

## The Relationship Between Energy Infrastructure Attacks and Crude Oil Prices

Written by Jennifer Giroux and Caroline Hilpert  
Tuesday, 27 October 2009 00:00

---

In December 2005, a video statement was aired on Al-Jazeera in which Ayman al-Zawahiri called for attacks aimed at oil facilities in the Middle East. In response, crude oil prices rose by nearly US \$1. This incident is but one example in recent years when the oil market has responded to threats to energy infrastructure (EI) by increasing oil prices. While a dollar increase does not seem alarming, it becomes more concerning when one considers that every dollar-per-barrel increase costs the United States economy a reported \$4 billion a year, according to Gal Luft at the Institute for the Analysis of Global Security. More specifically, this example calls attention to how violent non-state actors (VNSA) are able to leverage oil market dynamics and harvest a global public relations platform by targeting EI. Capitalizing on modern energy security and crude oil market characteristics, today's VNSA operating in oil and gas producing and/or transit regions are quickly learning that attacks aimed at EI can not only be an effective way to target state and international energy assets, cause economic damages, and garner broad media attention, but also a way to effect global turbulence in the form of oil market volatility. Hence, these micro-actors are functioning in an environment that enables them to become global players.

Discourse on the targeting of energy infrastructure is largely centered on scenarios that involve sizable attacks to critical nodes that would in effect significantly disrupt supply. While this is certainly important, today's VNSA are quickly learning that it doesn't take a major, low probability yet high consequence – and thus expensive – EI attack to garner global attention and/or create broad consequences. Rather smaller, more frequent, relatively low-cost attacks can render greater returns – both in damages and in crude oil pricing effects. Take for example Nigeria where VNSA have succeeded in cutting oil production by nearly 1 million barrels per day (bpd). This was not accomplished through one or two major attacks but rather a sustained campaign of disruption that escalated in 2006. The attacks were so heavy and sustained that Angola recently overtook Nigeria as Africa's number one oil producer.

Granted, the main factors driving high crude oil prices from the 2004 to mid-2008 period can largely be attributed to record demand from a global economic boom, price inelasticity, and tightened supply. However, political instability in producer regions further compounded this challenging environment. Such turbulence resulted in what analysts defined as a security or "risk premium" – ranging from as low as US \$4 to as high as \$25 dollars per barrel – being placed on crude oil prices within this timeframe. In fact, during this period one can find a direct correlation between EI attacks and increasing global energy prices driven by traders and speculators who viewed EI targeting as a threat to supply and, perhaps, an exploitable opportunity to inflate prices. As follows, this article will review the changing energy security environment and highlight how EI attacks from 2003 to 2008 had an effect on crude oil pricing. We conclude by calling attention to the triangle of crude oil trading, EI attacks, and oil pricing.

# The Relationship Between Energy Infrastructure Attacks and Crude Oil Prices

Written by Jennifer Giroux and Caroline Hilpert  
Tuesday, 27 October 2009 00:00

---

## A changing energy environment

Political instability in producer regions, with its effects on the energy market, is not necessarily new. In 1978, for example, crude oil prices started to climb when the Iranian revolution began, which resulted in the loss of 2 to 2.5 million barrels per day (bpd) of oil production, out of a maximum capacity of 4 million bpd. Prices continued to climb when the Iraq-Iran War followed, and this lasted until 1981. The combination of these two events caused crude oil prices to more than double; increasing from \$14 in 1978 to \$35 per barrel in 1981 (adjusted for inflation this would be US \$82). Prices also spiked during the Suez Crisis and the first Gulf War, to name some other notable cases. Such examples reflect an energy market where occasional yet significant regional instability, mainly in the form of interstate conflicts, affected oil pricing. Until recently, this was not the case with EI targeting, whereby non-state actors could carry out attacks and have the oil markets to take notice. This is principally due to the changing nature of our energy security environment coupled with the modern characteristics of today's VNSA.

In short, we have entered an era where our energy security environment is fundamentally shifting. Transit pathways will become more important, oil resources will increasingly be produced or transiting through unpredictable regions, and supplies will continue to tighten as these non-renewable resources are stressed due to mounting global demand. Add to this list the emerging difficulties in finding new conventional oil, resulting in progressively expensive exploration activities, for instance deep sea drilling off the coast of Angola. Fatih Birol, Chief Economist at the International Energy Agency (IEA), also recently noted that, "Many governments appeared oblivious to the fact that the oil on which modern civilization depends is running out far faster than previously predicted and that global production is likely to peak in about 10 years." For the moment, the current economic crisis has eased supply pressures leading to much lower, yet extremely volatile, crude oil prices from the August 2008 peak of US \$147 per barrel when gasoline prices surpassed US \$4 a gallon.

