

Energy Security Fact Pack

Q3 2015



Contents

1. QUARTER SUMMARY

2. CHARTS OF THE QUARTER

3. U.S. OIL SUPPLY, DEMAND, AND TRADE

4. GLOBAL OIL MARKET DYNAMICS

5. OIL DEPENDENCE AND ENERGY SECURITY

6. SOLUTIONS AND ALTERNATIVES

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.

Q3 2015: Oversupplied Market Presents Challenges for OPEC

- OPEC's decision not to reduce production late last year in the face of rising non-OPEC (read: U.S.) supply and lower-than-expected global demand resulted in a plunge in global oil prices. A continuation of the "defending market share strategy" into 2015 is helping keep prices at less than half the levels observed in the summer of 2014 (Brent ended Q3 2015 at \$47/bbl versus \$107 July 2014) [Pages 5 & 22].
- Most market watchers believe OPEC's meeting next month is unlikely to result in any major strategic shifts, meaning just like the U.S. oil industry, the producers of OPEC will likely continue to experience strain due to lower prices well into 2016. The possible return of Iranian oil to the market is only likely to exacerbate this [Page 6].
- Most OPEC member countries rely on oil revenues to meet government budget requirements and are being forced to rethink revenue and spending policies in order to achieve fiscal stability [Page 7]. Many are already drawing heavily on foreign asset reserves [Page 8].
- The uncertainty surrounding changing trajectories of U.S. and global supplies, China's economic growth rate, ongoing conflict in the Middle East, and other factors combine to suggest oil price volatility is likely to endure for the foreseeable future [Page 24].
- Meanwhile, low oil prices continue to spur mobility demand in the United States. VMT rose more than 70 billion miles y-o-y through August, the largest increase since 1988 [Page 12].

The Q3 2015 Fact Pack includes a 'Charts of the Quarter' section focused on trends in global oil supply and demand, OPEC output strategy, Iran's production and exports, fiscal breakeven oil prices for selected exporters, and foreign assets for selected exporters.

Contents

1. QUARTER SUMMARY

2. CHARTS OF THE QUARTER

3. U.S. OIL SUPPLY, DEMAND, AND TRADE

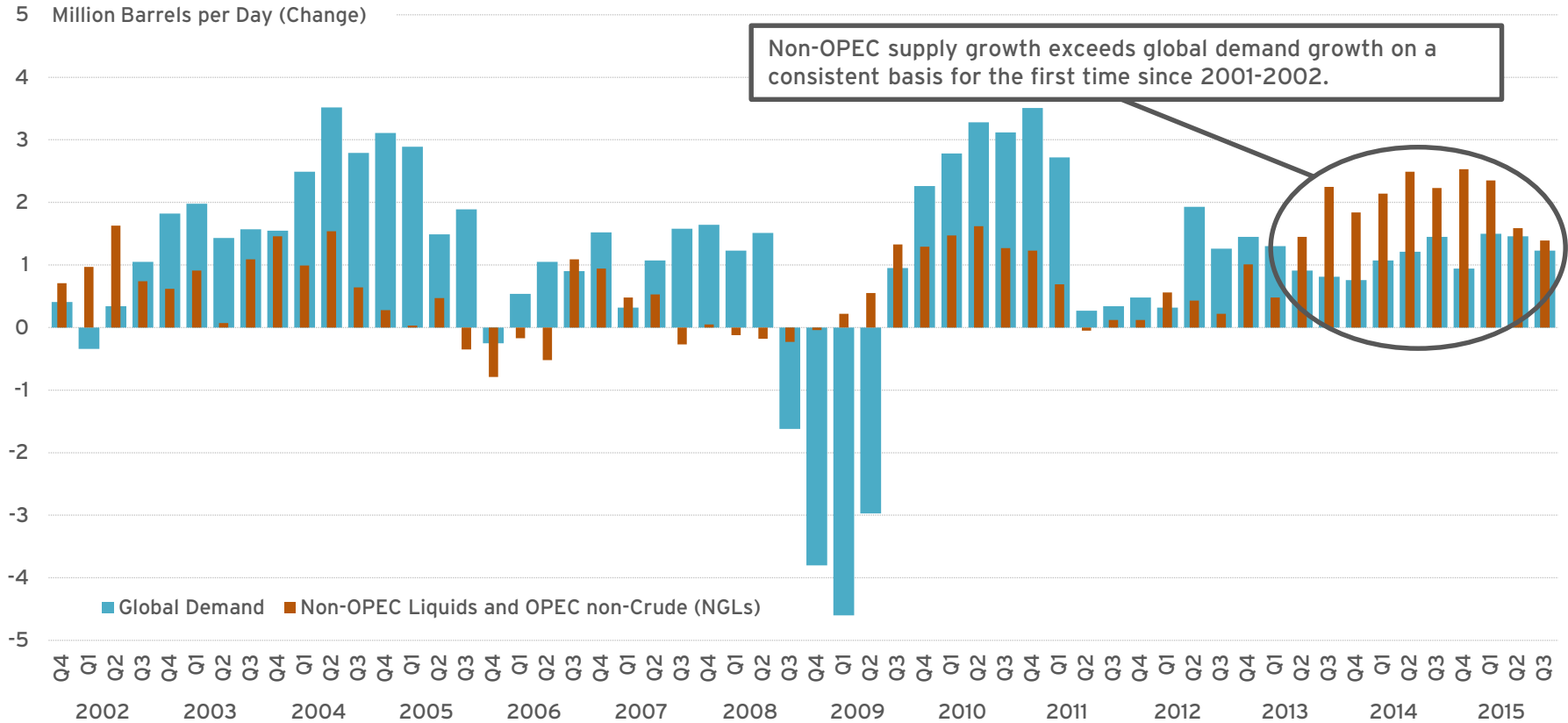
4. GLOBAL OIL MARKET DYNAMICS

5. OIL DEPENDENCE AND ENERGY SECURITY

6. SOLUTIONS AND ALTERNATIVES

Global Supply Continues to Outpace Demand

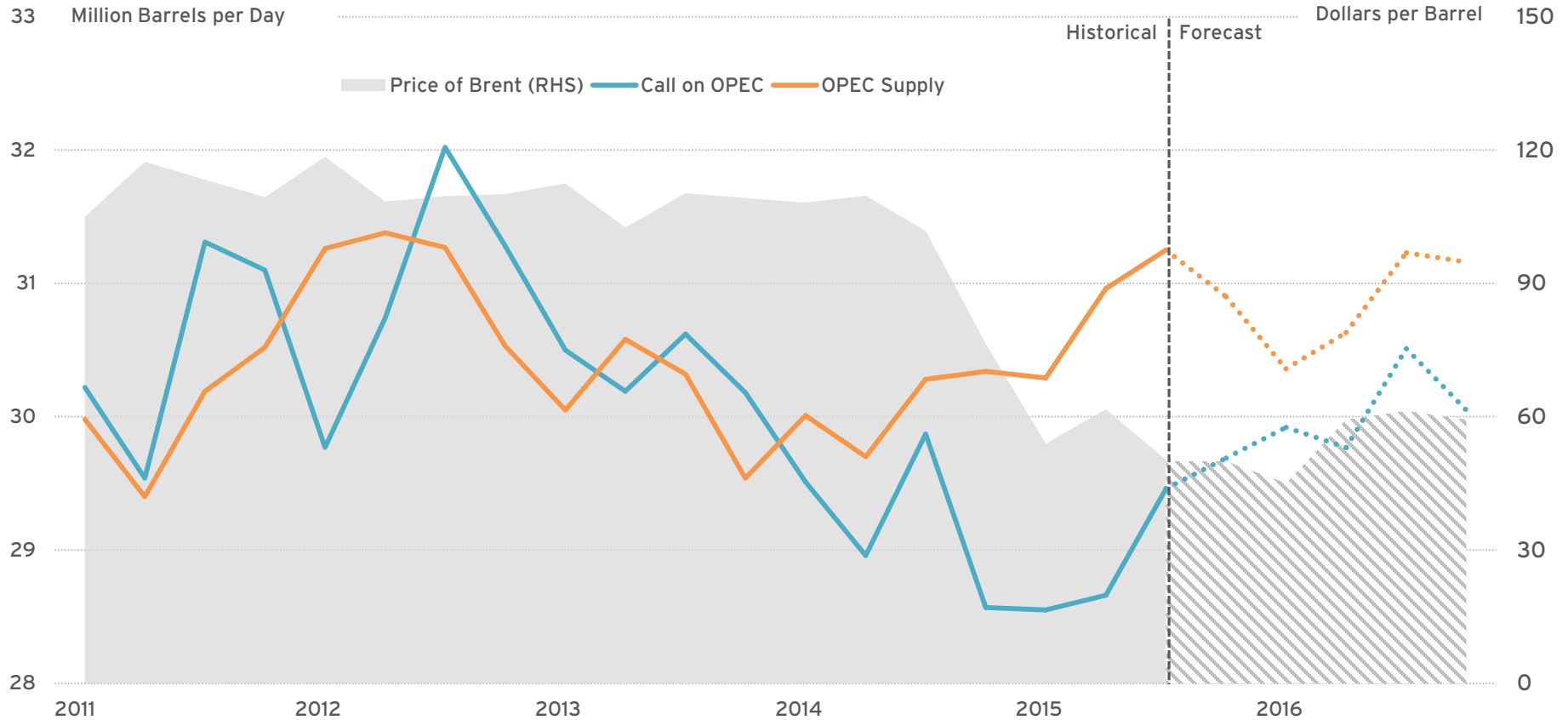
Growth in non-OPEC liquids supply has exceeded global oil demand growth for ten straight quarters, placing downward pressure on the amount of crude oil supply that the market needs from OPEC. Most forecasters expect this trend to end in Q4 2015.



Source: SAFE analysis based on data from EIA

OPEC Supply Remains Far Above Call

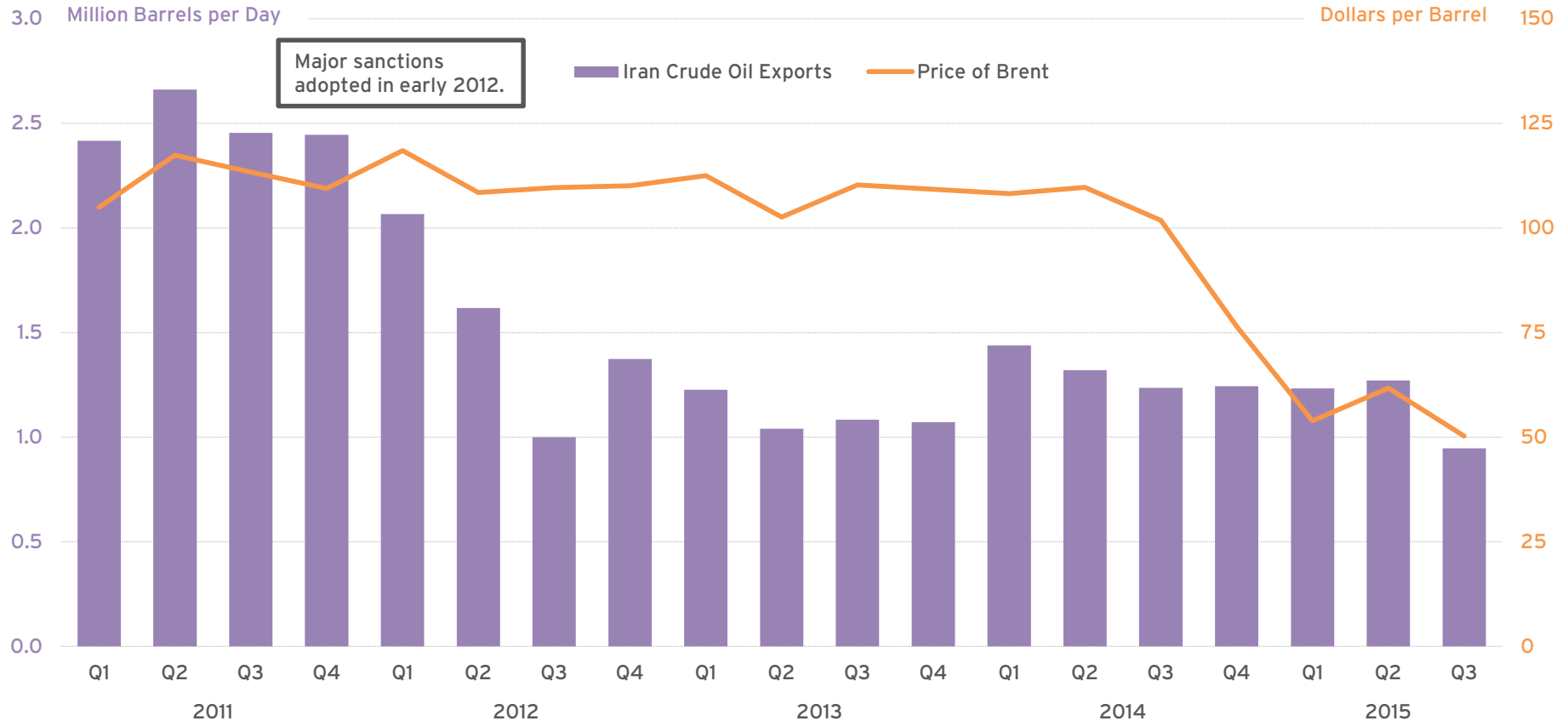
Last November, OPEC producers declined to cut production despite an oversupplied global oil market. OPEC has since increased supply by more than 1.3 mbd y-o-y as part of a strategy to defend market share.



