

SCOMM

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SENATE COMMITTEE REPORT

DATE: 1/22/92

FURTHER: L&C
Resources

DATE TURNED INTO OFFICE: 3/12/92

Senate Special Committee on
Internat'l Trade and Tourism

considered

HOUSE JOINT RESOLUTION NO. 48

Relating to a Pan-American energy alliance.

and recommends:

replace with S CS HJR 48 (ITT)
or adopt previous CS ()
 attaches amendment(s)

same title
 new title
 technical
title change
(HB only)

adopts Letter of Intent

further referral to the _____

do pass

do not pass

no recommendation

individual recommendations

NEW FISCAL NOTES: Dept/Date

zero fiscal notes _____

fiscal notes _____

appropriation--no fiscal note

PREVIOUS FISCAL NOTES: Dept/Date

zero fiscal notes House Rules 1/16/92

fiscal notes _____

DO PASS:

Al S. Daniels
Kathy Cleary
Collin Stimpert

OTHER RECOMMENDATIONS:

Paul Frick (Do Pass)
Chair: Signature and Recommendation

FISCAL NOTE

**STATE OF ALASKA
1992 LEGISLATIVE SESSION**

No. 2
 Bill Version: HJR 48
 (H) Publish Date: 1/21/92

Revision Date: January 16, 1991 Department Affected: N/A
 Title: Relating to Pan-American energy alliance. BRU: _____
 Sponsor: Rep. Mark Boyer Component: _____
 Requestor: _____ COMPONENT SERIAL NO.

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EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98
PERSONAL SERVICES	0					
TRAVEL	0					
CONTRACTUAL	0					
SUPPLIES	0					
EQUIPMENT	0					
LAND & STRUCTURES	0					
GRANTS, CLAIMS	0					
MISCELLANEOUS	0					
TOTAL OPERATING	0					

CAPITAL	0					
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REVENUE	+					
FUND SOURCE:	0					

FUNDING: (Thousands of Dollars)

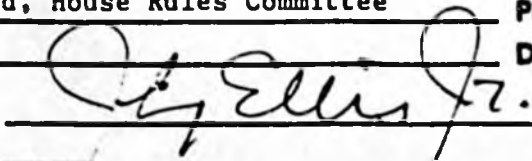
GENERAL FUND	0					
FEDERAL FUNDS	0					
OTHER						
FUND SOURCE:	0					
TOTAL	0					

POSITIONS:

FULL-TIME	0					
PART-TIME	0					
TEMPORARY	0					

Estimate of current year impact: None

ANALYSIS: (Attach a separate page if necessary.)

Prepared By: Jim Nordlund, House Rules Committee Phone: 465-3704
 Division: _____ Date: January 16, 1992
 Approved by Commissioner: 
 Agency: _____ Date: January 16, 1992

COMMITTEE COPY

near, Requestor, OMB/DBR, Gov. Legis. Ofc., & Impacted Agency(ies).

Alaska State Legislature

Senator Paul Fischer, Chairman
Senator Al Adams, Vice-Chair
Senator Rick Uehling
Senator Arliss Sturgulewski
Senator Fred Zharoff



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Senate Special Committee on International Trade and Tourism

MEMORANDUM

TO: Nancy Quinto
Senate Secretary

FR: Senator Paul Fischer, Chairman *PF*
Senate Special Committee on International Trade & Tourism

DATE: March 5, 1992

RE: Committee Schedule for the Week of March 9, 1992

Wednesday, March 11, 1992 2:30 pm Fahrenkamp Room

- SJR 44 - Supporting increased access near Mt. McKinley through establishment of a visitor activity area at Kantishna.
- HJR 60 - Relating to the expansion of the National Air and Space Museum.
- HJR 48 - Relating to a Pan-American energy alliance.

RECEIVED FEB 24 1992

Alaska State Legislature

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Anchorage, Alaska 99503
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During Session:
P.O. Box V
Juneau, Alaska 99811
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Senator Drue Pearce
District G

To: Senator Paul Fischer

From: Senator Drue Pearce

A handwritten signature in cursive script that reads "Drue Pearce".

Date: February 20, 1992

Re: HJR 48, Pan American Energy Alliance

I'm a member of The Energy Council and am respectfully requesting that you hear HJR 48 as soon as possible... or consider waiving it through the Senate International Trade and Tourism Committee. (It would still have to make its way through Senate Labor and Commerce and Senate Resources.) It calls for Congress and the President to move toward the formation of a Pan American energy alliance which would provide reciprocal energy security measures.

I will be in Washington D.C. March 29-31 for the Energy Council's Federal Energy and Environmental Matters Conference. I'd really like to get this passed by then so I can deliver it while I'm there.

Thanks for any help you can provide.

Alaska State Legislature

REPRESENTATIVE
MARK BOYER

VICE CHAIRMAN
HOUSE FINANCE COMMITTEE



House of Representatives

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MEMORANDUM

TO: Senator Paul Fischer, Chair
Senate International Trade & Tourism Committee

FROM: Representative Mark Boyer

DATE: February 3, 1992

RE: HJR 48, Pan American Energy Alliance

During the floor debate on HJR 48 questions were raised regarding the dated statistics included in this resolution. In response to those concerns I contacted the Energy Council to request more up-to-date information.

The attached draft committee substitute contains the most current information available from the Energy Council. I would appreciate it if the International Trade and Tourism Committee would consider adopting this committee substitute at your earliest convenience.

Thank you.

FAIRBANKS 20B



Alaska State Legislature

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REPRESENTATIVE
MARK BOYER

VICE-CHAIRMAN
HOUSE FINANCE COMMITTEE



House of Representatives

MEMORANDUM

TO: Senator Paul Fischer, Chair
Senate International Trade & Tourism Committee

FROM: Representative Mark Boyer *MB*

DATE: January 24, 1992

RE: HJR 48, Pan American Energy Alliance

I would like to request that the International Trade and Tourism Committee schedule a hearing on HJR 48. This resolution passed the House 40-0 and enjoyed broad support throughout the committee process.

HJR 48 urges Congress and the President of the United States to engage in formal deliberations with the governments of Canada, Mexico and Venezuela, as well as other interested Western Hemispheric countries, to develop a Pan American Energy Alliance to provide reciprocal energy security measures. The Energy Council, of which Alaska is a member, has adopted a similar resolution.

Thank you.

FAIRBANKS 20B



DRAFT CS FOR

HOUSE JOINT RESOLUTION NO. 48

1 Relating to a Pan-American energy alliance.

2 BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

3 WHEREAS the past year's fluctuations in prices and supply patterns for oil once again
4 demonstrate that the access of the United States to this vital strategic resource is vulnerable to concerted
5 political action by governments in the Middle East; and

6 WHEREAS, in 1990, the reliance of the United States on imported oil increased to 47 percent, the
7 highest percentage in nine years, and with the demand in the United States for oil increasing at an average
8 rate of three percent each year for the last five years, this reliance on imported oil will increase because
9 the domestic oil exploration and production capability of the United States has seriously eroded; and

10 WHEREAS, until 1986, the United States had successfully increased its import of
11 petroleum products from its neighbors in the Western Hemisphere and decreased its imports from the
12 volatile Middle East, but this positive trend has been reversed, and Middle East imports
13 of crude oil to the United States continue to increase; and

14 WHEREAS the energy crisis of the 1970's taught the United States that manipulation of the

1 world oil market by sovereign governments can run counter to the interests of the United States; and

2 **WHEREAS** the energy crisis of the 1970's also proved that several of the trading allies of the
3 United States could be counted on for support in troubled times, since Venezuela, Mexico, and Canada
4 increased their exports of oil to the United States during the crisis while other nations reduced their
5 exports to the United States; and

