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Energy Security and the World Oil Market

Testimony by  
Victor S. Rezendes, Director, Energy Issues  
Resources, Community, and Economic Development  
Division

Before the  
Subcommittee on Economic Stabilization  
Committee on Banking, Finance and Urban Affairs  
House of Representatives



Madam Chair, Members of the Subcommittee:

It is a pleasure to be here to assist the Subcommittee in its examination of the issues surrounding the economic and other impacts of an oil supply disruption. Our testimony today is based primarily on our report on the world oil market issued in August 1988.<sup>1</sup> The report's message is that although the United States is less vulnerable to an oil supply disruption than in the 1970s, recent trends give cause for concern. Our discussions in preparing for this testimony with federal officials and review of current energy statistics confirmed that this message is still valid today. Specifically,

- In the first half of the 1980s, we reduced our dependence on imported oil by cutting consumption and increasing domestic production, but these trends have been reversed in the latter half of the 1980s. In the 1990s, oil reserves and excess production capacity may again be concentrated in the Middle East.
  
- The creation of the Strategic Petroleum Reserve (SPR) improved the U.S. ability to respond to an energy emergency. However, authorities for responding to these emergencies may need strengthening.

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<sup>1</sup>ENERGY SECURITY: An Overview of Changes in the World Oil Market (GAO/RCED-88-170, August 31, 1988).

-- Options, such as improving efficiency in the transportation sector and continuing to build strategic oil stocks, are available to reduce our dependency on oil and our vulnerability to a disruption in supplies.

#### IMPACT OF AN ENERGY EMERGENCY

A major oil supply disruption would not only have a severe impact on the energy sector, but also on the economy as a whole. If within the energy sector gasoline, home heating oil, and other fuels were in short supply, prices would rise and hoarding might occur. We remember the 1973 and 1979 shortages when long lines developed at gasoline stations in some parts of the country and some consumers responded by topping off their tanks as often as possible.

As world oil prices rise, other fuel prices would also be likely to rise. This may lead to a higher overall price level, higher unemployment, and reduced economic growth. The 1973-74 oil embargo, for example, resulted in an estimated \$35 billion to \$45 billion reduction in gross national product and the loss of 500,000 jobs. Rapidly increasing energy prices would create an added hardship for low-income households, which spend proportionately more for energy than other households.

## VULNERABILITY TO AN OIL

### SUPPLY DISRUPTION

While the U.S. has reduced its oil dependency since the mid-1970s, in recent years oil consumption in the United States and other major industrialized countries has been increasing. For example, since 1985 U.S. oil consumption per day has increased by over 1 million barrels and, according to 1989 Energy Information Administration data, is now approaching the 1976 consumption level. Oil consumption is expected to continue to increase during the next decade. By the year 2000, consumption is estimated to be about 18.6 million barrels per day--over 1 million barrels per day more than the 1976 level.<sup>2</sup>

Most of the expected increases will be for transportation uses. While oil consumption in the industrial and residential/commercial sectors has decreased since 1976, oil consumption in the transportation sector has increased. Transportation currently accounts for almost two-thirds of the nation's petroleum use and relies almost entirely on petroleum products for fuel.

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<sup>2</sup>All estimates cited in the report are the base forecast figures from the Energy Information Administration's 1989 Annual Energy Outlook. Other statistics are from the Energy Information Administration's Monthly Energy Review, Annual Energy Review, Weekly Petroleum Status Report, and International Petroleum Statistics Report.

While oil consumption is increasing, free world production outside the Organization of Petroleum Exporting Countries (OPEC) will probably remain level or begin to decline during the 1990s. U.S. daily production, the largest, single free world source of non-OPEC oil, has decreased by about 1 million barrels since 1985, and this trend is expected to continue. By the year 2000 domestic production is expected to be about 2 million barrels per day lower than it is in 1989 with net petroleum imports about 3 million barrels per day higher, increasing U.S. dependency on imported oil from 40 percent to 55 percent.

