Energy Security Fact Pack

Q1 2015

Securing America's Future Energy

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Contents

SAFE's Energy Security Fact Pack provides a data-driven overview of the latest trends in U.S. energy security, including domestic and global oil production and consumption, oil market dynamics, energy prices, consumer spending on oil, fuel efficiency, and alternative fuel vehicles.

Q1 2015: U.S. Consumers to Benefit from Lower Oil Prices

Although global oil supply continued to outstrip global oil demand in Q1, oil prices appeared to find a bottom, trading between a low of $45 per barrel (bbl) and high of $62/bbl (Brent). Prices increased, trading in the mid-to-high $60/bbl range, in early May. Nevertheless, prices in Q1 were at least $40/bbl lower than the same time last year [Slide 22]. These movements have resulted in the return of severe price volatility—similar levels of which were last seen in 2009 [Slide 9].

Lower petroleum product prices appear to be affecting U.S. demand for driving and transport fuels. Total vehicle miles traveled (VMT) have risen (y-o-y) at levels not observed since 2005 over the past four quarters and in Q1 increased by approximately 280 million miles, the largest increase since 2000 [Slide 4].

Moreover, in Q4 2014 and Q1 2015, increases in the average fuel economy rating of new light-duty vehicles weakened, as fuel economy rose only 0.3 mpg and 0.2 mpg respectively (the smallest increases since 2011) [Slide 5]. This is in part due to surging sales of light-duty trucks, which accounted for 55% of total light-duty vehicle sales in Q1 [Slide 6]. Meanwhile, sales of plug-in electric vehicles (PEVs) were essentially unchanged y-o-y in Q1 [Slide 7]. Nevertheless, lower oil prices are set to save U.S. households approximately $700 y-o-y in spending on gasoline (almost 30%) [Slide 8].

The Q1 2015 Fact Pack includes a 'Charts of the Quarter' section focused on trends in U.S. gasoline prices, oil consumption, sales of light-duty vehicles, household spending, and oil price volatility.

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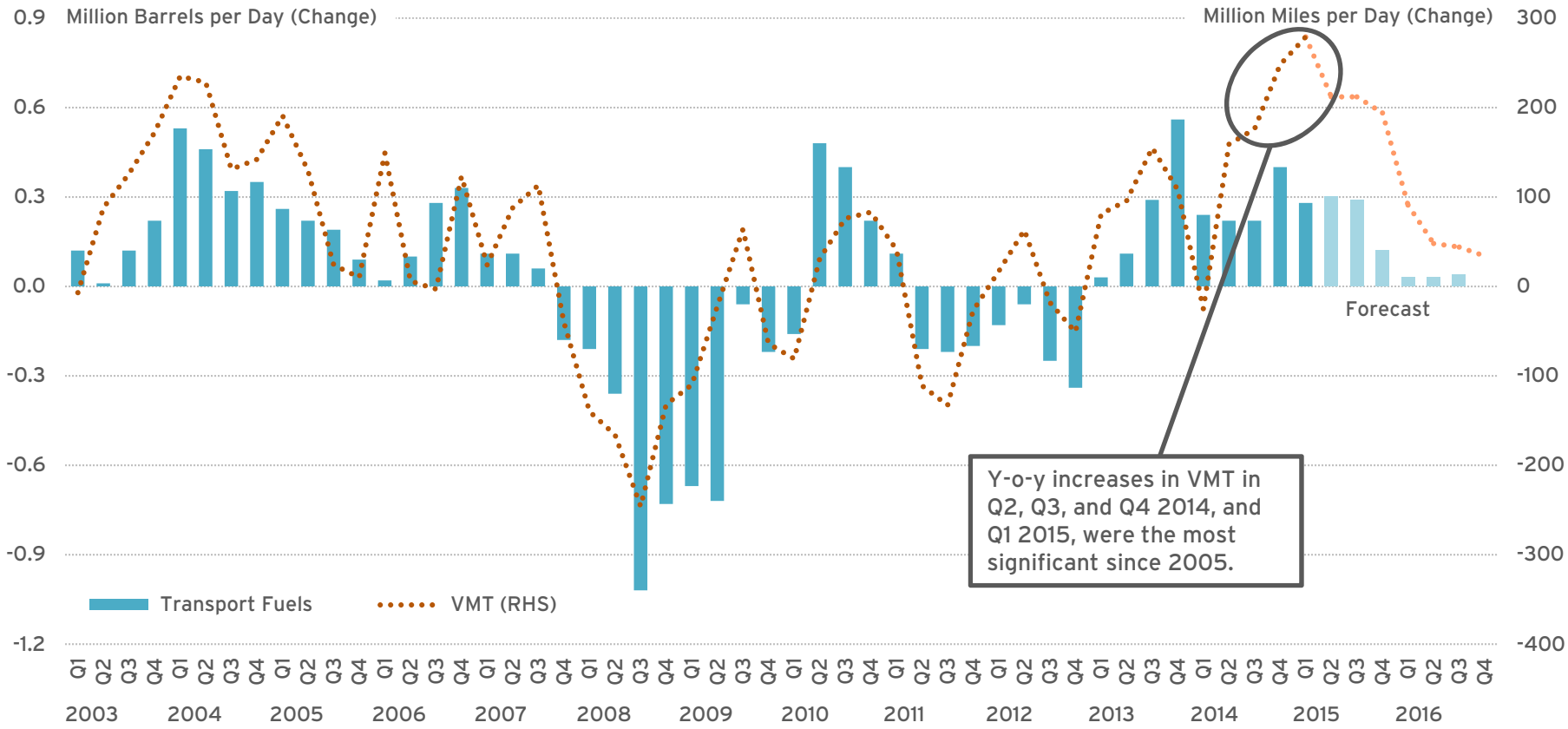
U.S. Transportation Fuel Demand

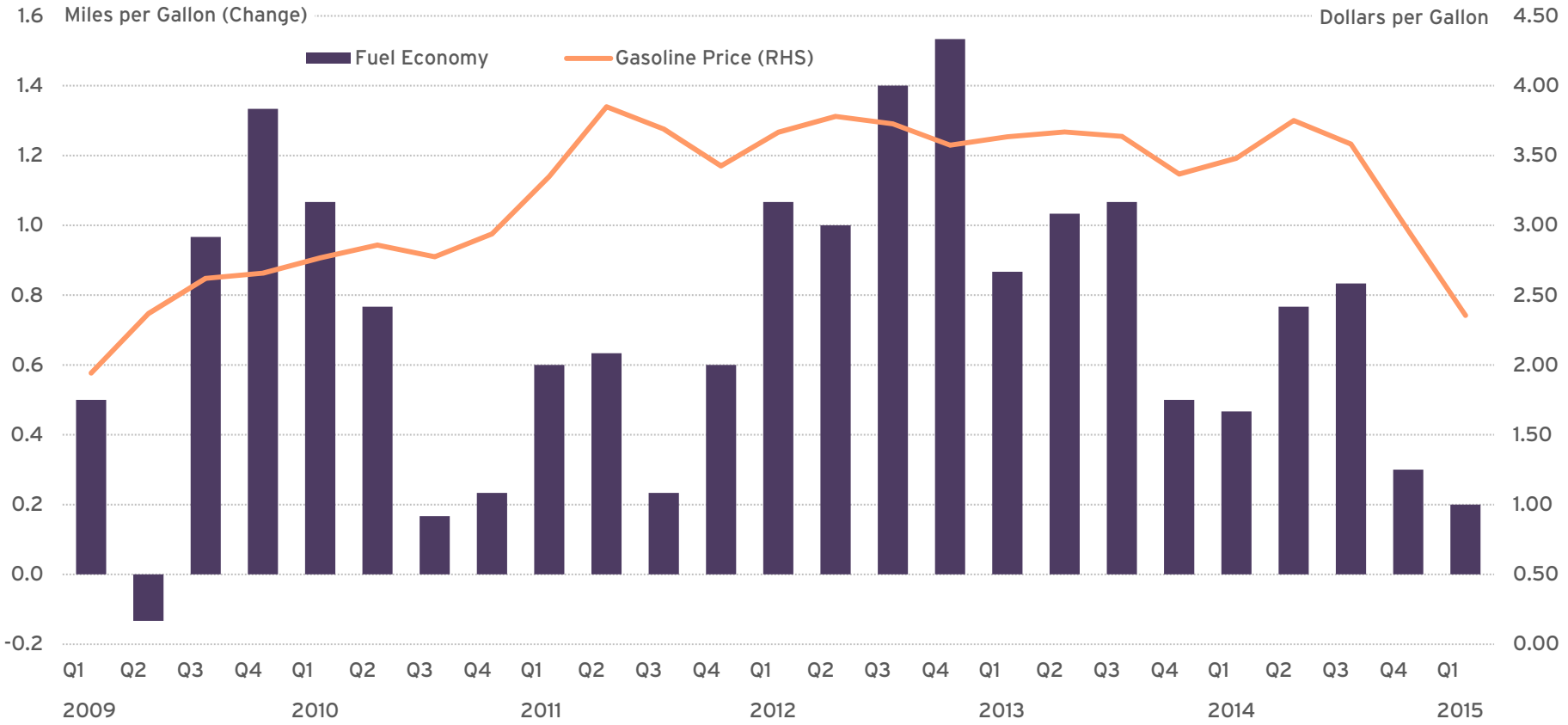
U.S. demand for gasoline, diesel, and jet fuel has been growing y-o-y since 2013, though total oil demand remains 8% below its pre-recession peak. Total vehicle miles traveled (VMT) increased by approximately 280 million miles in Q1 (y-o-y), the highest growth rate since 2000.



