



June 17, 2014

## Further Social and Political Fragmentation and Descent into Civil War in Iraq Could Send Global Oil Prices Skyrocketing

### Summary

- **The situation in Iraq has deteriorated rapidly over the past week, with significant implications for regional security and oil markets.** Sunni militants aligned with former Baathist elements and tribal groups have captured major portions of Iraq's north and west in recent months, culminating in the fall of Mosul last week. Though the militants' progress toward Baghdad has slowed, the Islamic State in Iraq and Syria (ISIS) continues to capture new territory in the north, solidifying its gains. In Iraq's Shia south, militias have formed to augment government forces in preserving security. Meanwhile, Iraqi government forces have ceded significant control over the Kurdish autonomous region, raising the specter that the country is dividing into three homogenous political units.
- **Near term oil market implications are potentially serious.** Crude exports from Iraq's Kurdish north, which were as high as 460,000 barrels per day in 2009, were effectively ceased on March 2, contributing to total global oil supply outages of 3 million barrels per day (mbd).<sup>1</sup> Nearly 100 percent of Iraq's 2.5 mbd of crude exports currently exit the country through its southern oil complex centered on Basra. While the predominantly Shia south has remained relatively secure, political disintegration in Iraq along sectarian lines would add to the current oil price risk premium and the potential for significant upside would remain.
- **Any meaningful disruption to Iraqi crude exports would lead to a sharp elevation in oil prices.** OPEC spare production capacity currently stands at just 2 mbd, according to the Energy Information Administration (EIA), with the bulk concentrated in Saudi Arabia.<sup>2</sup> While this buffer could replace a portion of lost Iraqi exports, this must be placed in context. Numerous global market forecasts suggest that OPEC—principally Saudi Arabia—will already have to pump an additional 900,000 barrels per day in Q3 2014 versus April levels to meet rising global demand.<sup>3</sup> Therefore, the loss of even one third of total Iraqi production—1 mbd—would essentially eliminate global spare production capacity. In that event, oil prices would likely reach or exceed the highs reached in July 2008. This is consistent with prior work by SAFE and the

---

<sup>1</sup> International Energy Agency (IEA), Facts Sheet for Oil Supply in Iraq, June 13, 2014; and U.S. Energy Information Administration (EIA), Short Term Energy Outlook (STEO), June 2014

<sup>2</sup> U.S. EIA, STEO, June 2014

<sup>3</sup> IEA, Oil Market Report (OMR), May 2014, at 4

Commission on Energy and Geopolitics, which found that the loss of 1 mbd of Iraqi oil supplies in 2014 would generate an oil price increase of \$37 per barrel relative to the base case.<sup>4</sup>

- **Longer-term market implications are potentially more concerning.** It is difficult to overstate the importance of Iraq to the long term outlook for oil markets. In its baseline scenarios, the International Energy Agency (IEA) forecasts Iraqi crude oil production to grow from 3.3 mbd in 2014, reaching nearly 6 mbd by 2020 and nearly 8 mbd by 2035.<sup>5</sup> Between today and 2020, the IEA expects Iraq to account for 60 percent of the increase in OPEC crude oil production capacity.<sup>6</sup> After 2020, Iraq accounts for the majority of oil production growth within OPEC, is the major driver of crude oil production growth globally, and is effectively a necessary component to meeting rising global demand growth in an even modestly cost-effective way.<sup>7</sup>
- **Any price spike would be highly damaging to the U.S. economy.** Despite record growth in domestic oil production and plummeting import levels, the U.S. economy remains highly vulnerable to global oil price spikes and volatility. Economy-wide spending on petroleum fuels has averaged \$880 billion annually since 2011—equal to 5 percent of GDP.<sup>8</sup> Breaching the 6 percent mark would almost certainly lead to negative economic growth. Recent SAFE estimates suggest that a \$40 increase in oil prices would shave a full point off the U.S. GDP growth rate.<sup>9</sup> Every U.S. recession since 1973 has been preceded by, or occurred concurrently with, an oil price spike.
- **The United States must do more to protect itself against geopolitical instability that is having ripple effects across global energy markets.** This latest round of escalating instability and violence in Iraq is just only one of many recent and ongoing geopolitical events beyond U.S. control with the capacity to both substantially and negatively affect the American economy and consumer, and U.S. national security. From the Russia-Ukraine crisis and maritime disputes in the South China Sea to continued oil theft and infrastructure sabotage in Nigeria and political instability in Venezuela, the United States remains dangerously exposed to the vagaries of the global oil market and must intensify efforts to reduce its dangerous dependence on oil.