Source: SAFE analysis based on data from EIA

Iran Prepares to Increase Production as Sanctions Lift

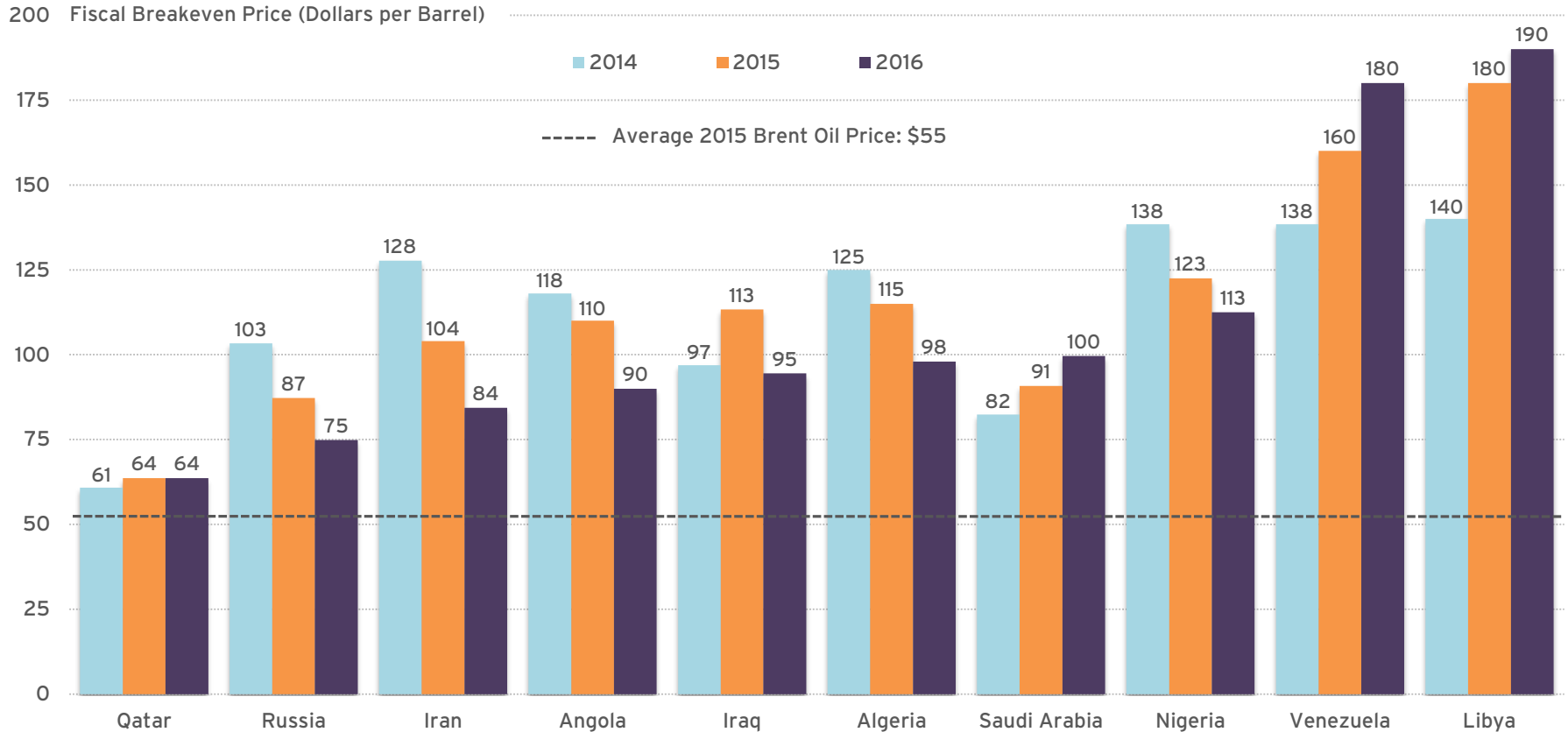
Sanctions against Iran led to more than a 50% decrease in oil exports over 2011 levels. However, sanctions are expected to lift over the next several months. Analysts believe this could return at least 0.5 mbd to the global oil market in 2016.



Source: SAFE analysis based on data from EIA and IEA

Exporters Feel Low Oil Price Pinch

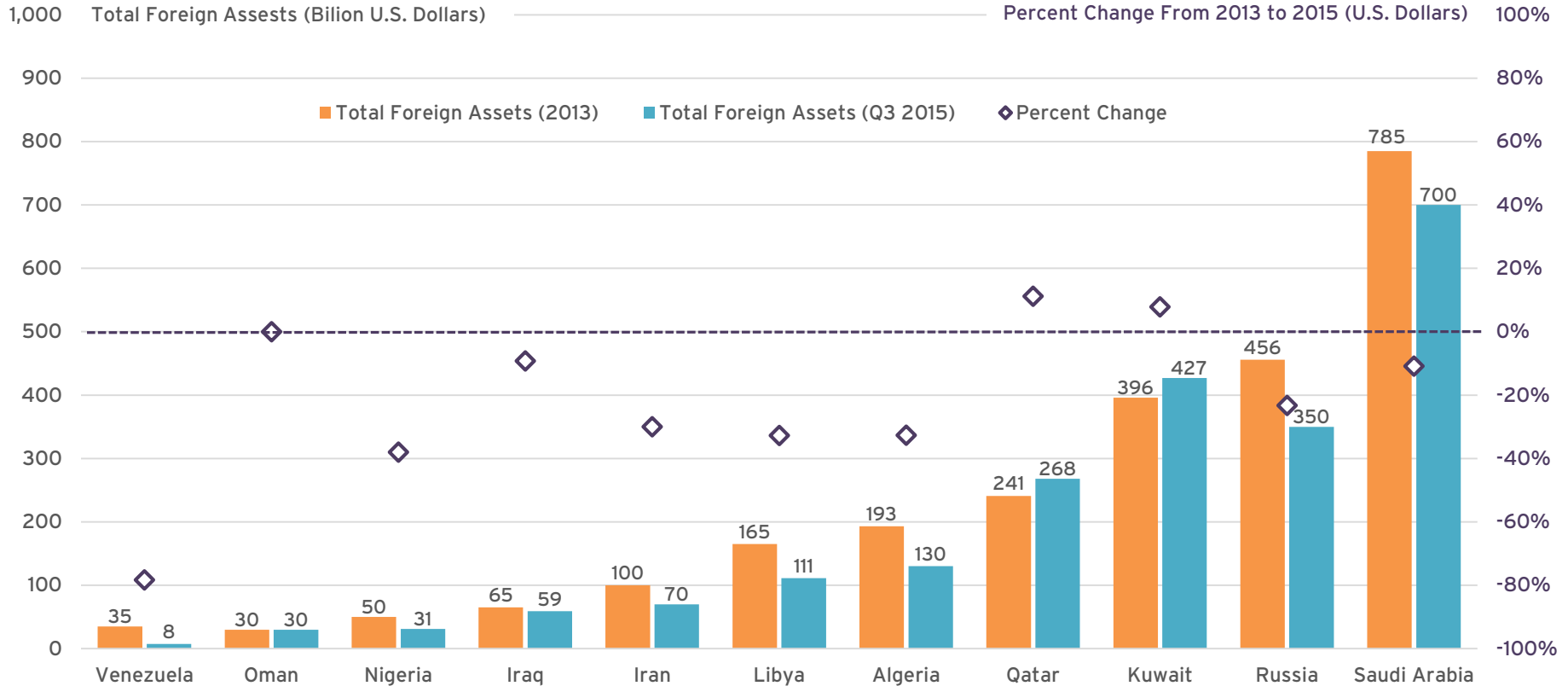
Low oil prices are forcing many oil exporting countries to rethink revenue and spending policies as they seek fiscal stability. Many countries have already begun to draw down on foreign assets, and are likely to continue doing so in 2016.



Source: Roubini Global Economics

Exporters Using Foreign Assets

Saudi Arabia has used an estimated \$85 billion of its foreign reserve assets (approximately 11%) since the end of 2013, the most of any OPEC country. Meanwhile, Venezuela has depleted 80% of its foreign reserves.



Note: Total foreign assets equals foreign exchange reserves plus sovereign wealth fund.

Source: Roubini Global Economics

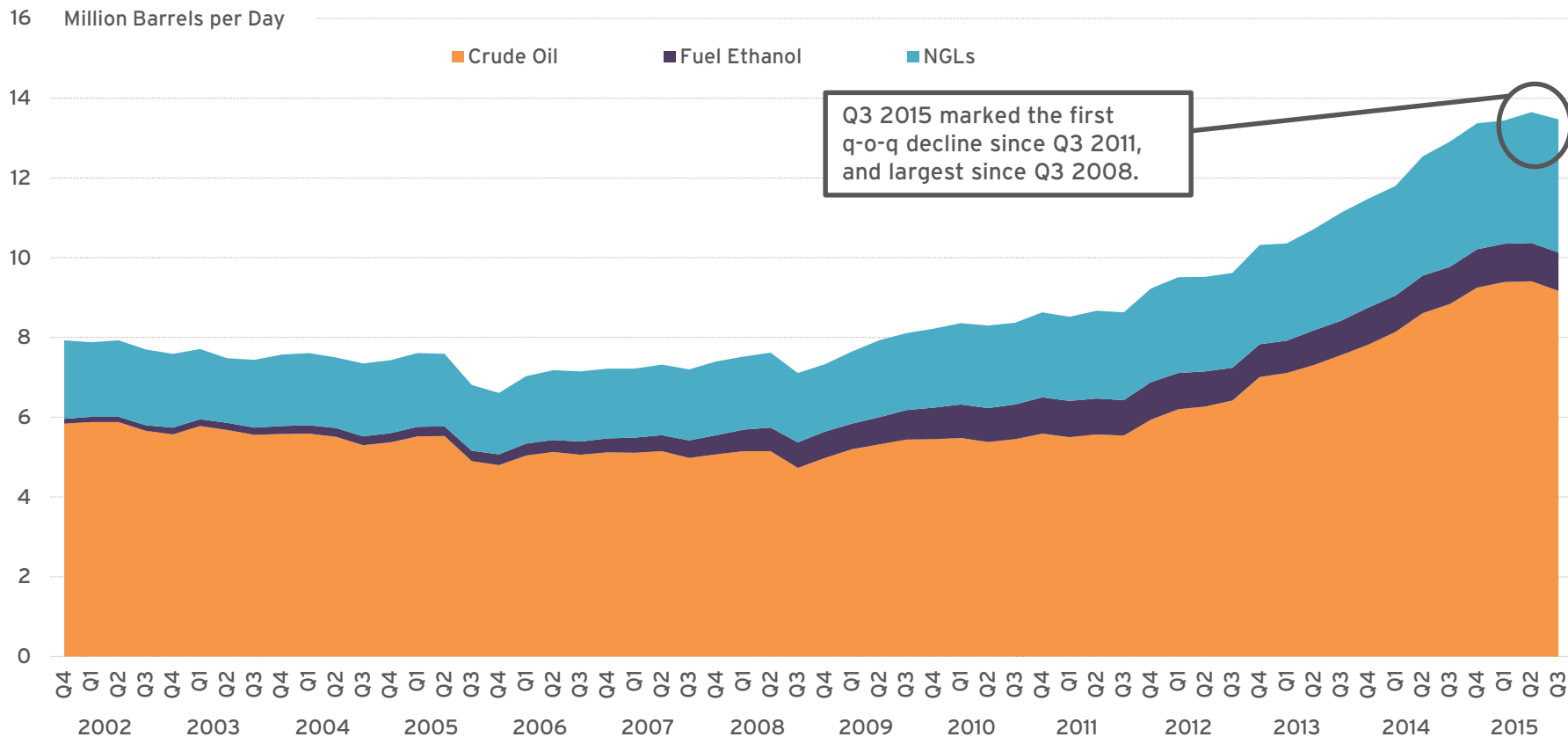


Contents

1. QUARTER SUMMARY
2. CHARTS OF THE QUARTER
- 3. U.S. OIL SUPPLY, DEMAND, AND TRADE**
4. GLOBAL OIL MARKET DYNAMICS
5. OIL DEPENDENCE AND ENERGY SECURITY
6. SOLUTIONS AND ALTERNATIVES