Source: SAFE analysis based on data from U.S. EIA

Gasoline Prices and Fuel Economy

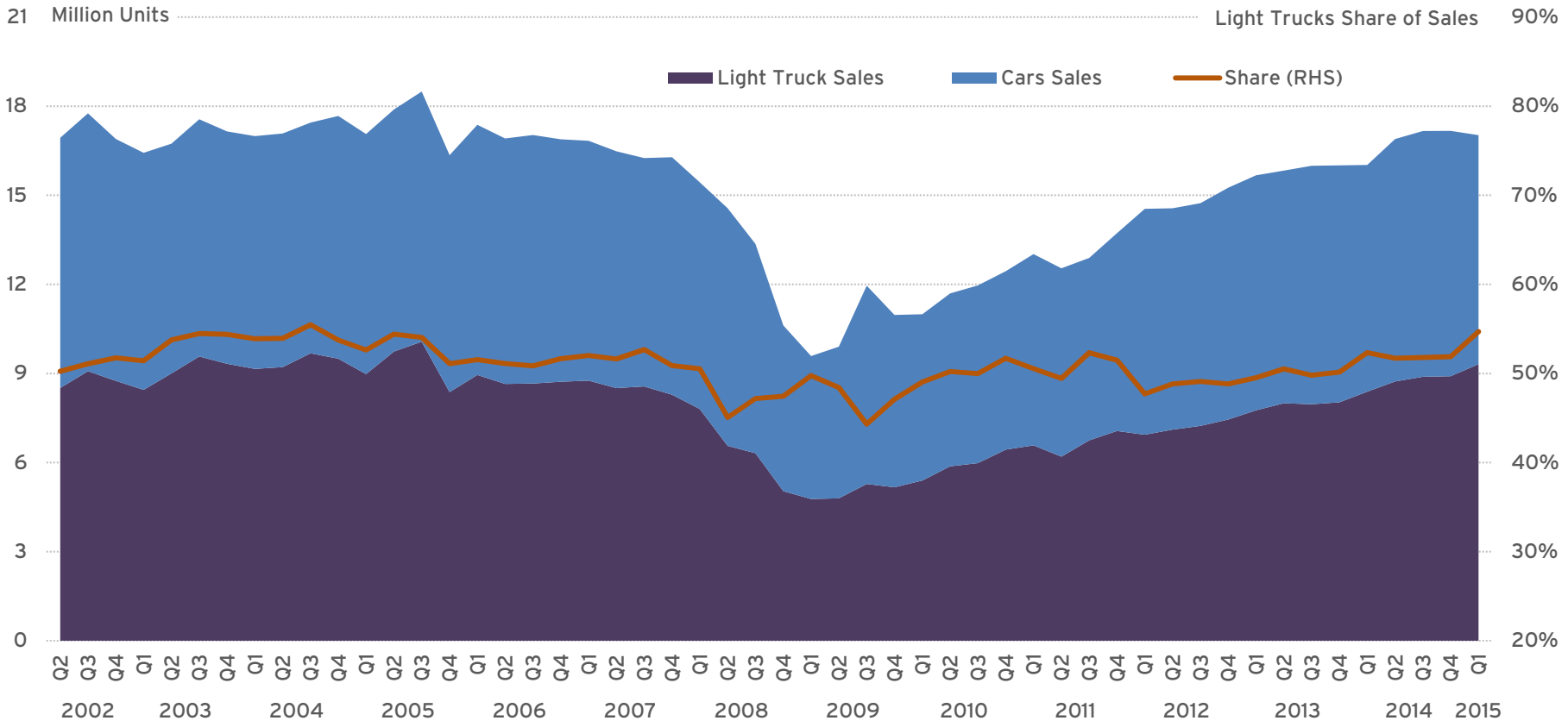
U.S. gasoline prices have fallen by approximately one-third since mid-2014 to levels last seen in 2009. In recent quarters (Q4 2014 and Q1 2015 particularly), the growth in average fuel economy rating of new light-duty vehicle sales plummeted to just 0.3, by far its lowest levels since 2011.



Source: SAFE analyis based on data from U.S. EIA, and Michael Sivak and Brandon Schoettle, University of Michigan Transportation Research Institute

Light Trucks as a Percentage of Total Vehicle Sales

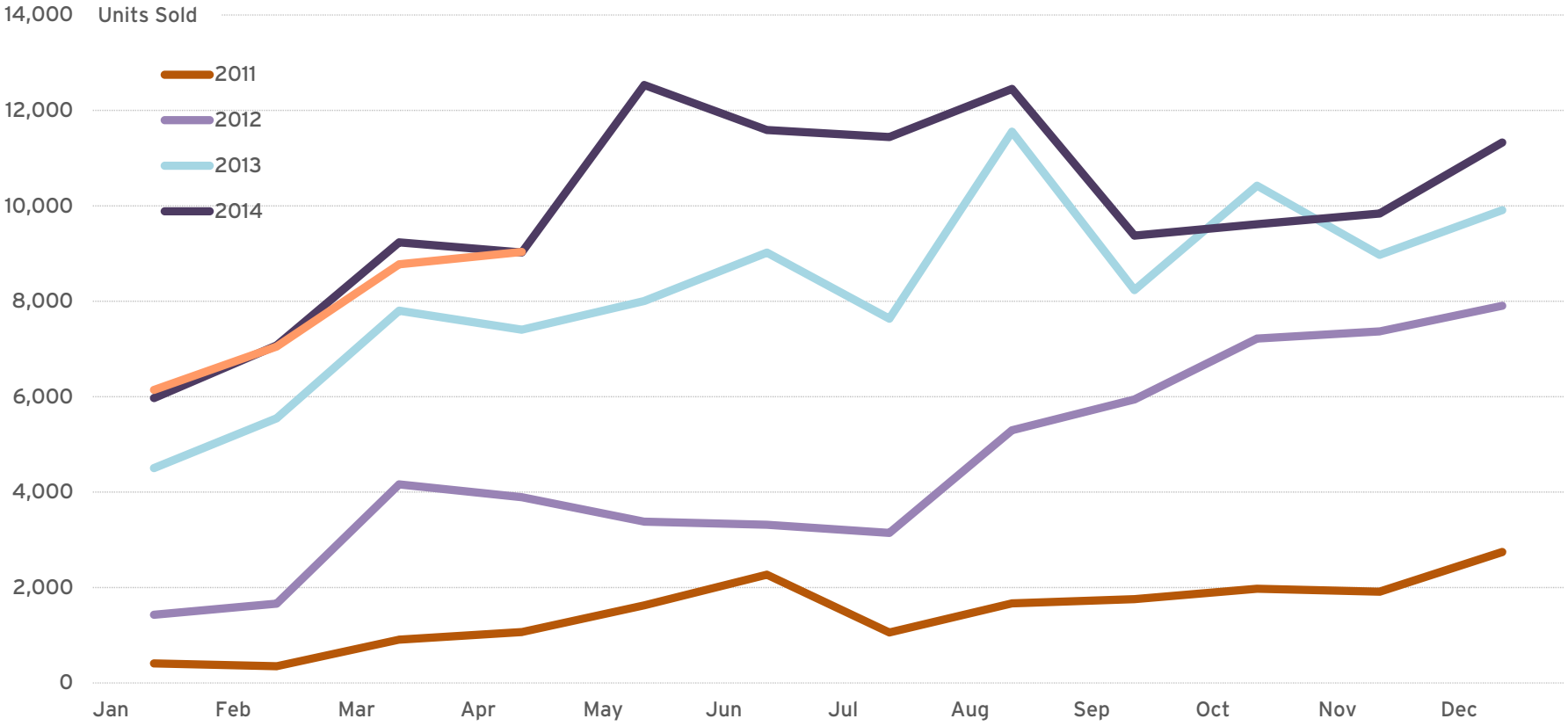
Light truck sales reached 9.3 million units in Q1 2015, the highest level in more than a decade, comprising 55% of total light-duty vehicle sales. Light trucks accounted for less than 50% of total sales in both 2012 and 2013.



Source: SAFE analysis based on data from BEA

U.S. Plug-in Electric Vehicle Sales by Year

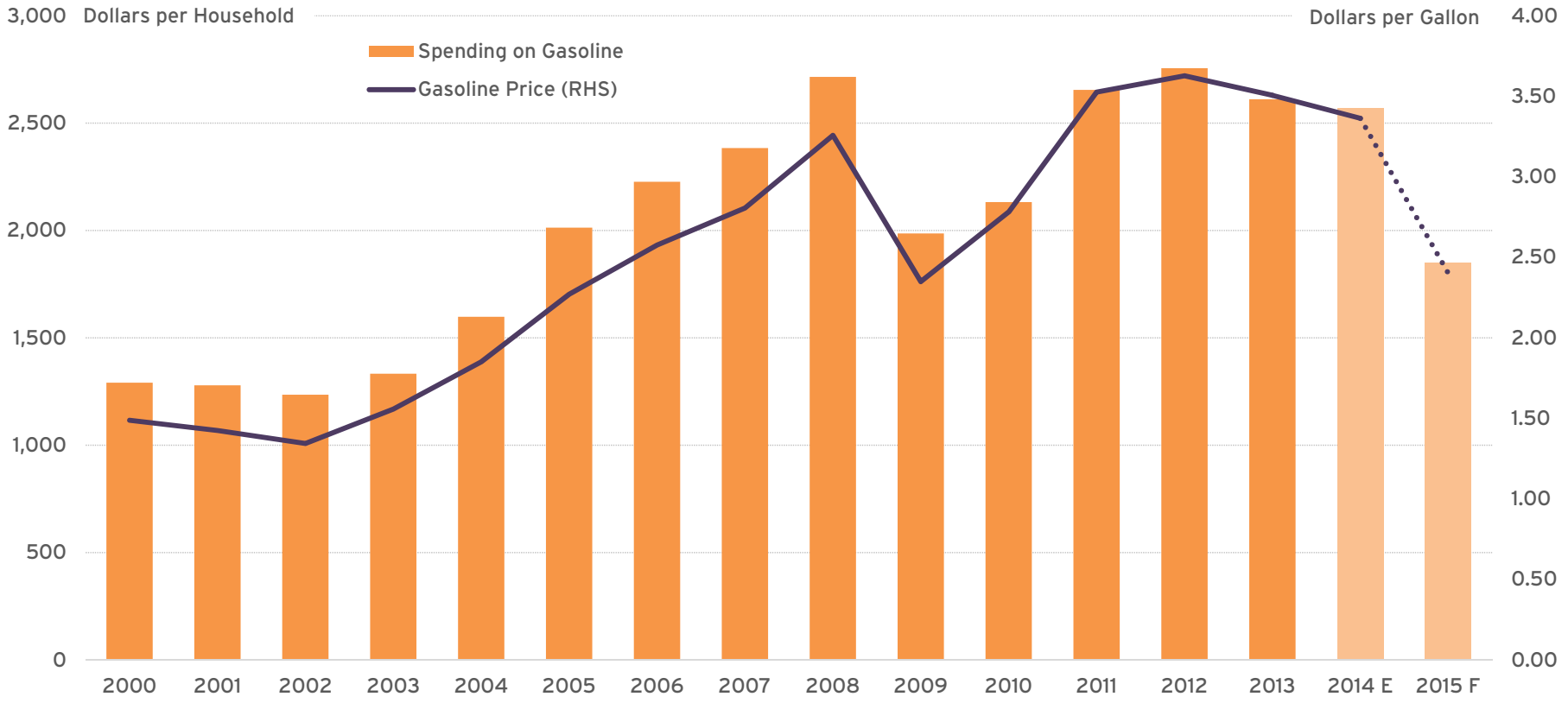
Plug-in electric vehicle (PEV) sales fell approximately 5% y-o-y in March, but overall are at similar levels to 2014 through Q1. Through Q1 2015, sales decreased by approximately 1% y-o-y—the first quarter in which sales have not experienced positive y-o-y growth since they began.