## I. The situation in Iraq has deteriorated rapidly over the past week, with significant implications for regional security and oil markets

A combination of Sunni groups, including ISIS, former Baathist elements, and others, began capturing and occupying Iraqi cities in Anbar and Nineveh early this year. Their momentum has increased rapidly in recent days, including the capture of relatively large cities like Mosul. The United Nations estimates that 500,000 people have fled Mosul as of June 14, adding to the nearly 500,000 that have already fled various portions of Anbar province, and the 40,000 people that have fled Tikrit and Samarra.<sup>10</sup>

While the security situation in Baghdad and southern Iraq remains relatively stable, many analysts have voiced concern that the country is headed toward significant political fragmentation, with Sunni groups

---

<sup>4</sup> See, e.g., Commission on Energy and Geopolitics (a project of Securing America's Future Energy), "Oil Security 2025: National Security Policy in an Era of Domestic Oil Abundance," (hereafter, "Oil Security 2025"), January 15, 2014, at 76

<sup>5</sup> IEA, World Energy Outlook (WEO) 2013, at 484

<sup>6</sup> IEA, OMR, June 2014

<sup>7</sup> IEA, WEO 2012, at 481 and 484

<sup>8</sup> SAFE analysis based on: U.S. EIA, State Energy Data System (SEDS)

<sup>9</sup> See, e.g. Commission on Energy and Geopolitics, "Oil Security 2025," at 76

<sup>10</sup> Estimates from United Nations Assistance Mission for Iraq (June 14, 2014)

aligning against the largely Shia government of Prime Minister Nouri al-Maliki, and the Kurds seizing the opportunity to more substantially distance themselves from Baghdad. Kurdish Peshmerga effectively seized Kirkuk after Iraqi police and military moved out of the city. The Kurdish Regional Government (KRG) has also taken the opportunity to reignite the debate with the central government over the share of revenue that it receives from Iraq's oil sales.<sup>11</sup>

There are also important, broader regional dynamics at play. ISIS has a presence that extends to Syria's Mediterranean shore, and the vacuum of government authority in much of Syria and Western Iraq has allowed the group to operate more freely across borders. In addition, Iran has publicly offered to come to aid of the government in Baghdad, which is a key Shia ally in the region. Reports on Saturday (June 14) suggested that elements of the Iranian Revolutionary Guard were already active in Iraq.<sup>12</sup> On Sunday (June 15), further reports emerged that the United States was considering making contact with Iran about how the two countries can aid the Iraqi government.<sup>13</sup> These discussions began Monday (June 16) on the sidelines of separate negotiations about Iran's nuclear program in Vienna—the first time the United States and Iran have collaborated over a common security interest in more than a decade.<sup>14</sup> At the same time, the U.S. government has begun evacuating some diplomatic staff and sent an additional 275 security staff to protect the American embassy and U.S. personnel in Baghdad.<sup>15</sup>

While all of this is obviously concerning, news reports describe a situation that is extremely fluid. Though regular Iraqi army units fled their positions in Mosul and other areas of the north, it appears that an effort is underway to retake some of the lost territory, particularly in Samarra. The reported seizure by ISIS militants of the northern city of Tal Afar—where fighting began Sunday—is for example currently disputed by the Iraqi government who have launched a counter offensive.<sup>16</sup> Heavy fighting between Iraqi troops and ISIS in and around the city of Baquba less than 40 miles from Baghdad was reported early Tuesday (June 17).<sup>17</sup>

---

<sup>11</sup> See, e.g., Reuters, "UPDATE 1-After Kirkuk, Kurds want quarter of Iraq oil revenue," June 16, 2014

<sup>12</sup> Bloomberg, "Iraq Air Force Strikes Positions as Obama Sends Warship," June 15, 2014

