

# Coordination of Oil stocks and Interventions in the Oil Markets

Klaus-Dietmar Jacoby\*

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## 1. Background

To give some background to the rationale behind the establishment of stocks of oil to be used strategically during emergencies, I will refer to historical precedents in the United Kingdom and France. The origin of the notion of the need for oil stocks to be used for national security goes probably back to World War I, when Lord Admiral Winston Churchill first became aware of the need to procure fuel (in this case, coal) for his military fleet. In 1917, France experienced a rupture in oil supplies when its army required more petrol than was available, as available supplies were diverted for use in the Russian Revolution and by American submarines. Consequently, in 1925, France imposed on its oil industry to reserve stock representing 25% of the declared amount of oil delivered for consumption during the last 12 months, or 91.25 days of domestic consumption.

In order to supply fuel for military operations during World War II, countries resorted to compulsory demand restraint programs such as fuel rationing. As Germany had no indigenous oil production, it succeeded in a type of ersatz fuel switching by converting coal into a type of petrol. But it was following Egypt's blockade of the Suez Canal in the 1950s that European politicians became increasingly aware of the necessity of maintaining oil reserves. Eventually, in 1968, the six members of the European Economic Community (Belgium, France, Germany, Italy, Luxembourg, and Netherlands) agreed to maintain a minimum level of crude oil stocks and oil products corresponding to 65 days of domestic consumption. In 1972, this obligation was raised to 90 days.

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\* Klaus-Dietmar Jacoby is Head of Emergency Planning and Preparations at the International Energy Agency, Paris.

The IEA's initial stockholding obligation as formulated in 1974 was "to maintain emergency reserves sufficient to sustain consumption for at least 60 days with no net oil imports" [Article 2.1 of the International Energy Program (IEP)]. In 1975-6, the Governing Board raised the minimum legal obligation from 60 to 90 days by stipulating incremental increases until the 90 days' level was achieved in 1980. Throughout the 1980s and 1990s, the overall emergency reserve stock level of IEA net importing countries has been well above 90 days, peaking at 193 days in 1986. The IEA used its stocks in 1991 during the Gulf War, when it made 2.5 million barrels per day available to the market.

By the latter half of the 1990s, many changes in the oil market resulted in a renewed focus on assuring supply of oil in case of a disruption for both oil-producing and -consuming countries. The market became more globalized with increased production from non-OPEC producers, and output increased to keep pace with the booming U.S. and Asia Pacific economies. But OPEC's slow reaction in adjusting its production quotas to accommodate the Asian economic crisis of 1998 and U.S. economic downturn of 2000 made oil prices drop. Emergency plans and procedures of the International Energy Agency and its member countries were reviewed and reshaped in anticipation that possible computer problems related to Y2K could seriously impact energy security. Then, just as OPEC and non-OPEC producers had instituted lower production quotas to regain control of oil prices in 2001, the terrorist events of 9/11 raised fears that oil could again be used as a weapon.

Other geopolitical events, along with perceived diminution of the ability of oil producers to compensate for a supply loss by using spare capacity, have acted to create a climate of uncertainty about future supply. In 2002-3, problems in Venezuela led to a strike at PDVSA, causing Venezuelan production to plummet. Both social unrest in Nigeria, which affected that country's oil production, and the second war in Iraq in 2003 reinforced possible risks of a significant supply disruption. With spare capacity in oil-producing countries at historical lows and demand from fast-growing economies like China or India increasing, the market must find new balance. In this context, economies are more vulnerable, as increasingly high oil prices could negatively effect economic growth. Also, because of tighter management of stocks due to technological innovation, even historically smaller supply disruptions could have significant market ramifications. Reminding the world of the existence of the IEA's collective stockpile through well-timed news releases serves to assuage the insecurity.

A core activity of the International Energy Agency is to create a reliable emergency response policy. The IEA was established after the first oil price shock in 1974 with an overriding mandate to establish, maintain and improve systems enabling our member countries to mitigate the risk of oil supply disruptions. The Agency's 26 member countries span the globe. Broad membership is important as interdependency in the global oil market means that regional disruptions have the potential for global impact. The IEA includes major oil producers and consumers in its outreach activities and collaboration on energy security issues.

With globalisation and interdependency of energy markets, the IEA's energy security focus relates not only to oil security but also encompasses gas and electricity. Security of natural gas supply, in particular, is becoming more important with the growing share of gas in the global energy mix.

Furthermore, it is now widely understood that the attainment of energy security embraces other policy objectives too. Indeed, as far back as 10 years ago, IEA member governments stated their "Shared Goals," which included a commitment to "seek to create the conditions in which the energy sectors of their economies can make the fullest possible contribution to sustainable economic development and the well-being of their people and of the environment."

## **2. Response Measures and Procedures**

By signing the IEA treaty - an "Agreement on an International Energy Program" (IEP), 16 OECD countries founded the IEA as an autonomous body of the OECD. The IEA now has 26 Member countries which represent some 60% of total world oil demand and include all EU countries as well as some of the new EU countries. Core commitments of the member countries under the IEP Agreement include:

- The maintenance of oil reserves equivalent to at least 90 days of net oil imports;
- To have ready a programme of demand restraint measures to reduce national oil consumption by 7 to 10%; and,
- To participate in an oil sharing system in a severe supply disruption using these tools.
- In addition, member countries cooperate with the oil industry for advice and operational assistance in emergencies.

