

## **Tragedy, Unrest, and Global Energy Markets—March 18, 2011**

The following commentary is authored by Simon Heslop, CFA, Director of Asset Management, and Sean Fullerton, Investment Research Associate, at Commonwealth Financial Network. It discusses recent global events in Japan, as well as the Middle East and North Africa (MENA), within the context of the global energy market. It includes an in-depth discussion of MENA countries roles in these markets, the outlook for the future, and provides a much more comprehensive and detailed analysis of recent global events than my brief commentary, *The Unfolding Crisis in Japan and World Capital Markets, March 16, 2011*. -- **Sean Gross, CFP®, AIF®**

### **Japanese earthquake and tsunami**

Over the past several days, we have seen images and read headlines of the terrible tragedy in Japan. The country experienced its most powerful earthquake in 140 years, measuring 9.0 on the Richter scale. This was followed by massive and hugely destructive tsunami waves in the northeastern part of the country. We are deeply saddened by the loss of life and widespread destruction. We are also awestruck at the resolve of the nation and the global outreach of support to help Japan get through this.

As we look ahead, we seek to determine the broader implications of the aftermath of the tragedy. One of the significant repercussions is energy, as Japan focuses on trying to stabilize nuclear reactors at its Fukushima Daiichi complex 150 miles north of Tokyo. Several explosions at the plant have called into question the possibility that a catastrophe could ensue on the order of the magnitude of Chernobyl or worse.

### **The nuclear reactor threat**

The outcome of this emergency won't be known for some time, but it will have an immediate impact on Japan's energy infrastructure. Near-term effects, for example, have included rolling blackouts across the nation, resulting from the closure of nuclear facilities.

But beyond the need to bring the current nuclear situation under control, Japan should not see a lasting impact from the loss of electrical supply. The government can replace nuclear capacity with natural gas or oil-powered generation, which should serve to limit the economic impact to industry and citizens.

In addition, even now we can begin to broadly estimate the cost of recovery. The base case from which we draw a conclusion is the Great Hanshin or Kobe earthquake of 1995. At the time, the cost to rebuild was approximately 10 trillion yen (or approximately 2 percent of Japan's gross domestic product). We can loosely project a similar or somewhat higher cost this time around.

Again, the extent of the overall economic impact won't be known for some time, but it will likely be surmountable, given the strength of the world's third-largest economy.

### **North Africa, the Middle East, and the broader energy implications**

What could lead to a more significant disruption to the global recovery is the unfolding unrest in the oil-producing regions of the Middle East and North Africa (MENA). Citizens have risen up in protest against their respective governments and clashes have led to widespread loss of life. In addition to raising humanitarian and

political concerns, the region grabs attention from an investment perspective; oil supply could be disrupted even as demand increases because of a continued global recovery.

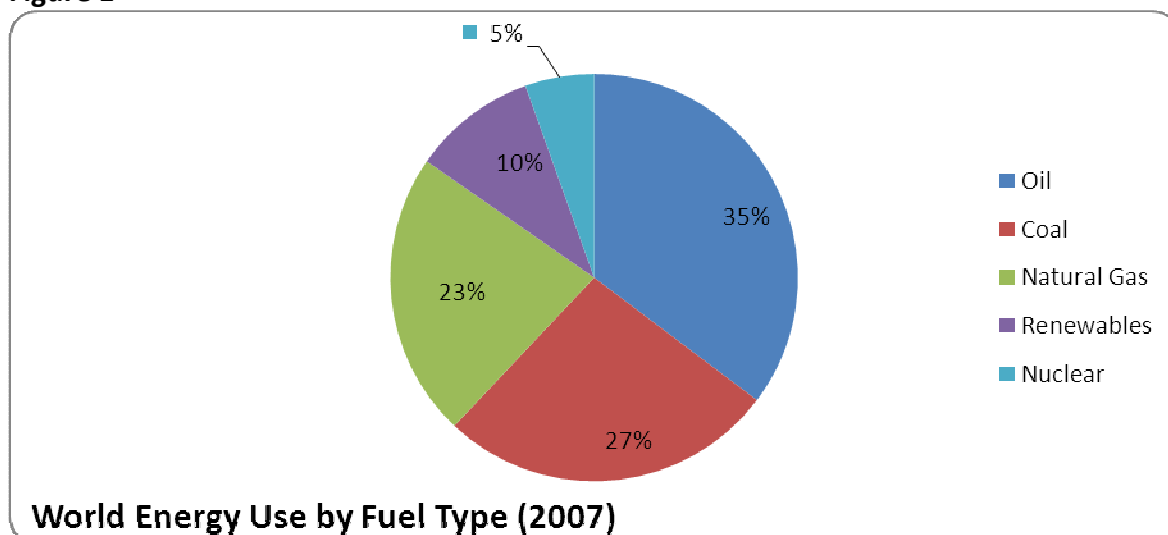
A timeline of the unrest and its spread across the region helps give perspective on the unfolding events. Demonstrations began in Tunisia last December 17, leading to the resignation of its president, Zine al-Abidine Ben Ali, on January 14 of this year. In Algeria, riots commenced in early January and were followed quickly by protests in Jordan. Unrest spread from North Africa to the Middle East, when protesters in Yemen called for the resignation of President Saleh. Egypt followed, with massive demonstrations that led to the resignation of President Mubarak on February 11. Finally, the contagion spread to Bahrain, Iraq, and Iran, as citizens continued to protest government repression.

