CALIFORNIA STATE LANDS COMMISSION
PREVENTION FIRST 2012 SYMPOSIUM

FUTURE OF TRANSPORTATION FUELS:
A MANUFACTURER’S PERSPECTIVE

October 23, 2012

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President and CEO
Tesoro Corporation
## WHO IS TESORO?

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>Future(^{(1)})</th>
<th>California(^{(1)})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refineries</td>
<td>7</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Capacity (MBD)</td>
<td>675</td>
<td>941</td>
<td>529</td>
</tr>
<tr>
<td>Retail Stations</td>
<td>1,375</td>
<td>2,175</td>
<td>1,240</td>
</tr>
<tr>
<td>Employees</td>
<td>5,400</td>
<td>7,100</td>
<td>3,900</td>
</tr>
</tbody>
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Kenai, AK 72 MBD
Anacortes, WA 120 MBD
Martinez, CA 166 MBD
Wilmington/Carson, CA \(^{(1)}\) 363 MBD
Mandan, ND 68 MBD
Salt Lake City, UT 58 MBD
Kapolei, HI \(^{(2)}\) 94 MBD

\(^{(1)}\) Acquisition subject to regulatory approval by FTC and California Attorney General
\(^{(2)}\) Asset currently for sale
# CA FUEL REGULATIONS – A LOOK BACK

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<tbody>
<tr>
<td>Reid vapor pressure (psi max.)</td>
<td>7.8</td>
<td>7.00</td>
<td>7.00</td>
<td>7.20</td>
</tr>
<tr>
<td>Sulfur cap (ppm max.)</td>
<td>300</td>
<td>80</td>
<td>60</td>
<td>20</td>
</tr>
<tr>
<td>Benzene (vol.%, max.)</td>
<td>Not regulated</td>
<td>1.20</td>
<td>1.10</td>
<td>1.10</td>
</tr>
<tr>
<td>Typical Oxygenate</td>
<td>Ethanol or MTBE (winter only)</td>
<td>MTBE</td>
<td>MTBE Banned 5.5% to 7.7% Ethanol</td>
<td>10% Ethanol</td>
</tr>
</tbody>
</table>
Days Los Angeles Exceeded Ozone Standard

Days per year ozone levels exceeded 0.7 parts per million
Source: California Air Resource Board
This progress has not come free to the California consumer

US EIA
US ENERGY DEMAND

The growing population and expanding economy increase energy demand for all fuels over the long term

- Petroleum products and natural gas remain the primary energy source through 2035
- Renewables and bio-fuels grow to 15% during the period

US EIA’s 2012 Energy Outlook
• White House recently established new vehicle MPG standards of 54 MPG by 2025

• Automotive industry does not expect to achieve, but expects substantial progress

• Fleet average is well below new vehicle average

New car mileage performance is expected to lag aggressive regulations

Source: PIRA Energy Group, September 2012
• Hybrid vehicles become more prominent in latter decades
  – Hybrid vehicles typically are gasoline vehicles
• Dieselization grows but remains less than 15% of fleet
• Electric and natural gas power vehicles remain minor penetration

Conventional gasoline remains the dominate transportation fuel
Gasoline based hybrids offset conventional gasoline vehicles

Source: Exxon 2012 Energy Outlook
Federal Regulations

- Renewable Fuels Standard (RFS2)
  - Requires 36 billion gallons by 2022
  - Food versus fuel issue
- Tier 3 Gasoline Specification
- Raising ethanol blend limits to 15%

California Regulations

- Low Carbon Fuel Standards
  - Requires 10% reduction in Carbon Intensity of gasoline and diesel by 2020
  - Required technology is not commercially available
  - Will require significant volumes of Brazilian ethanol being swapped with US corn based ethanol to supply California requirements next year
  - LCFS is infeasible in 2014/2015 timeframe

EIA Projections recognize RFS2 supply lagging requirements
SUMMARY

• California has the cleanest fuels in the world
• Population and economic growth will drive increasing demand for transportation fuels in the US
• Vehicles will become more efficient and will be fueled from a variety of sources
• Fuel regulations will continue to change
  – This is best accomplished in a collaborative way

Conventional gasoline remains the dominant transportation fuel in US Petroleum will continue to be a significant source of energy for the foreseeable future