6 **WHEREAS** Canada and the United States have the most extensive reciprocal trade situation in
7 the world, and each is the other's largest export market, with Canada selling three-quarters of its exports
8 to United States markets while absorbing almost one-quarter of the total exports of the United States;
9 and

10 **WHEREAS** Canada and the United States have a history of cooperation and trade as energy
11 partners; Canada currently supplies about twelve percent of the oil consumed in the United States and
12 approximately seven percent of the natural gas consumed in the United States, the equivalent of over
13 700,000 barrels of crude oil a day; if United States oil and natural gas supplies are reduced, imports of
14 Canadian gas will contribute greatly to the energy security of the United States; and

15 **WHEREAS** Mexico shares not only a common border but also a rich cultural heritage with the
16 southwestern part of the United States, and has developed into one of the major sources of imported oil
17 and natural gas for the United States; Mexico was the sixth largest supplier of crude oil to the United
18 States during 1990; and

19 **WHEREAS** Mexico depends on oil earnings to provide revenue for its government, and the
20 investments by Peteroles De Mexicana, a company owned by the Mexican government, in future oil and
21 gas development, and the United States' clear need for stable, long-term supplies of oil suggest that the
22 United States' trading relationship with Mexico will grow in the future; and

23 **WHEREAS** more than one-half of all Venezuelan oil exports are made to the United States and,
24 during 1990, Venezuela was the leading exporter of petroleum products and the second largest exporter of
25 crude oil to the United States; Venezuela is second only to Saudi Arabia as the most significant
26 oil exporter to the United States; and

27 **WHEREAS** Venezuela has the ability to export large quantities of crude oil and petroleum
28 products for many decades, and the United States and Venezuela are close geographical neighbors that,
29 like Mexico and Canada, share similar forms of democratic government; and

30 **WHEREAS**, since the United States will need to rely on foreign sources of oil for the
31 foreseeable future and the oil situations and long-term energy interests of Venezuela and the United

1 States are complementary, the United States and Venezuela should continue to be important commercial
2 partners for many years under fair conditions of trade; and

3 **WHEREAS** Canada, Mexico, Venezuela, and the United States are long-standing energy trading
4 partners who share a history of working together in successful oil and gas exploration and development
5 and who share the fluctuations of a rapidly changing energy environment; and

6 **WHEREAS** Canada, Mexico, Venezuela, and the United States share a common vision of the
7 future in which a sound energy industry in each of the countries is able to provide the energy security
8 needed to ensure the health and vitality of the entire economy of the American nations; and

9 **WHEREAS** the governments of the United States, Canada, Mexico, and Venezuela are striving
10 to improve the overall well-being of all of their citizens while providing rich opportunities for individual
11 freedom and growth, and it is natural for their representatives to explore options that will increase the
12 energy security of the Western Hemisphere; and

13 **WHEREAS** the Energy Council, of which Alaska is a member, actively supports and
14 promotes the concept of an energy alliance among the nations of the Western Hemisphere;

15 **BE IT RESOLVED** that in recognition of the long-standing trading history with Canada, Mexico,
16 and Venezuela and, in order to plan for increased security of the people and economies of the United
17 States, Canada, Mexico, and Venezuela, the Alaska State Legislature urges the President of the United
18 States and the United States Congress to engage in formal talks with the governments of Canada,
19 Mexico, and Venezuela, as well as with other interested American countries, to develop a Pan-American
20 energy alliance to provide reciprocal energy security measures for the nations of the Western
21 Hemisphere; and be it

22 **FURTHER RESOLVED** that the Alaska State Legislature supports the efforts and work of the
23 Energy Council to promote a Pan-American energy alliance and urges Governor Hickel and
24 the current administration of the state to participate in these efforts.

25 **COPIES** of this resolution shall be sent to the Honorable Dan Quayle, Vice-President of the
26 United States and President of the U.S. Senate; the Honorable Robert C. Byrd, President Pro Tempore
27 of the U.S. Senate; the Honorable George J. Mitchell, Majority Leader of the U.S. Senate; the Honorable
28 Thomas S. Foley, Speaker of the U.S. House of Representatives; to the Honorable Ted Stevens and the
29 Honorable Frank Murkowski, U.S. Senators, and the Honorable Don Young, U.S. Representative,
30 members of the Alaska delegation in Congress; and to Lori Cameron, Executive Director of the
31 Energy Council.

WHY WE NEED A NATIONAL ENERGY POLICY

by James J. MacKenzie
August 1990

The importance of gasoline and other petroleum products to U.S. economic and national security has been dramatically highlighted by Iraq's invasion of Kuwait. But, paradoxically, while the United States appears ready to go to war to protect petroleum suppliers on the other side of the world, it has no long-term strategy to reduce national dependence on these producers by either improving energy efficiency or developing new energy sources. This precious commodity for which we are willing to risk American lives is treated as a substance of little economic value in the U.S. marketplace, where consumers pay substantially more for a gallon of bottled water than they do for a gallon of gasoline.

With giveaway fuel prices, it is not surprising that U.S. consumers, especially motorists, use so much oil and care so little about fuel efficiency. The Middle East crisis should drive home, once and for all, the need for long-range federal energy policies—not just for oil but for other energy sources as well. Especially important to any national energy policy is more rational energy pricing. Fuel and electricity prices must be made to reflect the full range of environmental and security risks entailed by their use. As general goals, federal policies should encourage more efficient energy use while at the same time supporting a long-term shift toward energy sources that don't threaten the environment or our national security. Nowhere is this need greater than in transportation, which is virtually totally dependent on oil.

The Middle East oil crisis is only one important problem related to U.S. energy policy. Air pollution, acid rain, and increased global warming from the greenhouse effect are

also associated with energy use, largely the burning of fossil fuels. While oil is at issue in the Persian Gulf crisis, global warming—a problem likely to become more pressing within this decade—stems from the use of all fossil fuels: oil, coal, and natural gas. Together, these linked problems provide compelling grounds for developing a long-term national energy strategy that will ensure adequate domestic energy supplies while protecting the nation's environmental health and national security.

The overwhelming reaction of the U.S. public, Congress, and the Administration to the crisis in the Middle East has been surprise and anger. To date, the U.S. government's response has been primarily diplomatic and military, and its immediate goals are to prevent an invasion of Saudi Arabia and to force Iraq back out of Kuwait. But even if Iraq retreats without bloodshed and irreparable economic damage, where does that leave the United States? A military success by our troops in the Middle East would not begin to address the important long-term issues related to the nation's oil resources, patterns of petroleum use, and the lack of a national policy relating the two.

What are the energy-related factors underlying the Persian Gulf crisis and what can we do about them? The following discussion summarizes in simple terms the changing patterns of global oil supply and demand and the strategic importance of the Middle East in the coming decades.

TRENDS IN GLOBAL OIL DEMAND AND SUPPLY

Petroleum is by far the largest source of commercial energy worldwide.¹ In 1989, oil accounted for about 39 percent of global energy supply, followed by coal (28 percent), natural gas (21 percent), hydroelectricity (7 percent), and nuclear power (6 percent). (See Figure 1.) The

James J. MacKenzie is a Senior Associate in the World Resources Institute's Program in Climate, Energy, and Pollution.