Source: SAFE analysis based on data from HybridCars.com

U.S. Household Spending on Gasoline

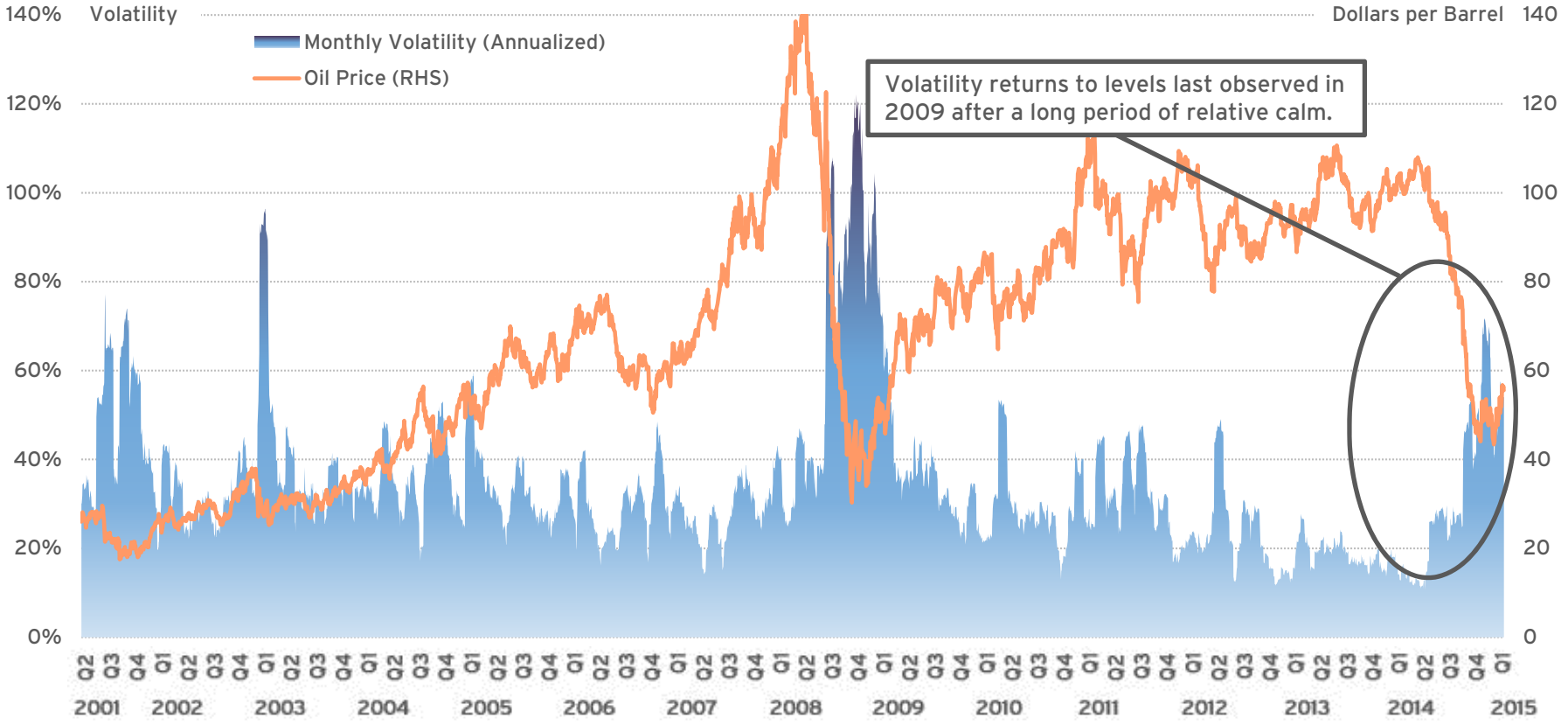
Despite consuming less, average U.S. household spending on gasoline increased by $1,400 between 2002 and 2013. Based on current gasoline price forecasts, however, spending could fall approximately $700 this year, or 30%, versus 2014.



Source: SAFE analyis based on data from BLS and U.S. EIA

Oil Price and Estimated Oil Price Volatility

The sharp decline in oil prices witnessed in H2 2014 marked the return of oil price volatility, which touched levels last seen in 2009 after a period of relative stability. 30-day volatility averaged 54% in Q1 versus 34% for Q4 and 16% through the first six months of 2014.



Source: SAFE analysis based on data from U.S. EIA

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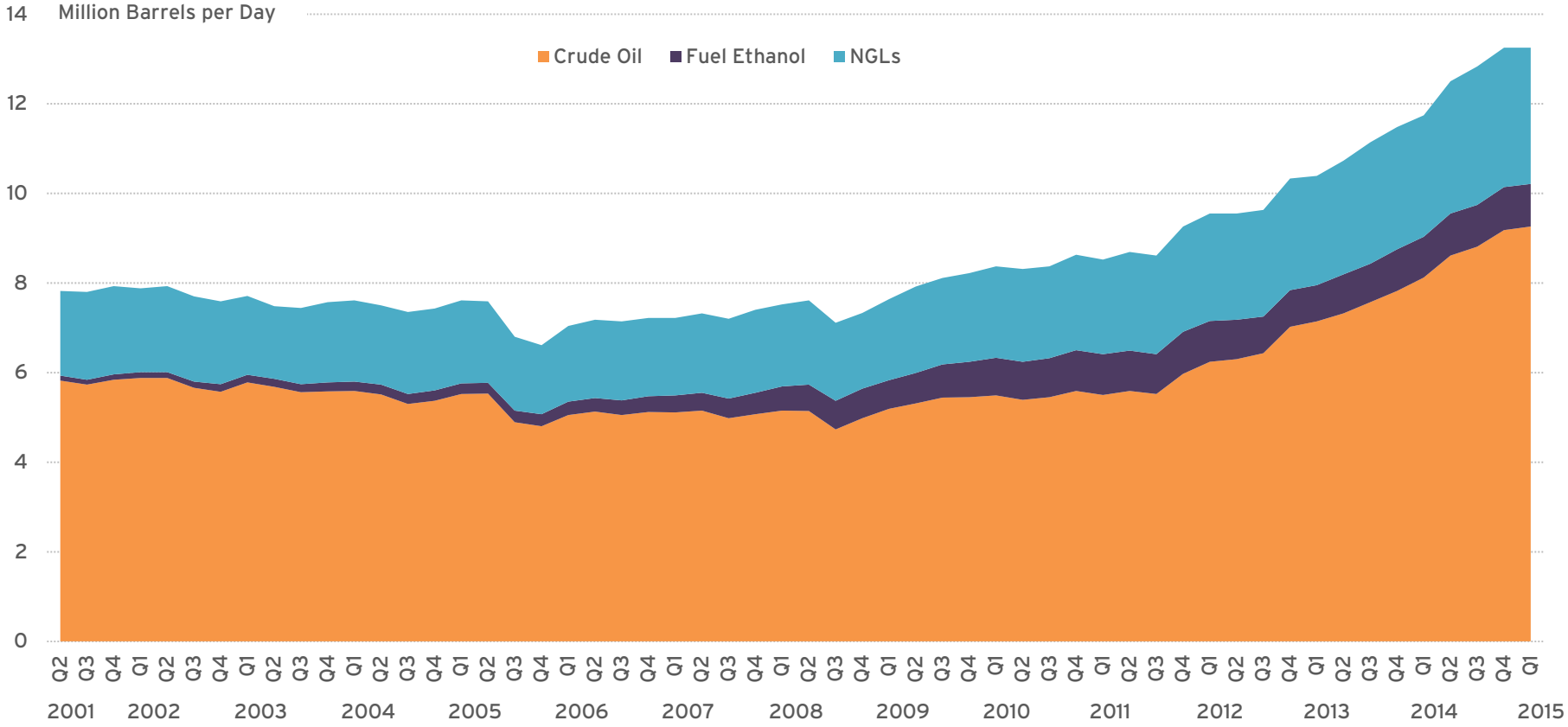
U.S. Oil Production

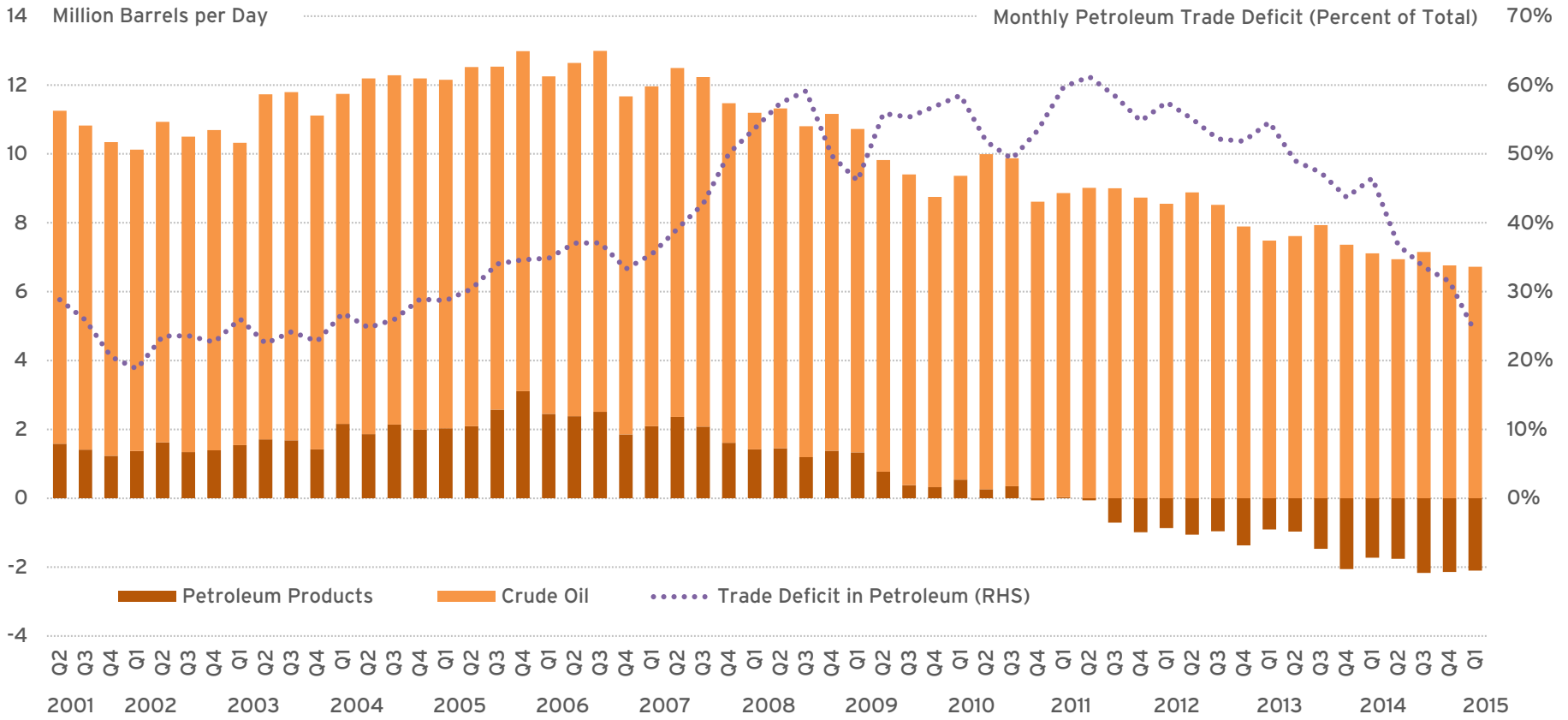
Domestic crude oil production increased by 1.1 mbd in Q1 2015 (y-o-y), approximately 14%. Inclusive of fuel ethanol and natural gas liquids (NGLs), total U.S. liquids production is more than 5.6 mbd higher than it was in 2008, making the country the world's largest liquids producer.



Source: SAFE analysis based on data from U.S. EIA

U.S. Oil Trade

Total U.S. net oil imports have declined more than 62% since 2005 and in Q1 fell 0.7 mbd y-o-y to 4.6 mbd. The United States became a net exporter of petroleum products in 2011. Net petroleum product exports have averaged 2.1 mbd since Q3 2014.