U.S. Oil Production Remains Steady

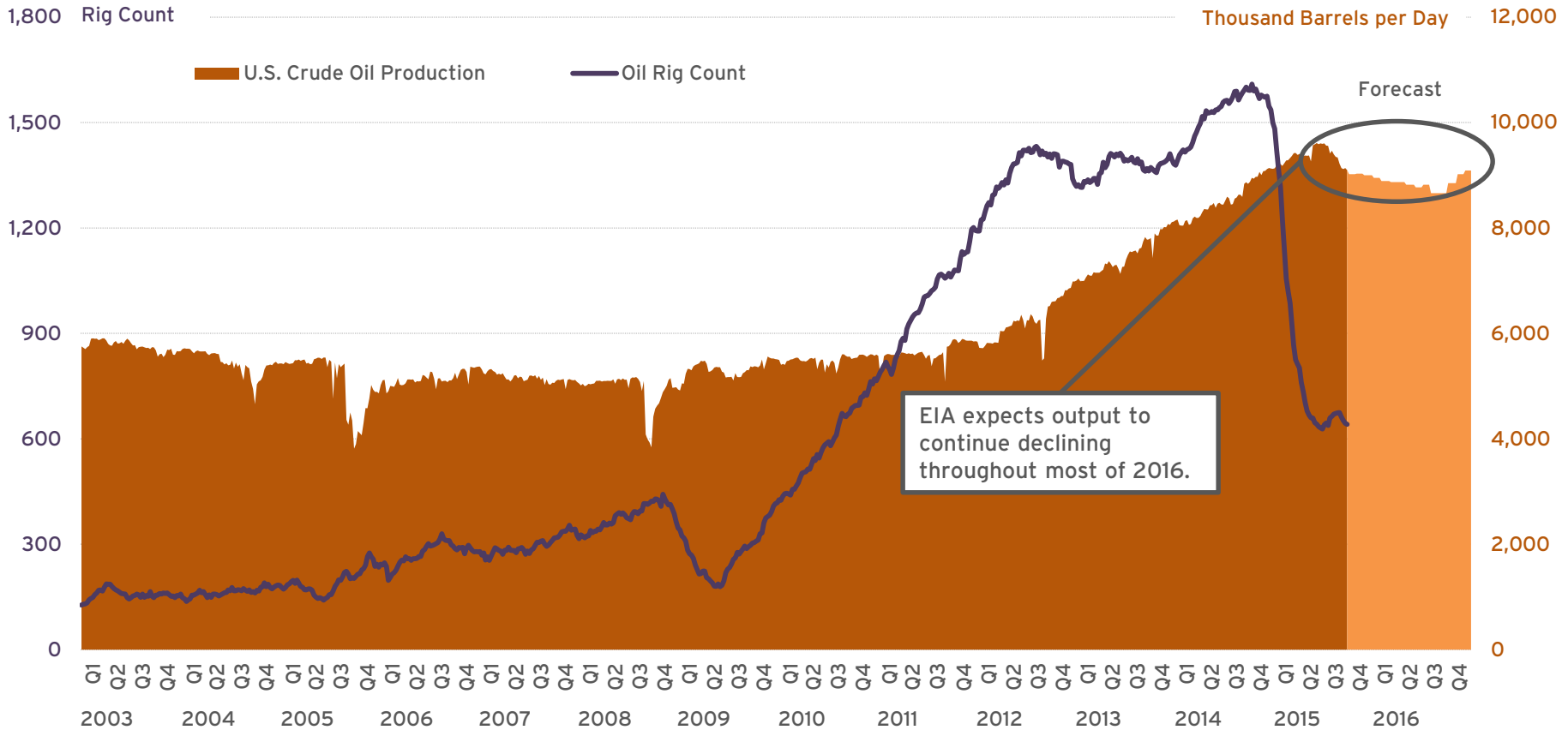
Domestic crude oil production increased by 0.3 mbd in Q3 2015 y-o-y, or roughly 4%. Inclusive of fuel ethanol and natural gas liquids (NGLs), total U.S. liquids production is approximately 6.5 mbd higher than in 2008, making the country the world's largest liquids producer.



Source: SAFE analysis based on data from EIA

U.S. Rig Count Steadies Around Three-Year Low

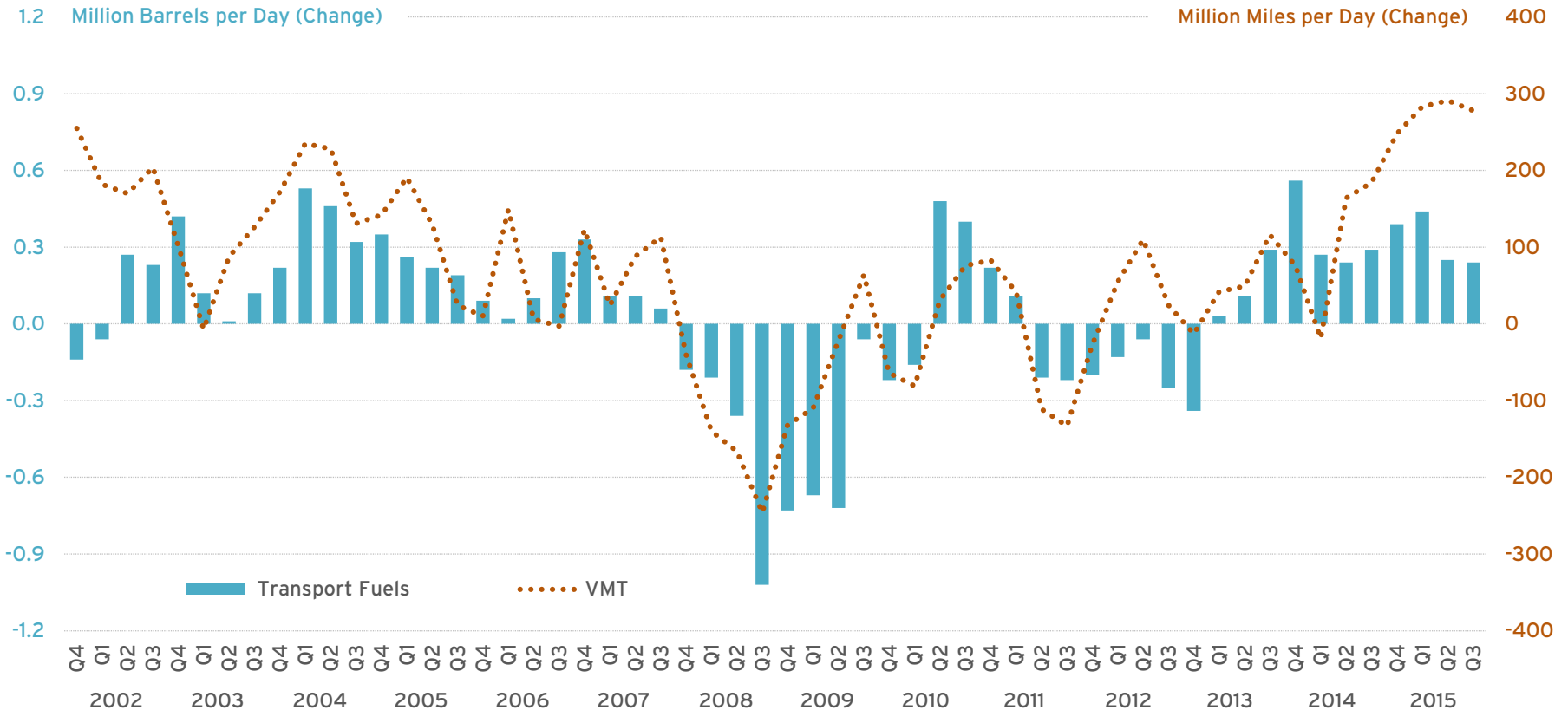
After reaching historic highs in Q4 2014, the oil rig count dropped sharply for several quarters. Q3 2015 witnessed a steadying of the rig count, which increased by thirteen to 641. U.S. oil production reversed trend, and fell for the first time since Q3 2011.



Source: EIA and Baker Hughes

Y-o-Y VMT Growth Slows

U.S. demand for gasoline, diesel, and jet fuel reached over 14.5 million barrels per day in Q3, and has been growing y-o-y since 2013. Total vehicle miles traveled (VMT) increased by approximately 275 million miles in Q3 y-o-y.

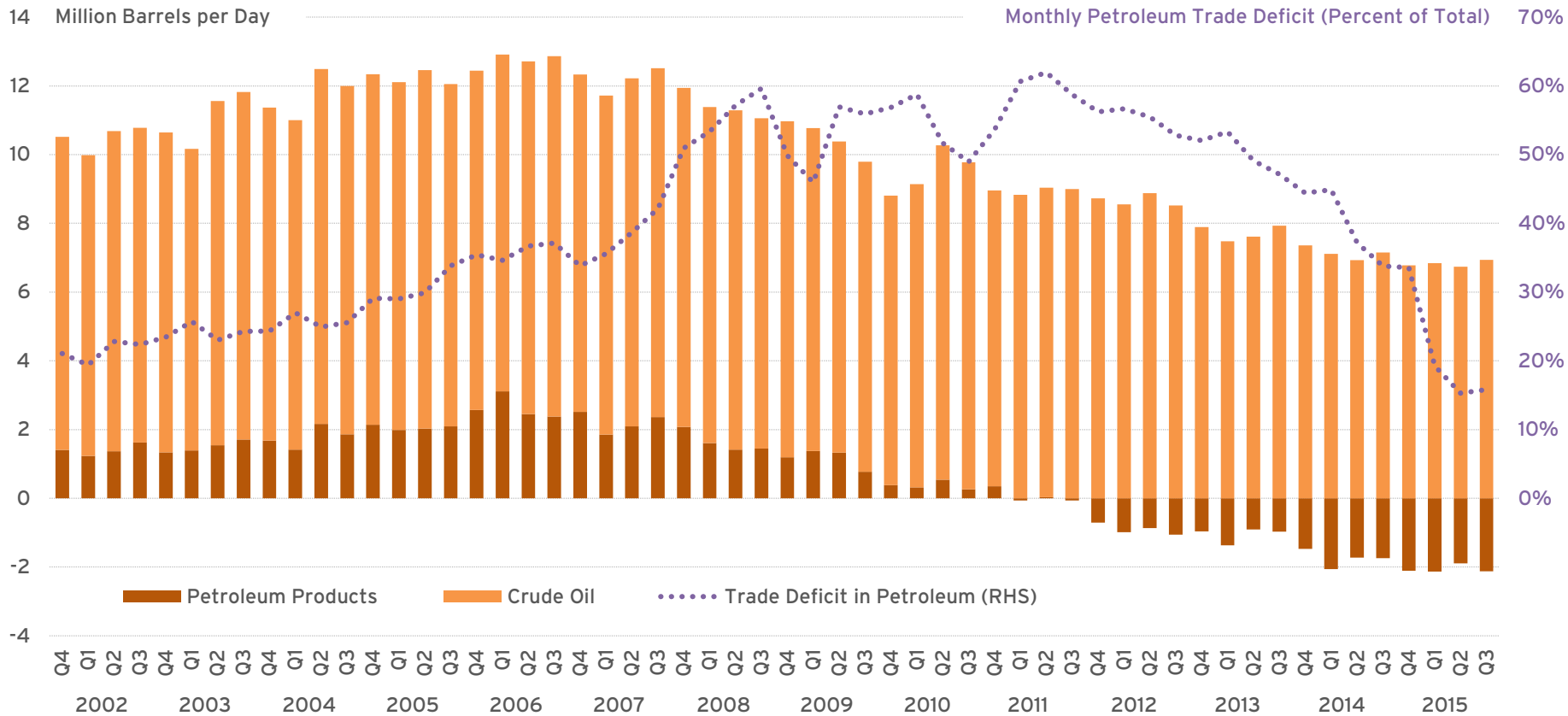


Source: SAFE analysis based on data from EIA



U.S. Net Oil Imports Continue to Hold Steady

Total U.S. net oil imports have fallen 63% since 2005 and in Q3 rose to 4.6 mbd (-0.4 mbd y-o-y). The United States became a net exporter of petroleum products in 2011. In Q3, net petroleum product exports reached 2.3 mbd.