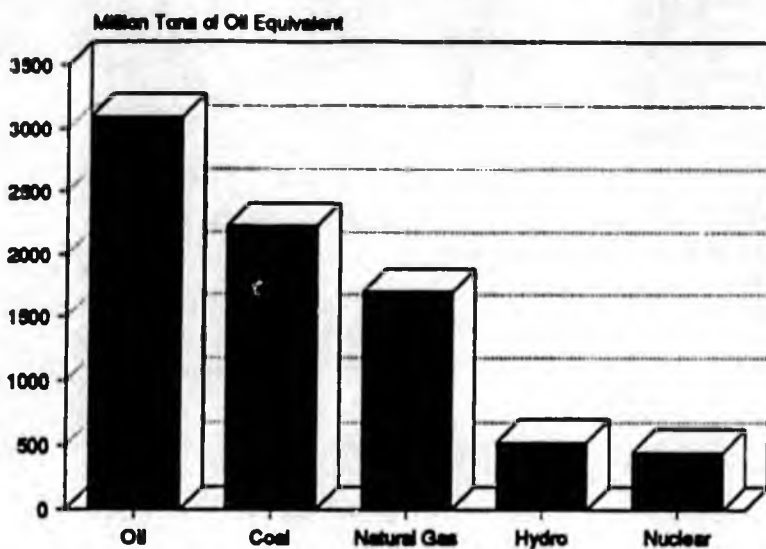
WORLD RESOURCES INSTITUTE

1709 New York Avenue, N.W.

Washington, D.C. 20006

202-638-6300

SOURCES OF GLOBAL ENERGY (1989)



Source: WRI & BP Stat. Review, 8/90

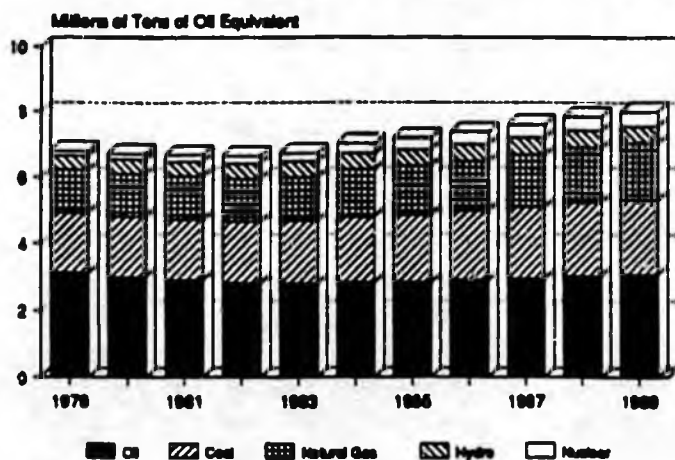
Figure 1

mix among energy sources has changed continually over the past decade as oil-consuming nations have attempted to substitute more plentiful and more secure energy sources for oil. (See Figure 2.) In absolute terms, global oil consumption was only 1.4 percent lower in 1989 than it was in 1979. But with the growth in other energy sources, especially natural gas and coal, the relative contribution of petroleum dropped from 46 percent of global energy supply in 1979 to about 39 percent in 1989.

Japan and the Western industrialized nations account for a large share of world oil demand, but contribute only modestly to oil supply. Indeed, this simple fact explains much of the current anxiety among the industrialized nations over Iraq's recent military action against Kuwait. (See Figure 3.) In 1989, North America and Western Europe consumed nearly half of the world's oil output, but contributed only 23 percent of world supply. The Persian Gulf nations², on the other hand, accounted for 26 percent of global supply but only 4.5 percent of world oil demand.

The politically and economically dangerous lack of overlap between consumers and suppliers is even more dramatic if current production is compared to proven reserves.³ (See Figure 4.) The size of a region's oil reserves—or better, its ratio of proven reserves to annual production (R/P)—says far more about its long-term prospects as a major supplier than current annual production does. Thus, despite its relatively large current contribution to world oil supply (about 17 percent), North America possesses only 4 percent of global proven oil reserves. More troubling, its ratio of reserves to annual production (R/P) is only about ten years, which means that if these reserves were consumed at today's production rate

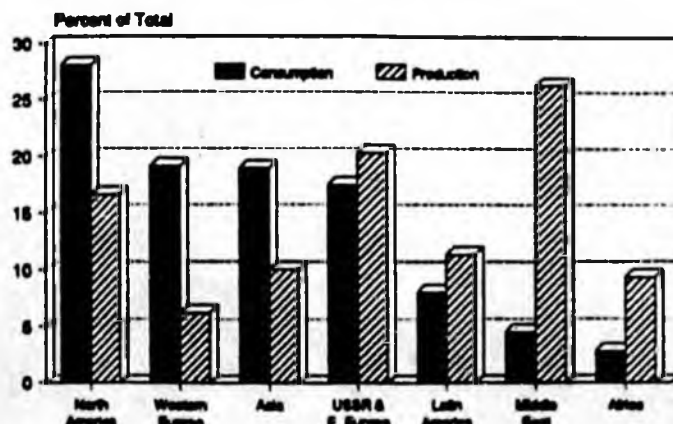
TRENDS IN GLOBAL ENERGY SUPPLY



Source: WRI & BP Stat. Review, 8/90

Figure 2

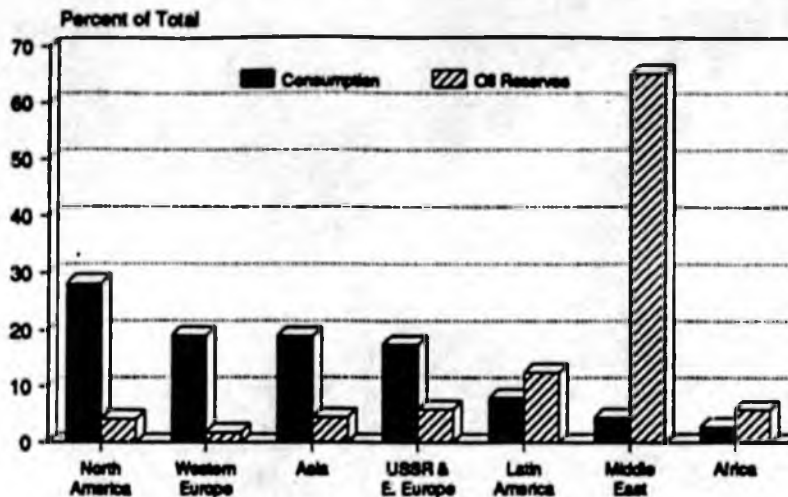
GLOBAL OIL CONSUMPTION AND PRODUCTION (1989)



Source: WRI & BP Stat. Review, 8/90

Figure 3

GLOBAL OIL CONSUMPTION AND RESERVES (1989)



