

HJR

48

FISCAL NOTE

STATE OF ALASKA
1991 LEGISLATIVE SESSION

BILL NO. HJR48

Revision Date: May 8, 1991 Department Affected: _____
 Title: Relating to a Pan-American BRU: _____
energy alliance. Component: _____
 Sponsor: Rep. Mark Boyer
 Requestor: _____ COMPONENT SERIAL NO.

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Expenditures/Revenues: (Thousands of Dollars)

OPERATING	FY 92	FY 93	FY 94	FY 95	FY 96	FY 97
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	0					
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FUNDING: (Thousands of Dollars)

GENERAL FUND	0					
FEDERAL FUNDS	0					
OTHER	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: David Ramseur, HIT&T Committee Phone: 465-4930

Division: _____ Date: 5/8/91

Approved by Commissioner: *Tom Meyer*

Agency: _____ Date: 5/8/91

Distribution (by preparer): Legislative Finance, Legislative Sponsor, Requestor, OMB, & Impacted Agency(ies).

Alaska State Legislature

REPRESENTATIVE
MARK BOYER

VICE CHAIRMAN
HOUSE FINANCE COMMITTEE



House of Representatives

MEMORANDUM

FAIRBANKS

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DATE: May 8, 1991

TO: Representative David Finkelstein, Chairman
House Labor and Commerce Committee

FROM: Representative Mark Boyer

RE: Scheduling of HJR 48 - Pan American Energy Alliance

I would like to request that you schedule HJR 48, relating to the Pan American Energy Alliance, for a hearing at your earliest convenience. The resolution would request that nations of the Western Hemisphere develop reciprocal energy security measures. The South/West Energy Council has adopted a similar resolution. Alaska is a member of the Energy Council. HJR 48 passed out of the House International Trade and Tourism Committee on Wednesday, May 8, with a majority of the committee voting do pass.

The resolution notes that fluctuations in oil prices and supply patterns demonstrate that the United States' access to this resource is vulnerable to concerted political action by governments in the Middle East.

In 1987, the United States reliance on imported oil increased to forty-one percent, the highest percentage in seven years. With our demand for oil increasing at a rate of two percent per year, our reliance on imported oil will increase because our domestic exploration and production capability has been seriously eroded.

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 American cities, to develop a Pan American Energy Alliance. The South/West Energy Council has adopted a similar Energy Alliance resolution and is working to develop these measures in the Western Hemisphere. HJR 48 also urges Governor Hickel and his administration to participate in these efforts.

I've attached a copy of the resolution and additional back-up. If you have any questions, please contact my office and speak with Alexis Miller at 465-3467.

FAIRBANKS 20B

The Need for an Energy Policy Now

Representative Pauline Eisenstadt

As the world watched Saddam Hussein's every move, it was easy to feel overwhelmed by the fact that an irrational despot so far from our daily lives could play such a deadly role. However ill-equipped we at home may be to judge foreign policy decisions, there is something all citizens can do if we have the resolve.

Our soldiers fought and died in the Persian Gulf in part because of our failure to implement a coherent and comprehensive energy policy, as well as because of the aggressive opportunism of Saddam Hussein.

Oil supplies to this country were disrupted in the 1970s. Then we paid only higher prices, not blood, to satisfy our gluttonous energy appetite.

As long as we rely on an inherently unstable region of the world to sate our voracious energy wants, the Persian Gulf scenario and the energy shortages of the 1970s will play themselves out over and over.

There are solutions that a responsible federal government must adopt, and there may be ways citizens at the grass-roots level can spur Washington to action. The nation was on the path to energy independence under the guidance of Jimmy Carter, who stressed conservation and the development of alternative energy sources as a substitute for Persian Gulf oil.

Worldwide energy consumption dropped enough to break the OPEC cartel. Once that happened and the price of Middle East oil fell, the Reagan administration lacked the fortitude to stay the course.

