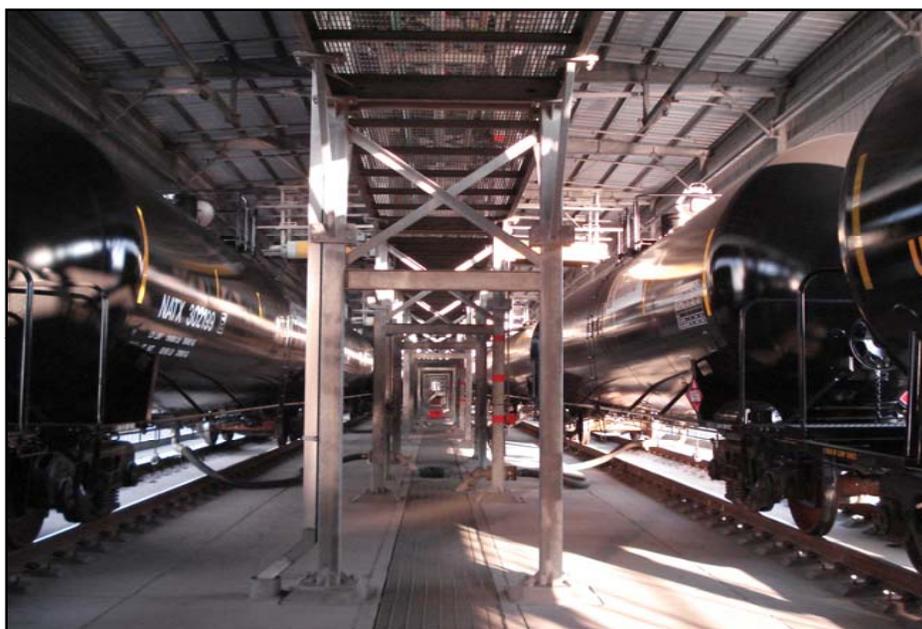
- Facility projected to avg 659,000 Bbls/month of throughput (22k BPD, or ten 96-car trains per month) in 2008 on a 5.7% ethanol mandate.
- Participants include five major refiners in the LA Basin.
- Service area (via Shell rack at Carson) is in excess of 120 mile radius.
- Currently supplies Colton 4-5k BPD of ethanol.

## 10% blend effective 1/1/10

- Volume could go to 1.1 million Bbls/month, 36-38k BPD.
- Escalated Volume could be handled in 14-15 large trains, or 16-17 smaller trains.
- **Constraint is Shell Truck rack permit at a max of 150 trucks/day, or 28.5k Bbls. Shell has submitted a request to the City of Carson to go to 225 trucks per day via a new lane (3 total) and 130k Bbls new ethanol storage.**

## KMT Expansion Plans

- Sixteen 96 car trains will not result in a bottleneck at current (24 hours +/-).
- Additional pump in 2009 expansion budget could take as much as four hours off each train.



## 2008 LA Basin Ethanol Volume Estimates (indicative)

<u>Customer</u>	<u>Daily @ 5.7%</u>	<u>Daily @10%</u>
Refiner #1	6,000	10,500
Refiner #2	5,800	7,725*
Refiner #3	2,000	3,500
Refiner #4	5,000	8,750
Refiner #5	<u>3,400</u>	<u>5,950</u>
<b>Total</b>	<b>22,200</b>	<b>36,425</b>

\*May already be blending at 7%

Source: 2008 Monthly schedules

Non-participating volume – Refiner #6 5,500 BPD, Refiner #7 4,000 BPD @ 5.7%, 16,625 BPD at 10%

# New Richmond, CA Ethanol Unit Train Project

## Situation Overview

- Project formerly headed by VeraSun, taken out of bankruptcy proceedings by BNSF and offered conditionally to KM.
- Facility already permitted to handle unit trains of ethanol on a rail-truck basis.
- Two parallel 1,650' tracks within the BNSF Richmond Yard, enough to hold 25 railcars each.
- Unit train cuts to be switched in and out by BNSF-Unload time projected at 48 hours by using four pumps.
- Facility is directly adjacent to Chevron's Richmond refinery, approx. one mile from KMPP's Richmond Terminal.
- KM would operate under a lease at the facility through 12/31/2011.
- Other handlers include NuStar Selby (UP served, non-unit train), and imports.
- Total Bay area blending market potential at 10% is in excess of 33,000 bbls/day on paper. KM figures roughly three trains per month, on a two year basis.