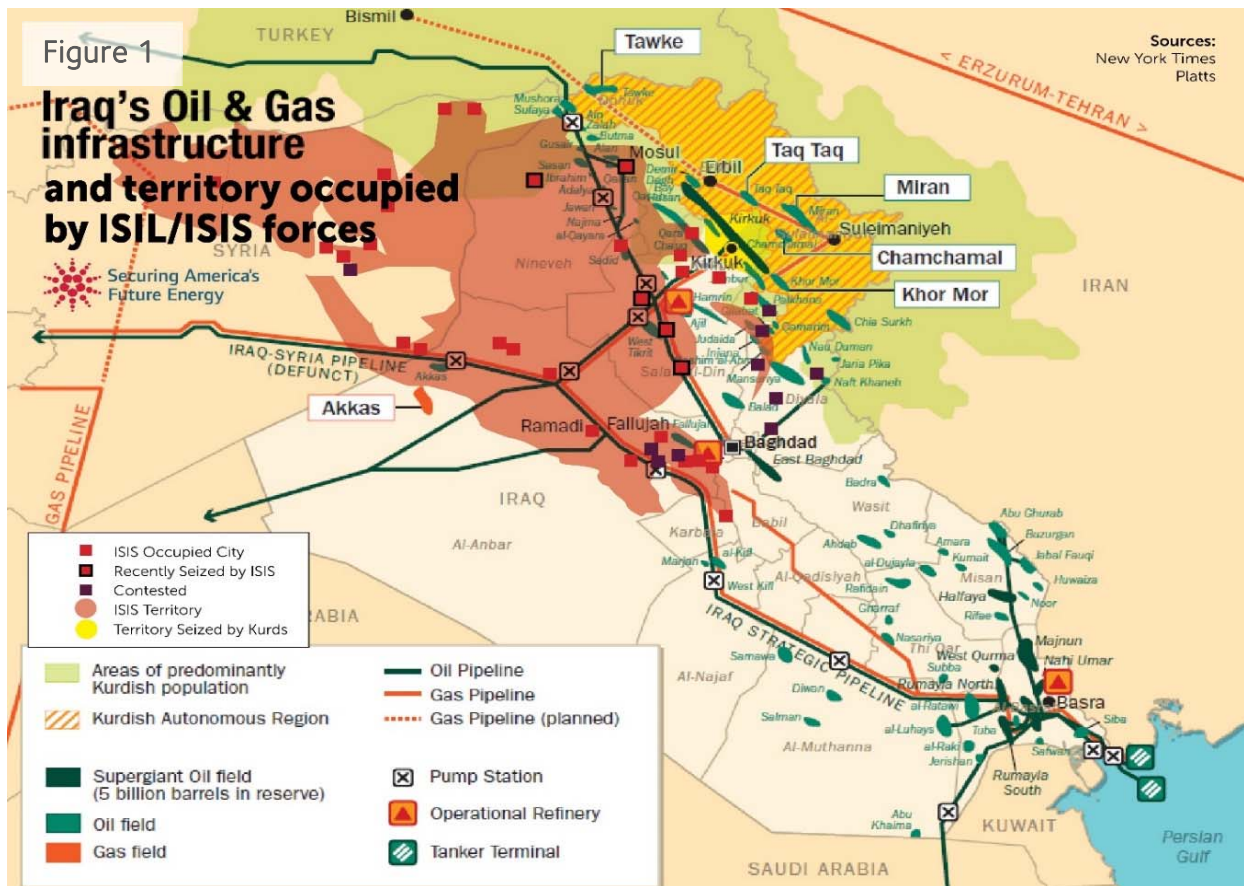
<sup>13</sup> Reuters, "U.S. considers air strikes, action with Iran to halt rebels," June 16, 2014; and see, e.g., New York Times, "U.S. and Iran Signaling New Joint Effort in Iraq Crisis," June 16, 2014

<sup>14</sup> See, e.g., The Guardian, "US and Iran hold talks over Iraq crisis but rule out military alliance," June 16, 2014

<sup>15</sup> See, e.g., New York Times, "U.S. and Iran Signaling New Joint Effort in Iraq Crisis," June 16, 2014; and USA Today, "Obama is sending 275 U.S. forces to Iraq for embassy security," June 16, 2014

<sup>16</sup> BBC News, "Iraq conflict: Militants 'seize' city of Tal Afar," June 16, 2014

<sup>17</sup> See, e.g., BBC News, "Iraq conflict: Clashes on approaches to Baghdad," June 17, 2014



## II. Near term oil market implications are potentially serious

The price of Brent crude oil surged above \$114 per barrel on Friday (June 13) for the first time in nine months.<sup>18</sup> Oil price volatility also rebounded from the lowest on record (observed June 3), reflecting the escalating level of violence and uncertainty.<sup>19</sup> Although most of Iraq's major oil fields and infrastructure are not considered to be immediately threatened, ISIL is, for example, reportedly in control of the pipeline to the 310,000 barrel per day Baiji refinery, Iraq's largest, and locked in a battle for the refinery itself.<sup>20</sup> Early this morning, the refinery was forced to shut down.<sup>21</sup>

Crude exports from Iraq's Kurdish region (primarily through the pipeline from Kirkuk to the Turkish port of Ceyhan), which were as high as 460,000 barrels per day in 2009, were effectively ceased on March 2.<sup>22</sup> Thus this lack of production/export already contributes to estimated unplanned global supply outages of 3 mbd.<sup>23</sup> The spread of Kurdish forces across the northeast region and into the city of Kirkuk likely suggest that the oil fields and infrastructure there may be no more threatened than they already have been in the short term, and the possibility of reestablishing exports could emerge assuming that ISIL remains focused on the central government, Baghdad, and other areas to the south.