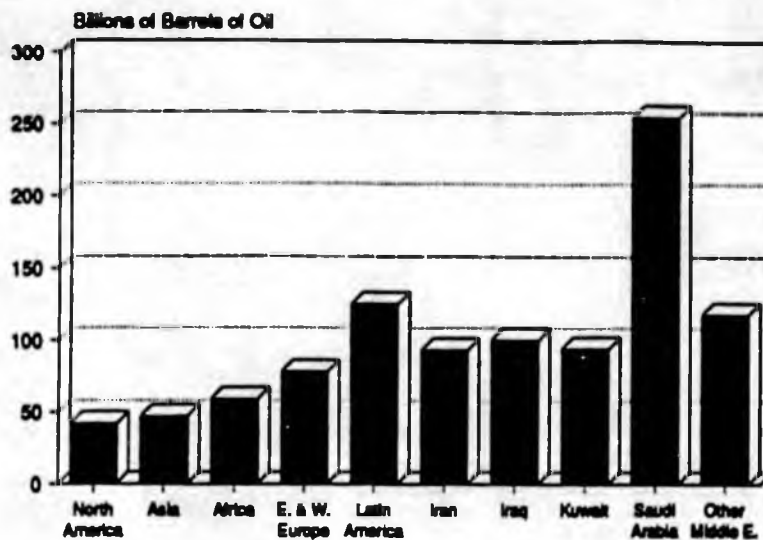
Source: WRI and BP Stat. Review, 8/89

Figure 4

OIL FACTS

- Most of the world's proven oil reserves are in the Persian Gulf region (65 percent) and in OPEC nations as a whole (75 percent). More than 44 percent of the world's proven oil reserves are in Iraq (9.9 percent), Kuwait (9.3 percent), and Saudi Arabia (25.2 percent).
- Thanks to international efforts to switch to more plentiful, more secure energy sources, oil's contribution to world energy supply dropped from 46 percent in 1979 to 39 percent in 1989.
- World oil consumption has closely mirrored world oil prices: as prices have risen, demand has fallen, and vice versa.
- The industrial democracies consume well over half of the world's oil. In 1989, the OECD countries accounted for 56 percent of world oil demand (the United States for 26 percent).
- U.S. oil production, both in the lower 48 states and in Alaska, is falling and is likely to continue declining indefinitely. Imports are now approaching 50 percent.
- In 1989, 46 percent of the U.S. oil supply was imported, compared to 32 percent in 1985. U.S. imports of Persian Gulf oil in 1989 (2.1 million barrels per day) were almost double 1973 imports (1.1 million barrels per day).
- The transportation sector dominates U.S. oil consumption (63 percent of the total) and is almost totally dependent on oil. Over the past two decades gasoline demand has proven sensitive to price.
- Despite major gains in U.S. vehicle fuel efficiency, total motor-vehicle fuel use has increased by 40 percent since 1970. Alongside declining U.S. gasoline prices, new-car fuel efficiency dropped 4 percent between 1988 and 1990.
- Motor-vehicle fuel prices in most industrial countries are two to four times those of the United States, due largely to fuel taxes. Per capita fuel use in these countries is one fourth to one half what it is in the United States.
- Measured in constant dollars, U.S. gasoline prices before the Iraqi invasion were the lowest they have been in 40 years. In 1989, gasoline was cheaper than almost any other liquid, including bottled water.

WORLD PROVEN OIL RESERVES (1989)



Source: WRI & BP Stat. Review, 8/90

Figure 5

they would last only a decade.⁴ A similar situation holds in Western Europe, which accounts for 6 percent of global oil production and has less than 2 percent of world oil reserves; its R/P is also small, about 13 years.

Persian Gulf producers are in an entirely different situation. In 1989, these nations accounted for only 4.5

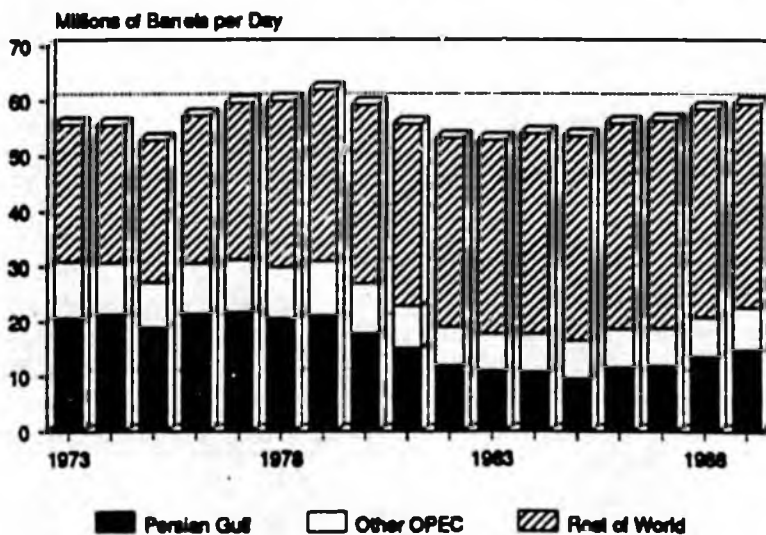
percent of world oil consumption but possessed 65 percent of proven world oil reserves. Moreover, the average reserve-to-production ratio for this region is over 100 years. If the Persian Gulf nations were to continue producing at today's rate without ever discovering another barrel of oil, their reserves would last over a century.

OPEC as a whole⁵—which includes seven producers outside of the Persian Gulf—controls about 75 percent of the world's proven oil reserves and has a reserves-to-production ratio of about 92 years. Proven reserves for most of the important producers are shown in Figure 5, which shows how dominant Middle East producers are.

Trends in world oil production between 1973 and 1989 have closely mirrored world oil prices. (See Figure 6.) Following the 1973 oil boycott, world oil production fell briefly. As prices softened during the latter half of the 1970s, world demand increased again. In 1979, the Iranian revolution touched off significant oil price increases, again leading to a four-year decline in oil consumption and a major reduction in world reliance on OPEC oil. During this period, OPEC oil production dropped about 45 percent, from 31.5 million barrels per day (b/d) in 1979 to 17.3 million b/d in 1985. With the crash in oil prices in 1986, world oil demand again began to rise. Now OPEC production stands at 23 million b/d.

OPEC oil production dropped about 45 percent, from 31.5 million barrels per day (b/d) in 1979 to 17.3 million b/d in 1985. With the crash in oil prices in 1986, world oil demand again began to rise. Now OPEC production stands at 23 million b/d.

TRENDS IN WORLD OIL PRODUCTION



Source: WRI & DOE, 8/90

Figure 6

UNITED STATES' DETERIORATING OIL OUTLOOK

Figure 7 graphically illustrates the continuing decline in U.S. domestic oil production, one of the primary reasons for the nation's increasing reliance on imports. Oil production in the lower 48 states peaked in 1970 and has been declining since, despite a massive ten-year exploration effort beginning in the mid-1970s and

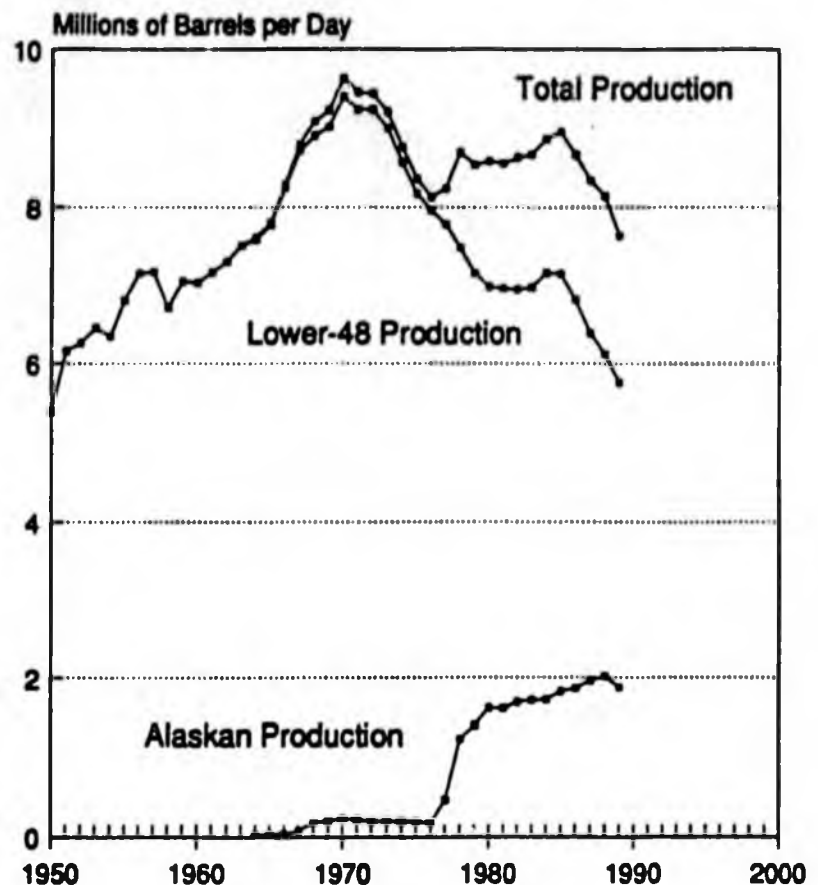
lasting until oil prices began their sharp decline in 1986. (At the peak in 1981, over 90,000 wells were drilled in the United States; yet, during this period additions to reserves remained fairly constant at about 2.5 billion barrels per year. By 1989, the number of wells drilled had fallen to about 28,000.) In Alaska, production peaked in 1988 and is expected to fall slowly over the coming decade.