Source: SAFE analysis based on data from U.S. EIA

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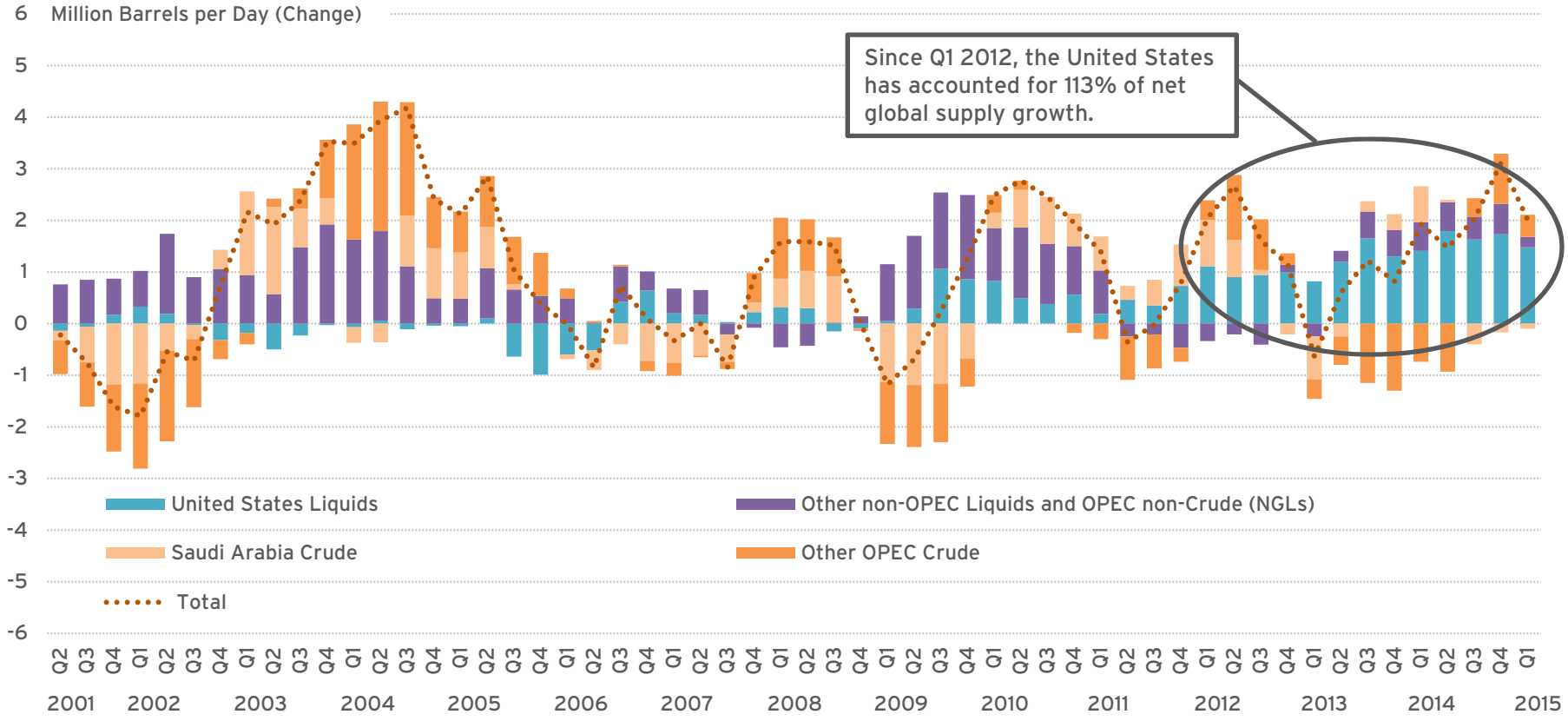
OPEC and Non-OPEC Oil Supply

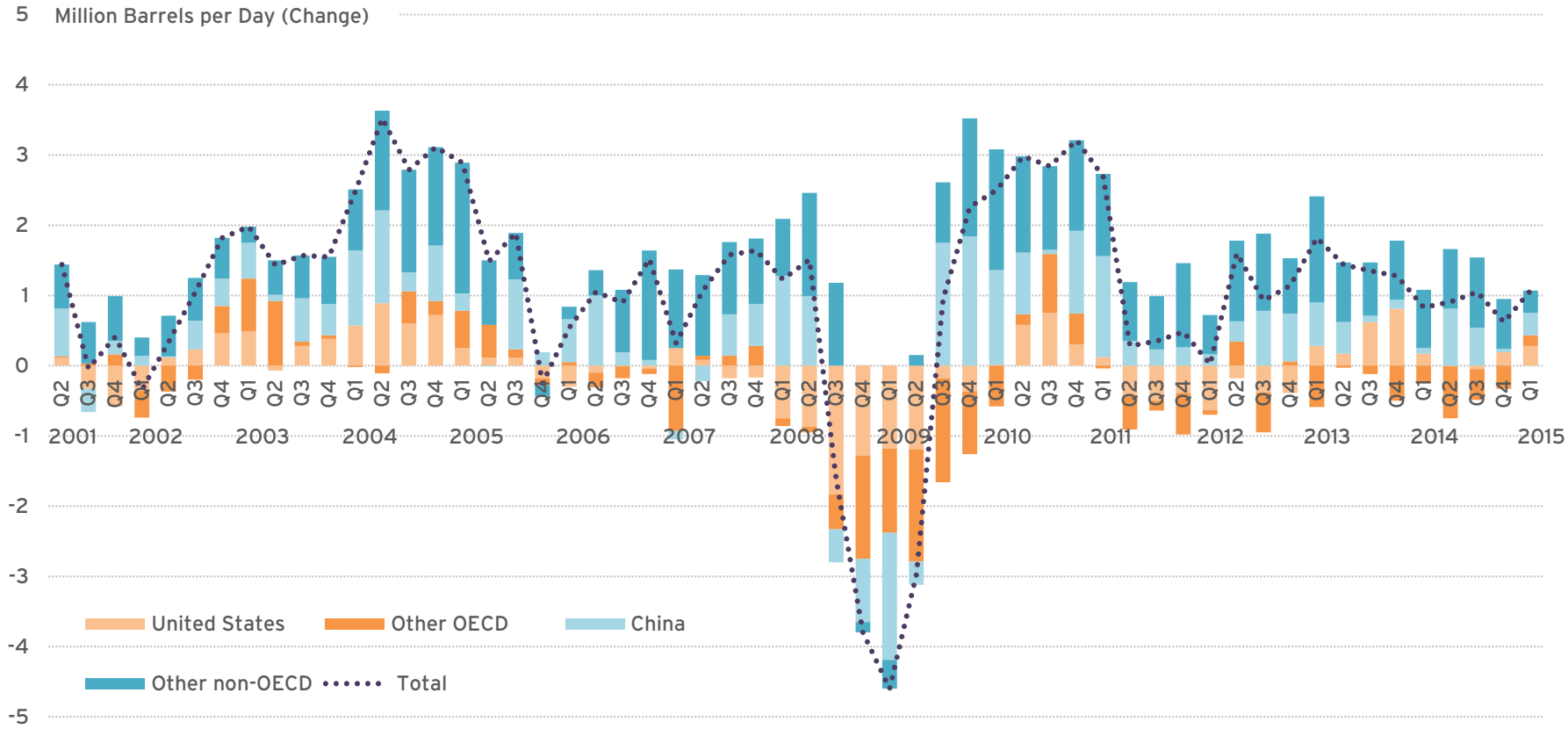
Global oil production grew 2 mbd in Q1 (y-o-y) in large part due to rising U.S. supply (+1.5 mbd y-o-y). While the United States has been a strong source of supply growth since early 2012, non-Saudi OPEC supply continued its recent positive trend for a third consecutive quarter.



Source: SAFE analysis based on data from U.S. EIA

OECD and Non-OECD Oil Demand

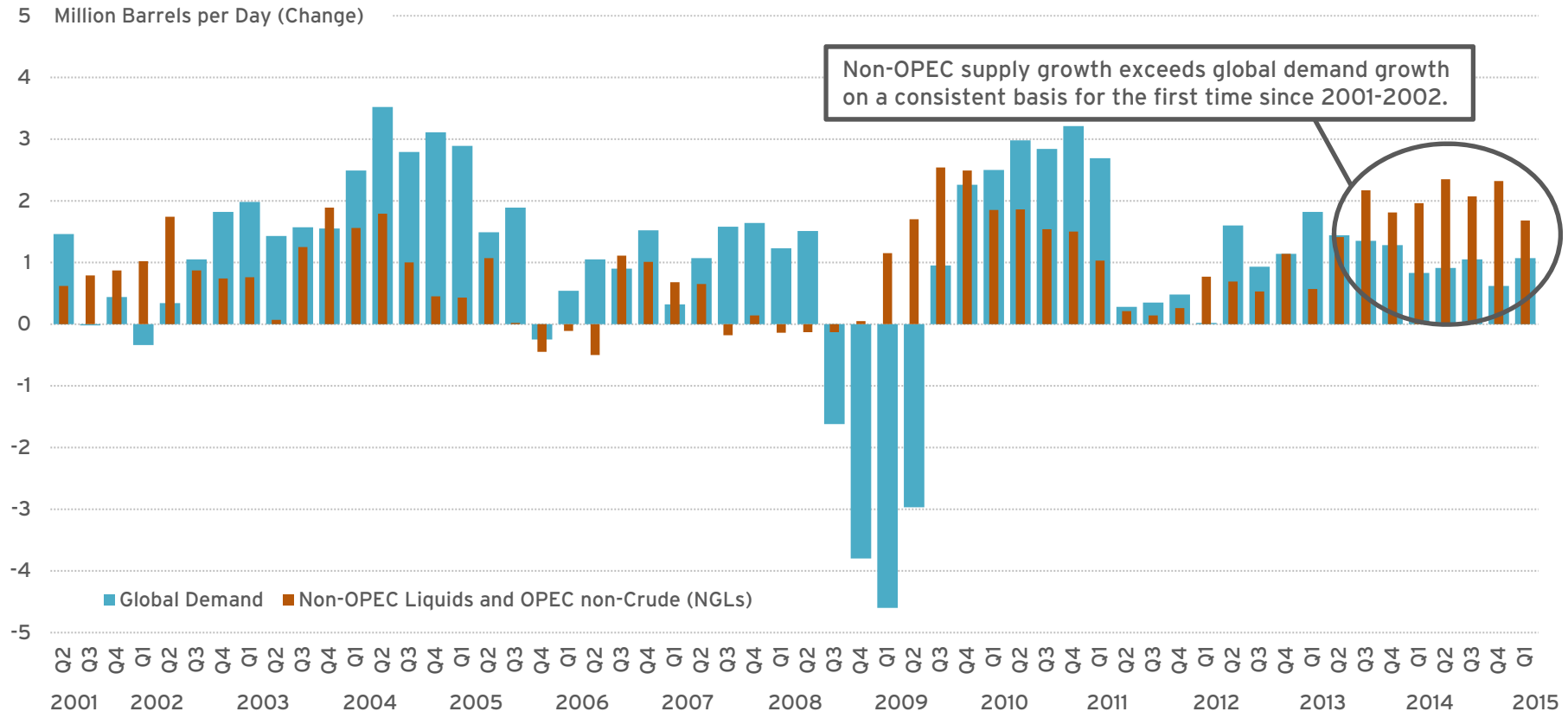
Global oil demand increased by approximately 1.1 mbd (y-o-y) in Q1 2015. Non-OECD countries accounted for the majority of the increase, although U.S. oil demand also rose by almost 0.3 mbd (y-o-y). China's oil demand grew at a similar pace to that of the United States in Q1.



