

Analysis of OPEC/Non-OPEC Cooperation

By William R. Edwards*

The petroleum producers of the world are understandably distressed with their inability to reverse the continuing underlying trend of lower and lower crude prices. There has been much said and written about the causes of the low prices and the action needed to correct the situation. Most commentators agree that if OPEC and non-OPEC producers could agree on a joint production control agreement the problem would be solved. Some officials, such as the Oil Minister of Oman, have actively lobbied OPEC and non-OPEC participants in an effort to get agreement on cooperative measures to rectify the situation. All participants and commentators seem to be in agreement that the problem is overproduction and the solution is a cooperative production cut.

While the imposition of a restriction on crude supply would indeed provide temporary alleviation of the price problems, this relief would be of very short duration (several weeks to a few months) because it does not address the problem in a fundamentally sound fashion. Thus it behooves the industry leaders to look more realistically at the results of an orchestrated supply restraint and alter their strategy to produce a more lasting and desirable result.

To better understand the reasons why conventional wisdom does not apply in the case of an OPEC/non-OPEC production cut, let us think through the expected sequence of events beginning with a coordinated agreement by OPEC and non-OPEC producers to restrain production. For our thinking purposes, let us assume that the agreement is for each group to reduce production by 5 percent, or a total worldwide reduction of 1.5 to 2 million barrels per day of crude oil. This would result in crude supplies being short of meeting demand by more than 1 million barrels per day.

Sufficient crude inventories exist worldwide to compensate for a million barrel per day drawdown for some months. On a superficial basis, then, there would be little impact from a 5 percent cut by half of the world's producers. In actual practice, however, the impact would not be so mild. Because the world's petroleum system is not one homogenous mix of completely flexible entities, dislocations and problems would appear almost immediately to some operators, resulting in some panic driven actions.

Panic is contagious! Shortly after the curtailment had begun, prices would respond and the response would not be gradual and orderly. Because of the enhanced volatility contributed by the futures markets, the price response would be exaggerated. This exaggerated price response would further feed the panic. Before long, commentaries on the reasons for the price move would convince the industry that there was, in fact, a significant shortage of production. This belief would be widely adopted, further feeding the panic and causing further upward price moves.

The prevailing attitude would shift from one of supply complacency to one of supply concern, and the industry would begin increasing inventories out of fear of being caught short. This action would create an added apparent demand on the system, exacerbating the contrived shortage of supply. The price increase hoped for by the OPEC and non-OPEC

producers would exceed their fondest wish in a relatively short time.

But the story does not stop there. The industry at that point would not be a stable, smoothly functioning industry responsibly supplying the needs of its consumers. Instead the industry would be involved in an erratic, panic inspired operation and would be participating in an action that had produced great uncertainty in both supply availability and price. This is certainly not the image the industry wants to display.

However, while significant, the image problem is not the only concern. Let us continue thinking through the dynamics of the petroleum supply system. One of the fundamental laws of economics, of physics, or of nature is that supply and demand ultimately must be in balance. Inventory swings can adjust for differences in supply and demand temporarily, but in the long run the two elements must be equal. *There is no such thing as a permanent shortage.* If one element of supply or demand changes, then the other will follow accordingly.

So what of the abrupt change in supply resulting from a 5 percent cutback? Will worldwide demand drop a corresponding amount instantly? The acknowledged impact of higher prices on demand suggests that if prices rise high enough, demand will decrease accordingly. Assuming this to be the case, what happens after the system has adjusted to the new supply level? Since ultimately the system will come back into balance, prices will again plummet, and we're back where we started, only at lower demand and production levels, hence lower total revenue levels. The curtailment provided a positive result which was only temporary; however it produced a negative result which was permanent, a loss of confidence by the consumer in the role of the producer as a responsible, dependable supplier. Is this the desired result? I think not!

Historical data indicate that even the results described above are only a portion of the negative aspects of an orchestrated restriction in crude supplies. There is more bad news to come. The crude price increase required to create an immediate 5 percent reduction in demand is very large, probably \$20 to \$30 per barrel. An increase in crude price of this magnitude cannot occur without causing dramatic changes in the thoughts and actions of the producers long before such an increase reaches its peak. In fact, the documented certainty is that some producers will abandon their resolve and breach the agreement long before such an increase can develop. Let us think through how and why this will happen.