According to Department of Energy

Representative Eisenstadt is a member of the New Mexico House of Representatives. She founded Energy Consumers of New Mexico, a consumer energy advocacy group, and served five years as its executive director.

statistics, U.S. domestic oil production has increased from 15.3 million barrels per day in 1982 to 16.9 million barrels per day in 1990. Consumption, however, has far outpaced these increases in production, and the percentage of oil we im-



port has jumped from 28.1 percent to 45 percent in those eight years.

By contrast Japan, a country with no oil resources of its own, managed to spend only 5 percent of its GNP on energy in 1985, while we spent 11 percent. Japan and other countries are improving their energy efficiency and diversifying their energy sources faster than we are. For example, projections for the year 2000 show that renewable energy (solar, wind and hydropower) should account for 64.3 percent of Brazil's energy needs, 63 percent of Norway's and 13.5 percent of Japan's.

In the United States, it is anticipated that these energy sources will provide only 8.7 percent of our energy needs. By 1986, expenditures for research and development of alternate energy sources in the United States had dropped 80 percent from their 1980 high of \$900 million. Compare that with the 1990 price tag of \$16.4 billion for Operation Desert Storm.

"We wouldn't have needed any oil

from the Persian Gulf after 1985 if we'd simply kept on saving oil at the rate we did from 1977 through 1985," wrote physicist and conservation advocate Amory Lovins in a recent *New York Times* op-ed piece. This would make a terrible epitaph on our soldiers' graves.

We are indeed far from the shifting sands of Saudi Arabia and should probably leave foreign policy to the diplomats. But viewing the national will as an aggregation of the wills of each state, we can take a first step toward restoring energy issues to the top of the federal agenda and do our part at the state and local levels to reduce the country's dependence on foreign oil.

The New Mexico Legislature will consider measures that would:

- Encourage state purchasers to consider energy conservation as well as short-term costs when buying state equipment.

- Offer incentives for consumers to purchase fuel-efficient cars, offer solar tax credits and mandate recycling programs in all the state's urban areas.

- Establish an energy conservation task force to include representatives of the Los Alamos and Sandia national laboratories which, during more prosperous times, pioneered the national search for alternative energy sources.

These measures are not an end in themselves. Rather, it is hoped they are the sounding of a voice that has been silent for too long.

The time is now for New Mexicans and all Americans from our other 49 states to unite and send a message to Congress and the president that there is a strong will in this country to formulate a coherent and comprehensive energy policy, which has been absent for a decade.

Installing energy conserving devices and researching alternative energy sources may be expensive. But as Saddam Hussein has made so painfully clear, money is just a pittance of the total cost. Blood runs thicker than oil. ■

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

By Michael Arndt
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 oil—a substance more like coal than oil, but more expensive to refine—contains an estimated 1.3 trillion barrels. That is more than the entire world's known reserves of crude oil.

"There certainly is a need 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.

South/West Energy Council

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(Prepared
1987)

POSITION PAPER ON A PAN AMERICAN ENERGY ALLIANCE

The South/West Energy Council is the organization of state legislators representing the energy-producing states of America. Drawing on the knowledge gained through years of hands-on experience, the Council provides a forum for state legislators to develop public policy responses to national energy and environmental issues. The purpose of the Council is to promote a national energy policy that encourages domestic energy production and ensures long-term energy security for the nation.

Today the United States is undisputably dependent on foreign oil to keep our lights on, our cars rolling and, indeed, our economy functioning. However, with a thoughtful energy policy, this nation can be dependent without being vulnerable.

Unfortunately today the U.S. is both...dependent and vulnerable.

The specific proposal the South/West Energy Council raises to this point would be but one part of a national energy policy. It is a proposal for a Pan American Energy Alliance.

This proposal is a grass roots policy effort. It is born of the producing states' realization that the boom and bust oil cycle is devastating to stable economies and state government.