## Drivers

- 10% blending requirement 1/1/10 and no unit train solution exists in the Bay area. Set up to compete with low cost options.

## Status

- Have binding agreement from a customer for the full volume needed to support the facility, good thru 12/31/2011.
- Operation target start –up date – late Q4 2009.



Note: Low cost option pursued in lieu of more comprehensive solution, due to uncertainty around ethanol mandate.

# What we saw from the CARB ruling\*

## Assumes CARBOB

- 95.86 gCO<sub>2</sub>e/MJ
- Avg crude slate
- Avg refinery efficiencies
  
- The type and origin of ethanol needed to comply changes each year...

Year	Annual Standard CI, gCO <sub>2</sub> e/MJ	Max CI of ethanol with 10% blend
<i>2010 Reporting Only</i>		
2011	95.61	92.27
2012	95.37	88.82
2013	94.89	81.93
2014	94.41	75.04
2015	93.45	61.26
2016	92.50	47.92
2017	91.06	26.94
2018	89.62	6.26
2019	88.18	-14.41
2020	86.27	-41.84

\*of April 23, 2009

# Current ethanol suppliers have a short timeline

Fuel	Pathway Description	Carbon Intensity Values (gCO <sub>2</sub> e/MJ)		
		Direct Emissions	Land Use or Other Effect	Total
Gasoline	CARBOB – based on the average crude oil delivered to California refineries and average California refinery efficiencies	95.86	0	95.86
	CaRFG-CARBOB and a blend of 100% average Midwestern corn ethanol to meet a 3.5% oxygen content by weight blend (approximately 10% ethanol)	96.09	---	96.09
	CaRFG-CARBOB and a blend of an 80% Midwestern average corn ethanol and 20% California corn ethanol (dry mill, wet DGS) to meet a 3.5% oxygen content by weight blend (approximately 10% ethanol)	95.85	---	95.85
Ethanol from Corn	Midwest average; 80% Dry Mill; 20% Wet Mill; Dry DGS	69.40	30	99.40
	California average; 80% Midwest Average; 20% California; Dry Mill; Wet DGS; NG	65.66	30	95.66
	California; Dry Mill; Wet DGS; NG	50.70	30	80.70
	Midwest; Dry Mill; Dry DGS, NG	68.40	30	98.40
	Midwest; Wet Mill, 60% NG, 40% coal	75.10	30	105.10
	Midwest; Dry Mill; Wet, DGS	60.10	30	90.10
	California; Dry Mill; Dry DGS, NG	58.90	30	88.90
	Midwest; Dry Mill; Dry DGS; 80% NG; 20% Biomass	63.60	30	93.60
	Midwest; Dry Mill; Wet DGS; 80% NG; 20% Biomass	56.80	30	86.80
	California; Dry Mill; Dry DGS; 80% NG; 20% Biomass	54.20	30	84.20
Ethanol from Sugarcane	Brazilian sugarcane using average production processes	27.40	46	73.40
Compressed Natural Gas	California NG via pipeline; compressed in California	67.70	0	67.70
	North American NG delivered via pipeline; compressed in California	68.00	0	68.00
	Landfill gas (bio-methane) cleaned up to pipeline quality NG; compressed in California	11.26	0	11.26
Electricity	California average electricity mix	124.10	0	124.10
	California marginal electricity mix of natural gas and renewable energy sources	104.70	0	104.70
Hydrogen	Compressed H <sub>2</sub> from central reforming of NG	142.20	0	142.20
	Liquid H <sub>2</sub> from central reforming of NG	133.00	0	133.00
	Compressed H <sub>2</sub> from on-site reforming of NG	98.30	0	98.30
	SB 1505 Scenario; Compressed H <sub>2</sub> from on-site reforming with renewable feedstocks	76.10	0	76.10