The lower 48 states represent the most explored real estate on earth. According to the Department of Energy, as of 1986, about 80 percent of all the wells ever drilled worldwide (about 2.9 million) were drilled in the United States. The chances of finding large new oil fields, at least in the lower 48 states, are slim. Indeed, the success rate in finding new oil in the United States has continued to decline over the past 2 decades, from 17 barrels per foot drilled in the 1970s to about 8 barrels in the 1980s. With declining exploration and lower success rates in finding oil, U.S. proven reserves have dropped by 15 percent over the past decade.

Against this backdrop, it is clear that the United States is squeezing nearly depleted wells ever more tightly to get oil.⁶ The average oil well in this country produces about 13 barrels per day of oil, down from a high of 18 barrels per day in 1970; in the Middle East, the average well produces more than 2500 barrels per day.

As for consumption, as Figure 8 shows, it is about the same in the United States now as it was in 1973. In between, demand hit an all-time peak in 1978 and a relative low in 1983. Since 1973, total oil use in electric power generation and the heating of buildings has declined by almost 50 percent. Industry has cut its oil consumption by about 10 percent. Transportation, on the other hand, uses 20 percent more oil now than it did then and presently accounts for 63 percent of U.S. oil consumption. Not surprisingly, motor vehicles (cars, trucks, buses) and airplanes—with essentially no flexibility to switch fuels—will be the most

TRENDS IN U.S. OIL PRODUCTION



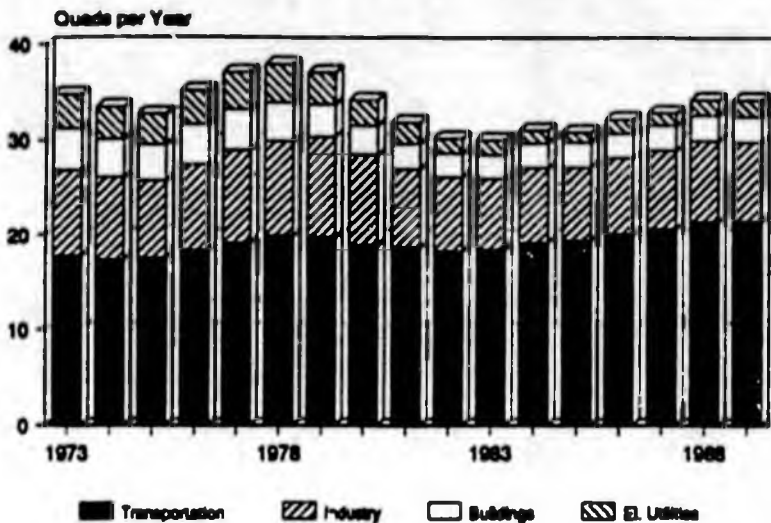
Source: WRI & DOE, 8/90

Figure 7

vulnerable oil consumers if petroleum supplies are disrupted for long.

With production slipping and consumption remaining high, the sources of supply have also changed. As Figure 9 illustrates, imports from all sources rose from 6.2 million b/d in 1973 to a peak of 8.8 million b/d in 1977. After dropping as a result of the 1979 price shock, they have been climbing again since the early 1980s. Imports reached 8 million b/d in 1989, accounting for 46 percent of domestic supply. The annual bill for U.S. oil imports (in constant 1989 dollars) is shown in Figure 10. From a high of over \$100 billion in 1980, the cost of U.S. imports dropped to less than \$40 billion in 1986. By 1989, it had risen to \$50 billion and was rising. Cumulative U.S. payments for oil imports between 1970 and 1989 totalled \$1.1 trillion.

TRENDS IN U.S. OIL CONSUMPTION



Source: WRI and DOE, 8/90

Figure 8

In 1973, U.S. oil imports from the Middle East stood at about a million b/d, about 6 percent of total U.S. supply. (See Figure 9.) In 1979, Persian Gulf imports peaked at 3.4 million b/d, about 18 percent of supply. After declining in the mid 1980s, they began rising again, and in 1989 they reached 2.1 million b/d, about 12 percent of domestic

supply. In other words, in 1989 the United States was twice as dependent on Persian Gulf oil (relatively and absolutely) as it had been in 1973.⁷

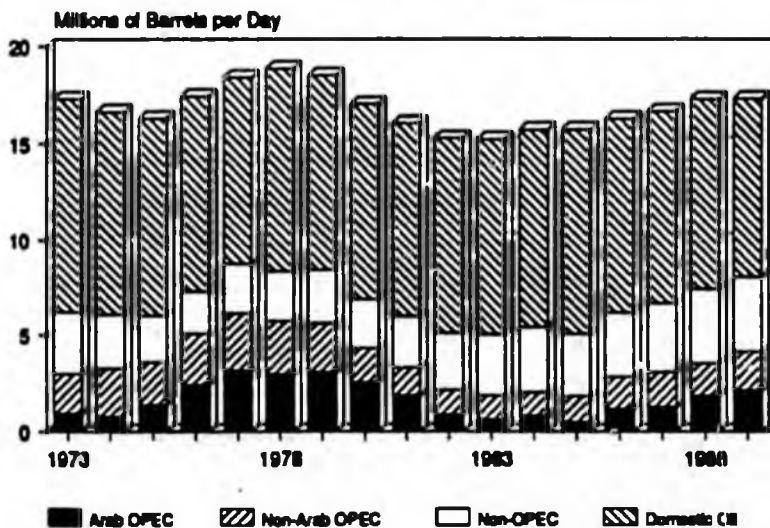
The relationship of motor vehicle fuel consumption to changes in fuel prices can be seen in Figure 11. The pattern is unmistakable: consumption of gasoline is an almost perfect reflection of the price of gasoline. When prices fall (as they did from 1974-1978 and 1982-1989), demand rises; when prices rise (as in 1973-1974 and 1978-1982), demand falls.

Although average U.S. transportation efficiency has improved over the past 15 years, the overall trend in fuel use is still up. U.S. cars, trucks, buses, motorcycles,

and other vehicles account for about half the nation's oil consumption. As Figure 12 shows, averaged over the entire U.S. vehicle fleet, the fuel consumed *per vehicle* dropped 15 percent—from about 830 gallons per year in 1970 to about 700 gallons in 1988. This decline reflects the net results of many (sometimes opposing) trends, including improved vehicle fuel efficiency (partially offset by growth in the number of miles driven per vehicle), the substitution of trucks for cars (the latter are more efficient) in commuting, higher (less efficient) driving speeds, increasing congestion, and so forth. Despite this fleet-wide reduction in average fuel use, however, total motor-vehicle fuel use actually increased by more than 40 percent between 1970 and 1989, the result of a 70-percent increase in the number of motor vehicles on the road.