The recent energy price bust, which saw oil prices drop from 32 dollars a barrel to 10 dollars over a four-month period has meant fiscal crises and the highest unemployment rates in the nation for producing states. Even sizable drilling incentives offered by state governments couldn't budge the rig count which dove with the price.

Investors had no faith in the price of oil. Only now, after seven months of \$18-20 oil are we seeing signs of activity in the oil patch. The lesson learned was that of the tremendous importance of world market stability to investment in domestic exploration and production.

Obviously, states can not legislate world oil market conditions, but they can influence federal policy. They can push for policies that will mean a stable economic environment for energy development.

Consequently, the South/West Energy Council proposes a Pan American Energy Alliance as the basis for this stability. We want to discuss an agreement among the primary producing nations of the western hemisphere, to assure a secure supply of oil in times of crisis. The benefit of such an Alliance would be to bring a measure of economic stability to the world's oil market, and consequently to national economies around the world, by neutralizing threats of an embargo.

It would provide for our national defense by assuring a secure supply of oil from within our own sphere of influence. The tie between national security and energy was recognized by the Reagan Administration in its energy security report issued last spring. Military activity in the Persian Gulf has been the federal response.

Further, an Alliance would encourage trade among the democratic neighbors of the western hemisphere, improving Pan American relations, and the Latin American national debt situation.

Certainly though, this proposal is not a panacea. It would be but one part of a successful energy policy. National energy policy must be based on a productive domestic oil and gas industry, continuous strides in conservation and the development of alternative sources of energy to complement a Pan American Energy Alliance.

We are not suggesting that the U.S. exclusively trade within this hemisphere; when it comes to energy, this country is not in a position to kick sand in anyone's face. But we can redirect our attention to our neighbors, who are energy trade partners of long-standing.

A Pan American Energy Alliance might be structured as a multilateral treaty or even a number of bilateral agreements. Existing organizations like the Organization of American States (OAS) could be used as forums to reach such accords.

There are a number of parties who might be included. Obviously the hemisphere's major producers come to mind: Canada, the U.S., Mexico and Venezuela. Additionally, all producing nations could be approached: Columbia, Peru, Trinidad and Tobago, Ecuador and others.

Finally, it may be politically attractive to include all nations of the western hemisphere, recognizing the great dependence that smaller, non-producing nations have on oil imports. Along these lines, Mexico and Venezuela have just renewed the San Jose Accord which commits them to supplying certain amounts of crude to Caribbean nations.

In order to knowledgably consider the feasibility of the Pan American Energy Alliance proposal it is necessary to review the world oil situation. It's a small world when we talk about energy and oil must be considered in a global context.

By far, the greatest world reserves are located in the Middle East. This is readily apparent in Figure 1, which shows reserves as well as production to-date.

The nation with the greatest conventional reserves is Saudi Arabia with 167 billion barrels. Interestingly, the second greatest reserves are in the western hemisphere.

Not surprisingly, the U.S. has one of the highest cumulative production levels in the world. A Congressional Research Service study published earlier this year predicts the U.S. will begin a production decline before 1990, adding pressure to import.