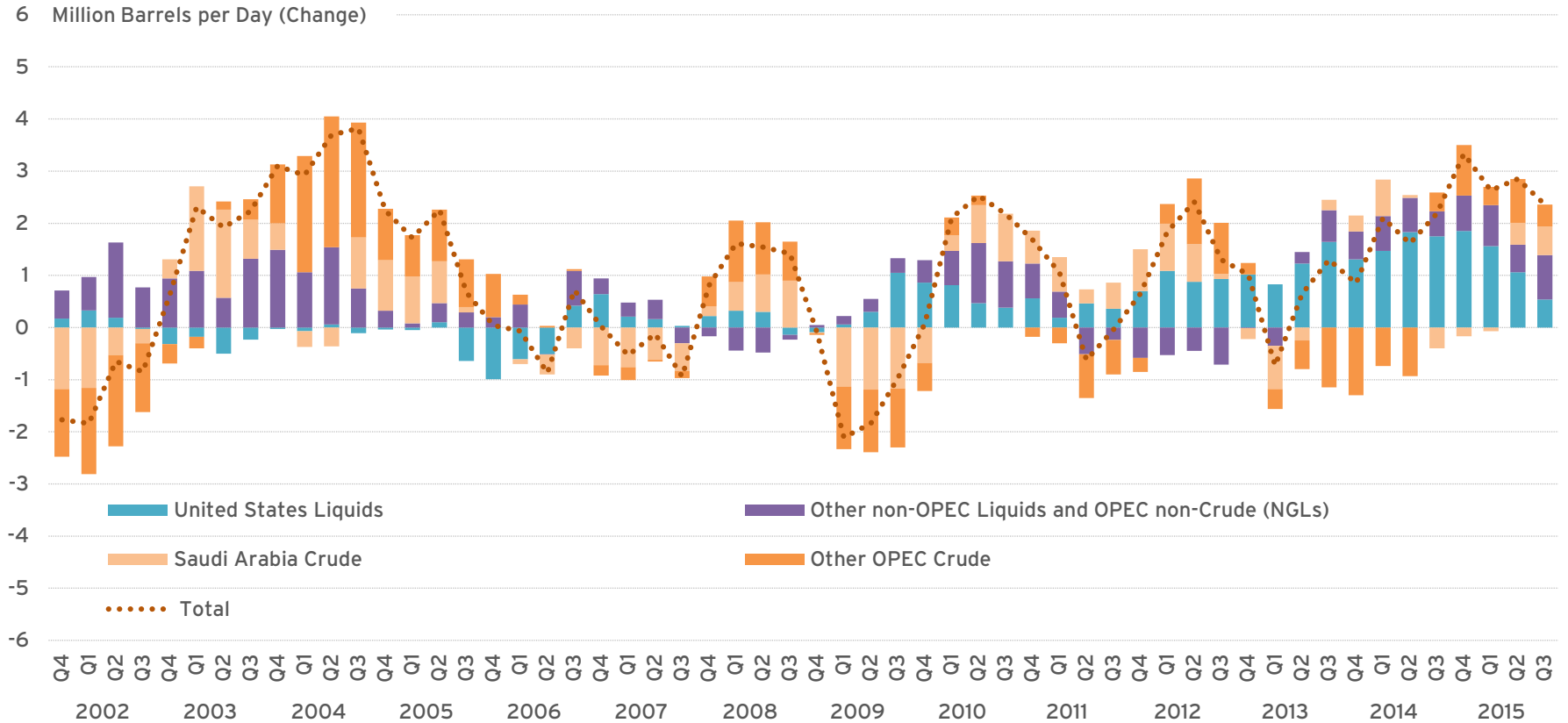
Source: SAFE analysis based on data from EIA

Contents

1. QUARTER SUMMARY
2. CHARTS OF THE QUARTER
3. U.S. OIL SUPPLY, DEMAND, AND TRADE
- 4. GLOBAL OIL MARKET DYNAMICS**
5. OIL DEPENDENCE AND ENERGY SECURITY
6. SOLUTIONS AND ALTERNATIVES

Global Oil Supply Continues Strong Growth

Global production grew more than 2 mbd y-o-y on the back of higher U.S. and Saudi Arabia supply (+0.54 and +0.55 mbd y-o-y, respectively) in Q3. Non-Saudi OPEC supply continued its recent positive trend (0.4 mbd y-o-y) for the fifth consecutive quarter.

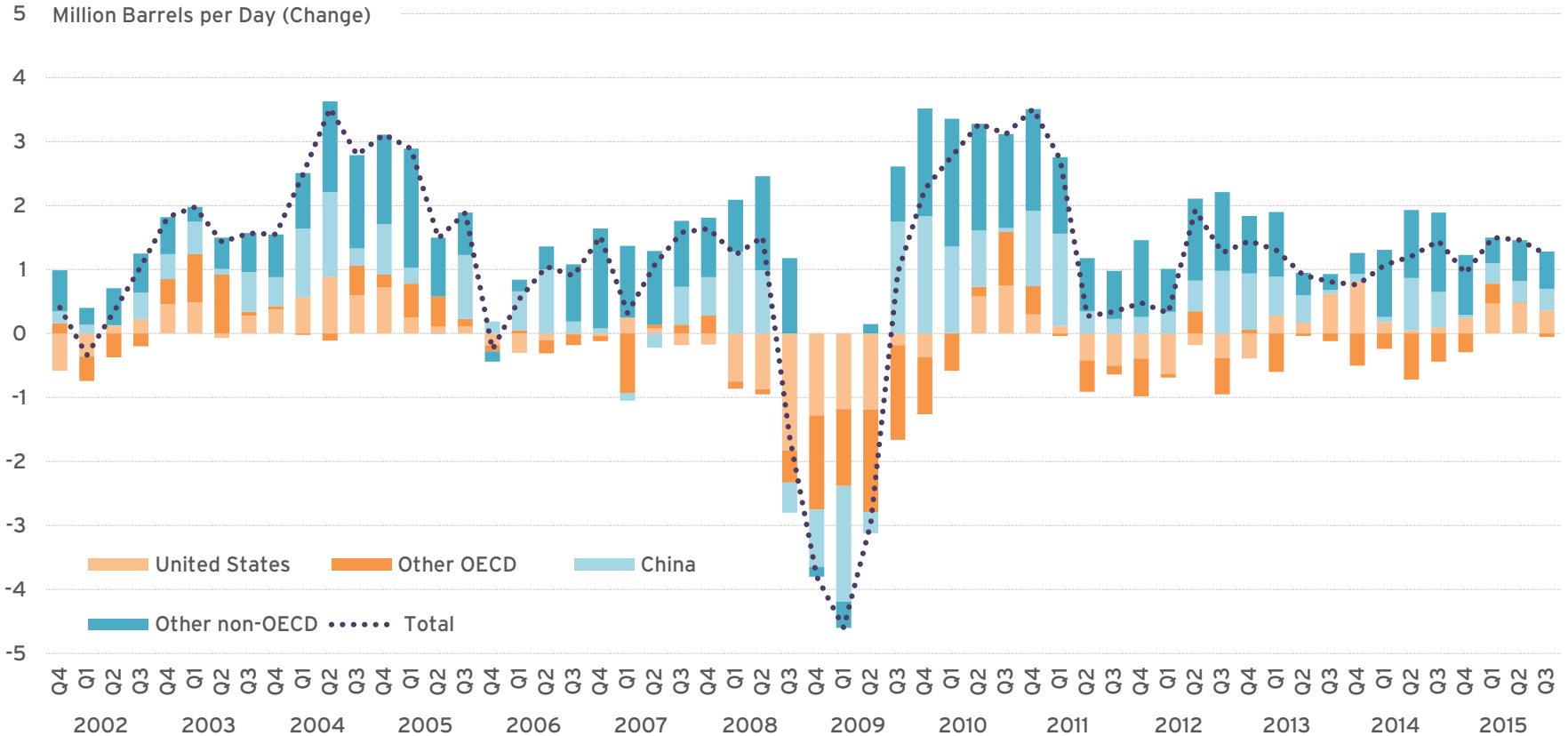


Source: SAFE analysis based on data from EIA



Global Oil Demand Continues to Rise

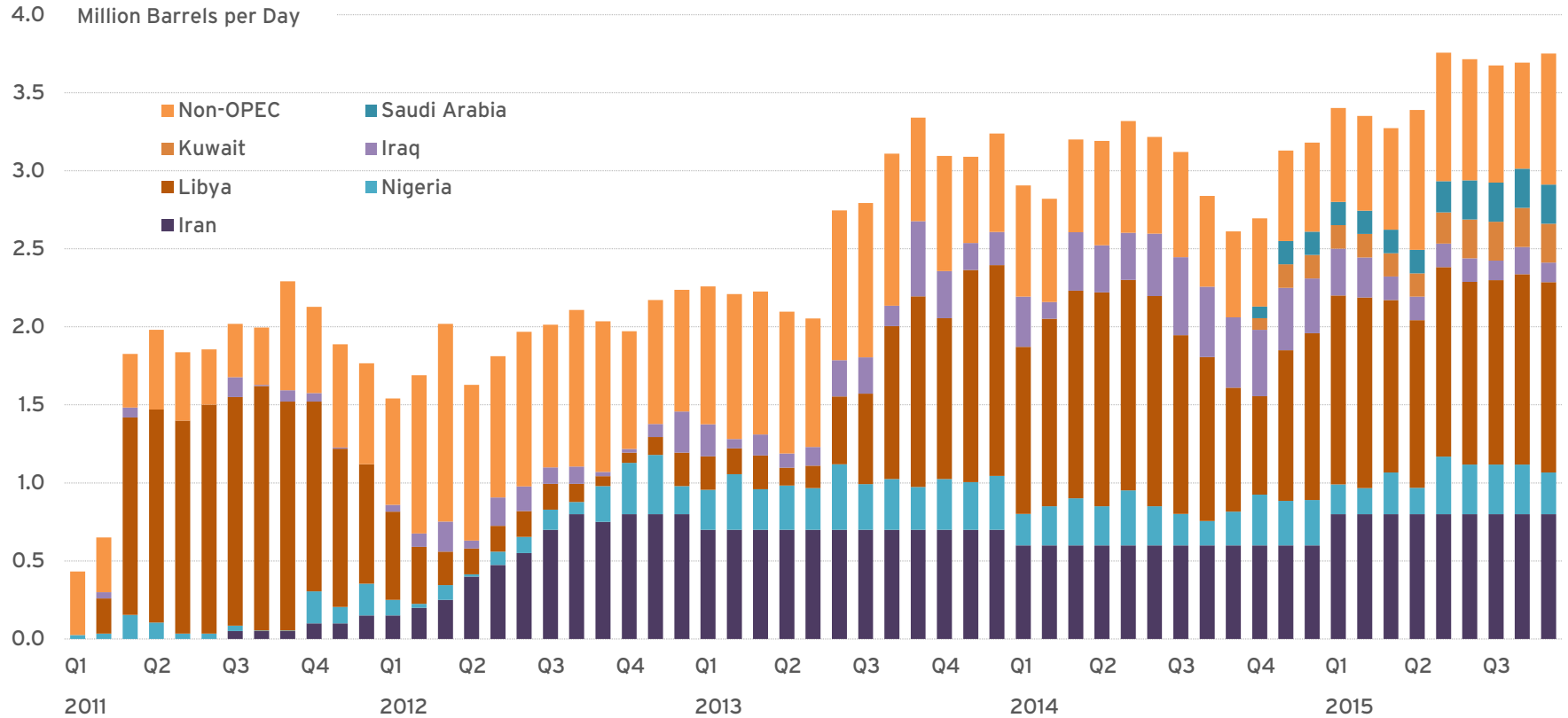
Global oil demand grew by approximately 1.2 mbd y-o-y in Q3. Non-OECD countries and the United States (alone +0.4 mbd y-o-y) accounted for the majority of the increase. Global oil demand has increased since 2009, reaching a record 94.5 mbd in Q3 2015.