Source: SAFE analysis based on data from U.S. EIA

Y-o-Y Changes in Global Oil Supply and Demand

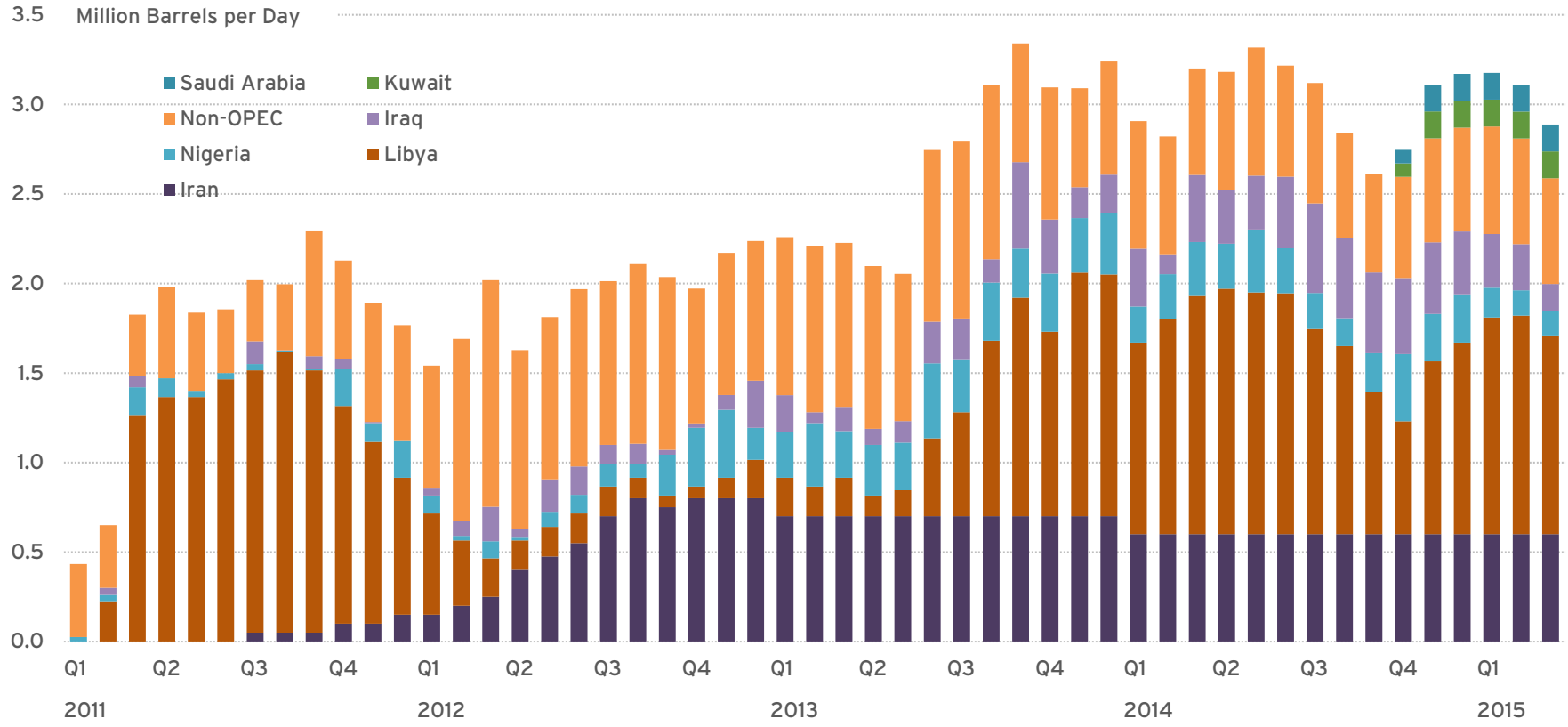
Growth in non-OPEC liquids supply has exceeded global oil demand growth for seven straight quarters, placing downward pressure on the amount of crude oil supply that the market needs from OPEC. Most forecasters expect this general trend to continue for the rest of 2015.



Source: SAFE analysis based on data from U.S. EIA

Estimated Global Unplanned Crude Oil Outages

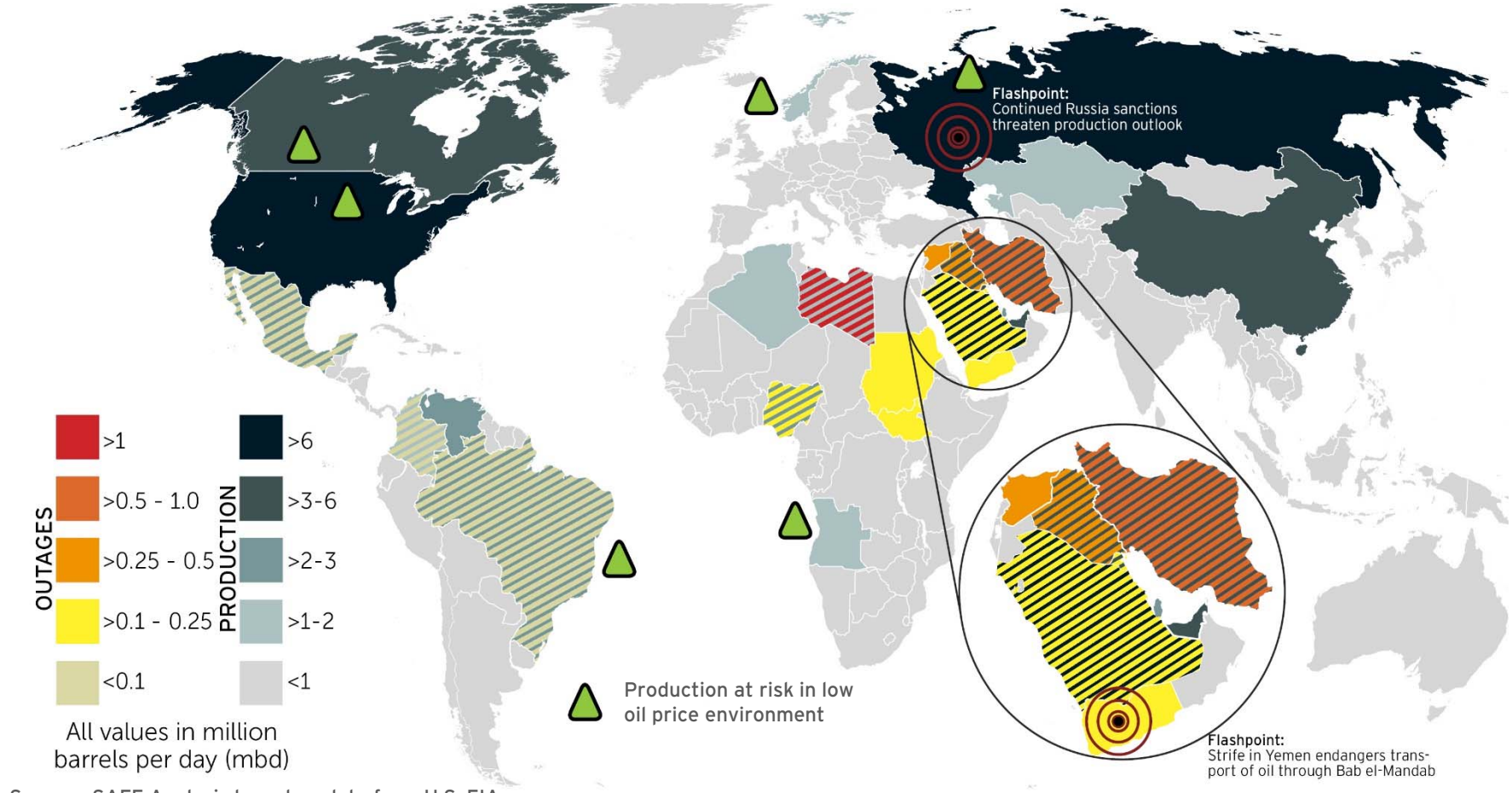
Unplanned oil outages remained relatively steady in Q1, increasing just 0.1 mbd q-o-q. While Libya's outages remain volatile, and have increased since Q4 2014, total outages have declined from approximately 3.2 mbd in January 2015 to 2.9 mbd in March 2015.



Source: SAFE analysis based on data from U.S. EIA

Barrels at Risk Map

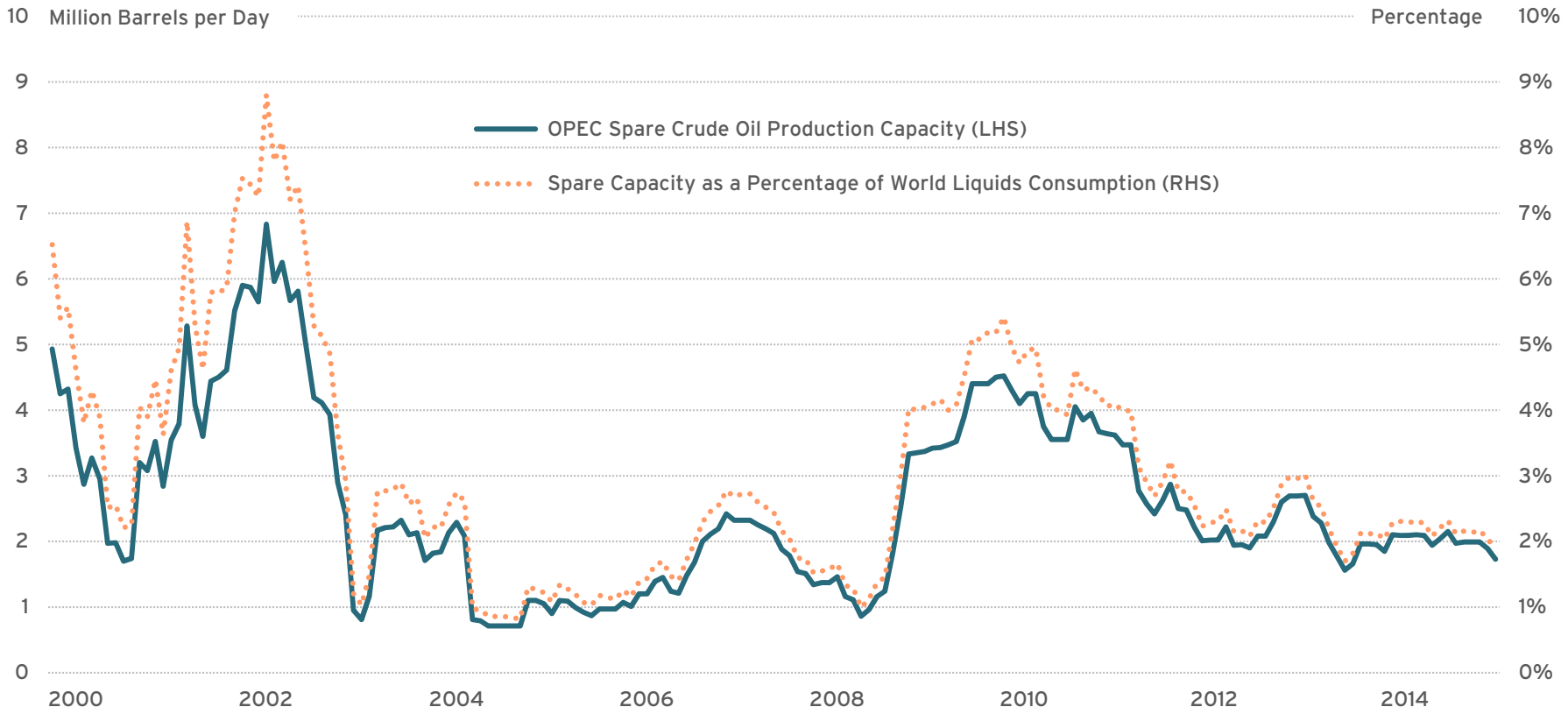
Total oil supply outages averaged 3.1 mbd in Q1. Geopolitical tensions in and around oil producing countries as well as major oil transit chokepoints continue to threaten global supply. The proxy conflict in Yemen between Saudi Arabia and Iran continues to dominate headlines.