While changes in the world oil market have also, at least temporarily, reduced the prospect of a serious oil supply disruption, this situation may also change in the future. Our report noted that oil is in abundant supply, and there is significant excess production capacity of 8 to 10 million barrels per day, which could augment supplies. However, free world oil production and reserves will probably become increasingly concentrated in the Middle East, and excess production capacity outside the Persian Gulf could be fully utilized by the early- to mid-1990s, raising concerns that Persian Gulf countries could exercise greater control over oil supplies and prices.

U.S. ABILITY TO RESPOND  
TO AN ENERGY EMERGENCY

Over the past decade, the United States and other major oil-consuming countries have also improved their ability to respond to an oil crisis. However, in spite of efforts to improve response measures, concerns remain.

The Strategic Petroleum Reserve  
Improves Ability to Respond

The development of the Strategic Petroleum Reserve (SPR) has significantly improved the United States' ability to respond to an oil crisis. Since 1977, the United States has built up storage of about 578 million barrels of oil in the SPR that could be used to replace imports in an energy emergency. Our increased reliance on imports in recent years, however, has reduced the protection provided by the SPR stocks. In December 1985, when the SPR contained about 500 million barrels of oil, net U.S. imports amounted to about 4.3 million barrels per day. The SPR, therefore, would have been able to replace about 115 days of imports. Although the SPR reached about 578 million barrels of oil in October 1989, it can replace only 83 days of oil imports because average net imports had grown to 7.0 million barrels per day in the first 6 months of 1989. For the future, even when the SPR reaches its mandated 750 million barrels, it will only represent 90 days of

protection if net U.S. imports do not exceed 8.3 million barrels per day--a level they are expected to reach by 1992.

The SPR, however, is not designed to physically provide the volume of oil on a daily basis needed to replace imports of these volumes. The current drawdown rate is about 3.2 million barrels per day, and even after the SPR reaches 750 million barrels and certain system enhancements have been completed, the drawdown rate will be only 4.5 million barrels per day. As a result, as the nation's oil imports increase, the relative amount of imports that could be replaced in a disruption decreases.

#### U.S. Participation in the International Energy Agency

U.S. participation in the International Energy Agency (IEA) has also contributed to our energy security. The IEA has provided a forum for its 21 member countries to develop a coordinated response to a potential energy crisis. However, member countries are not wholly in agreement whether to use strategic stocks or demand restraints as the principal response to an oil shortfall. Our IEA partners plan to place greater reliance on demand restraint measures, which offer less assurance than the SPR that obligations can be met. For this reason, the United States has pushed for additional stock building by other countries and has asked for greater evidence that demand restraint measures will be effective.

## Statutory Authorities

While the U.S. has established measures to respond to an energy emergency, U.S. presidential authorities and federal response measures may require additional strengthening. The U.S. government relies on a legislative mosaic of 15 discretionary statutory authorities to respond to an energy emergency. In an attachment to our statement we are providing a listing of these authorities.

(See appendix I.)

Two principal sources of authority for responses to energy emergencies are provided by the Energy Policy and Conservation Act (EPCA) and the Defense Production Act (DPA). EPCA, among other things, allows the President to direct a drawdown of the SPR in severe energy supply interruptions or when the drawdown is necessary to meet our obligations under the International Energy Program.<sup>3</sup> Generally, the DPA provides the President with the authority to meet a variety of national defense needs and facilitate energy production. Under the DPA, the President may require the performance of contracts on a priority basis and

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<sup>3</sup>Through the IEA's emergency sharing system, members agree to (1) maintain emergency reserves equal to 90 days of net oil imports, (2) establish measures to reduce demand by at least 7 to 10 percent or substitute emergency stocks held in excess of the 90-day requirement, and (3) subject their oil supplies to an international allocation formula to calculate each country's right to receive oil or obligation to provide oil in a serious disruption.



allocate materials including petroleum products in certain circumstances. Further, during periods of emergencies, the President may activate the Executive Reserve--the energy industry officials trained to assist the government in national defense emergencies.

Since we reported on these issues last year, the EPCA has been amended, and at least one bill has been introduced to provide additional SPR drawdown authority in case of domestic oil supply interruptions. We have not performed an analysis of where additional strengthening may be needed today. However, because your Subcommittee is interested in this issue, we discussed the energy emergency preparedness laws with agency officials to help provide you with issues that might warrant further exploration. As a result of this limited effort, three issues have been identified:

- DOE conflict of interest requirements could limit the use of industry executives as part of an Executive Reserve that could be mobilized to assist in responding to an emergency. The administration's proposed amendments to the DPA would allow the President to provide exemptions to conflict of interest laws for members of the Executive Reserve.
  