FIGURE 1

World Crude Oil Reserves and Cumulative Production

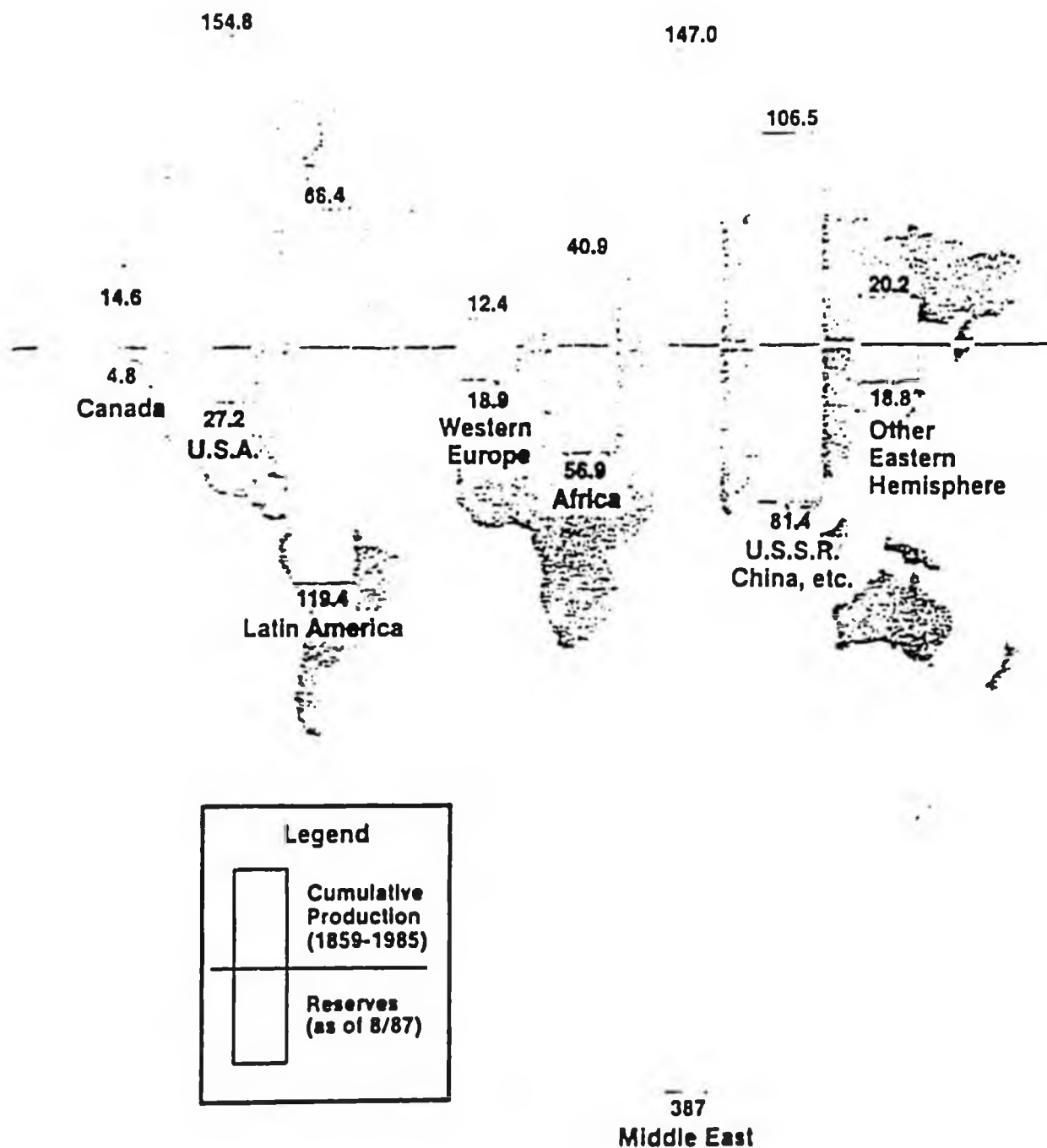


Figure 2 highlights the four greatest reserves in the western hemisphere. Here Mexico and Venezuela are neck-and-neck with 54 and 55 billion barrels apiece. However, these proven reserve figures do not include Venezuela's so-called "black acc in the hole", the Orinoco Belt, with its heavy crude reserves estimated to be as high as 267 billion barrels. The U.S. has the third largest reserves in the western hemisphere with 27 billion barrels and Canada has 4.8 billion barrels in reserves.

Looking more closely at the U.S. situation, current U.S. consumption is, very roughly, four and one-half billion barrels a year. Figure 3 illustrates domestic production, import, consumption and reserve levels in 1987.

An examination of the current U.S. import situation reveals that in 1987 almost 40 percent of the crude oil consumed in the U.S. (38.9 percent) will be imported. This is up from 31 percent only two years ago.