However, the energy market seems evermore divorced from supply/demand fundamentals. Take the current poor economic climate; as crude oil prices hover between US \$60 to \$70 per barrel, analysts question the higher price rationale despite favorable supply to demand ratio with record high inventories. Even the November 2008 attack where Somali pirates hijacked the *Sirius Star* - a Saudi supertanker carrying 2 million barrels of crude oil worth more than \$100 million - prices rose more than US \$1 a barrel despite a favorable, abundant supply and low demand picture. With this in mind, it bears mentioning the role of oil trading by hedge funds and investment banks that, through the business of trading with oil futures, can financially benefit from frequent EI attacks and the volatility it inspires. Overall, the aforementioned components have cultivated a precarious 21st century energy security environment that has more players and appears to be less elastic and more sensitive to any real or perceived disruptions, creating an optimal climate for VNSA to exploit in unprecedented ways.

# The Relationship Between Energy Infrastructure Attacks and Crude Oil Prices

Written by Jennifer Giroux and Caroline Hilpert  
Tuesday, 27 October 2009 00:00

---

## A global platform

In June 2003, the Kirkuk-Ceyhan oil pipeline, located in northern Iraq and accounting for one-third of Iraq's pre-war oil exports, was attacked by insurgents. While coalition forces were aware that Iraq's EI could be threatened by internal instability, it soon became clear that they were not prepared for the scale in which the domestic EI would be targeted between the 2003 to 2008 period. The June attack was the unofficial launch of an EI targeting strategy that would be carried out by the several different groups, al Qaeda being one of them, that made up the Iraqi insurgent movement. Since this attack, over 500 reported EI attacks have been carried out in Iraq while other key oil producer regions reported similar targeting campaigns by local VNSA. It bears mentioning that, though EI targeting had been occurring since the mid-1970s, it was not until after 2000 when what was largely individual events spawned into a more encompassing regional and global phenomenon.

In an August 2003 bombing of the Kirkuk-Ceyhan oil pipeline, crude oil prices rose by 31 cents per barrel (at this time prices were around US \$30 per barrel). By spring 2004, high global demand sustained the over \$30 a barrel price. However, prices began taking another climb on April 24th following a suicide bombing attack near the heavily guarded Iraqi Basra terminal. By May, more attacks followed, with one occurring at the Saudi Yanbu oil hub where perpetrators killed foreign and Saudi employees, and another in which a major pipeline located 35 miles south of Basra was bombed, reducing exports by 1.2 million b/pd compared with 1.6 million bpd prior to the attack. These events pushed crude oil prices up by nearly 10 percent within the month, touching US \$40 by June. Whereas robust global demand and the ability for consumers to pay more kept prices sustained, it is apparent at this early stage that it was the oil market's reaction to such attacks that contributed to increasing crude oil prices. Come September prices would be halfway to US\$50 per barrel even though Saudi Arabia officials boasted of an immediate spare capacity of 1.3 million b/pd. Analysts from the Sucden brokerage firm stated that the "The record [price] levels achieved this week have been driven by concerns about over-stretched supplies, underlined by the fact that Iraqi production from the south of the country has been shut in."

It seems that VNSA perfectly understand this logic. In a 2004 manifesto, authored by Shaykh Abdullah bin Nasser al-Rashid, "The [Islamic] Laws of Targeting Petroleum-Related Interests and a Review of the Laws Pertaining to the Economic Jihad," defined the targeting of EI as a legitimate tool of economic jihad that leads to higher oil prices, an expensive security premium and less energy security for the international oil economy and the Western world. Or, as one Jihadist website noted: "The killing of 10 American soldiers is nothing compared to the impact of the rise in oil prices on America and the disruption that it causes in the international economy,"

By 2006, Iraq was no longer the only concern. EI attacks were surfacing in other countries in the Middle East, Central Asia, and Africa. In December 2005, the Movement for the Emancipation

## The Relationship Between Energy Infrastructure Attacks and Crude Oil Prices

Written by Jennifer Giroux and Caroline Hilpert  
Tuesday, 27 October 2009 00:00

---

of the Niger Delta (MEND) launched a massive offensive against the Nigerian government and the multinational oil companies operating in the Niger Delta, Nigeria's main oil producing region. In a February 2006 attack, MEND kidnapped foreign oil workers, attacked pipelines, and disrupted an important export terminal, cutting production by 455,000 bpd out of a total of about 2.5 million b/pd, resulting in crude oil prices rising 2.6 %, or US \$1.57 a barrel, to \$61.46. A few days after this attack, Saudi Arabia's highly guarded Abqaiq oil processing facility, the largest in the world, was struck when suicide bombers in explosives-laden cars attempted to penetrate the front gates. Although the bombs did detonate, the actual facility was not damaged. Despite what can be defined as an unsuccessful attack, crude oil jumped to \$62.91 a barrel. Following these attacks, Frédéric Lasserre, the head of commodity research at Société Générale in Paris, noted how "The incidents in Nigeria are happening at a time when geopolitical events seem to be happening at a near-continuous rhythm — such as production problems in Iraq, tensions in Iran and in Venezuela."

MEND maintains a sophisticated media campaign, and Jomo Gbomo, the elusive official spokesperson for MEND, has noted the success of this campaign and the effect that EI targeting has had on crude oil pricing. Following a January 2008 attack, Gbomo stated, "The fact that we have influenced the price of world oil, no matter how little, and caught the attention of the foreign media indicates we are on the right track." This statement reveals that MEND had realized that the scale of their attacks translated not only into local disruption, but also into regional and international shocks in the form of higher oil costs and media attention.