<sup>18</sup> See, e.g., CNBC, "Oil settles higher as Iraq takes center stage," June 13, 2014

<sup>19</sup> See, e.g., Bloomberg, "Oil Volatility Rebounds From Record Low as Iraq Violence Worsens," June 13, 2014

<sup>20</sup> See, e.g., Bloomberg, "Oil Topping \$116 Possible as Iraq Conflict Widens," June 16, 2014; and ABC News, "Gas Prices Up as Mideast Turmoil Threatens US Economy," June 16, 2014

<sup>21</sup> See, e.g., CBS News, "Iraq oil refinery shuts as crisis deepens," June 17, 2014

<sup>22</sup> IEA, Facts Sheet for Oil Supply in Iraq

<sup>23</sup> U.S. EIA, STEO, June 2014

However, it should also be noted that certain segments of the Kirkuk–Ceyhan pipeline do pass through territory currently controlled by ISIS.

Today, nearly 100 percent of Iraq’s 2.5 mbd of crude exports currently exit the country through its southern oil complex centered on Basra. Basra province is located in the predominantly Shia south and home to the country’s three largest oil fields—Rumalia, West Qurna-2, and Majnoon—and approximately three quarters of Iraq’s total oil production.<sup>24</sup>

While this region has so far remained relatively secure, it will almost certainly be a target in any escalating sectarian conflict. An ineffective August 2013 bombing of Basra’s port, Umm Qasr, blamed on al Qaeda, is a relatively recent example of oil infrastructure targeting in this region.<sup>25</sup> A reigniting of conflict and successful attacks on Basra’s oil fields and infrastructure by ISIS would have the double effect of punishing the central government by destroying revenue generating infrastructure and striking at the heartland of Iraq’s Shia. Notably, it was reported early Monday that some oil companies in the south are beginning to evacuate non-essential personnel as a precaution.

Even if physical oil production and transportation infrastructure in Iraq’s south were not initially damaged or exports shut in, further increases in the oil price risk premium will almost certainly result if ISIS forces continue their march south and conflict spreads to a larger part of the country. Political disintegration would likely have a similar effect as uncertainty increased over the possibility of an actual interruption.

Figure 2: Brent Spot Price, June 2013 to Present



Source: U.S. EIA, Bloomberg, and BBC News

<sup>24</sup> U.S. EIA, Country Analysis Briefs, Iraq, last updated April 2, 2013

<sup>25</sup> Al-Monitor, “After Bombing Basra Governor Sees ‘Political’ Price to Pay,” August 19, 2013

### III. Any meaningful disruption to Iraqi crude exports would lead to a sharp elevation in oil prices

Any disruption to Iraqi oil production as a result of the latest conflict would come at an inopportune time for the global oil market, and as a consequence, for the U.S. and global economies. Estimated unplanned oil outages (the majority from OPEC countries Iran and Libya) are already at elevated levels above 3 mbd.<sup>26</sup> As a result, Saudi Arabia pumped almost 0.5 mbd more oil in Q1 2014 than in Q1 2013, and OPEC spare capacity—the majority of which is held by Saudi Arabia—has edged downwards to just 2 mbd, equivalent to approximately 2 percent of global oil consumption.<sup>27</sup>

Moreover, trends in global oil demand and global oil supply appear to be tightening the market further. The IEA recently upped its forecast for global oil demand in 2014 and reduced its forecast for non-OPEC supply.<sup>28</sup> As a result, it indicated that OPEC will need to increase output by 900,000 barrels per day in Q3 2014.<sup>29</sup> Any disruption to Iraqi oil supplies will undermine OPEC's capacity to meet this "call" and even a relatively limited disruption is likely to place continued upward pressure on global oil prices.

If 1 mbd or more of Iraqi oil were to be lost, spare capacity would be driven effectively to zero. The marketplace would rely heavily on Saudi Arabia raising output and almost certainly force some quantity of strategic stocks to be drawn down, primarily from the IEA, but perhaps also from China which is believed to have been filling stocks in recent months.<sup>30</sup> Such actions would help moderate price increases and volatility in the short term while output from countries like Saudi Arabia is being raised.

In January 2014, SAFE's Commission on Energy and Geopolitics (hereafter, Commission) explored several possible events that could have a substantial impact on oil market dynamics and prices in its inaugural report, *Oil Security 2025: U.S. National Security Policy in an Era of Domestic Abundance*.<sup>31</sup> The first of these "wildcards" was a possible descent into civil war and effective fragmentation in Iraq. This wildcard highlighted the dramatic rise in sectarian violence since 2012, riots and protests sparked by Sunni-Shia political disagreements, and impact of the ongoing conflict in Syria and its effect on relations between the Shia, Sunni, and Kurds in Iraq as reasons for concern.<sup>32</sup>

The Commission assessed an illustrative disruption of approximately 1 mbd, believing that it could be at least a year between the beginning of the outage and the full return of production. The estimated increase in oil prices that would result was \$37 per barrel from the base case. Such an increase was also estimated to decrease U.S. GDP growth by between 0.3 and 1.0 percentage points.<sup>33</sup>

---

<sup>26</sup> U.S. EIA, STEO, June 2014

<sup>27</sup> SAFE analysis based on data from: IEA, OMR, Archives and U.S. EIA, STEO, June 2014

<sup>28</sup> IEA, OMR, May 2014, at 4

<sup>29</sup> Id.