In fact, at the time of the 1973 Arab oil embargo, the U.S. imported about 31 percent of our demand. To appreciate the sensitive nature of the market, it should be noted that in 1973 only 8 percent of our oil supply was throttled off by the Arab Embargo. And yet it caused substantial disruption in this nation.

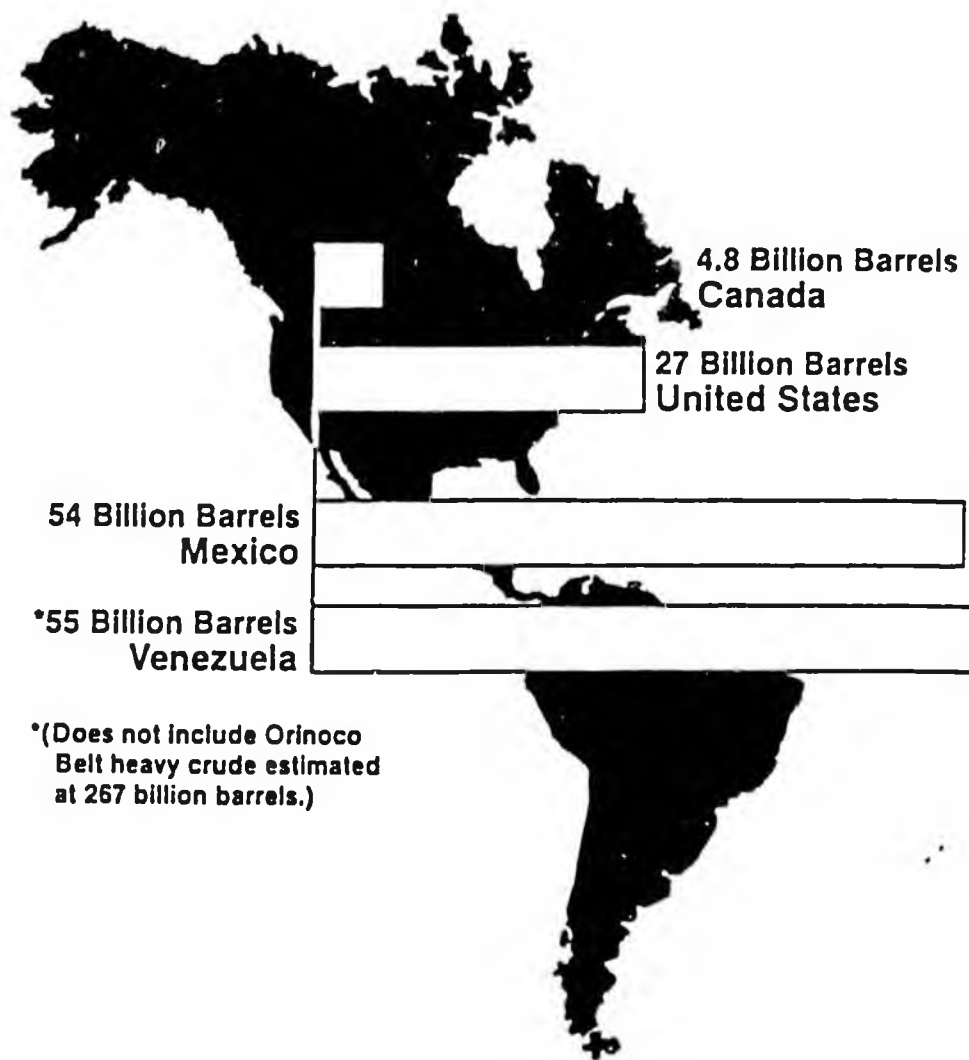
Almost exactly half (49.5 percent) of U.S. imports come today from OPEC nations. Saudi Arabia alone supplies more than 15 percent of our imports.

Counted in the OPEC total is 11 percent from Venezuela. But it should be noted here that in 1973, Venezuela, although a founding member of OPEC, stood by the U.S. In fact, it was Canada and Venezuela that kept the U.S. rolling during the embargo.