If the past is any indicator of the future, the prospects of large reductions in oil use solely through improvements in vehicle efficiency do not look promising. As a result, totally different kinds of vehicles, such as electric or hydrogen-powered

TRENDS IN U.S. OIL SUPPLY



Source: WRI and DOE, 8/90

Figure 9

cars, will have to be developed as part of a long-term energy strategy.

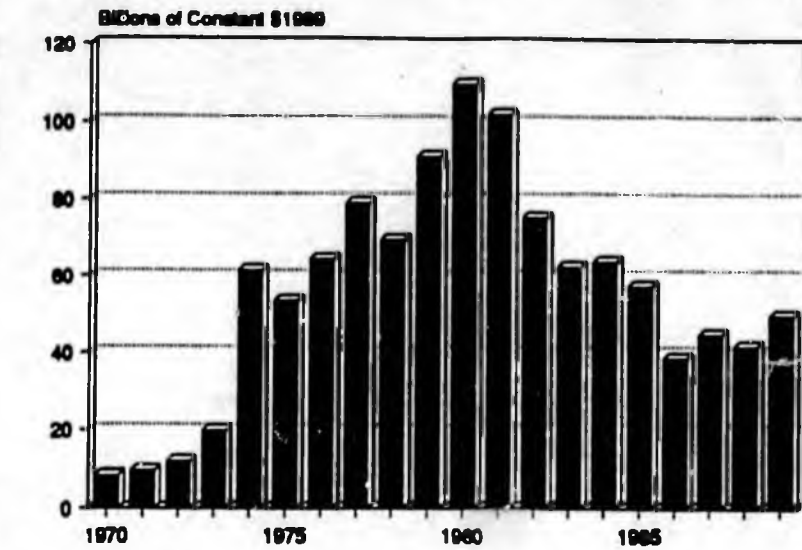
Dealing with the Middle East oil crisis will be but the first step in a larger effort to fashion consistent national policies affecting energy supply and demand. In the United States, oil policies are largely transportation policies, and the history of motor vehicle fuel use over the past two decades, both here and overseas, shows that fuel prices are a very important—if not the most important—factor in motor fuel consumption. The unrealistically low U.S. fuel prices of the past few years have given us a false picture of the security and environmental risks posed by these fuels. Low prices have led to excessive oil use, increased imports from a politically volatile region, and a growing burden to the nation's balance of payments.

A prudent national oil strategy would encourage more efficient oil use by gradually increasing motor vehicle fuel prices through some kind of fuel tax. At the same time, national transportation priorities should be shifted so that fewer people drive to work (especially alone) and more use public transport. A high priority should also be given to the introduction of electric and hydrogen-powered vehicles that could be run on domestic energy sources. Together, these

policies would protect the environment by cutting emissions of both pollution and greenhouse gases, reduce oil imports, and enhance national security.

The United States can never be indifferent to the invasion of one sovereign nation by another. But if we had a national energy strategy based on the use of renewable and domestic energy sources, what's happening now in the Persian Gulf would be cause for moral indignation toward the invader and support for the invaded, but not of deep and justified fear about our own country's economic future. □

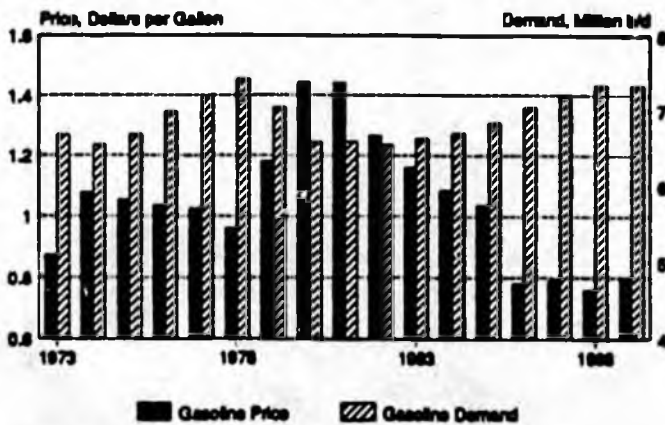
ANNUAL OIL IMPORT BILL FOR THE U.S.



Source: WRI & DOE, 8/89

Figure 10

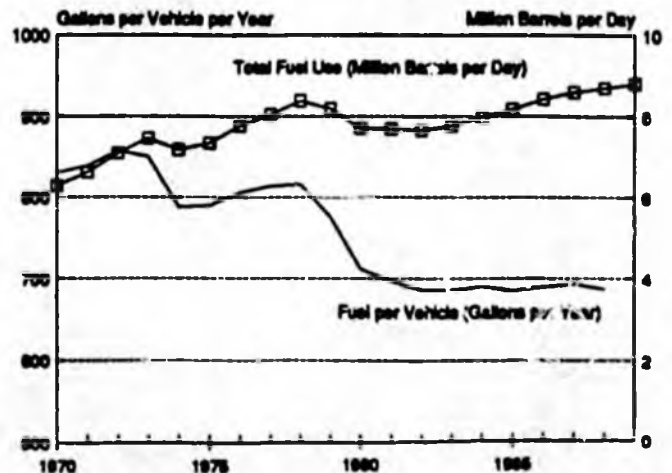
TRENDS IN U.S. GASOLINE PRICES (IN \$1983) AND DEMAND



Source: WRI & DOE, 8/89

Figure 11

FUEL TRENDS IN U.S. MOTOR VEHICLES



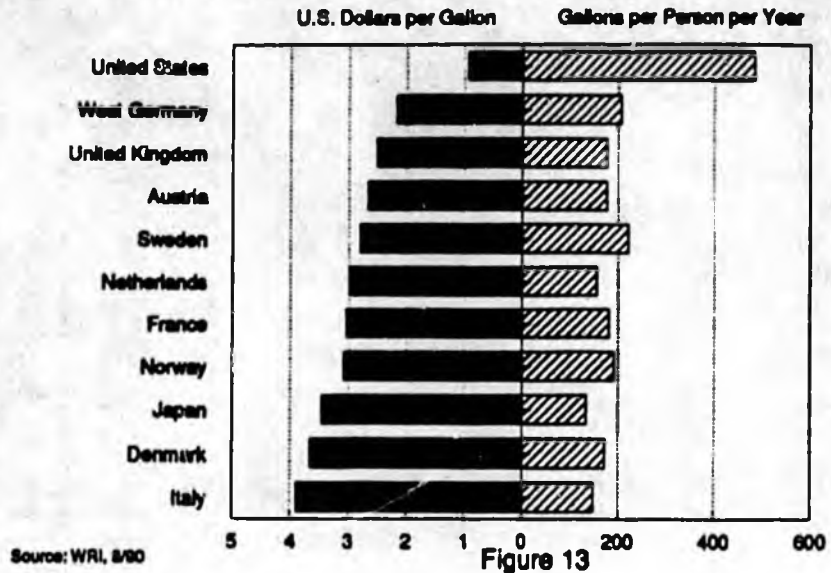
Source: WRI & DOE, 8/89

Figure 12

EFFECTS OF LOW FUEL PRICES

One of the results of very low prices for motor-vehicle fuels is illustrated by Figure 13. U.S. gasoline prices in 1988 averaged one fourth to one half those in Europe and Japan. Corresponding per-capita motor vehicle fuel use and vehicle-miles-traveled in these countries averaged one fourth to one half those of the United States too. Higher fuel prices abroad have translated into less reliance on the individual automobile for travel and greater use of trains and other forms of public transportation.