## 2010-14

– Estimated CI of 12 ethanol pathways including sugar cane ethanol

– Based on a pure 10% ethanol blend

– 5 types out in 2011, CI 92.27

– 2 types out in 2012, CI 88.82

– 2 types out in 2013, CI 81.93

– 2 types out in 2014, CI 75.04

– Brazilian Ethanol is no longer a viable 10% Blend in 2015, CI 61.26

## 2015 and beyond

– Post 2015 credits must be purchased to offset blends

– Credits purchased from electricity producers

# 11 Northeastern States

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## Regional Greenhouse Gas Initiative (RGGI)

- Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont, Pennsylvania
- Members of RGGI have developed Cap and Trade system
- Pledged to develop LCFS
- Goal is to reduce carbon in fuels

## Letter of Intent

- January 2009
- Committed each state to MOU

## Memorandum Of Understanding

- Pledged to produce draft out of the Governors office of each state
- December 31, 2009

## Result

- ***Competition for Brazilian ethanol vs. California***

# Impact of current LCFS legislation

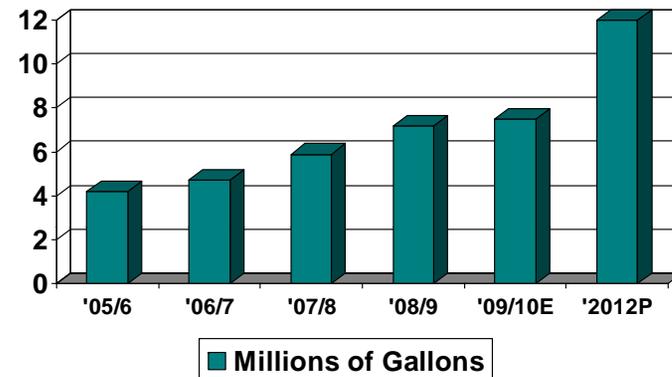
## Cane ethanol is attractive early, but has its limitations

- Size of cargoes, supply chain issues
- Brazilian production – is it enough?

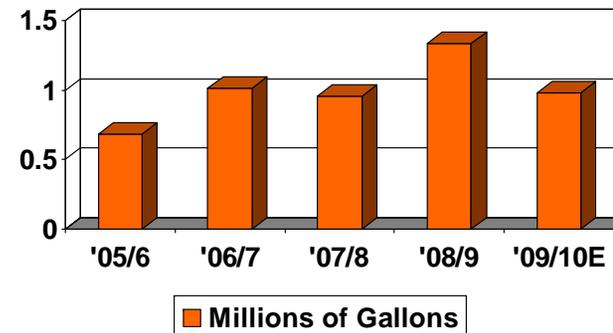
## Advanced biofuels have to be developed quickly and scaled up for volume

- Very aggressive timeline for new technologies
- Financial condition of the ethanol producers make their involvement challenging
- Midwest impact – would they go to 15% and forego Coastal markets?
- Higher than E10 blends appear unlikely in California.
- Uncertainty freezes investment spending