Source: SAFE analysis based on data from EIA

Unplanned Crude Oil Outages Increase

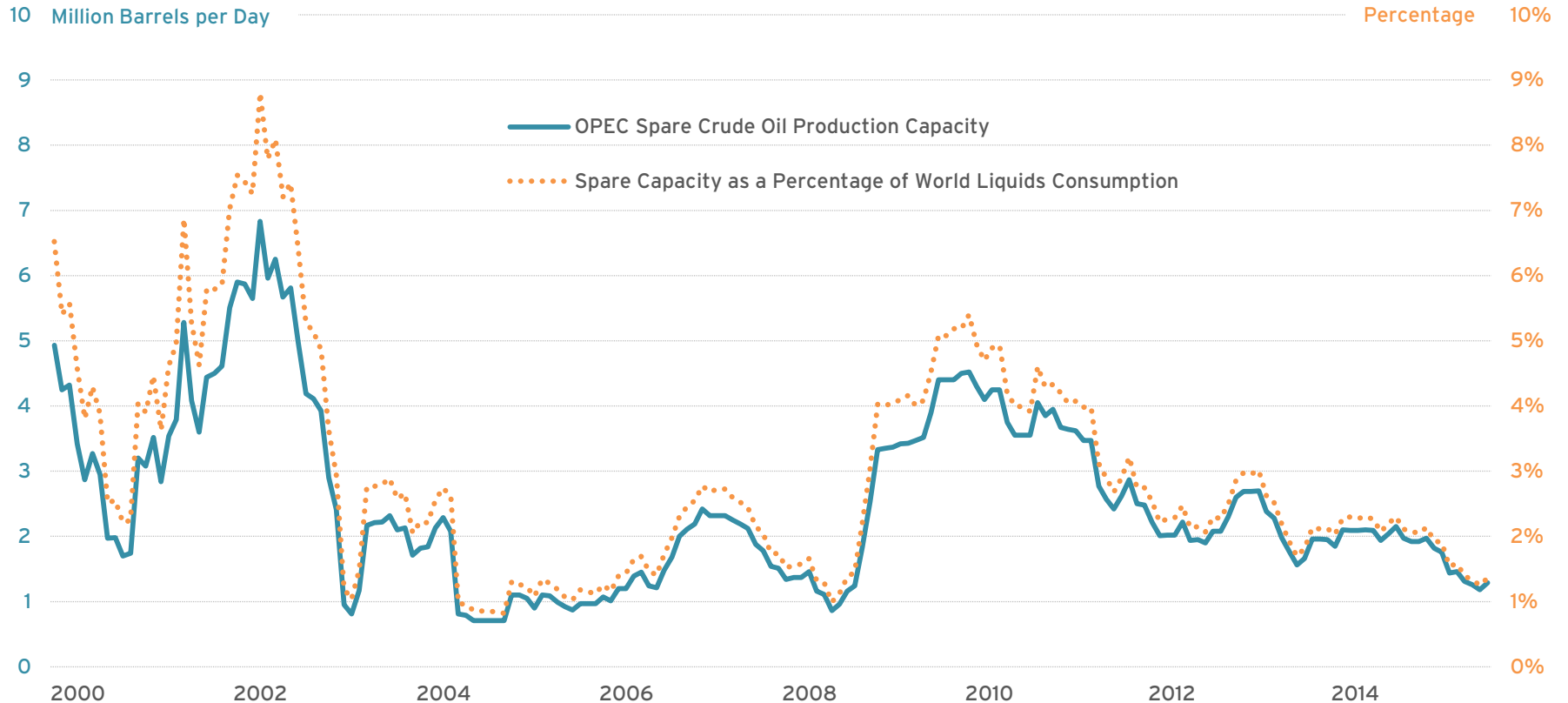
Global unplanned oil outages increased to 3.7 mbd in Q3 (+0.8 mbd y-o-y). Although unrest and instability remain rife in many countries, Iranian outages are expected to decrease in the coming months as sanctions against the country are lifted.



Source: SAFE analysis based on data from EIA

OPEC Spare Crude Oil Production Capacity Declines

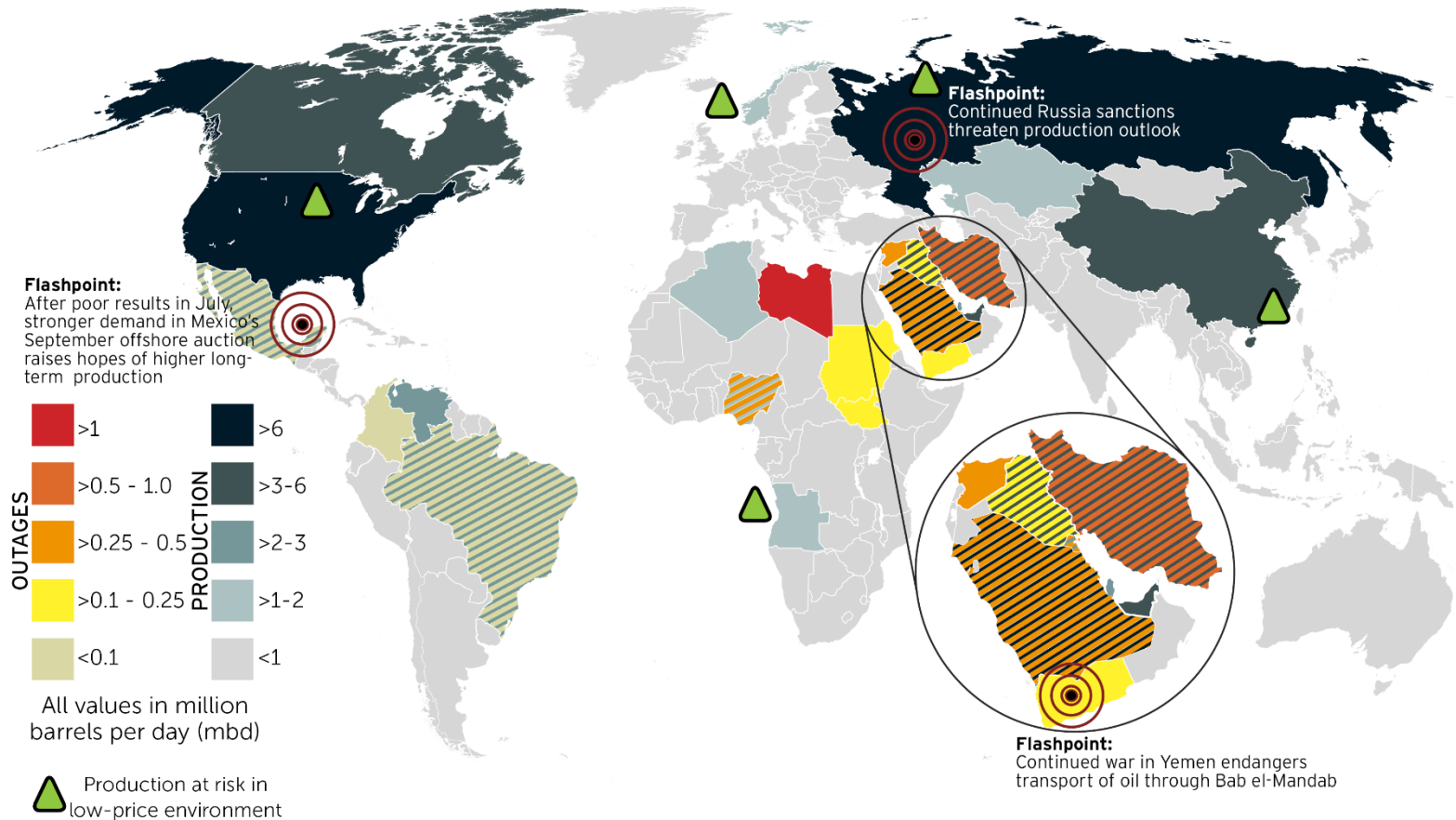
OPEC spare crude oil production capacity is estimated at 1.2 mbd in Q3 (-0.8 mbd y-o-y). This is equivalent to approximately 1.3% of global consumption. The majority of OPEC's spare production capacity is held by Saudi Arabia.



Source: SAFE analysis based on data from EIA

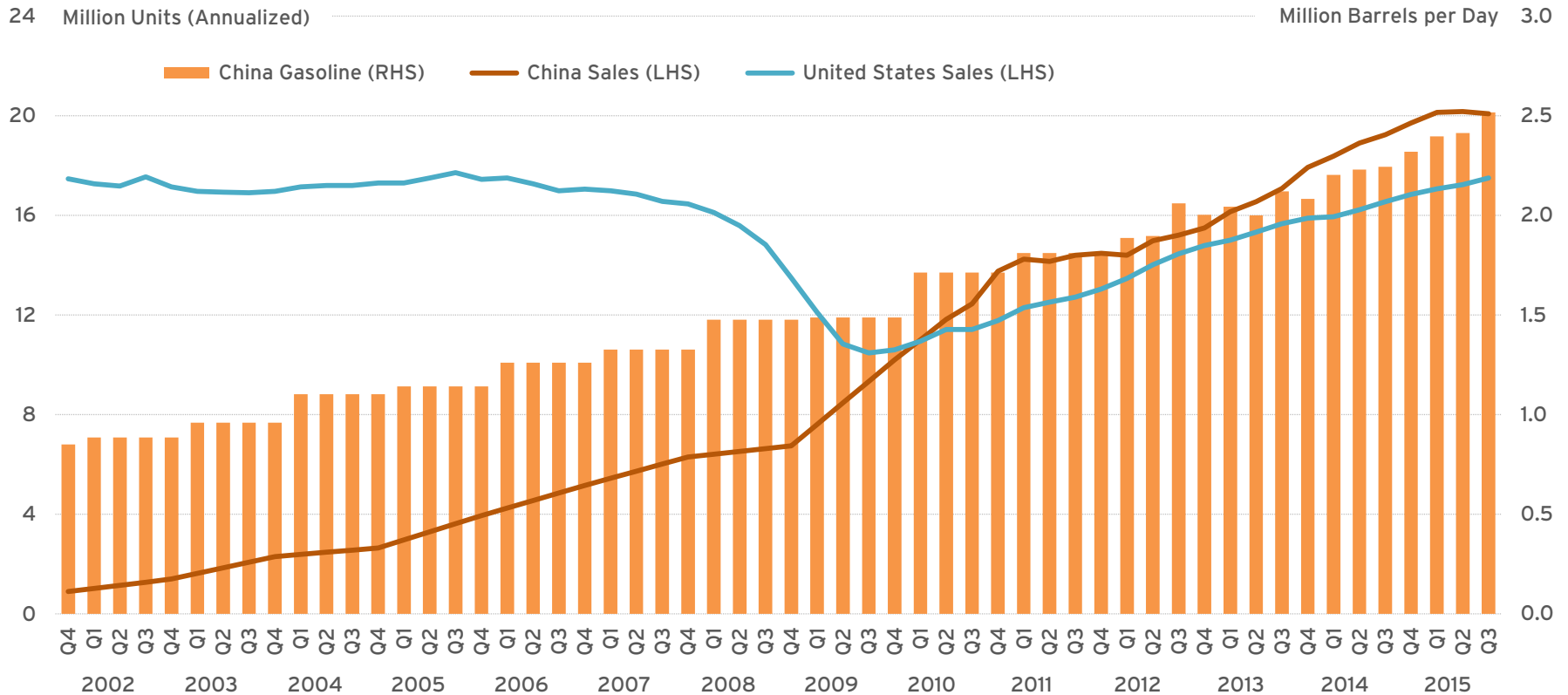
Barrels at Risk Map

Total oil supply outages averaged 3.7 mbd in Q3. Ongoing disputes increased outages in the Saudi-Kuwaiti shared zone, and tensions elsewhere continue to risk increasing disruptions.