A COMPARISON OF 1988 GASOLINE PRICES AND PER CAPITA MOTOR FUEL USE



NOTES

1. Commercial energy includes only those energy forms that are bought and sold in markets. Thus, fuelwood, dung, and crop residues are not counted.
2. The largest sources are Abu Dhabi, Dubai and N. Emirates, Iran, Iraq, Kuwait, Neutral Zone, Oman, Qatar, and Saudi Arabia.
3. Proven reserves are identified deposits of crude oil that are recoverable under present and expected economic conditions with existing available technology.
4. Technically, of course, continued exploration and drilling will lead to new reserves that will at least partially replace the oil being produced. Also, production of a resource such as oil does not occur at a constant rate until it "runs out." Rather, it hits a peak and declines over a longer period of time. (See Figure 7.)
5. OPEC members include Iran, Iraq, Kuwait, Qatar, Saudi Arabia, United Arab Emirates, Algeria, Libya, Gabon, Nigeria, Indonesia, Ecuador, and Venezuela.
6. In 1989 there were over 600,000 wells producing oil in the United States. In all of the Middle East, there were only 6000 producing wells.
7. Unlike 1973, however, the United States now has a Strategic Petroleum Reserve with about 600 million barrels of crude oil in it, enough to replace net imports for about 3 months.

ABOUT WRI

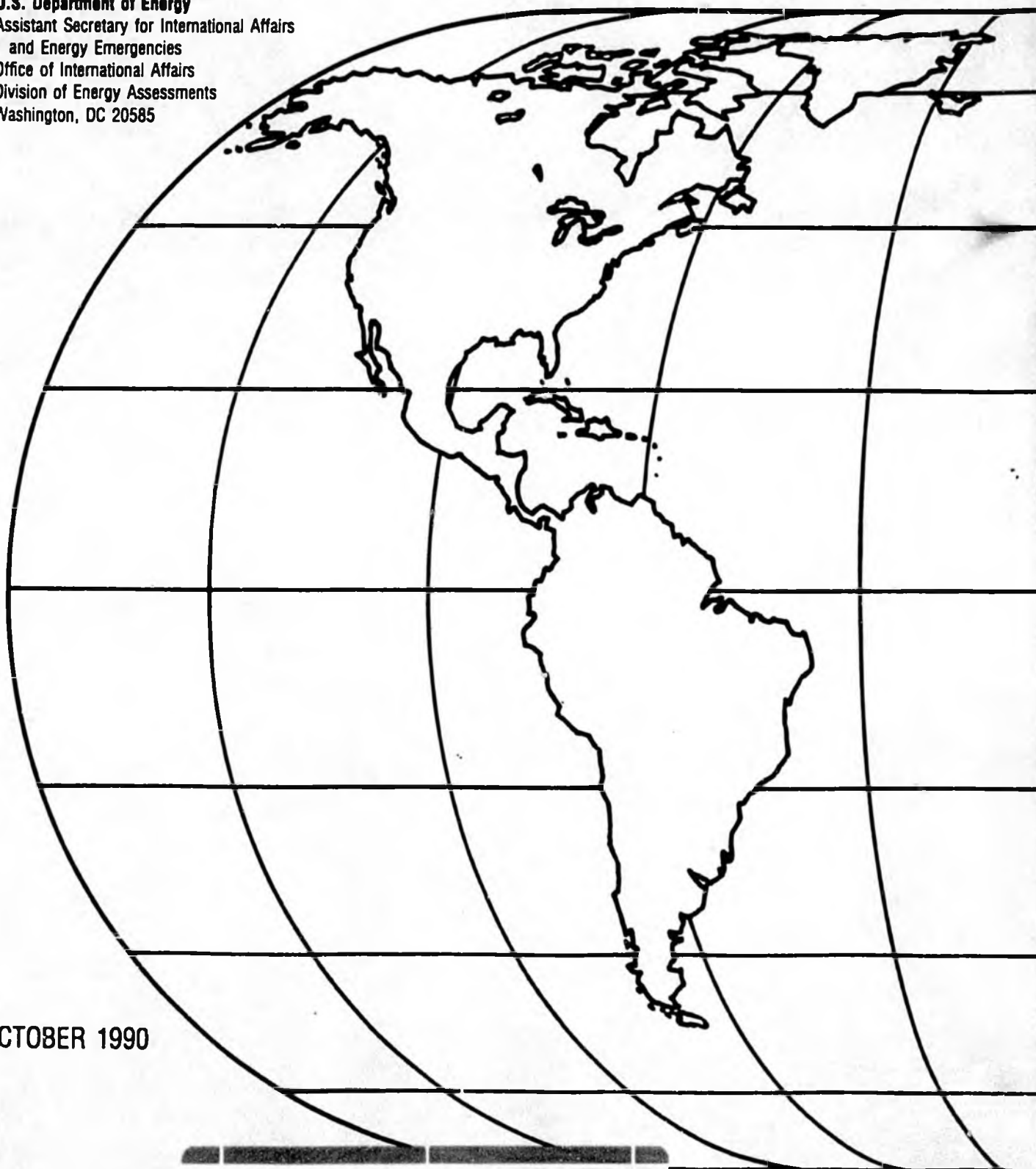
World Resources Institute (WRI) is an independent research and policy institute founded in 1982 to help governments, environmental and development organizations, and private business address a fundamental question: How can societies meet basic human needs and nurture economic growth without undermining the natural resource base and environmental integrity?

The institute's 95 staff members span science, economics, and policy to provide accurate information on global resources and develop viable policy options. WRI currently focuses on four broad areas—forests and biological diversity; energy, climate, and pollution; economics and institutions; and resource and environmental information—and augments policy recommendations with field services and technical support for groups working with natural resource management.

WRI is funded by private foundations, United Nations and governmental agencies, corporations, and concerned individuals.

The Report on the **Western Hemisphere Energy Cooperation Study**

U.S. Department of Energy
Assistant Secretary for International Affairs
and Energy Emergencies
Office of International Affairs
Division of Energy Assessments
Washington, DC 20585



OCTOBER 1990

EXECUTIVE SUMMARY
THE REPORT ON THE WESTERN HEMISPHERE ENERGY COOPERATION STUDY

I. INTRODUCTION

In July 1988, the President signed Public Law 100-373, an extension of title II of the Energy Policy and Conservation Act (EPCA), which contained language directing the Secretary of Energy in cooperation with the Secretaries of State and Commerce to conduct a study on "how best to enhance cooperation between the United States and other countries of the Western Hemisphere with respect to energy policy including stable supplies of, and stable prices for, energy. On completion of the study, the Secretary of Energy shall propose a comprehensive international energy policy for the United States designed to enhance cooperation between the United States and the other countries of the Western Hemisphere" (see Appendix I). This language has been referred to as the "Leland Amendment" after its initiator, the late Congressman Mickey Leland from Houston, Texas.

Over the two years since the initiation of the study there has been radical change in the Western Hemisphere. Democratic elections have been held in the majority of the key countries of the region. While the events in Eastern Europe and the Soviet Union have dominated the world's attention, the changes in Latin America have been nearly as fundamental.

Iraq's invasion of Kuwait and the attendant oil price volatility provides an even more current reminder of the need for continuing and developing Western Hemisphere energy cooperation as a key component in strengthening U.S. energy security. While this review was essentially completed before the actions taken in the Persian Gulf, the recommendations given in the report take on additional meaning in light of the recent developments.

The Department, through its Office of International Affairs and Energy Emergencies, has been actively involved in the development of "The Western Hemisphere Energy Cooperation Study" since the fall of 1988. The goal of this effort has been to identify initiatives that would assist in increasing the reliability and security of energy supply, reduce long-term dependence on imported oil, and help restore economic vitality and viability in developing countries of the Western Hemisphere. In addition to conducting the study with the Departments of Commerce and State, the Department of the Treasury, the Agency for International Development, the U.S. Trade Representative, the Overseas Private Investment Corporation, the Export-Import Bank of the U.S., the U.S. Trade and Development Program, and the Environmental Protection Agency all contributed to the development of the study.