Source: SAFE Analysis based on data from U.S. EIA

OPEC Spare Crude Oil Production Capacity

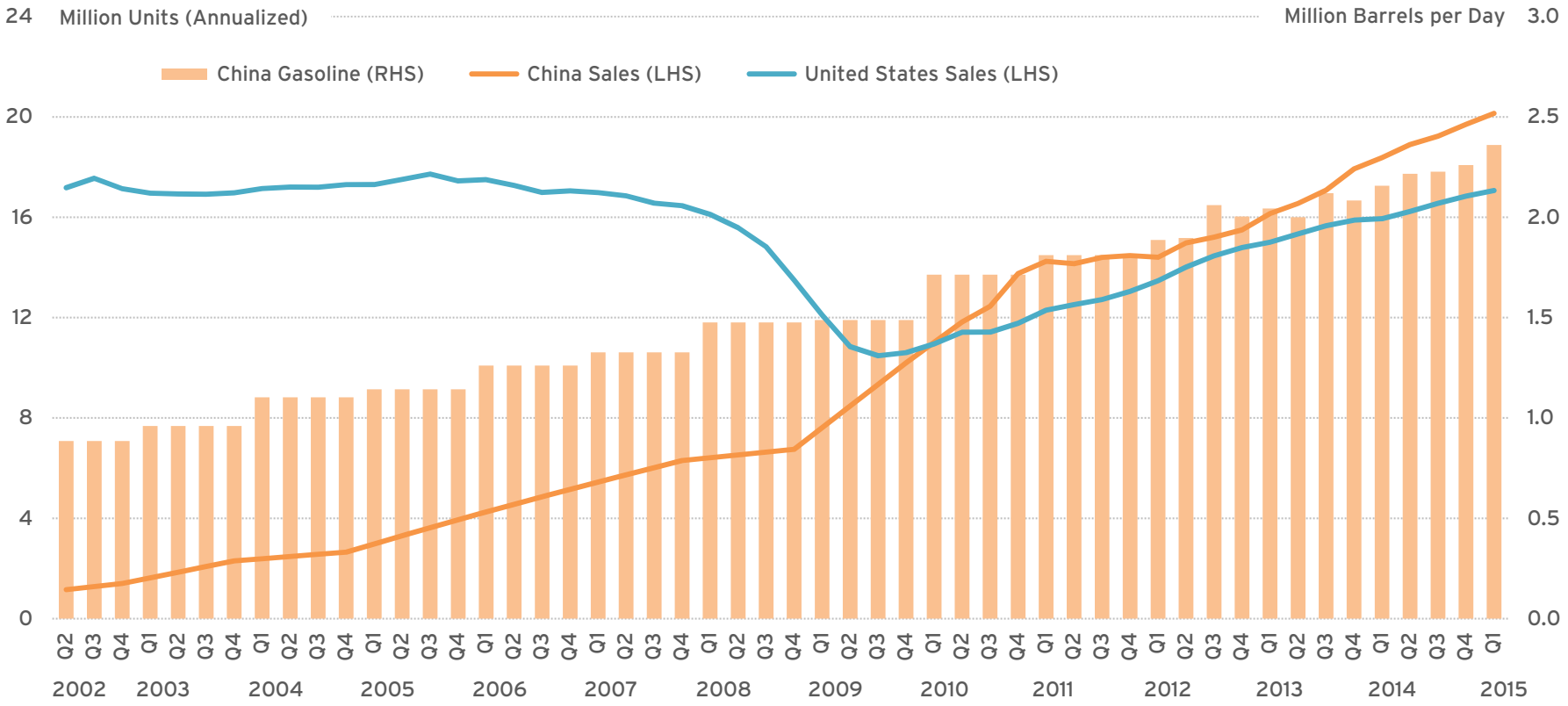
OPEC spare crude oil production capacity is estimated at 1.9 mbd in Q1 (-0.1 mbd y-o-y). This is equivalent to approximately 2% of global consumption. The majority of OPEC spare capacity is held in Saudi Arabia.



Source: SAFE analysis based on data from U.S. EIA

China Passenger Vehicle Sales and Gasoline Demand

Although there are only approximately 90 passenger vehicles per 1,000 people in China (versus 800 in the United States), sales have exceeded those in the United States since 2010. Gasoline demand also continues to surge, rising almost 9% y-o-y in Q1 2015.



Note: Four-quarter rolling averages presented for China's vehicle sales before 2010 and annual averages presented for China's gasoline demand before 2012.

Source: SAFE analysis based on data from BEA, IEA, and China Association of Automobile Manufacturers

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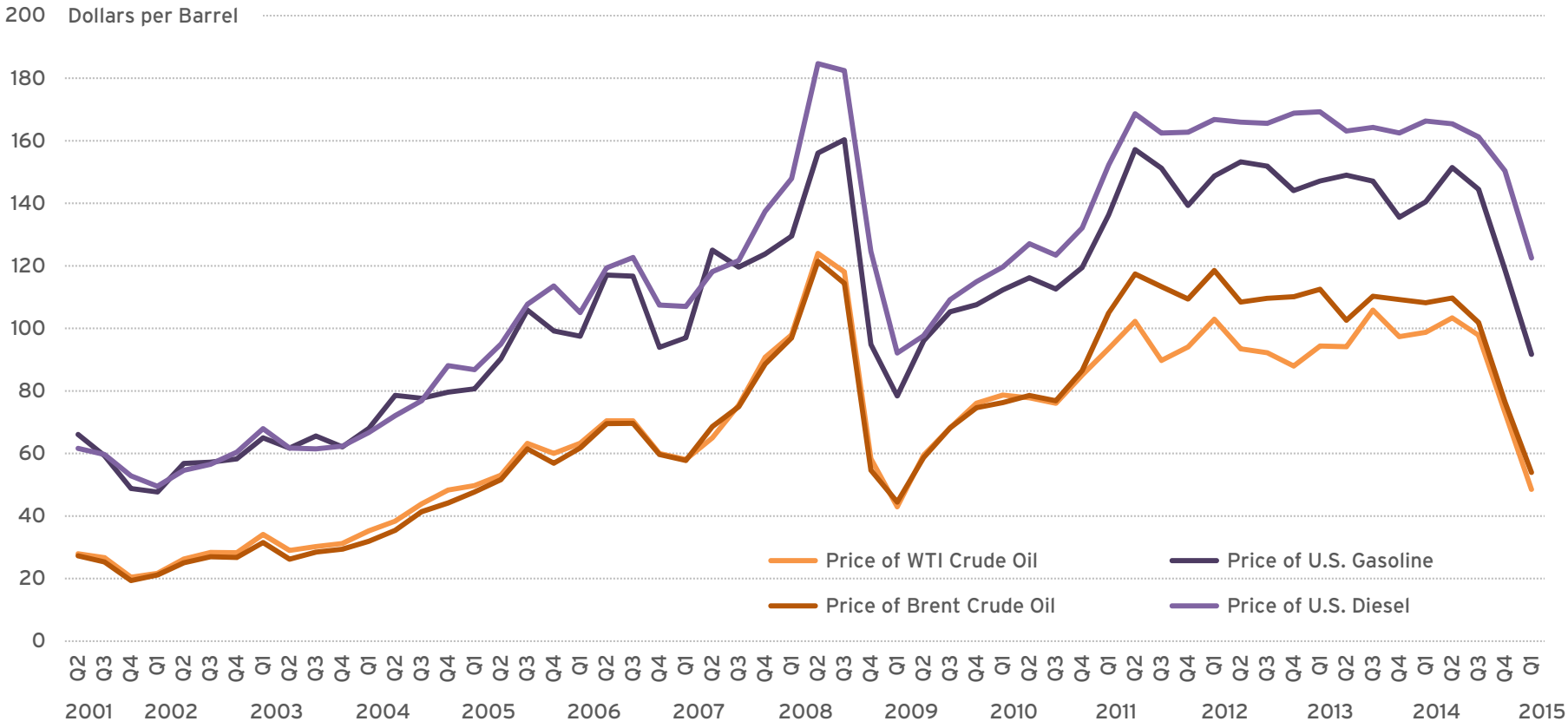
Global Crude Oil Prices and Domestic Fuel Prices

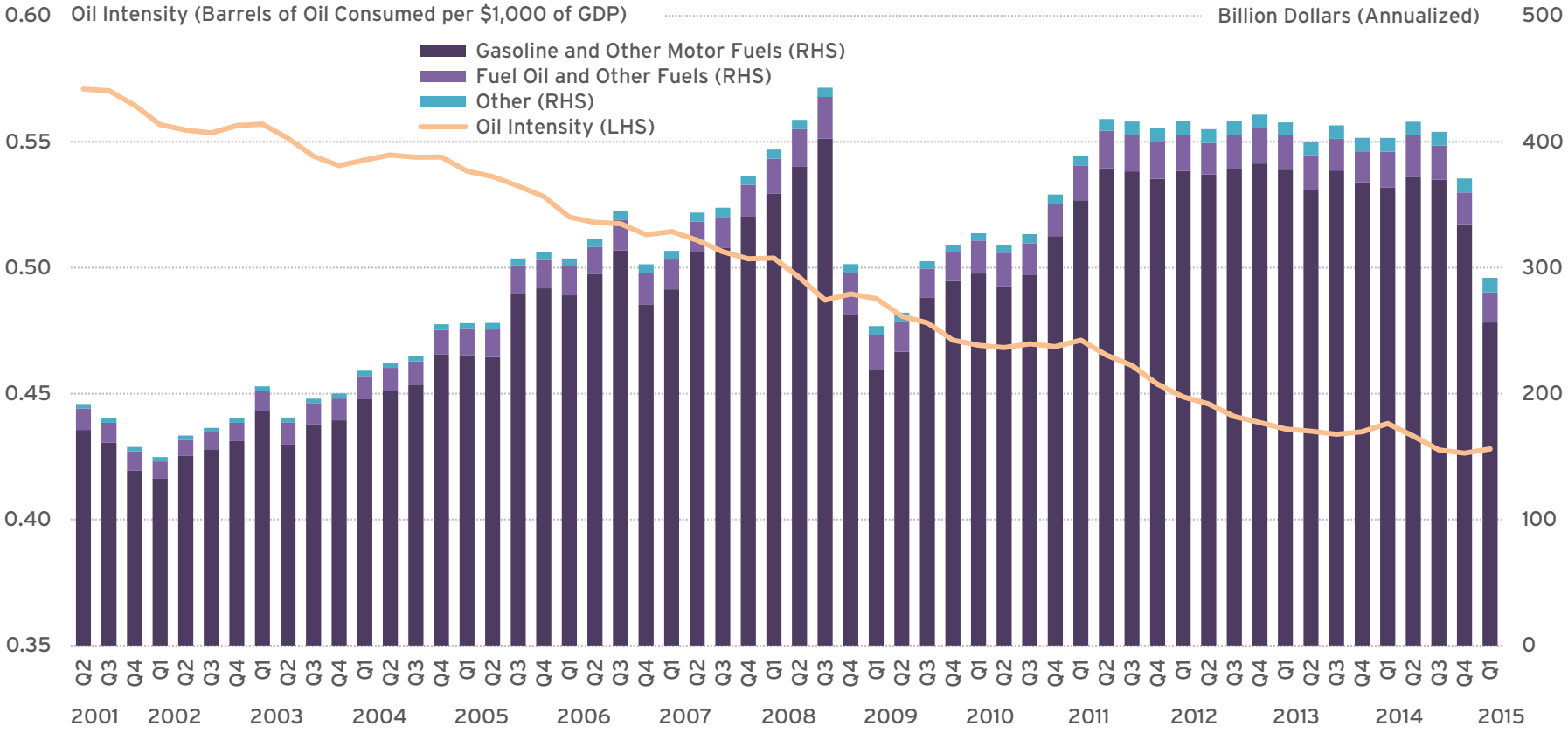
Domestic petroleum product prices like gasoline and diesel correlate closely with prevailing global crude oil benchmarks. These prices have risen markedly since 2000, but have fallen in recent months. March average Brent = $56/bbl, WTI = $48/bbl, U.S. gasoline =$2.35/gal.