As prices continued to climb through 2007, EI assaults continued at a resounding pace with over 200 being reported since 2005. By April 2008, the [attack](#) on a Japanese oil tanker off the coast of Yemen pushed crude oil prices over US \$117 per barrel and onward to nearly US \$123 by May, following an attack on an oil refinery in Aden, Yemen. In sum, these examples confirm the significance of EI targeting and underscore a development where VNSA realize their ability to leverage crude oil markets through sustained disruptions. To counter this, a multi-faceted response is needed, one aspect of which must address the oil markets' sensitivity to any real or perceived threats to EI and, more specifically, the role of speculation.

### Today's oil market

In 1974, the United States Commodity Futures Trading Commission (CFTC) was established to prevent speculators from artificially increasing the price of commodities. Since 2000, the CFTC, which is limited to trading in the New York Mercantile Exchange (NYMEX), has lost considerable regulatory power beginning with the so-called, newly established "over-the-counter" trading (OTC). OTC serves to operate outside of the regulated exchange markets and therefore allows companies to function outside of CFTC's oversight. Another curtailment of CFTC's influence came with the establishment of Intercontinental Exchange (ICE), an Atlanta-based company that facilitates the electronic exchange of energy commodities

## The Relationship Between Energy Infrastructure Attacks and Crude Oil Prices

Written by Jennifer Giroux and Caroline Hilpert  
Tuesday, 27 October 2009 00:00

---

via an internet platform. The company was founded by leading oil companies, including BP Amoco, Shell Oil and several financial institutions, such as Goldman Sachs and Deutsche Bank. By 2001, ICE purchased the London-based International Petroleum Exchange - the leading European exchange for trading European crude oil and heating oil futures - and was allowed to set up trade terminals in the US, trading future derivatives outside of NYMEX, and thus outside of CFTC's jurisdiction.

Connecting this to the 2003 to 2008 period reveals that crude oil speculators were operating largely without regulation and thus responded to the frequency of EI attacks as an overall threat to supply, thus betting on higher future prices. On the one hand, given high demand at the time, EI targeting had a psychological effect that generated fear that supplies would tighten. On the other hand, though bombing a pipeline typically does not result in significant supply losses, the more that attacks occur the more pressure is placed on supplies which in turn is seen as a "window of opportunity for traders", as John Robb, Author of *Brave New War* explains. "Traders view volatility as opportunity. MEND, for instance, provides that when supplies are tight." (author interview) Additionally, if speculators purchase oil futures at a higher price than the market currently sells, it may cause oil producers to store more oil now in the hopes of selling it at a higher price later. Hence, it drives up demand both on the side of the speculator, as well as on the side of the oil companies and other speculators that jump on the bet of higher prices. Such actions decrease the current supply available, and hence lead to higher prices.

Olivier Jakob, Managing Director of Petromatrix, an independent oil market consultancy, finds that "speculators are really part of the market and [they] do influence prices," but notes that "the direction goes both ways. They not only contribute to higher, but also to lower prices." (author interview) In other words, the speculator functions as an agent with capital that influences supply and demand both in the present as well as for futures contracts. In addition, according to Mr. Jakob, there are numerous players: "There are the real speculators, such as hedge funds, but then there are also market players like pension funds that may also buy commodities like oil and thereby influence the price." Speculators and traders in general closely follow any such attack, but their interpretation depends on the market circumstances. High stock-levels of oil present a certain security buffer, as Mr. Jakob explains. "If stockpiles are low, energy infrastructure attacks have sort of a multiplier effect." (author interview)

While the role of speculators in oil pricing and the extent to which they influence prices is still subject to debate, it is clear that sensitization and regulation is needed. First, oil traders and speculators must learn not to overreact to EI attacks and play into the hands of VNSA who seek to cause maximum damage. Second, regulation must be made a priority. Indeed, efforts to create more transparency on oil markets and curb excessive speculation are currently gaining momentum and should be encouraged. The European Union and OPEC, who blamed oil speculators for 2008's massive oil price hike, recently called for more regulatory oversight. As

## The Relationship Between Energy Infrastructure Attacks and Crude Oil Prices

Written by Jennifer Giroux and Caroline Hilpert  
Tuesday, 27 October 2009 00:00

---

an EU statement of June 2009 [reads](#) : "The 2008 bubble could be repeated if adequate regulatory reforms, including greater transparency, [are] not made as part of an overall reshaping of the global financial sector."

In fact, the CFTC has made attempts to close the OTC loophole again. Rules were imposed on natural gas trades on ICE to better track trading and prevent market manipulation. Crude oil trades may be next. Staying with the status quo allows VNSA to continue to maximize the effects of EI attacks, and take credit for higher crude oil prices.

*Jennifer Giroux is a Researcher for the Crisis Risk Network at the Center for Security Studies. Her current research project focuses on the targeting of energy infrastructure and Carolin Hilpert is a freelance writer and a graduate student of international relations at ETH Zurich. Anna Michalkova assisted with research with this article.*