<sup>30</sup> See, e.g., Commission on Energy and Geopolitics, "Oil Security 2025," at 62-77; and Bloomberg Businessweek, "China's Record Oil Hoarding Seen Keeping Crude Above \$100," June 11, 2014

<sup>31</sup> See, e.g., Commission on Energy and Geopolitics, "Oil Security 2025," at 62-77

<sup>32</sup> Id., at 64-66 and 76

<sup>33</sup> Id.

Figure 3: Estimated Global Monthly Unplanned Crude Oil Outages

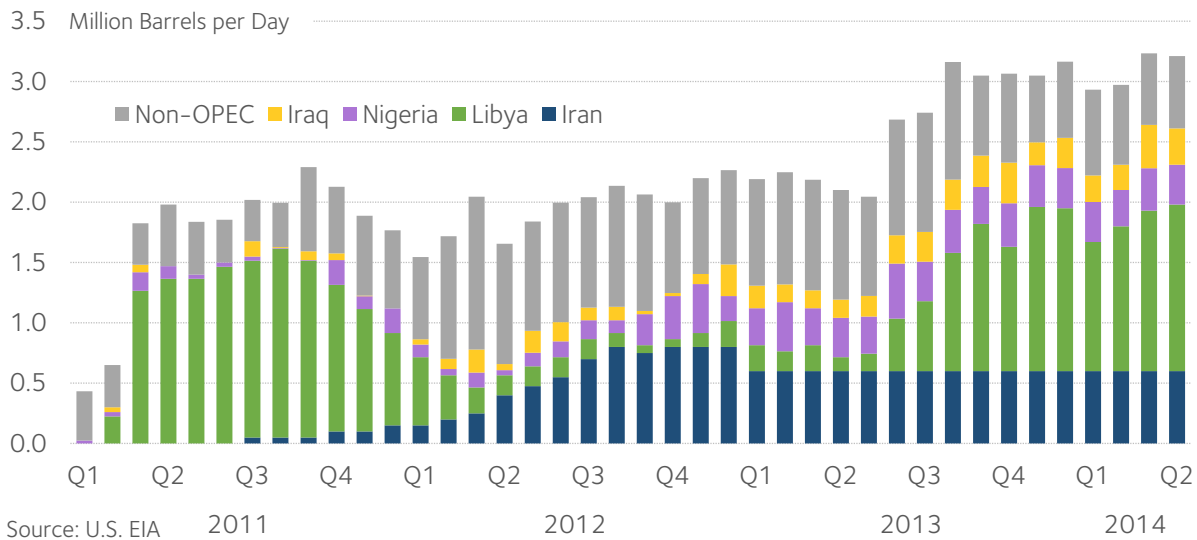
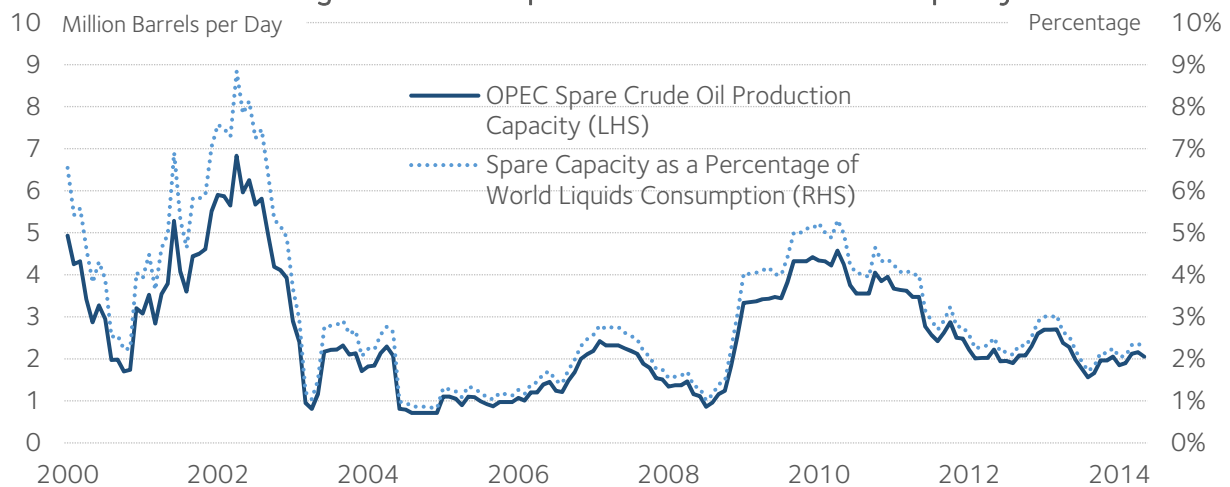