Source: SAFE analysis based on data from U.S. EIA

Oil Intensity and Household Expenditures on Fuel

U.S. oil intensity remained steady in Q1 at 0.43 barrels per $1,000 of GDP. However, household spending on petroleum fuels fell sharply by approximately 21% q-o-q to an annualized level of $292 billion due to lower oil and petroleum product prices.



Source: SAFE analysis based on data from: U.S. EIA and BEA

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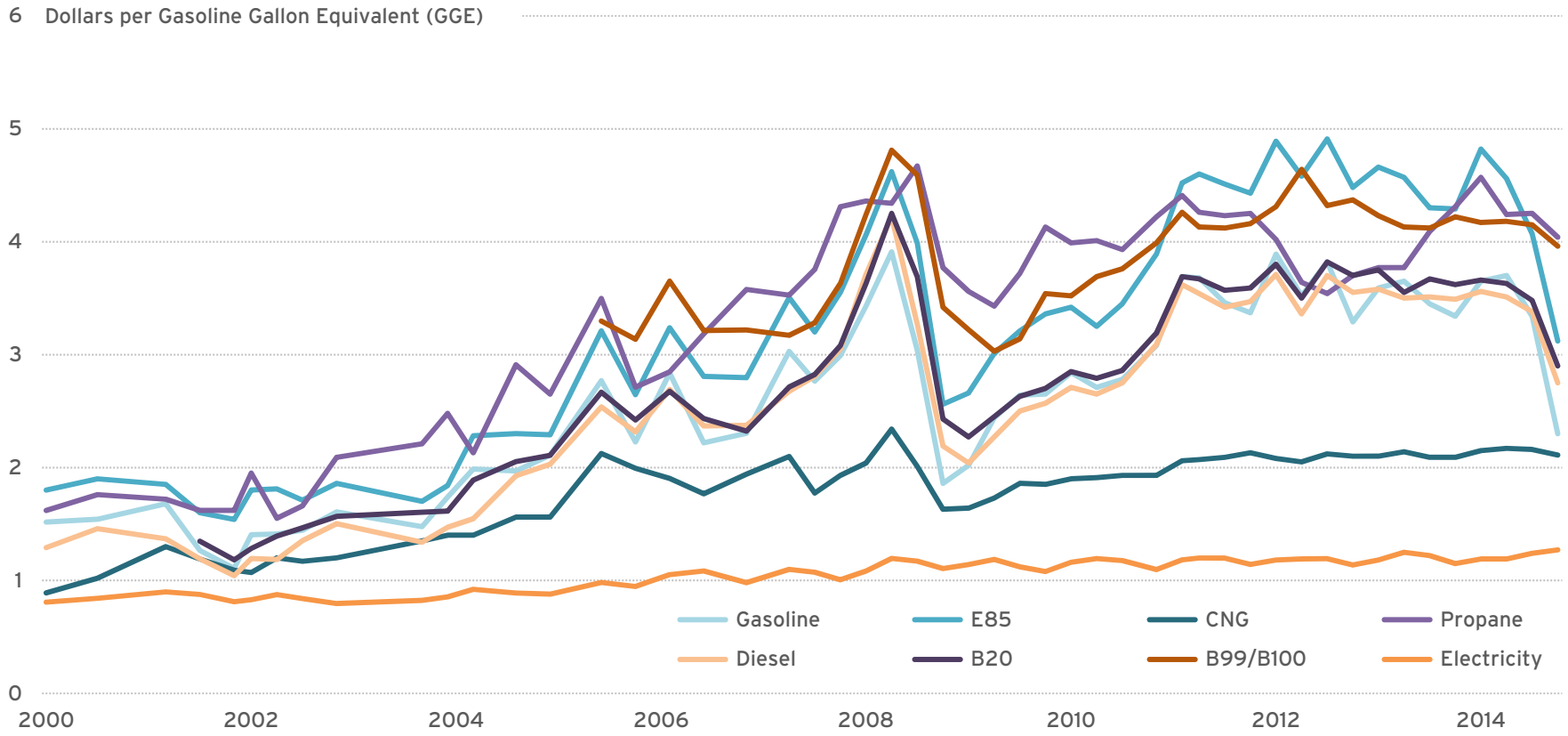
Average Retail Fuel Prices

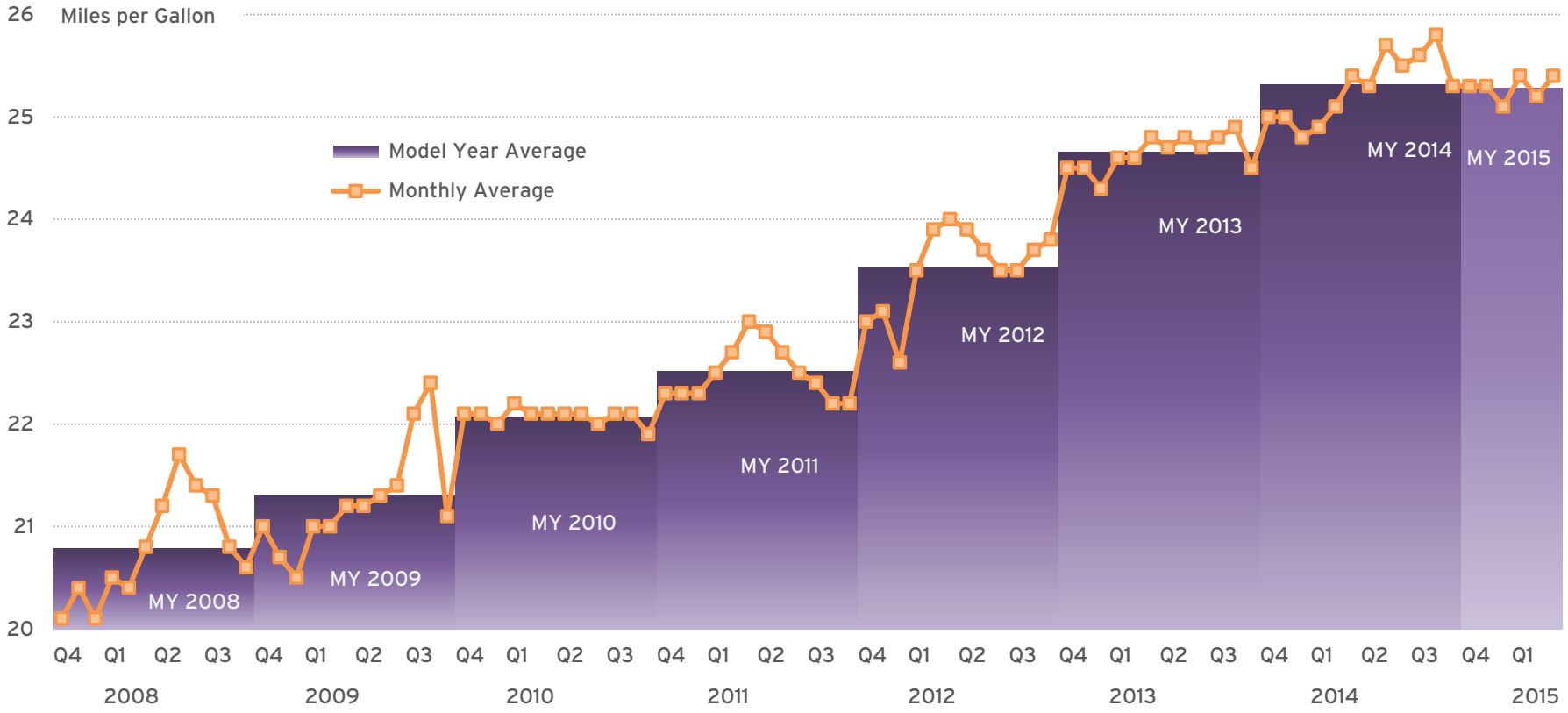
Despite recent decreases, liquid fuel prices have risen overall since 2000 while experiencing substantial volatility. The prices of compressed natural gas (CNG) and electricity have remained relatively stable and have increased far less over the same time period.



Source: Clean Cities Alternative Fuel Price Reports

New Light-Duty Vehicle Sales Fuel Economy Ratings

The average fuel economy rating of new light-duty vehicle sales was 25.4 miles per gallon (mpg) in March 2015, which is unchanged y-o-y and lower than last summer. After multiple years of increases, MY 2015 is currently tracking identical to MY 2014 at 25.3 mpg.