The most recent protests and conflicts in Libya, which center around calls for the removal of long-standing dictator Muammar Gaddafi, have begun to negatively impact markets. Oil prices have spiked, and global markets have sold off. Investors have begun to worry that further destabilization in the region could hamper global oil supplies. This is particularly troubling now that tensions have risen in Saudi Arabia, the world's third-largest oil-producing nation. Events there, in Iran, and in Bahrain appear to be reviving tensions between the region's Shiite and Sunni populations.

### The effect of the crises on global energy demand and prices

With unrest in the Middle East taking a backseat to the crisis in Japan recently, it is worth putting into perspective the magnitude of the impact that each could have on global energy. In the case of Japan, the major concern is demand-driven and relates mostly to nuclear energy and natural gas. In the Middle East and North Africa, the supply side of the equation is more important, and oil is the chief worry.

Figure 1

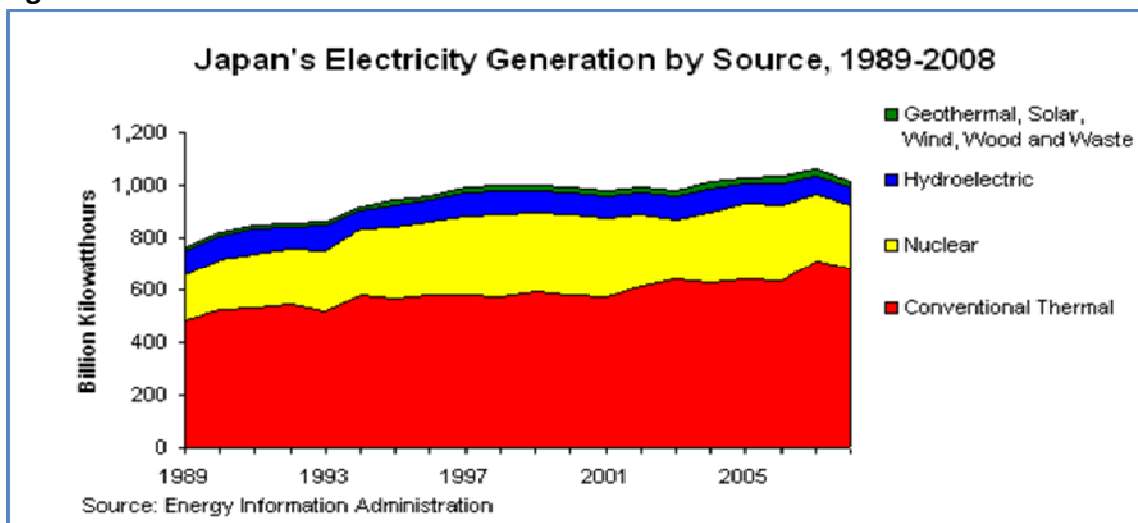


Source: [www.eia.doe.gov/oiaf/ieo/world.html](http://www.eia.doe.gov/oiaf/ieo/world.html)

**Nuclear.** Although nuclear concerns are grabbing headlines because of the risk of radiation leaks from crippled reactors, the actual usage of nuclear power on a global scale is relatively small. As Figure 1 illustrates, only 5.47 percent of the world’s energy comes from nuclear sources. China, Germany, the U.S., and, obviously, Japan are all expected to reevaluate their current nuclear policies in the wake of this crisis. But these governments and others will likely be able to take a measured approach by either winding down their nuclear dependence over time or by increasing safety standards. Therefore, a sudden lack of nuclear power is not a major threat.