Figure 4: OPEC Spare Crude Oil Production Capacity



#### IV. Longer term market implications are potentially more concerning

Iraq’s oil industry has rebounded to a present-day level of 3.3 mbd in Q1 2014, up from a recent low of 1.3 mbd in 2003.<sup>34</sup> This sharp increase in production has allowed Iraq to displace Iran as the second largest producer in OPEC and account for approximately 3.5 percent of daily global oil supply.<sup>35</sup> With 150 billion barrels of proved reserves (behind only Iran and Saudi Arabia in conventional petroleum reserves), Iraq has the potential for sustained increases in oil production over the medium and long

<sup>34</sup> IEA, Oil Market Report, Archives

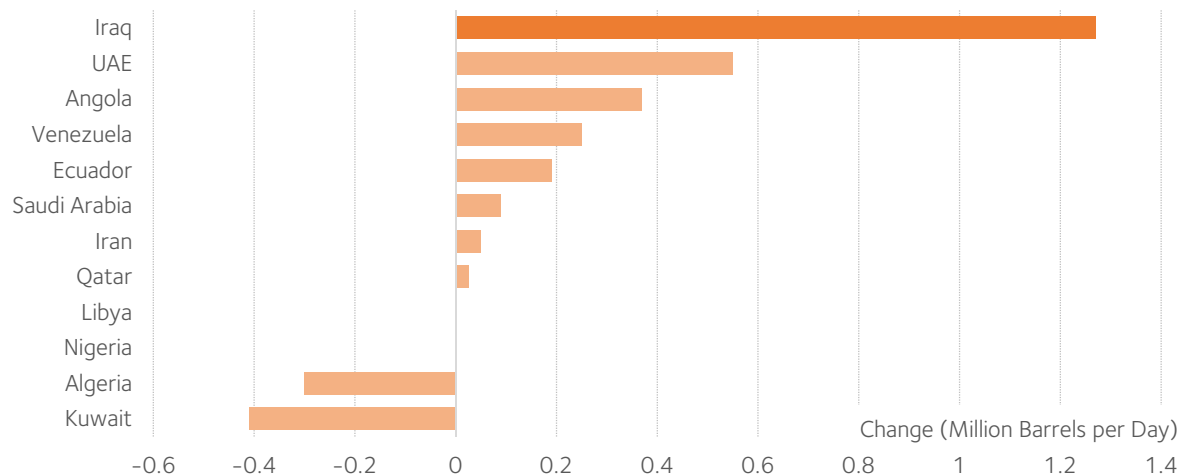
<sup>35</sup> Id.

term.<sup>36</sup> Moreover, Iraq's oil production is extremely low cost to develop, approximately \$2 to \$3 per barrel.<sup>37</sup>

As such, it is difficult to overstate the importance of Iraq to the long term outlook for global oil markets. In its baseline scenarios, the IEA forecasts Iraqi crude oil production to grow from 3.3 mbd in 2014, reaching nearly 6 mbd by 2020 and nearly 8 mbd by 2035.<sup>38</sup> Between today and 2020, the IEA expects Iraq to account for 60 percent of the increase in OPEC crude oil production capacity.<sup>39</sup> After 2020, Iraq accounts for the majority of oil production growth within OPEC, is the major driver of crude oil production growth globally, and is effectively a necessary component to meeting rising global demand growth in an even modestly cost-effective way.<sup>40</sup>

Indeed the IEA had already begun warning of a looming supply crunch by the end of the decade due to an emerging pattern of underinvestment in Middle East oil production capacity (primarily in response to rising non-OPEC oil production).<sup>41</sup> The surge in violence and instability in Iraq clearly have the potential to forestall investment in the country's oil industry, leaving the marketplace more heavily reliant on other, typically more costly-to-produce resources over the longer term.