Over 40 percent of our imported oil comes from the western hemisphere. Figure 4 illustrates the top ten petroleum import sources and also notes Kuwait's imports to the U.S.

FIGURE 2

1987 Western Hemisphere Crude Oil Reserves

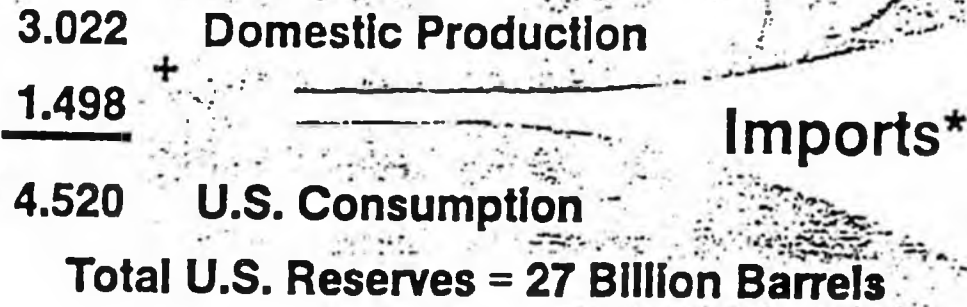


Source: World Oil, August 1987.

FIGURE 3

1987 Estimated U.S. Crude Oil Production, Imports, Consumption and Reserves

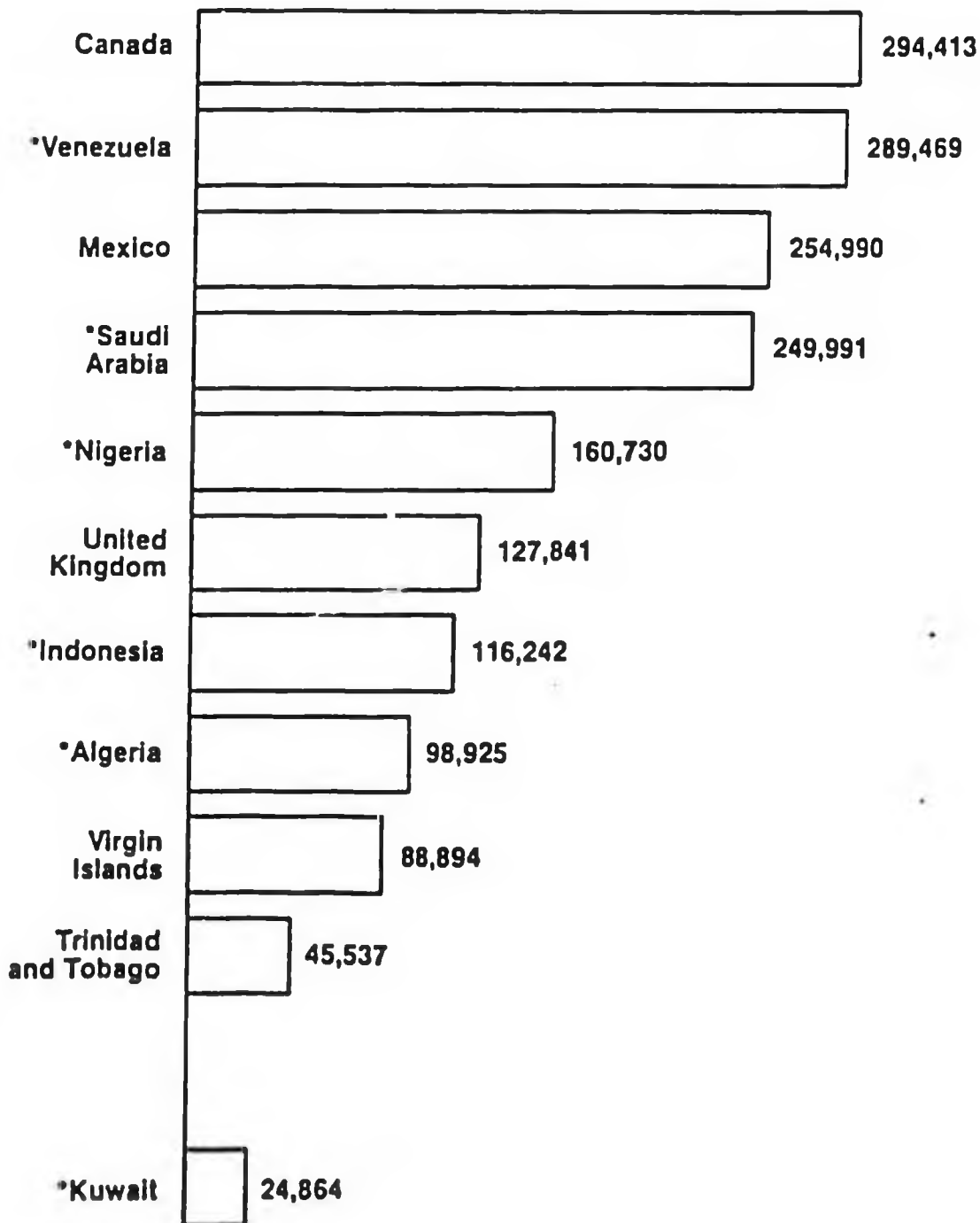
(Billions of Barrels)



