



Case study

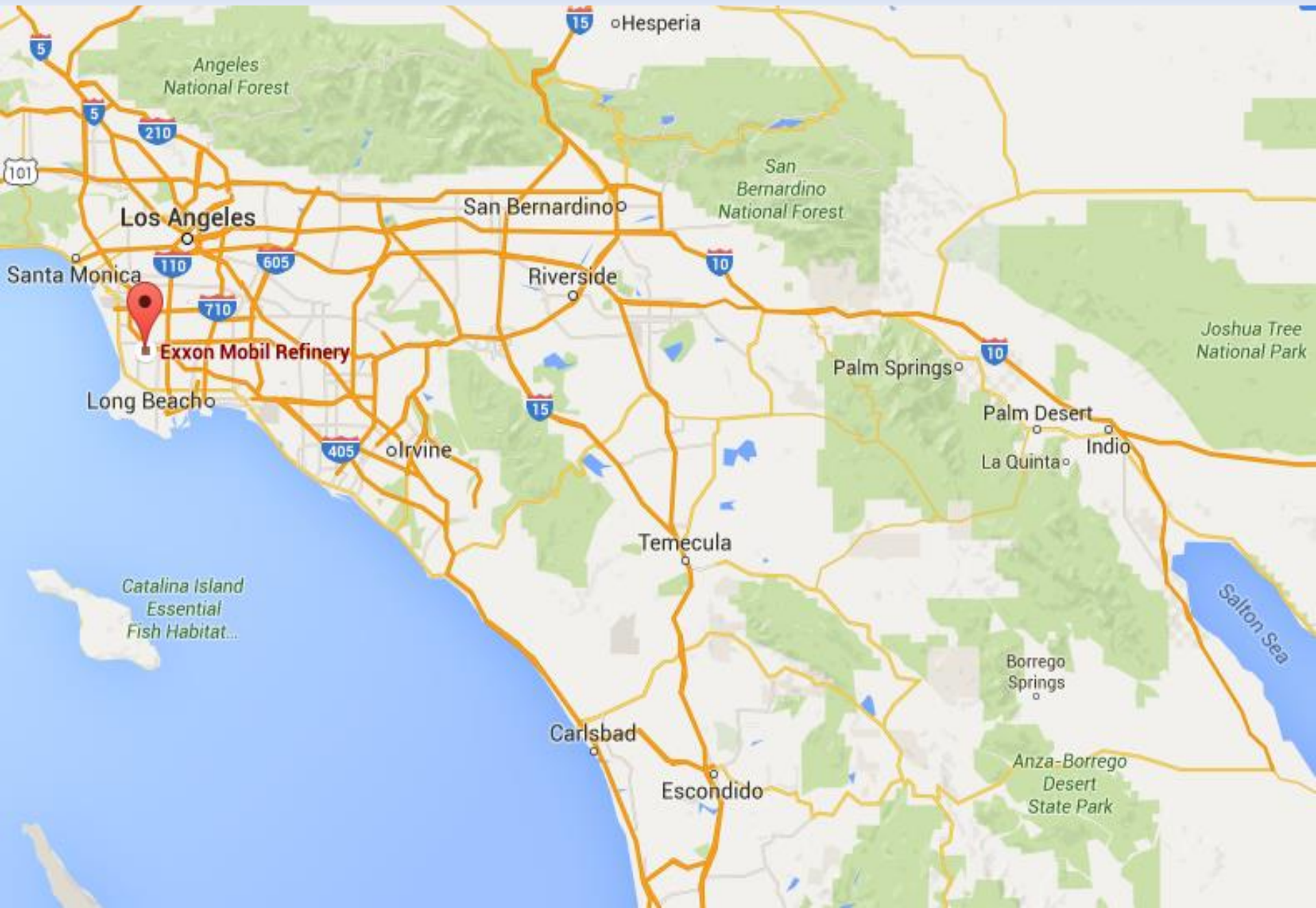
Torrance Refinery, California

Dr. Ákos Fürcht

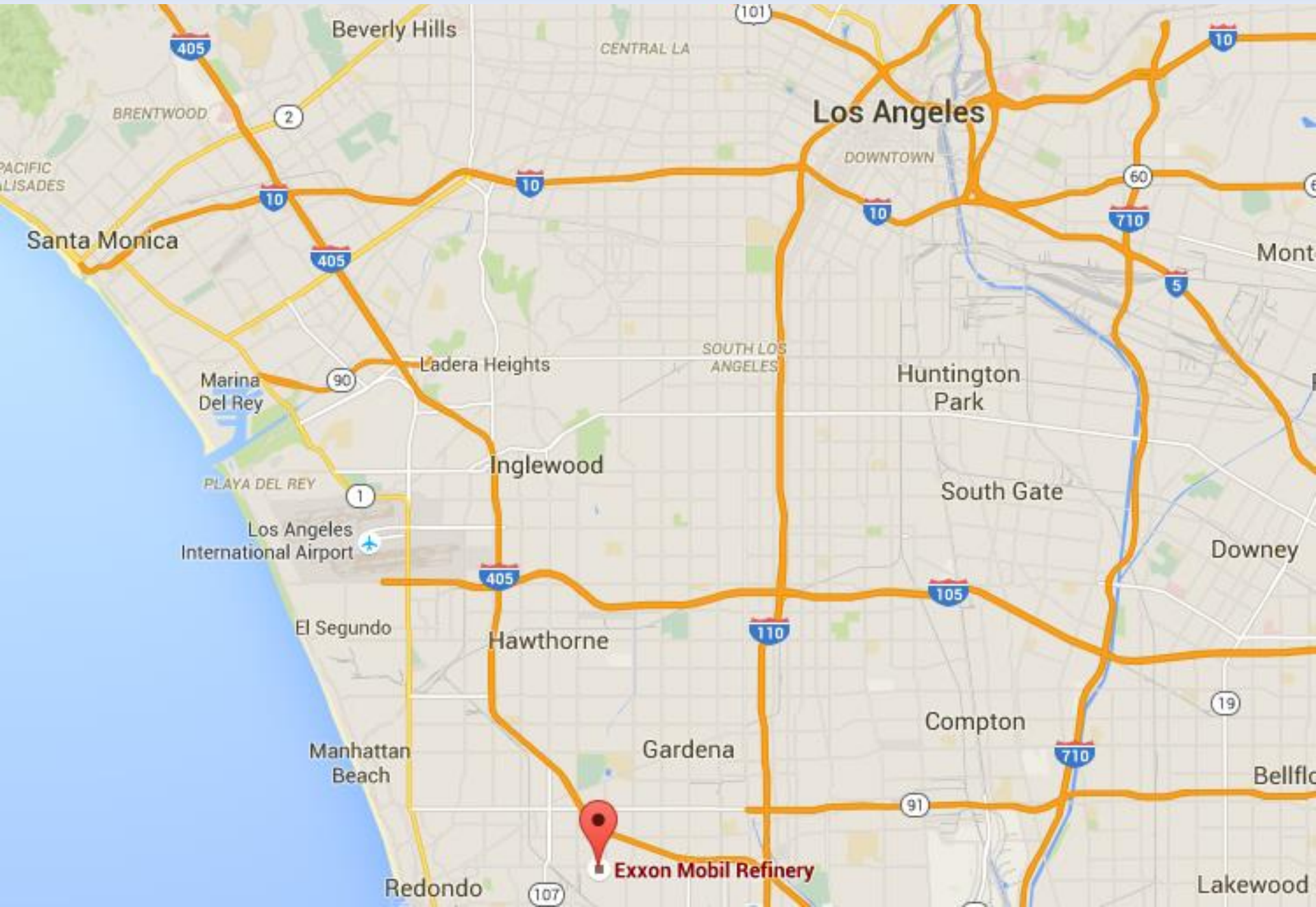
18.03.2022

BME

Los Angeles neighbourhood



Los Angeles downtown and surroundings



History

ExxonMobil

Torrance Refinery

NOTICE: This area is restricted to authorized personnel only. No unauthorized vehicles or equipment are permitted. All visitors must be accompanied by an authorized employee. No smoking or open flames are allowed. For more information, contact the Security Office at (310) 552-1111.

STOP



ExxonMobil

- Founded by John D. **Rockefeller** in 1870 as Standard Oil Company (Ohio)
- US supreme court divided into 34 individual companies in 1911
 - Socony-Vacuum Oil, since 1966: Mobil Oil Corporation
 - Jersey Standard, since 1972: Exxon Corporation
- **Merged in 1999:** ExxonMobil Corporation
- USA: 7 refinery (6)
- Total capacity: 1,9 mbbl/d
- Total workforce: 5500

Torrance Refinery

- **Capacity:** 155000 bpd (MOL DF: ~155000 bpd)
- Workforce: 650
- Milestones
 - 1929: foundation
 - **1965: modernisation**, complete reconstruction
 - 1974: Claus unit
 - 1980'ies: Hydrotreater
 - 1990'ies: HFA unit
 - **2000: FCC flue gas cleaning unit**
- Third biggest refinery in South California
- Responsible for 20% of South California gasoline supply
- Direct Jet pipeline to Los Angeles int'l airport

What happened?