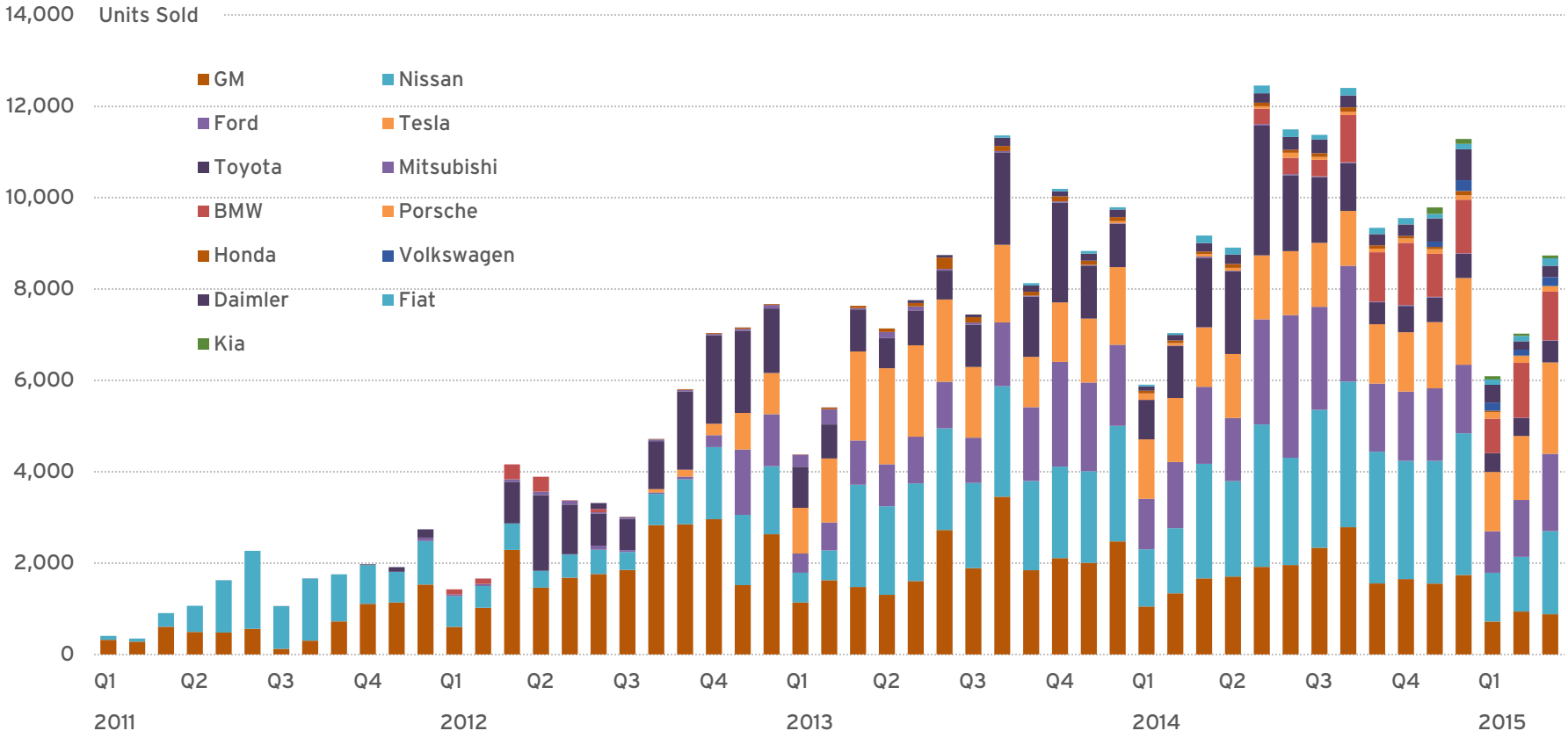


Note: Average sales-weighted fuel-economy rating of purchased new light-duty vehicles.

Source: SAFE analysis based on data from Michael Sivak and Brandon Schoettle, University of Michigan Transportation Research Institute

Plug-in Electric Vehicle Sales

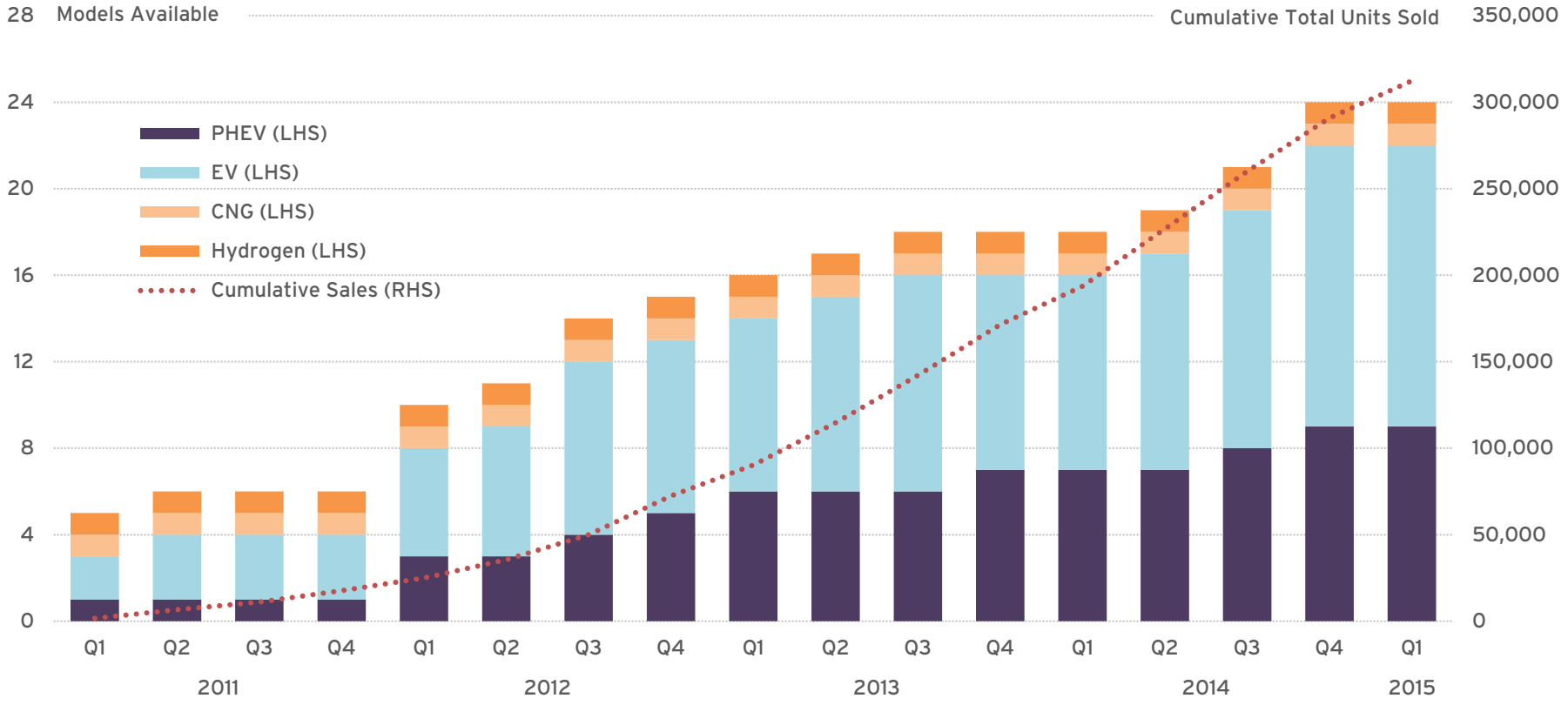
Approximately 22,000 PEVs were sold in Q1, down 1.4% y-o-y. The Tesla Model S overtook the Nissan LEAF to become the top-selling PEV, followed by the BMW i3 and the Chevy Volt. The six best-selling models account for approximately 75% of total sales.



Source: SAFE analysis based on data from HybridCars.com

Alternative Fuel Vehicle Model Availability

The number of light-duty passenger alternative fuel vehicle (AFV) models available to U.S. buyers remained at 24 in Q1 2015, unchanged from Q4 2014. This represents more than a four-fold increase from Q1 2011. Cumulative total AFV sales rose to an estimated 312,000 units.

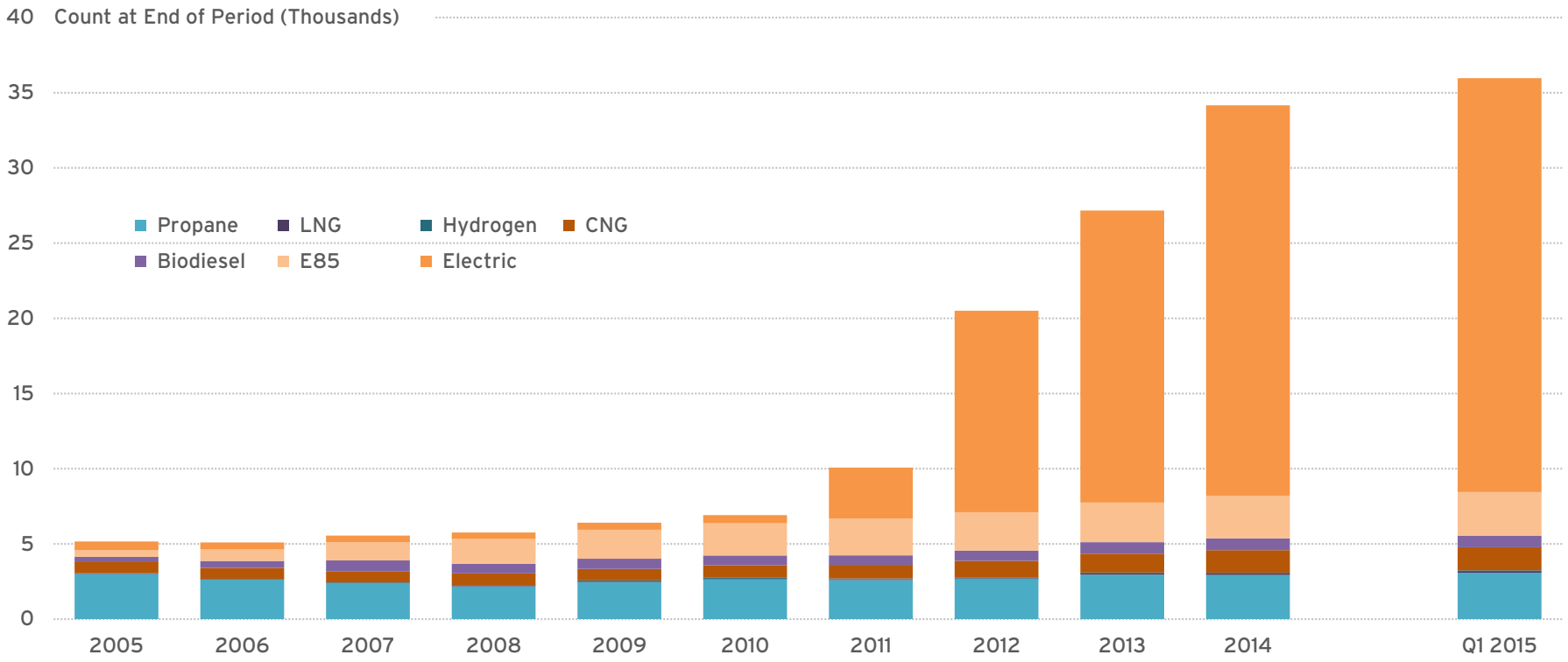


Note: Several available models are not included in 'Cumulative Sales'.

Source: SAFE analysis based on data from HybridCars.com

Alternative Fueling Stations Installed by Type

The number of alternative fueling stations nationwide increased 32% through the end of Q1 2015 versus 2013, a net addition of approximately 8,800 stations. More than 90% of these stations were for electric charging.



Note: Starting in 2011, electric charge equipment was counted by the plug rather than by the geographic location. This is different than other fuels, which only count the geographic location regardless of how many dispensers or nozzles are on site.

Source: SAFE analysis based on data from U.S. DOE, EERE, Alternative Fuels Data Center

About, Links, and Contact

ABOUT

Securing America's Future Energy (SAFE) is a nonpartisan, not-for-profit organization committed to reducing America's dependence on oil and improving U.S. energy security in order to bolster national security and strengthen the economy. SAFE has an action-oriented strategy addressing politics and advocacy, business and technology, and media and public education.

Securing America's Future Energy

SAFE's Energy Security Fact Pack provides a data-driven overview of the latest trends in U.S. energy security, including domestic and global oil production and consumption, oil market dynamics, energy prices, consumer spending on oil, fuel efficiency, and alternative fuel vehicles.

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