China Vehicle Sales and Gasoline Demand Rise

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 surged in Q3, rising 11.3% y-o-y (versus 4.5% in Q2).



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

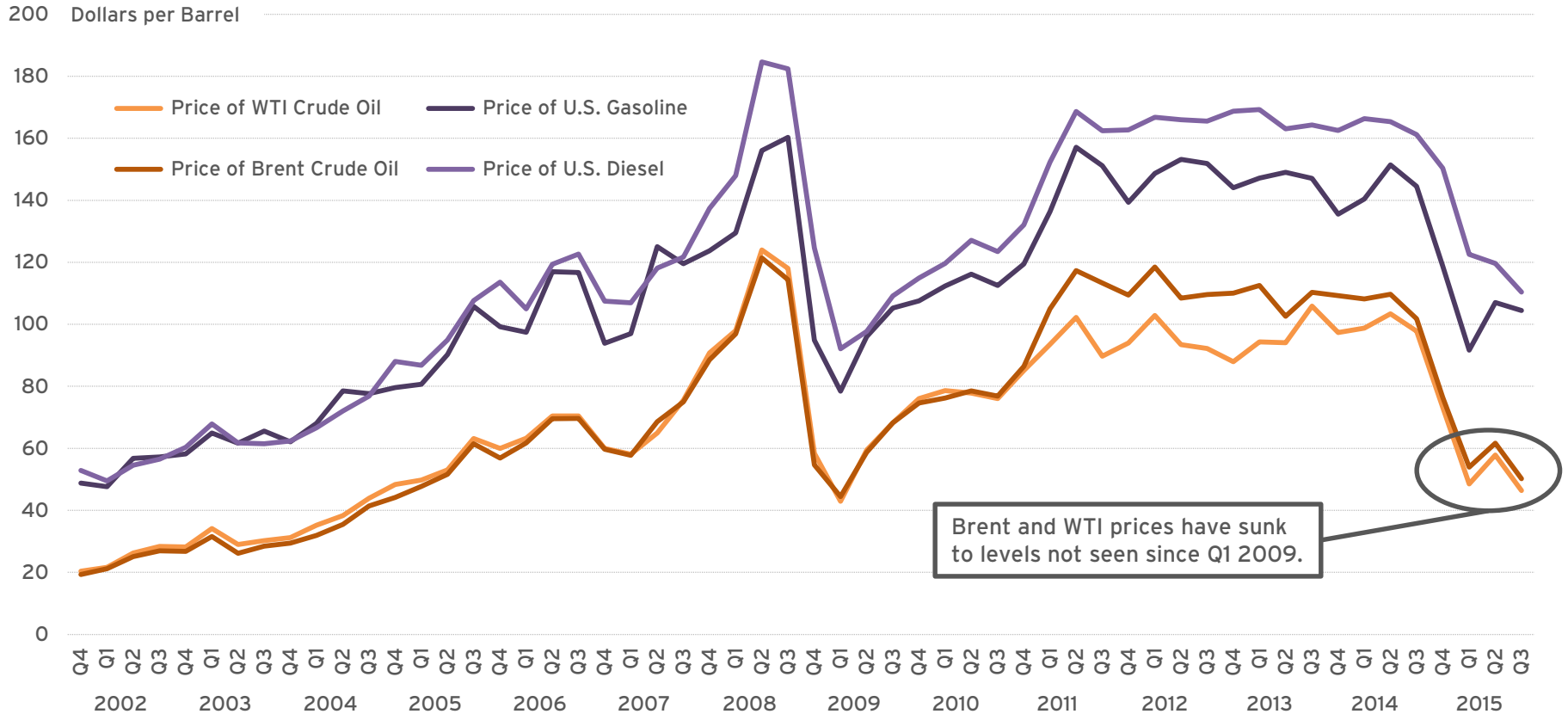
Source: SAFE analysis based on data from BEA, IEA, and China Association of Automobile Manufacturers

Contents

1. QUARTER SUMMARY
2. CHARTS OF THE QUARTER
3. U.S. OIL SUPPLY, DEMAND, AND TRADE
4. GLOBAL OIL MARKET DYNAMICS
- 5. OIL DEPENDENCE AND ENERGY SECURITY**
6. SOLUTIONS AND ALTERNATIVES

Brent and WTI Prices Plunge Lower

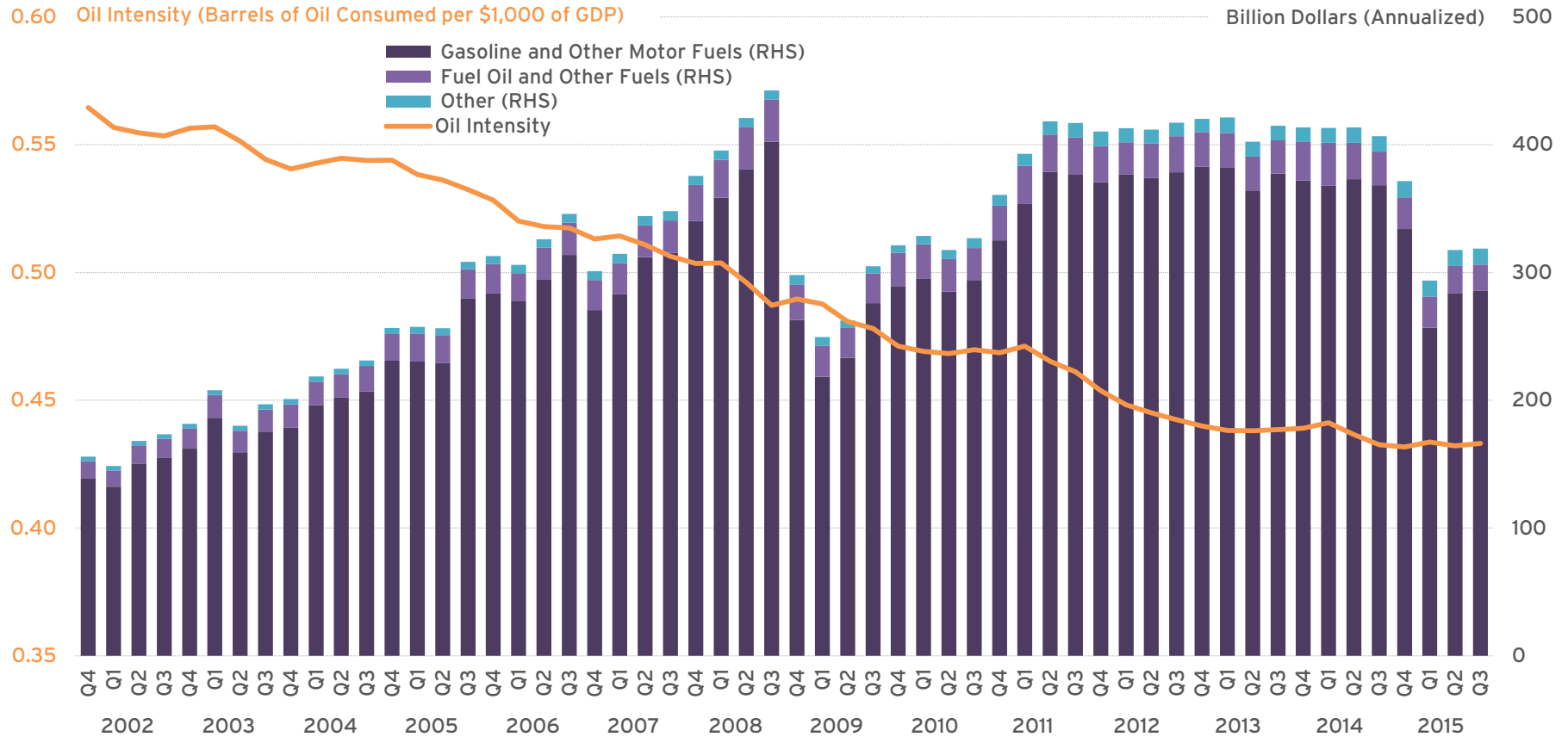
Domestic petroleum product prices like gasoline and diesel correlate closely with prevailing global crude oil benchmarks. Oil and gasoline prices declined slightly from Q2 to Q3. September average Brent = \$48/bbl, WTI = \$45/bbl, U.S. gasoline = \$2.28/gal.



Source: SAFE analysis based on data from EIA

Oil Intensity Flat While Household Expenditures Down

U.S. oil intensity remained unchanged in Q3 at 0.43 barrels per \$1,000 of GDP. However, household spending on petroleum fuels is approximately 22% lower y-o-y, at an annualized level of \$319 billion, due to depressed oil and petroleum product prices.

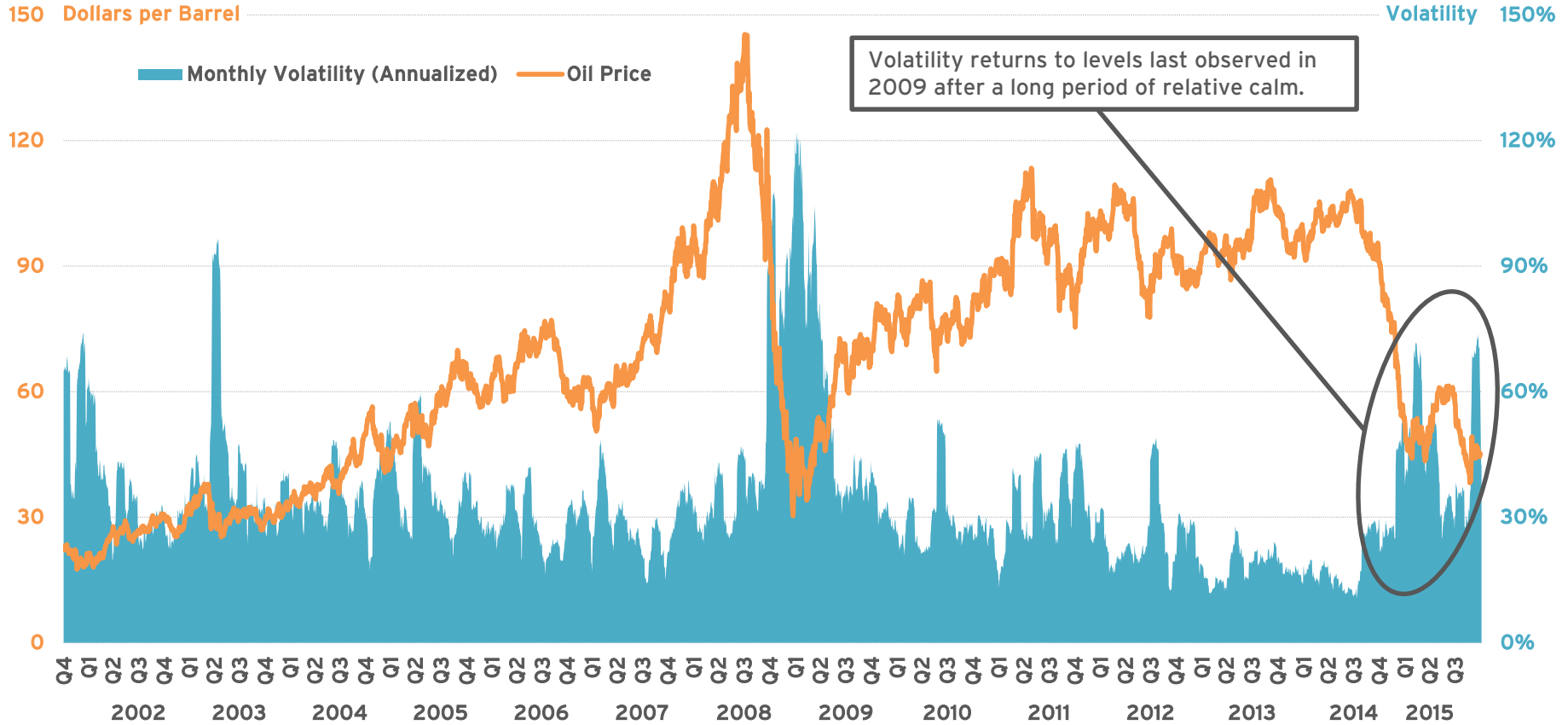


Source: SAFE analysis based on data from EIA and BEA



Oil Price Volatility Increases, Remains Elevated

The decline in oil prices over the past year has resulted in the return of oil price volatility to levels last observed in 2009. 30-day volatility averaged 47% in Q3 versus 33% in Q2 and 16% in H1 2014.