FCC ESP

- Explosion on 18.02.2015 in the FCC unit ESP
- Hydrocarbon entered the ESP, which exploded
- Bigger vessel pieces flied 30 m
- Restart planned with an oldest ESP (2015. september), but finally decided to completely rebuild the current ESP
- <http://www.cbsnews.com/videos/watch-explosion-reported-at-exxonmobil-refinery-in-california/>
- Due to violation of HSE rules the refinery was fined for 566.000 USD

















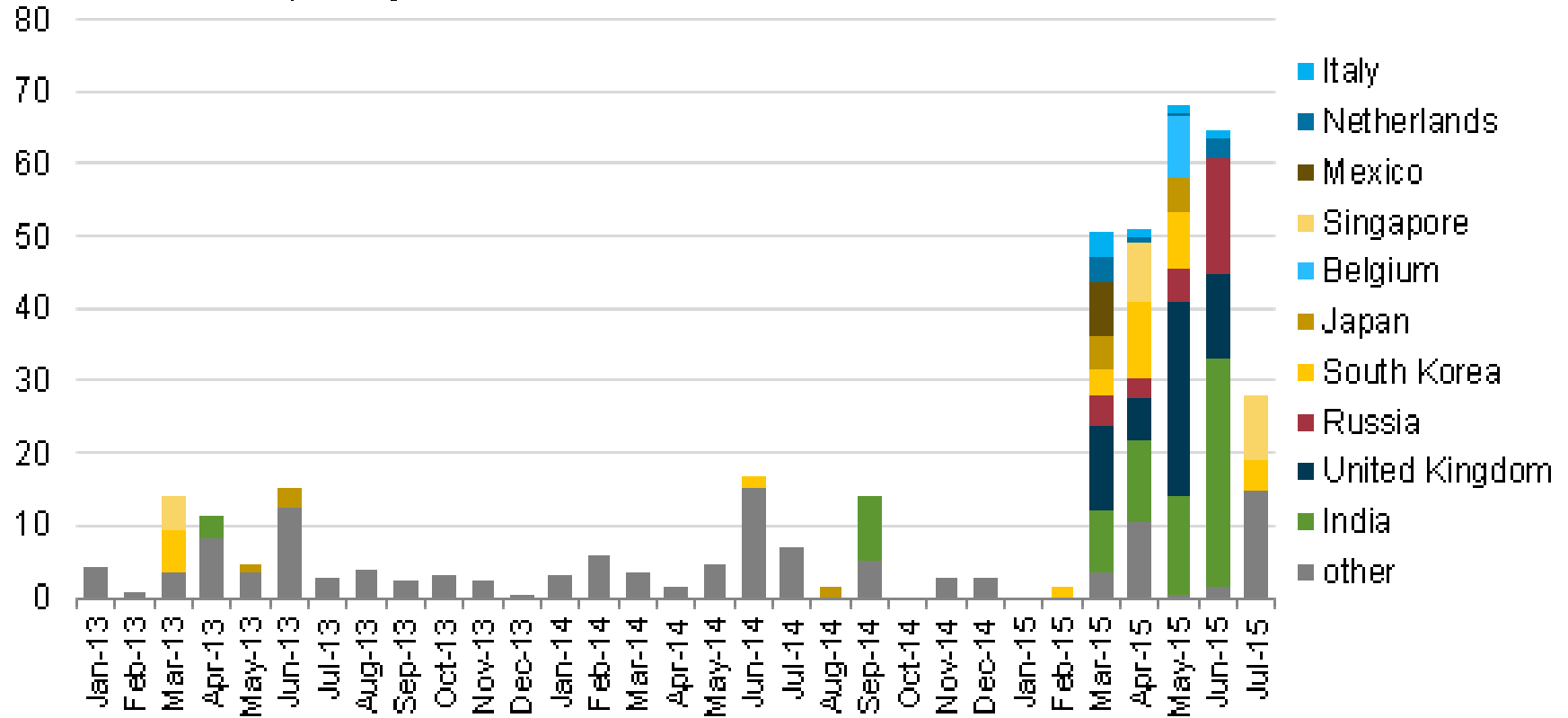


Economical consequences

Tenfold gasoline import to California

California motor gasoline imports by origin

thousand barrels per day



Gasoline import routes

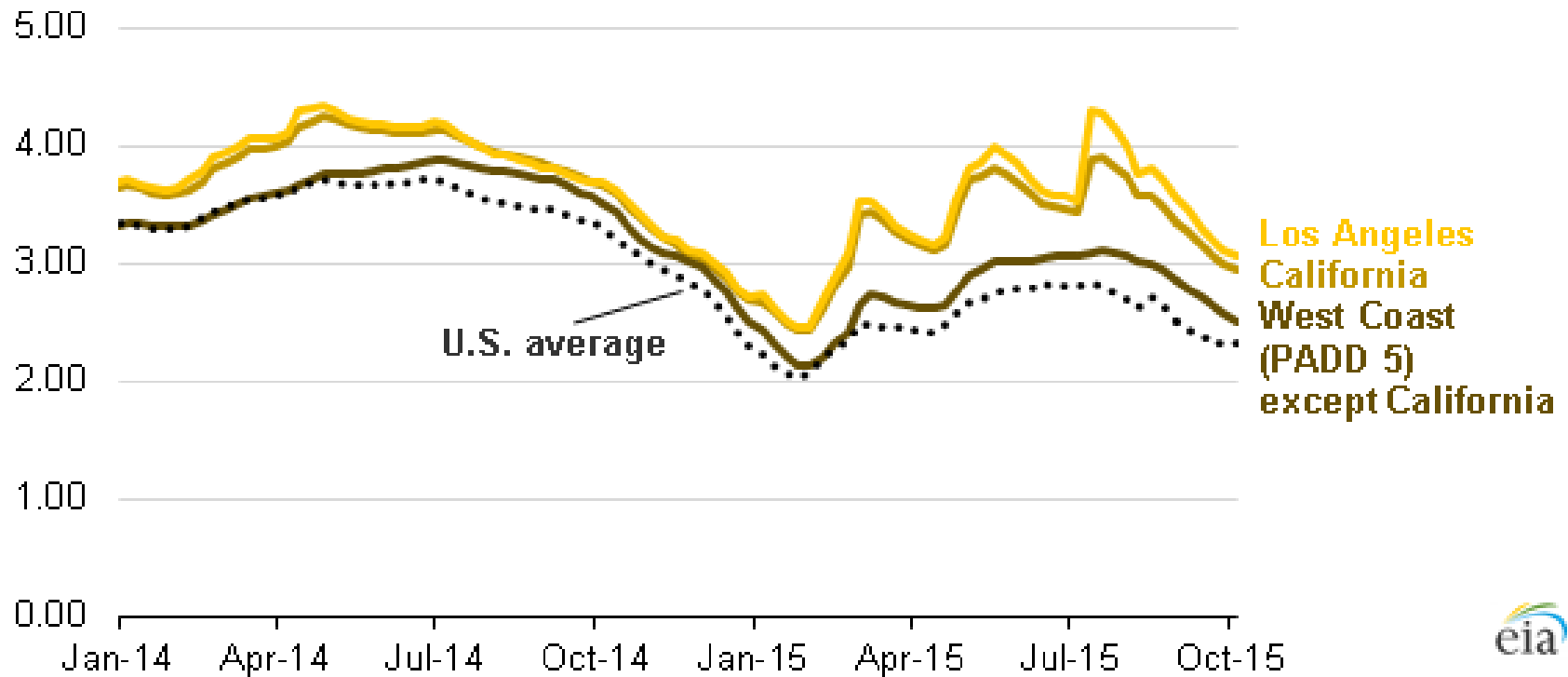
California motor gasoline imports (March-July) by countries of origin



Gasoline price alteration

Retail prices regular gasoline - all formulations (Jan 6, 2014 - Oct 5, 2015)

dollars per gallon



PADD 5: California, Arizona, Nevada, Oregon, Washington, Alaska, Hawaii



Gasoline prices exploded

- Gasoline prices (2015. September)
 - California vs. Texas: 3,10 vs. 2,06 USD/gallon
- Peak gasoline price (2015. July)
 - 4,2 USD/gallon
- Crude oil price decrease reflects in the 2014 vs. 2015. gasoline prices

Present time

PBF Energy

- ExxonMobile announced on 30.09.2015 to sell Torrance Refinery
- Buyer: PBF Energy
- Price: 537,5 mUSD
- Real takeover: mid 2016
- PBF Energy
 - Refinery capacity: 900.000 bbl/d
 - Four plus one refinery : Delaware City, Paulsboro, Toledo, New Orleans, Torrance