The committee for discussion and development of security policies and procedures is the IEA Standing Group on Emergency Questions (SEQ), which is comprised of representatives from our member countries, together with a representative of the European Commission as an observer. The SEQ makes recommendations to the IEA Governing Board for consideration and adoption and it is assisted by an Industry Advisory Board, which includes senior representatives of oil companies headquartered in IEA member countries.

To reflect the evolution of energy markets since the IEA was established, its underlying IEP Agreement treaty obligations to share oil in an emergency have been reinforced by a system of co-ordinated emergency response measures that can be readily calibrated to the circumstances at hand. This concept, introduced in 1984, is known as “Co-ordinated Emergency Response Measures” (CERM). It established a flexible framework for international consultations on co-ordinated stockdraw and other response measures in the event of an actual or potentially significant oil supply disruption. The formal sharing system has not been deployed to-date and CERM-based collective responses reflect the belief that, under normal circumstances, the global oil market is fully capable of determining the most efficient initial physical re-allocation of supplies in any given crisis scenario. Collective action utilizing stocks and other measures provides a strategic safety net to reinforce the market.

### **3. Response Potential**

On the supply side, stocks are by far the most rapid and effective response measure to meet physical supply shortfalls or the threat of an imminent shortfall. IEA stocks are for strategic use to avoid negative economic impacts of a severe supply disruption; they are not to be deployed as a means to manage the market.

As at 1st June 2005, total combined government-controlled and industry-held stocks in IEA countries were about 4 billion barrels. IEA net importing countries held an amount equivalent to 118 days of the previous year’s net imports, but when stocks held by net exporting members are taken into account, stock coverage actually rises to the equivalent of 152 days of net imports, well above the minimum requirement of 90 days. The ready availability of stocks is important when OPEC spare capacity is unsure and commercial stocks are low. In this context the IEA Secretariat sees, with some satisfaction, a trend in member countries to create

or increase Government-controlled stocks in place of mandatory industry stocks. With the completion of U.S. effort to fill its Strategic Petroleum Reserve (SPR) to its 700 million barrel capacity, the government-controlled reserves held by IEA members are at an all-time high of nearly 1.5 billion barrels. To put this in perspective, IEA government-controlled reserves could compensate for a 2 mb/d supply loss for about 700 days, nearly two years. IEA members also hold over 2.5 billion barrels of commercial stocks.

Other response measures on the supply side, such as fuel switching or surge production, would not contribute as much now as in the past. An IEA survey (IEA, 2001) showed that only a few countries like the United States, Japan or Italy have significant potential to switch from gas to oil or vice versa, a result of the trend to replace oil with natural gas in electricity generation. Nevertheless, the IEA is updating this fuel switching survey and will discuss the outcome and implication on short and long term policies. The capacity for surge production as a potential response to a global supply disruption has also diminished.

On the demand side, policies and measures to save oil have a relevant importance, particularly for the transport sector. Member countries are obliged by the IEP to have ready demand restraint programmes which may include light-handed measures to increase public transit usage, car-pooling, eco-driving, telecommuting (working at home) and speed limit reductions as well as more compulsory measures like driving bans and fuel restrictions. The IEA 2005 study, "Saving Oil in a Hurry", evaluated the potential oil savings by various measures if implemented in all our member countries with the conclusion that, *inter alia*:

- Car pooling and driving bans could save more than one million barrels per day.
- Speed limits, free public transit, telecommuting, compressed work week (fewer but longer workdays), driving bans (1 in 10 days) and eco-driving can save more than 500 000 barrels per day.
- Other measures such as reduced speed limits, encouraging public transit, telecommuting, compressed work week, driving bans and eco-driving could save more than 500,000 b/d.

#### **4. IEA Co-ordinated Action**

There has been no need to draw on IEA's emergency stocks since 1991, but as widely reported in the press, this does not indicate inactivity. Indeed, as scenarios evolved in the wake of September 11th, the strike action in Venezuela, unrest in Nigeria and war in Iraq, the

IEA Secretariat was carefully assessing the situation on a daily basis and kept in close contact with our member countries, the oil industry and strategic non-member countries. The IEA and its member countries were ready to act in coordination with oil-producing countries, in particular, with OPEC countries, and the markets knew it. For these reasons, the possible risk of a supply disruption was minimized and price spikes and their duration were limited.

The IEA regularly carries out Emergency Response Exercises, which serve to train staff in Administrations and industry in IEA emergency procedures as well as to give the opportunity for an in-depth exchange of views between experts from Administrations and the oil industry to review procedures and to introduce, if necessary, new measures to react to market changes. Since 2002, these exercises have included participants from major oil consuming countries outside the IEA, like China. In 2004, a special Emergency Response Exercise for non-member countries with the participation of delegates from China, India, ASEAN countries, Brazil and new EU member countries was held.