- Presidential authority to draw down the SPR currently is limited to serious national supply shortages resulting from

imported oil interruptions, acts of sabotage, national disasters, or our commitments under IEA. The recent interruption in Alaskan oil shipments caused by the Valdez oil spill highlighted the fact that the President does not have the authority to draw down the SPR in such circumstances. Legislation has been introduced to allow use of the SPR in circumstances resulting from domestic oil supply interruptions.

-- DOE has not issued regulations to supply natural gas and electricity under the Defense Production Act similar to those it has issued for oil. DOD officials indicated to us that such regulations may be needed to ensure that these energy sources will be available to satisfy essential national security needs.

#### POLICY OPTIONS TO REDUCE

#### VULNERABILITY

Now I will turn to energy policy options which can help to change the trends we are seeing. However, actions to change the trends require trading off important competing interests. These competing interests include encouraging economic growth, protecting the

environment, reducing federal budget deficits, and maintaining stable and friendly relations with other countries.<sup>4</sup>

In our report we discussed options that could provide leverage to reduce both U.S. dependence on oil and the nation's vulnerability to oil supply disruptions. These options are:

- Developing alternative fuels and emphasizing efficient use in the transportation sector. Given the fact that the transportation sector accounts for two-thirds of U.S. oil consumption, such action could go a long way toward reducing our dependency on oil.
- Continuing to build strategic oil stocks. To be able to replace imports that could be lost in a supply disruption, the United States should continue to fill the SPR as quickly as is fiscally responsible.
- Adopting standby measures--provided they can be shown to be effective--to avoid over reliance on the SPR as this country's principal response to a disruption. Companion programs could include demand restraints--such as emergency driving restrictions--to reduce

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<sup>4</sup>Certain developments could change current projections of potential U.S. vulnerability. These include major oil discoveries, lower worldwide oil consumption, and higher or more sustained production from presently known sources.

consumption, as well as changes in fiscal policy--such as low income energy assistance programs--to mitigate the effects of a disruption.

-- Maintaining a stable economic and regulatory atmosphere that encourages investment in oil and alternative energy programs. Given the long lead time needed to develop resources for many energy projects, stable government policies and regulations are of critical concern to U.S. energy investors.

We hope that DOE will consider these options as it works toward developing a national energy strategy and that the Subcommittee will be mindful of them as it reviews DOE's actions.

#### CONCLUSION

In conclusion, although the United States is less vulnerable to a supply disruption than in the 1970s, recent trends give cause for concern. These concerns are:

-- Recent changes in the world oil market, including increased U.S. imports, declining domestic production, and the concentration of reserves and excess production capacity in the Middle East, again raise questions about the nation's energy security.

-- The U.S. ability to respond to an energy emergency is enhanced by the SPR, but concerns regarding the effectiveness of existing response measures still exist.

-- Options are available to reduce oil dependency, but will require trade-offs between competing interests.

This concludes our prepared statement. We would be pleased to respond to any questions you or Members of the Subcommittee may have.

LAWS PROVIDING PRESIDENTIAL AUTHORITIES  
TO RESPOND TO VARIOUS ENERGY CRISES

Defense Production Act of 1950  
Energy Policy and Conservation Act  
Export Administration Act of 1979  
Federal Power Act  
Foreign Assistance Act  
International Emergency Economic Powers Act  
Magnuson Act  
Natural Gas Act  
Natural Gas Policy Act  
Naval Petroleum Reserves Production Act  
Outer Continental Shelf Lands Act  
Powerplant and Industrial Fuel Use Act of 1978  
Public Utility Regulatory Policies Act  
Trade Expansion Act of 1962  
Trading with the Enemy Act

Notes: This summary lists only those authorities requiring a presidential declaration of emergency before they may be involved. Other authorities, however, that do not first require the declaration of an emergency may also be available during a period of emergency.