Brazilian Ethanol Production



Brazilian Ethanol Exports



Source: USDA- FAS GAIN Report BR9007 7/15/09

## There are options for Brazilian ethanol outside of vessel direct

### Deer Park Rail Option

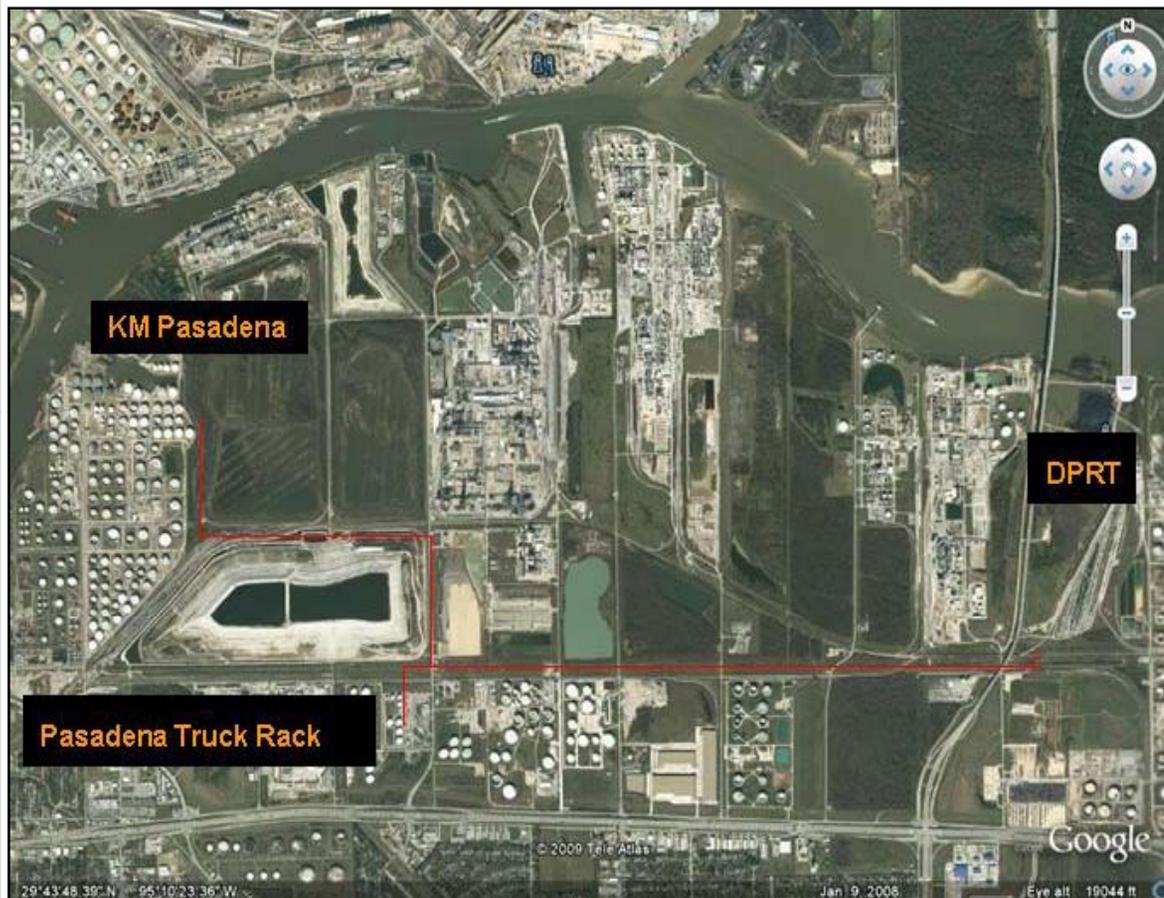
- KM owns an existing rail storage yard adjacent to the Shell Deer Park refinery in Deer Park, TX.
- The facility has room for 1,100 cars, and is currently underutilized.
- It is served by the PTRA with access to BNSF, UP and KCS, inbound and outbound.
- Shell has a facility adjacent to the DPRT yard where it has in the past conducted its “fuel by rail” program, with eight loading spots.



# Goal: connect DPRT to the distribution system

## Project...

- KM would construct a new offloading rail rack at Deer Park Rail Terminal (DPRT);
- An existing ethanol pipeline would be extended by 2.4-miles from the Pasadena truck rack to DPRT facility for ethanol unloading;
- Pasadena assets would be incorporated and used to receive ethanol by rail;
- KM's DPRT facility would then receive ethanol unit trains and transfer via the new pipeline to KM Pasadena and KM Truck Rack;
- Cane-based ethanol could be handled if sufficient incremental volume commitments are garnered to expand DPRT's ethanol loading capacity in a second phase. Construction would involve:
  - Modifying the planned ethanol pipeline to be bi-directional;
  - Building a support tank on the DPRT site;
  - Add loading capacity at the Deer Park rail rack, or using existing Shell assets.



Timeline: ETOH unloading, Q1 2010; OB cane ethanol via Shell system – mid-late 2010, depending on permitting. KM construction – TBD.

## **KM path going forward**

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- A belief in the RFS necessary for any long term ethanol investment (note: KM does not take an interest in the commodity itself).
- Search out areas where long term capital potential exists, otherwise limit investment - no “Field of Dreams”.
- Long term customers (refiners) generally better credit risk than producers.
- Rail investment still a good bet by itself in the right markets, but better in conjunction with pipeline and marine assets.
- Strengthen handling protocols with experience, both on the pipeline and terminal sides.
- Helpful: A clearer picture on regulation.