Most recently, IEA member countries were tasked with developing a response to a series of supply disruption scenarios. From this, we learned that an overwhelming majority would first use stockdraw (82%), followed by demand restraint (12%), and then fuel switching or other measures (6%) -- answers which closely corresponded to the actual IEA response during the first Iraq war in 1991-92.

## **5. Security of Gas and Electricity Supply**

The IEA's work on energy security is not limited to oil. In particular, the concept of security of gas supply has broadened beyond country borders. The external dimension of security of supply requires increased attention given the growing import dependency of most IEA member countries. While import dependency is not, in itself, a threat, it requires governments and companies to pursue their efforts to diversify natural gas supply (supply sources and mode of imports: pipeline gas vs. LNG) and transmission routes.

With liberalisation of the natural gas industry, the market is becoming more fragmented due to both the unbundling of activities and the entrance of newcomers in the market. The responsibility for security of supply has therefore to be defined and shared between all players involved, including governments, producers, suppliers, traders, regulators and

customers. Policy makers have the responsibility of creating a framework for security of supply and defining the objectives for security of supply and the responsibilities of each market participant. For some countries, gas storage will be the most economic choice for ensuring security; for others, supply flexibility and diversity is adequate to ensure security.

The IEA (IEA, 2004) published a comprehensive study on “Security of Gas Supply in Open Markets” and is involved in monitoring gas security in its member countries. It has also started a dialogue with member governments and the gas industry to review the changing concept of security of gas supply in open gas markets and the roles of the different stakeholders. However, it is our belief that when the framework has been defined and the role of the different players defined, governments should leave market players the choice of instruments/means to provide the required level of security of gas supply.

Electricity is also a concern of supply security, as several shortfalls in recent years in OECD countries all over the world have shown. Similar to gas, electricity shortfalls have mostly national and regional impacts but no global ones. Therefore, while there is no urgency to introduce global emergency response policies and measures, there is nevertheless the need to analyse the different types of emergencies and how best to avoid shortfalls or to remedy the situation. In this context, the IEA has recently published a study on “Saving Electricity in a Hurry” which deals with temporary shortfalls in electricity supplies. Key messages are how to develop a strategy to save electricity quickly and what measures might be appropriate to use.

## **6. Challenges**

As the oil market continues to evolve, the IEA and its Members recognise the importance of keeping pace with market dynamics. One by-product of the increasingly sophisticated oil market is price volatility. This is an issue of common concern to producers and consumers. The IEA does not believe strategic oil stocks can be effectively used to address price fluctuations. This would distort market mechanisms and signals, and invites unnecessary confrontation with producers. The IEA believes emergency oil stocks should be reserved for emergency use. Issues of volatility and other market imperfections should be addressed, inter alia, through dialogue and data transparency.

The IEA's *World Energy Outlook* (forthcoming) projects that by 2030 the world will be consuming two-thirds more energy than it is today. Almost three-quarters of the increase in demand is expected to come from the transport sector and oil is expected to still dominate this sector. Meanwhile, consumption in developing countries and the transition economies is expected to grow much faster than in the OECD. Under one scenario, almost two-thirds of incremental demand for oil between now and 2030 is projected to come from outside the OECD, particularly from Asian economies.

If policies do not change and this scenario becomes a reality, it would have significant implications for security of supply which cannot be addressed adequately from an insular perspective. The success of IEA efforts today to reach out to these emerging consuming countries and to encourage the adoption by these countries of the principles embodied in the IEA's Shared Goals can, we believe, significantly improve global energy security in the coming decades.

The Agency is proactively involved in the wider producer/consumer dialogue at the Ministerial level in the International Energy Forum and at a technical level in the Energy Experts Meeting, as well as regional and topical workshops and seminars. Also, the Agency has Memoranda of Understanding in place with Russia, China and India and extends its global reach further through collaboration with regional organisations. The IEA is committed to forging a dialogue and cooperation with regional bodies, thus avoiding duplication of effort and ensuring that topics of specific regional concern are addressed and evaluated from a global perspective.

The span and scope of the Agency's outreach programme reflects the IEA's commitment to improved global energy security and a clear recognition of the increasingly global nature of security of supply issues. As advocates for the collective benefits to be derived from adherence to the IEA shared goals to which all EU countries subscribe, the IEA Secretariat is confident that with sustained and targeted effort, this wider collaborative effort will bear fruit and global energy security response policies will converge.

## REFERENCES

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## Points to Discuss

- The IEA policy is that oil prices should not be used as a reason for an emergency stockdraw. (Only a severe supply disruption should serve as a trigger.) Do you think this economically reasonable?
- If oil prices increase further in the direction to \$100/barrel, what do you think the IEA and its members should do?
  1. Implement voluntary and/or compulsory demand restraint programmes
  2. Change oil-related fiscal policy
  3. Declare a severe supply disruption and start drawing down stocks
- The IEA and its member countries released oil stocks only in response to the 1991 Gulf War. Do you think that the emergency stock potential has much more in common with deterrent systems like nuclear weapons, i.e. “show them but better not use them”?