Figure 5: Incremental OPEC Crude Production Capacity, 2013 to 2019



Source: IEA

## V. Any price spike would be highly damaging to the U.S. economy

After more than two decades of declining domestic oil production through 2008, the U.S. oil picture has dramatically altered since. Specifically, high oil prices and improvements in drilling technology have helped unlock massive light, tight oil resources in North Dakota, Texas, and elsewhere. As a result, U.S. crude oil production reached 8.1 mbd in Q1 2014, up from 5 mbd in 2008.<sup>42</sup>

<sup>36</sup> BP, plc., Statistical Review of World Energy 2013, at 6

<sup>37</sup> IEA, Iraq Energy Outlook, October 2012, at 54 (operating costs are expenses occurring during day-to-day production activities)

<sup>38</sup> IEA, World Energy Outlook (WEO) 2013, at 484

<sup>39</sup> IEA, OMR, June 2014

<sup>40</sup> IEA, WEO 2013, at 484

<sup>41</sup> See, e.g., Financial Times, "International Energy Agency warns of future oil supply crunch," November 12, 2013

<sup>42</sup> U.S. EIA, STEO, June 2013 and Custom Table Builder



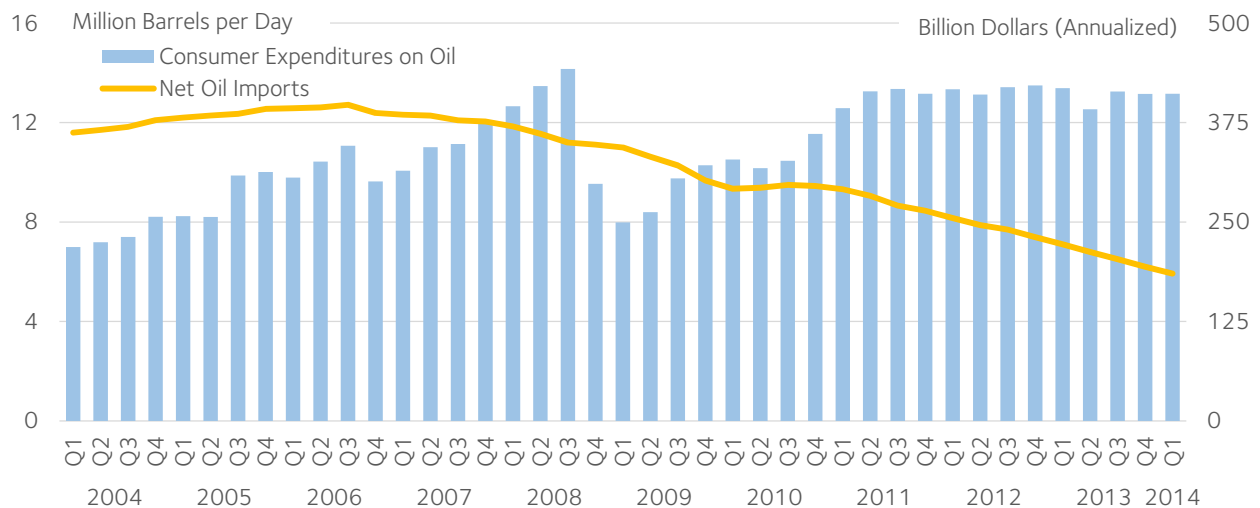
Alongside this rise, various economic, demographic, and policy factors have contributed to a stabilization in the long-term outlook for U.S. oil consumption. Together, these trends have reduced net U.S. liquid fuel imports by more than 50 percent from their 2005 high—a total decline of more than 6 mbd.<sup>43</sup> The shift has been so dramatic that in 2011 the United States became a net exporter of refined petroleum products for the first time since 1948.<sup>44</sup>

Nevertheless, today the United States remains the world’s largest oil consumer—accounting for a share greater than China, Japan, and Russia combined.<sup>45</sup> The United States also still relies on approximately 9.8 mbd of oil and petroleum product imports (6.2 mbd net), including 0.34 mbd (0.34 mbd net) from Iraq.<sup>46</sup>

More importantly, like all oil-consuming countries—including those that also export oil—the United States must still pay the global price for oil. As a result, despite rising domestic oil production and declining imports, expenditures on oil by U.S. households and by the economy as a whole continue to fluctuate with global oil prices. Today, for example, household expenditures on oil exceed \$400 billion on an annualized basis.<sup>47</sup> In 2005, by contrast, expenditures were less than \$300 billion despite imports that were more than twice as high because average prices then were lower.<sup>48</sup>

Such large expenditures come as a result of the country’s heavy reliance on oil in the transportation sector which accounts for roughly 70 percent of total U.S. oil consumption.<sup>49</sup> Petroleum fuels account for 92 percent of the energy that powers American cars, trucks, ships, and aircraft.<sup>50</sup> Economy-wide spending on petroleum fuels has in fact averaged \$880 billion annually since 2011—equal to 5 percent of GDP.<sup>51</sup> Breaching the 6 percent mark would almost certainly lead to negative economic growth.

Figure 6: Net U.S. Oil Imports and Consumer Expenditures on Oil



Source: U.S. EIA and Bureau of Economic Analysis

<sup>43</sup> Id.

<sup>44</sup> Id.