*Gross Imports Minus SPR and Exports

FIGURE 4

1986
Selected Sources of
Petroleum Imports to the U.S.
(Thousands of Barrels)



*Members of OPEC

To put recent activities in the Persian Gulf in perspective, Kuwait supplies one percent of our petroleum imports. According to former Navy Secretary John Lehman, our military commitment to defend the Persian Gulf oil supply lines costs 40 billion dollars. That puts the true cost of Persian Gulf oil at about 140 dollars a barrel, not the 19 to 20 dollars that the market is currently setting.

An obvious question is how the nations of the western hemisphere are likely to react to a Pan American Energy Alliance proposal. The proposal was put to representatives of the four major producing countries—Canada, the U.S., Mexico, and Venezuela—at a meeting in April, in New Orleans, chaired by Senator Samuel B. Nunez, Jr., President of the Louisiana Senate and Chairman of the South/West Energy Council.

The meeting was also attended by a delegation of 15 Organization of American States ambassadors. The responses of the producing nations' representatives varied.

Mexico's PEMEX representative in the U.S., Alfredo Gutierrez, stated that Mexico welcomed such discussion and would encourage a multilateral approach. He recommended utilizing the OAS as a structure within which to explore the possibilities.

Gutierrez stated that PEMEX has a number of general policies that are relevant: self-imposed export limits; independence, that is, Mexico will not become a member of OPEC; market-based pricing; geographical diversification of export markets; and opposition to trade barriers like a U.S. oil import fee.

On the other hand, Canada did not seem overly impressed with the Pan American Energy Alliance concept and stressed some of their own basic policies: support of a market driven energy policy; and the International Energy Agency as a chosen forum for concerted multilateral energy policy action. Canada's Robert Skinner, Deputy Minister of Energy Commodities, was openly skeptical of multilateral efforts to achieve stability in the western hemisphere.

General Director of Petroleos de Venezuela S.A., Carlos Vogeler, noted that the Reagan Administration, by recognizing Venezuela's, Canada's, and Mexico's roles in assuring U.S. energy security, had underscored the importance of having our four nations' energy interests complement each other for the indefinite future.

Vogeler clearly stated that Venezuela does not profess to be a comprehensive answer to the energy security concerns of the U.S., but rather saw his nation as part of an energy security framework built on a strong domestic U.S. energy industry.

Vogeler concluded "...cooperation, economic complementarity, constructive compromise and dialogues are principles embedded in the foundation of Pan Americanism that should guide the community of western hmeispheric nations into a mutually secure energy future..."