This report is organized with an introduction and five major sections. The first section summarizes incentives for cooperation as they relate to the perceived needs of both the United States and Latin America and the Caribbean. The second section provides a description of our relationship with Canada and the numerous cooperative agreements that have emanated out of that relationship. The third and fourth sections discuss current interaction among

It is out of mutual recognition of the benefits to be gained that an energy trade relationship has developed and prospered between the United States and Canada. It has strengthened and stabilized the markets in each country and has enhanced the energy security of both, individually and collectively.

IV. U.S. GOVERNMENT COOPERATION ACTIVITIES

Energy cooperation activities take place in a number of different forms with varying objectives. Technical cooperation activities by the Department of Energy are intended to be mutually beneficial to the parties involved. Policy consultation activities serve as a vehicle to explain U.S. energy policy and the philosophies underpinning that policy, to understand policy developments in other countries, and to identify areas of cooperation. DOE and other U.S. agencies provide support for U.S. energy companies by identifying commercial opportunities and applications for U.S. technology. Finally, U.S. aid agencies provide developmental assistance to countries in addressing energy problems.

V. MULTILATERAL ENERGY COOPERATION PROGRAMS

Many multilateral banks and organizations provide significant funding to energy related programs to the countries of the region. This lending tends to focus on large scale power generation projects. Other energy projects are usually underwritten by the smaller regional support groups with less funding available. There is no formal coordination currently between multilateral groups.

VI. CONCLUSIONS AND RECOMMENDATIONS FOR ENHANCING ENERGY COOPERATION IN THE WESTERN HEMISPHERE

The following conclusions and recommendations resulting from this study provide a framework for a comprehensive international energy policy designed to enhance cooperation between the United States and the other countries of the Western Hemisphere. The implementation of the report's recommendations is designed to foster greater energy security for the region, engender respect for the environment, increase energy efficiency, and invigorate stagnant economies.

CONCLUSIONS

- o Current levels of bilateral and multilateral cooperation, while extensive, lack coordination and, in many cases, a technical energy focus.
- o Energy resource allocation in the region would benefit from removal of government controls.
- o Communication networks are necessary to enhance energy cooperation.
- o All countries in the region can benefit from continued and closer cooperation in energy.

- o Rapidly changing political and economic environments provide new opportunities for cooperation.
- o More open markets and the need for competitively priced goods and services will create new markets for the U.S. private sector.
- o All nations of the Hemisphere will benefit from placing greater emphasis on economic and environmentally sound energy strategies through mixed and diversified energy supplies, conservation, and efficiency of energy use.
- o Coordinated bilateral and multilateral aid and lending are critical in the development of efficient energy systems in many countries in the Western Hemisphere.

RECOMMENDATIONS

- o Establish active relationships with regional energy organizations.
- o Expand network of bilateral energy consultations with key countries in the region to promote U.S. policies to enhance energy security through supply diversification, market based trade, and safe and environmentally sound technology development.
- o Pursue specific bilateral issues of potential mutual benefit.
- o Provide greater assistance in the identification of opportunities for utilization of U.S. energy technologies.
- o Establish a policy working group to assure that energy programs of the major financial and aid agencies are consistent and support economic development and environmental goals.

U.S. energy policy aims to set up Western Hemispheric alliance

By Michael Arndt **A.6**
Chicago Tribune

WASHINGTON—Just as the United States is working to create a new world political order, it is trying to shape a new order in the world of energy.

In the future, the Bush administration and many in Congress want to see the nation get more of its oil imports from within the Western Hemisphere. International cooperation also might extend to linking natural gas pipeline networks and electricity grids, at least throughout North America.

If such an alliance is achieved, under either a multilateral free trade agreement or a set of bilateral pacts, the U.S. could reduce its oil dependence on the volatile Persian Gulf region.

Until recently, the United States has been the chief—and sometimes sole—advocate of a Pan-American energy pact. But Pan-American oil producers, hungry for U.S. investment and anxious about losing the U.S. market to other exporters, are growing more accepting.

Even Mexico, the nation in the hemisphere that is perhaps the most fearful of U.S. economic domination, is considering a free trade treaty with the U.S.

"Our feeling is that we need to build a new hemispheric strategy with Venezuela, Mexico, Canada, all combined," Energy Secretary James Watkins said last Thursday. "We have a lot of work to do. But I think here is part of the new world order emerging. And here's the time to take advantage of it."

Hoping to do just that, Commerce Secretary Robert Mosbacher last week led a delegation to Venezuela to discuss oil matters with senior officials of the government and Venezuela's state-owned oil company.

Mosbacher's meetings followed others by Watkins and President Bush. They also had similar agendas, say people familiar with the meetings.

Many in Congress also support a Western Hemispheric energy alliance. House Budget Committee Chairman Leon Panetta (D-Calif.) introduced a wide-ranging energy measure Friday that calls for greater hemispheric energy cooperation.



Energy Secretary James Watkins

Proponents acknowledge that the old order hinders development of a new one. Throughout the Americas—North, South and Central—the United States is regarded with suspicion and resentment.

Free trade pacts would require other countries to give up at least some of their economic sovereignty.

Meeting such a demand may be politically impossible. The Mexican constitution, for example, explicitly prohibits foreign ownership of any of the nation's oil assets—most of which U.S. corporations owned until Mexico nationalized them in 1936.

Even the free trade treaty between the United States and Canada, the nation most like the U.S., took years to negotiate.

Moreover, unless governments expend huge amounts of money to subsidize the development of non-conventional oil sources, such as tar sands in Alberta, the United States still would have to buy some oil from Europe, Africa and the Middle East, which now supply nearly two-thirds of U.S. imports.

But if these non-conventional sources were developed and gas and electric networks were expanded, allowing greater use of these energy sources, the Western Hemisphere could become self-sufficient.

The Americas' unconventional

oil sources hold a huge potential. Venezuela's belt of heavy substance more like oil but more expensive contains an estimated 100 billion barrels. That is more than the world's known crude oil.

"There certainly is a desire for a Western Hemispheric alliance," said G. Henry Schuler, director of the Center for Strategic and International Studies' energy section. "There are advantages for us and our trading partners in the hemisphere."

Many trade and energy experts believe continental federations are the wave of the future. They envisage Europe fueled by itself; Japan fueled by the Far East; and the United States fueled by the Americas.

But all three economic blocs would also continue to rely on the Middle East.

In terms of energy, a vibrant trade relationship in the Western Hemisphere already exists. The United States buys virtually all of the oil exported by Venezuela, Canada and Mexico.

These three countries provide 33 percent of the oil that the U.S. imports.

In addition, Venezuela and Brazil sell sizable quantities of gasoline to the United States, while Canada supplies increasing amounts of natural gas and electricity to U.S. consumers.

The nations' energy companies are becoming integrated as well. Exxon Corp. and Amoco Corp., among other U.S. firms, own big subsidiaries in Canada.

Meanwhile, Petroleos de Venezuela S.A., Venezuela's national oil company, owns Citgo Petroleum Corp. and an independent refinery in the United States.

The next linkup may be between U.S. oil companies and the Mexican national oil company, Petroleos de Mexico S.A. In November, Mexico accepted a \$1.5 billion loan from the United States to build up its oil production.

In return, Mexico indicated it might allow U.S. firms to drill for oil.

Should the arrangement succeed, trade experts say it would better the chances of an overall bilateral trade agreement.