**Natural gas.** At 22.64 percent of global energy usage, natural gas makes up a much larger portion of the pie than does nuclear. In the wake of the tsunami and nuclear crisis in Japan, natural gas prices have climbed on the prospect that Japan might replace its nuclear power plants with natural gas-fueled facilities. While this may occur, concerns may be somewhat overblown, since Japan accounted for only 2.65 percent of the world’s natural gas consumption in 2009. In addition, nuclear power provided a relatively small portion of Japan’s current energy, as shown in Figure 2, so a switch to natural gas there would likely have only a marginal effect on demand and, therefore, on global prices over the long run.

**Figure 2**



**Oil.** Because nuclear energy and natural gas don’t appear to be major concerns, we now turn to oil. Oil has sold off in the wake of the Japan crisis, as attention has shifted away from the Middle East. That said, the largest risk to global energy supply continues to come from oil. The reason for this is twofold.

First, petroleum fuel makes up 35.28 percent of the world’s energy supply, making it the largest of all fuel sources. Second, the countries that have experienced regime changes or civil war in the Middle East produce nearly 3 percent of global oil, and countries that are the most *at risk* for unrest in the Middle East produce fully 25.45 percent of global oil.

**Figure 3: Percentage of World Oil Supply Produced by Middle East/North African Nations at Risk for Unrest**

Saudi Arabia	11.21%
Iran	4.79%
Iraq	2.75%
Algeria	2.44%
Libya	2.05%
Oman	0.94%
Egypt	0.78%
Yemen	0.33%
Tunisia	0.10%
Bahrain	0.06%
<b>Regime Change/Civil War</b>	
<b>Total</b>	<b>2.93%</b>
<b>At-Risk Total</b>	<b>25.45%</b>

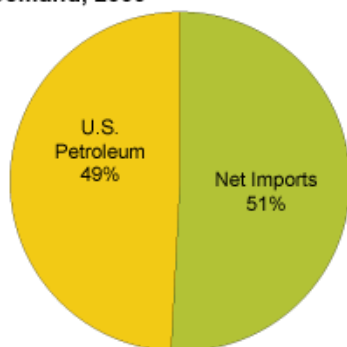
Source: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2173rank.html>

Nations having experienced civil war/regime change highlighted in red.

Although regime change in a country such as Saudi Arabia may be less likely (because of the country’s smaller Shiite population compared with its larger ruling Sunni population), even small signs of unrest there could cause a speculative boost in oil prices. Given that the U.S. imports 51 percent of its petroleum from overseas and 39 percent of that from the Persian Gulf and Africa (see Figures 4 and 5), when it comes to the Middle East, there remains a great deal of investment and strategic risk.

**Figure 4**

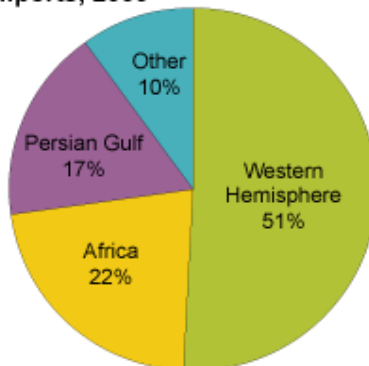
**Net Imports and Domestic Petroleum as Shares of U.S. Demand, 2009**



Source: U.S. Energy Information Administration, *Petroleum Supply Annual 2009* (July 2010).

**Figure 5**

**Sources of U.S. Net Petroleum Imports, 2009**



Source: U.S. Energy Information Administration, *Petroleum Supply Annual 2009*.

**Investment outlook**

The crisis in Japan is newsworthy, meriting both humanitarian and investor concern. As long as the risks of radiation leaks and contamination are contained, however, there is light at the end of the tunnel for that part of the world. On the other hand, the ultimate conclusion we draw from the data shared here is that, from an investment perspective, continued risks in the Middle East may be more important to watch going forward.

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