<sup>45</sup> SAFE analysis based on data from: IEA, OMR, May 2014, Table 2

<sup>46</sup> U.S. EIA, U.S. Imports by Country of Origin and U.S. Net Imports by Country

<sup>47</sup> SAFE analysis based on data from: Bureau of Economic Analysis (BEA)

<sup>48</sup> SAFE analysis based on data from: U.S. EIA and BEA

<sup>49</sup> U.S. EIA, Monthly Energy Review (MER), Table 2.5, June 2014

<sup>50</sup> Id., Table 3.7

<sup>51</sup> SAFE analysis based on: U.S. EIA, State Data Energy System

## VI. The United States must do more to protect itself against geopolitical instability that is having ripple effects across global energy markets

Today and into the foreseeable future, global oil market dynamics show few signs of a fundamental break from the “new normal” of high and volatile prices as global oil demand continues to grow rapidly in emerging economies and global oil supply—significant bright spots like the United States notwithstanding—remains constrained due to geology, economics, or politics, or some combination of all three. The political turbulence in Iraq is just the latest example of stress in a historically unstable region and volatile global oil market.

Global oil prices were already elevated due to a host of outages in Iran, Iraq, Libya, Nigeria, Sudan, South Sudan, Syria, and Yemen, relatively limited spare OPEC production capacity, and a variety of geopolitical events around the globe that have generated market jitters. These events are not only occurring in the Middle East. Most notable, of course, is the Russia-Ukraine crisis, which on Monday saw Russia cut off gas Ukraine’s gas supplies. Nigeria has, like Iraq, experienced an uptick in violence which threatens oil production of approximately 2 mbd, and Venezuela—another major oil-producing OPEC country and the fourth largest foreign supplier of U.S. oil imports—is facing its own political and economic challenges with oil sector implications.<sup>52</sup>

The escalation of instability in Iraq has nonetheless elevated prices to nine-month highs,<sup>53</sup> and given the country’s position as a major oil producer and exporter, a disruption to its supplies would have an even greater effect in the current market context. This would result in a substantial uptick in fuel prices for consumers in all countries, a very real threat to the strength of the U.S. and global economies.

The United States must take steps to address this vulnerability by focusing both increasing the stability and flexibility of the global oil market and reducing American oil dependence. American diplomatic and foreign policy should prioritize long-term political stability in major oil-producing countries and regions, and the technologies and policies that facilitated the U.S. oil boom should be shared where appropriate. Meanwhile, international tools for responding to oil supply disruptions should be strengthened to help protect the global economy from the outages that will inevitably occur and could once again be imminent in the case of Iraq.

The focus of reducing U.S. oil dependence should be evolving a transportation system that is no longer predominantly beholden to the high and volatile prices characteristic of the global oil market. Continued improvements in efficiency remain a critical part of this solution. So too is the development and adoption of cars, trucks, trains, airplanes, and ships that operate on non-petroleum “drop out” fuels. Government supported research and development efforts in particular will continue to play a crucial role in, for example, reducing the cost of advanced automotive components such as batteries for electric vehicles and storage tanks for natural gas and fuel cell vehicles.

---

<sup>52</sup> U.S. EIA, U.S. Imports by Country of Origin

<sup>53</sup> See, e.g., CNBC, “Oil settles higher as Iraq takes center stage,” June 13, 2014

*Contributors:*

**Sam Ori, Executive Vice President**

Sam Ori is the Executive Vice President for Securing America's Future Energy (SAFE). From 2007 to 2012, Mr. Ori was Director of Policy for SAFE. During this time, he was the principal author of the Electrification Roadmap, Fleet Electrification Roadmap and SAFE's research and analysis related to U.S. oil and natural gas issues and the global oil market. Mr. Ori was also responsible for SAFE's signature oil crisis simulation, Oil ShockWave.

**James Blatchford, Director of Policy**

James Blatchford is a principal or supporting author of several SAFE reports on a variety of energy issues. These reports include the Electrification Roadmap (2009), Transportation Policies for America's Future (2011), and Oil and the Trade Deficit (2012). Mr. Blatchford was also responsible for managing the production of SAFE's flagship report, A National Strategy for Energy Security (2012), and developing the Oil Security Index (2013, with Roubini Global Economics). Most recently, he led the research for, and delivery of, the Commission on Energy and Geopolitics' inaugural report, Oil Security 2025 (2014).

**Leslie Hayward, Manager of Online Content and Strategy**

Leslie Hayward contributes to SAFE's policy and communication teams by providing timely analysis and content related to energy security and SAFE's issue areas. Ms. Hayward also manages SAFE's social media strategy, website maintenance, graphic design, and direct online outreach.

For media enquires please contact Ellen Carey, [ecarey@secureenergy.org](mailto:ecarey@secureenergy.org) and (202) 461-2382