Source: SAFE analysis based on data from EIA

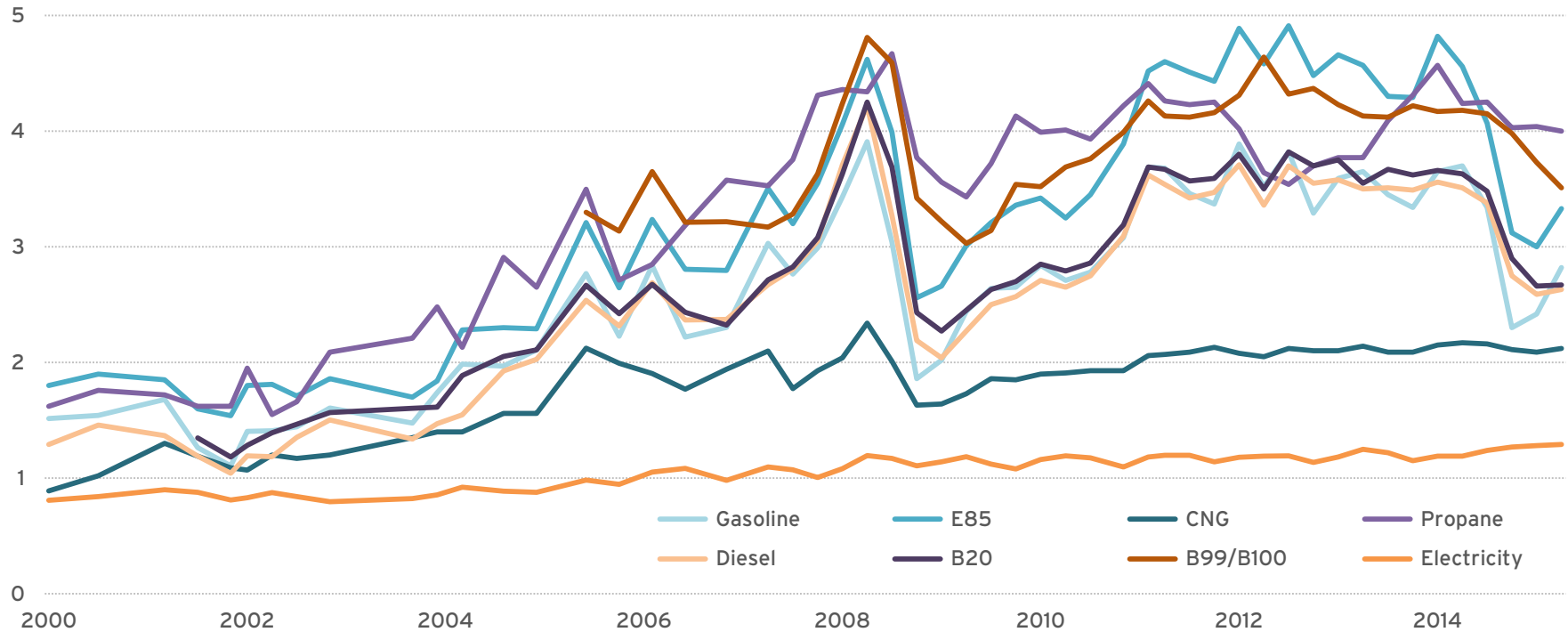
Contents

1. QUARTER SUMMARY
2. CHARTS OF THE QUARTER
3. U.S. OIL SUPPLY, DEMAND, AND TRADE
4. GLOBAL OIL MARKET DYNAMICS
5. OIL DEPENDENCE AND ENERGY SECURITY
- 6. SOLUTIONS AND ALTERNATIVES**

Liquid Retail Fuel Prices Remain Depressed

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

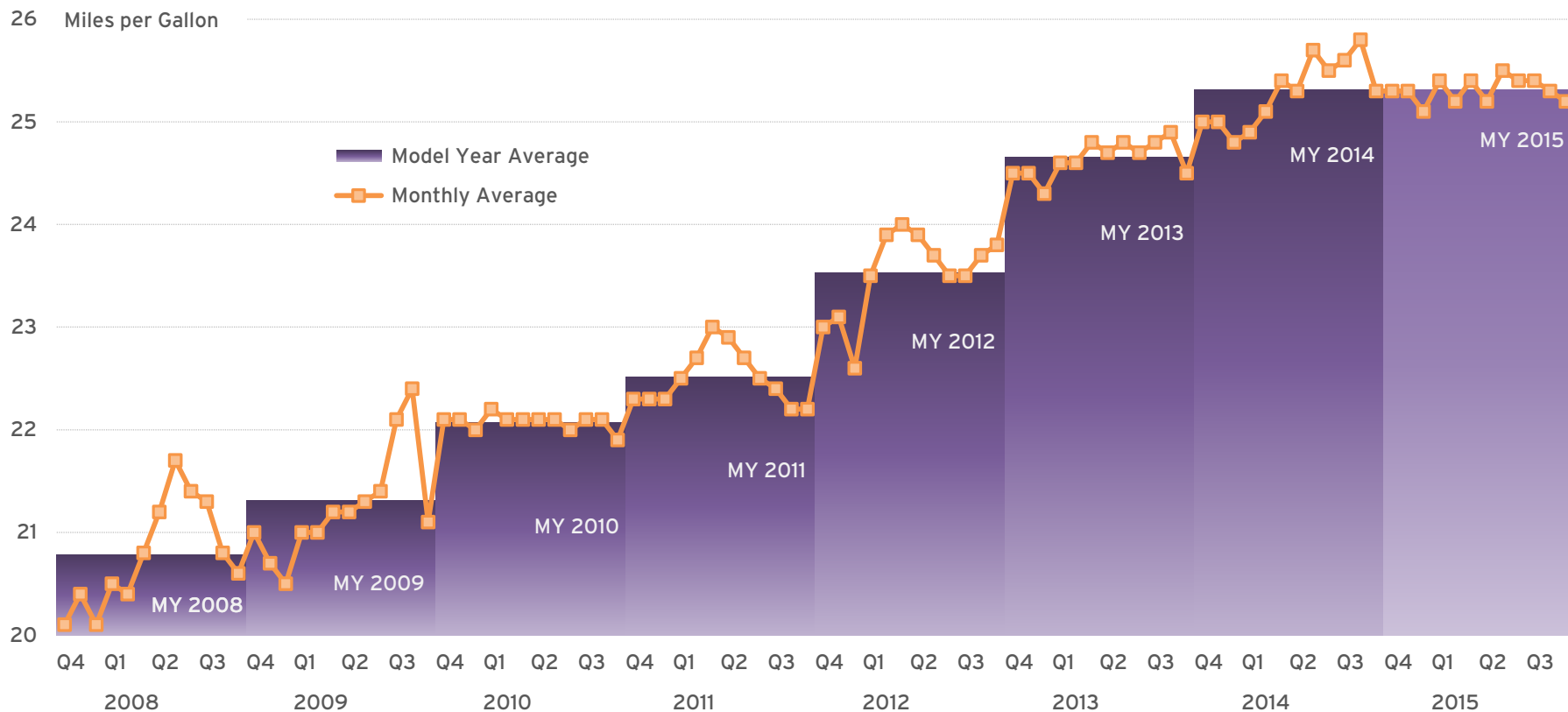
6 Dollars per Gasoline Gallon Equivalent (GGE)



Source: SAFE analysis based on data from Clean Cities Alternative Fuel Price Reports

New Light-Duty Vehicle Fuel Economy Ratings Remain Flat

The average fuel economy rating of new light-duty vehicle sales remained steady y-o-y, a marked change versus the MY 2008 to 2014 period, when it consistently increased. MY 2015 fuel economy currently stands at 25.3 mpg, approximately 15% higher than 2009 levels.



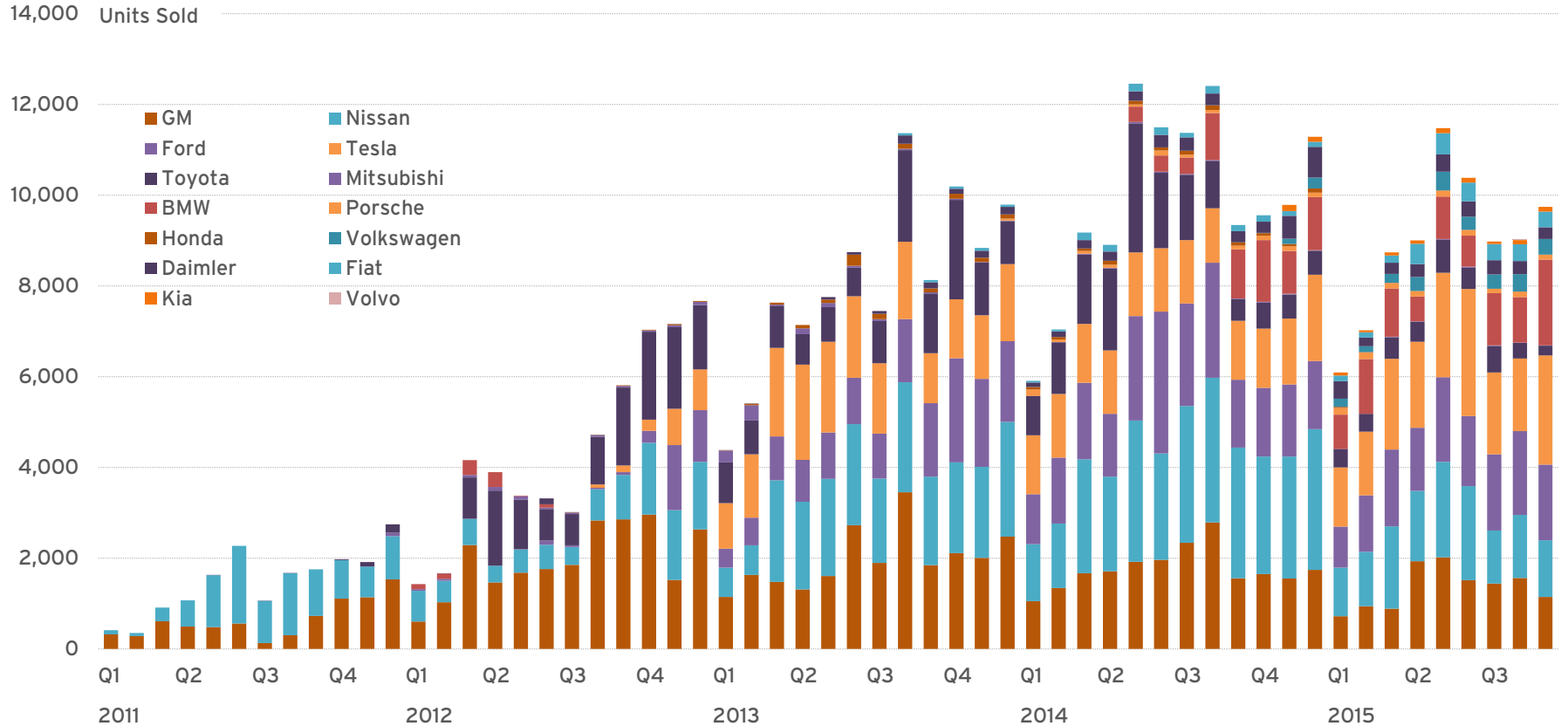
Note: Average sales-weighted fuel-economy rating of purchased new light-duty vehicles.