In analyzing the process whereby some producers ultimately abandon production restraint agreements, it is helpful to select some arbitrary prices to work with in our thinking process. Let us suppose the price of a given crude is \$14 per barrel prior to the beginning of production restraint, and the desired price target is \$18 per barrel. The market price will move upward at a fairly rapid pace as lifters' desired nominations for crude are denied. At some point customers whose requirements are not being filled will begin to offer prices above the \$18 target. As the offered prices climb higher above the target price, it becomes much more difficult for an individual producer to continue to say "no" to attractive offers of \$20 to 25 per barrel. After all, the producer will rationalize, the agreement on production restraint has done its job and it won't hurt to cash in on the opportunity for a little

* William R. Edwards is a Principal at Edwards Energy Consultants in Houston, TX.

more revenue from an increased production level. Since all producers are inclined to respond in a like manner, it won't be long before the market is again satisfied and prices will plummet to preagreement levels or lower.

The case described above is not merely speculative. It is based on historical fact. The description of events merely chronicles OPEC's past actions when production restraint has been effectively applied for short periods during the last decade. The positive results have consistently been of limited duration.

Let us consider a best case alternative, the highly optimistic case in which, for whatever reason, OPEC and non-OPEC producers maintain their production restraint and magically achieve the target price level or a level only slightly higher than the target. At this level there should be almost no impact on demand, hence the shortfall in supply precipitated by the 5 percent production restraint will cause inventories to eventually reach tank bottoms. At this point someone must increase production to fill the gap. Who will decide who gets the production increase? Who will decide how much additional production each producer is allowed? Will OPEC merely fill the gap in supplies created by the 5 percent reduction implemented by non-OPEC? Would non-OPEC producers feel cheated if the ultimate result of a million barrel voluntary cut in their output merely becomes a corresponding million barrel increase by OPEC countries? Unless these questions are satisfactorily resolved prior to an agreement on production restraint, the agreement will disintegrate.

The main point being made here is that the entire process must be thought through - not just the first step. If a thorough analysis of the entire process does not result in a convincing answer to the potential problems, then an alternative strategy, other than production cuts, must be adopted.

While the description of expected events resulting from the implementation of production restraint portrays a bleak outlook, this should not imply that there is *no* means for achieving an attractive, stable price. In fact, if an enlightened application of fundamentally sound pricing principles is applied along with a practical, working knowledge of commercial marketing practices, then an attractive, stable price can result. The real challenge facing the producers is to acquire the assistance of a person or a group who can provide and apply the necessary pricing and marketing competence.

Advertise in the IAEE Newsletter

1/4 Page	\$250
1/2 Page	450
Full Page	750
Inside Cover Page	900

For more details contact:
 IAEE Headquarters
 28790 Chagrin Blvd., Suite 210
 Cleveland, OH 44122, USA
 Phone: 216-464-5365
 Fax: 216-464-2737

The INTERNATIONAL ASSOCIATION FOR ENERGY ECONOMICS

Announces

The 20th International Conference

Energy and Economic Growth: Is Sustainable Growth Possible?

To Be Held At The

India Habitat Center
 New Delhi, India
 January 22-24, 1997

Conference Themes:

- Global energy economy and the developing countries.
- Minimum energy needs, social development and economic growth.
- Environmental concerns and the limits to energy and economic development.
- Role of technology in global sustainability.
- Issues in capital flows for energy development in Asia.

*** CALL FOR PAPERS ***

Deadline for Submission of Abstracts: August 1, 1996

Anyone interested in organizing a session should propose topics, objectives and possible speakers. Abstracts should be between 200-500 words giving an overview of the topic to be covered at the conference. At least one author from an accepted paper must pay the registration fees and attend the conference to present the paper. All Abstracts/Proposed Sessions and Inquiries should be submitted to:

Dr. Leena Srivastava
 Dean, Policy Analysis Division
 Tata Energy Research Institute
 Habitat Place
 Lodi Road, New Delhi - 110 003
 INDIA

Phone: 91-11-4622246 or 4601550
 Fax: 91-11-4621770 or 4632609

The 20th IAEE International Conference is being hosted by the Indian Association for Energy and Environmental Economics (IAEEE) and the Tata Energy Research Institute (TERI).

General Conference Chairman:
 Dr. R.K. Pachauri

Technical Committee Chairperson:
 Dr. Leena Srivastava