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



Plug-in Electric Vehicle Sales Weak in 2015

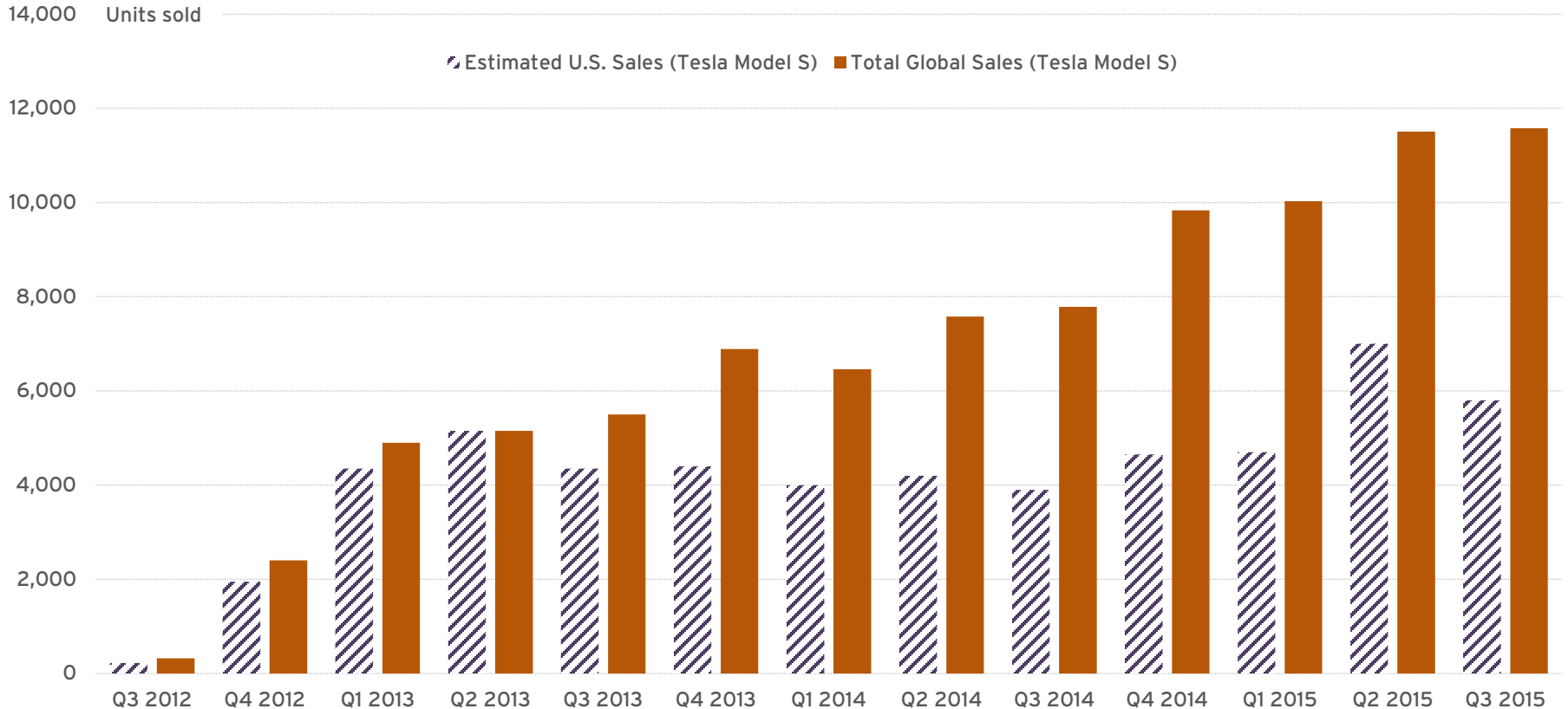
Approximately 28,000 plug-in electric vehicles (PEVs) were sold in Q3, down 16.3% y-o-y. Tesla's Model S continued to lead the PEV market, outselling its nearest competitor (Nissan's LEAF) by 52%. The six best-selling vehicles accounted for approximately 77% of total sales.



Source: SAFE analysis based on data from HybridCars.com

Spotlight on Tesla's Sales

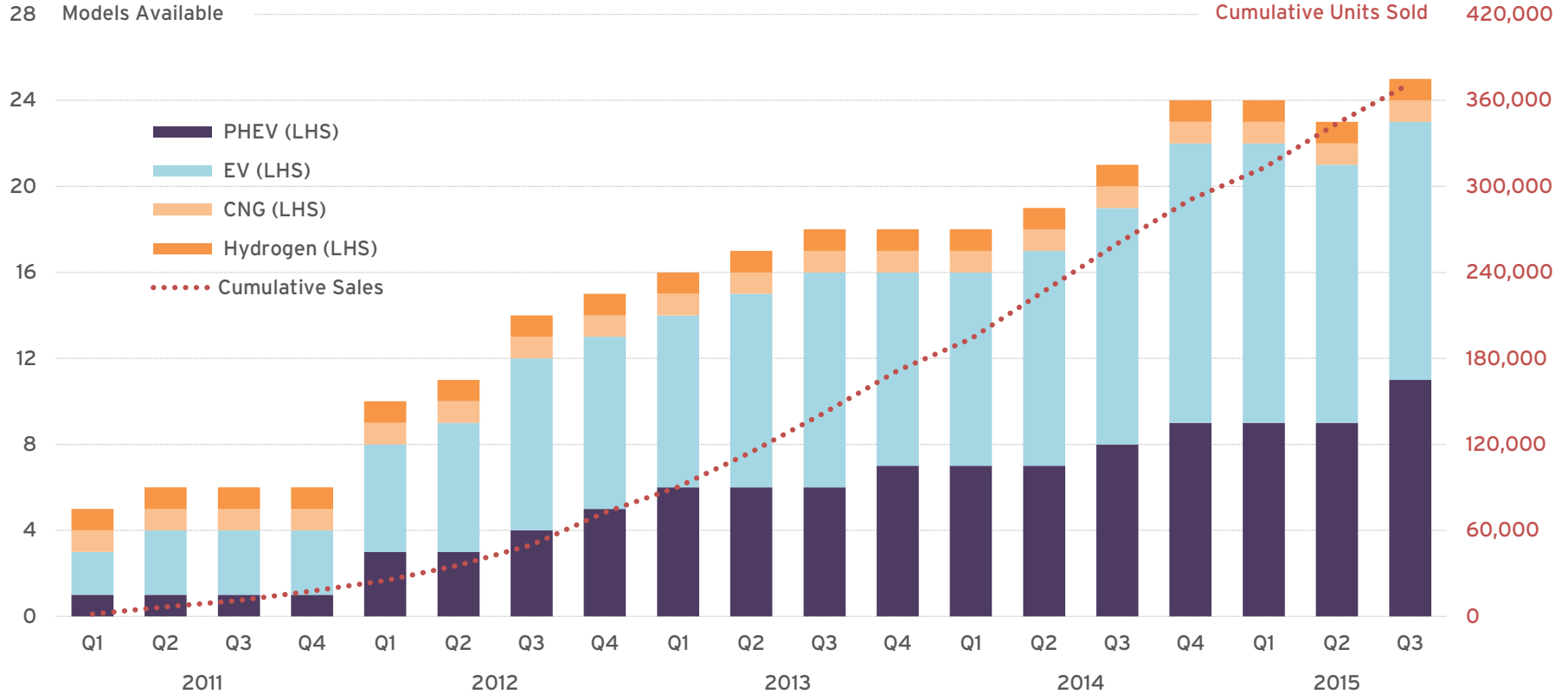
Tesla set a goal of selling between 50,000 and 55,000 vehicles globally in 2015. Through Q3, Tesla sold 33,117 vehicles and has met roughly 63% of its 2015 sales target. The recently released Model X is expected to help Tesla meet this goal.



Source: Estimated U.S. Sales - Hybridcars.com, Global Sales - Tesla

Available Models of Alternative Fuel Vehicles Grow

The number of light-duty passenger alternative fuel vehicle (AFV) models available to U.S. consumers increased by two in Q3 2015. The total number available represents more than a fivefold increase from Q1 2011. Cumulative AFV sales rose to an estimated 372,000 units.

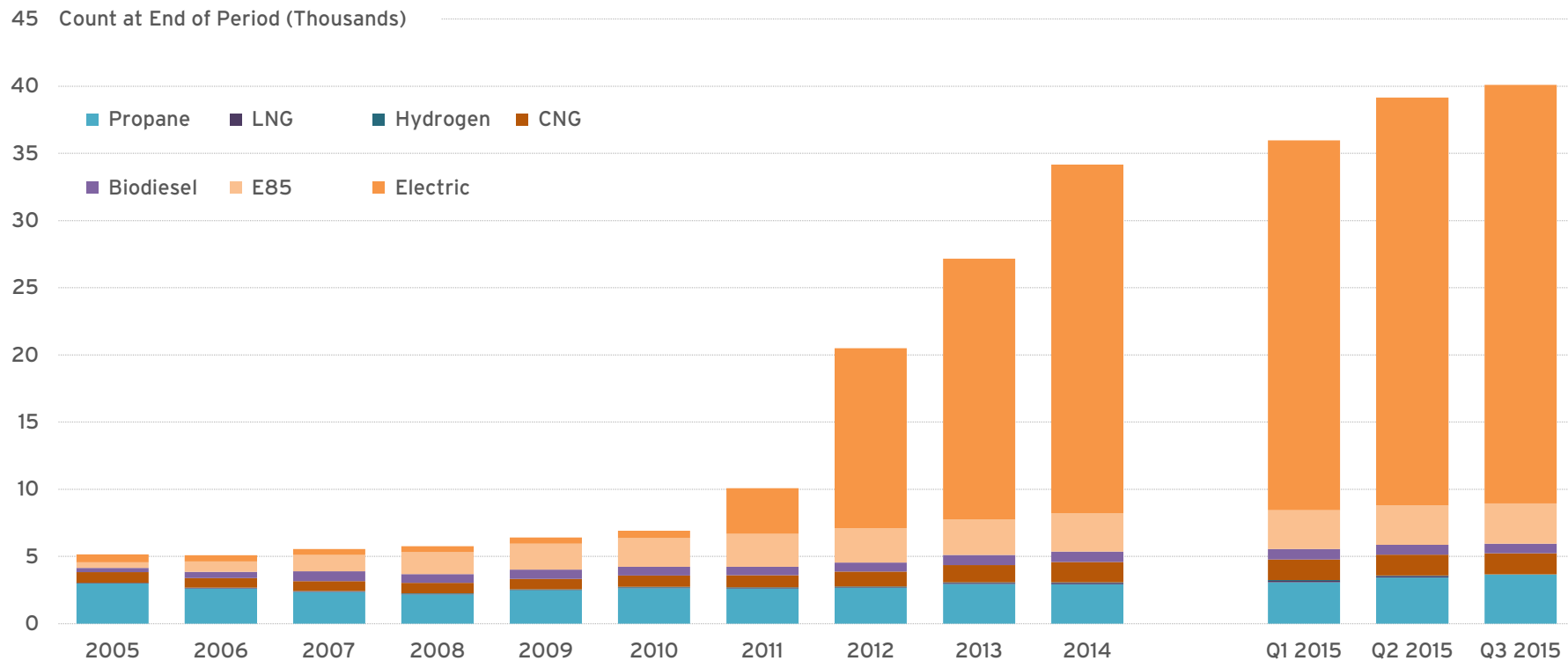


Note: Several available models are not included in 'Cumulative Sales.'

Source: SAFE analysis based on data from HybridCars.com

Alternative Fueling Stations Increase

The number of alternative fueling stations nationwide increased more than 48% through the end of Q3 2015 versus 2013, a net addition of approximately 13,000 stations. The vast majority of these new additions (90%) 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: 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.

SAFE's Energy Security Fact Pack, launched in 2014, 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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Electrification Coalition: www.electrificationcoalition.org

The Fuse: www.energyfuse.org

Oil Security Index: www.oilsecurityindex.org



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