The U.S. Representative was Sean Randolph, Assistant Secretary for International Affairs at D.O.E. The Administratior's position generally, as voiced by Dr. Randolph, was that of support for an unfettered free market. He also raised the problem of other international commitments. Randolph stated "...there is already a working community of interest within this hemisphere based on the natural market order that exists..."

So, overall, two of the four supported further development of the concept; interestingly, those two are the most critical ones from a reserve standpoint—Mexico and Venezuela. The other two, Canada and D.O.E., stuck to their free-market guns.

Faith in the free market is not misplaced, if indeed there is a free market. Consider, however, that the U.S. is the only nation in the world with individually-owned mineral rights; in all other nations the state owns the minerals and, almost without exception, the production company as well. Instead of being a commodity on a free market, oil is more likely to be an instrument of state policy, a tool for addressing a political agenda; a political agenda that may have little to do with energy.

The South/West Energy Council is initiating debate and seeking support for a Pan American Energy Alliance. This grass roots effort by the South/West Energy Council involves briefing Congressmen, Senators, and others.

The South/West Energy Council believes a Pan American Energy Alliance offers economic stability in a precarious environment. It provides enhanced energy security for the U.S. It provides trade opportunities with our neighbors. It does not shut doors; it demands international dialogue. It is a workable proposal. As part of an integrated energy program, it provides a safety net.

Faced with the overwhelming reserves in the Middle East as well as high U.S. consumption levels, there are but two alternatives: to throw up our hands or to immediately pursue a plan to position ourselves. . . maximizing America's strengths and minimizing our weaknesses. We believe the U.S. needs a national energy policy. Our proposal is the first step.

There's a distinction, the South/West Energy Council believes, to be made between energy dependency and energy vulnerability. The Pan American Energy Alliance recognizes our dependence but moves to overcome our vulnerability.

THE BEGINNING OF THE END FOR OIL

There's no longer any doubt that the Middle East cannot be relied on for petroleum. The world will intensify the search for alternatives—and natural gas will lead the pack. ■ by Peter Nulty

THE CONFRONTATION in the Persian Gulf conjures a host of horrible prospects: Shuttered factories. Gasoline lines. Blood in the sand. It might not come to that, of course. Iraq could yet withdraw from Kuwait, stabilizing oil prices and the world economy. But even if this crisis goes no further, even if the troops come safely home, even if the price of oil soon falls, Iraq's invasion of Kuwait will be remembered as the beginning of the end of the Age of Oil.

REPORTER ASSOCIATE Alan Deutschman

A historic shift is in the air. Disorder in the Persian Gulf is looking more like the norm than the exception. Policymakers and executives around the globe are asking, in the words of Jack Bowen, chairman of Transco Energy, a Houston natural gas and pipeline company, "What does this stuff really cost? Is it the price OPEC gets? Or is it OPEC's price plus trade deficits, unemployment, inflation, and higher military expenditures?"

The lesson has been driven home for good: You just can't count on Middle East oil. The world will most likely respond with a concert-

ed hunt for alternatives, starting with non-OPEC oil. That's logical, because the dark goo that provides 39% of the world's energy, more than any other source, will be a staple of the global economy for decades. Neither coal, which is the second-largest energy provider with 28%, nor natural gas, with 21%, can quickly replace oil, particularly as a transportation fuel.

But explorers aren't likely to find enough new oil to make OPEC a nonfactor in world energy. After the oil price spikes of the Seventies, the industry mounted a rig-spinning



Many countries will now strive harder for energy independence from OPEC. This exploration crew on a prayer break is in Oman—not a member of the cartel.

exploration and development campaign outside OPEC that produced new supplies, mainly in Mexico, Alaska, and the North Sea. This production, together with conservation, brought the cartel and oil prices low in 1986. But then demand revived, and non-OPEC oil production—the preferred barrels—couldn't keep pace. When oil-consuming nations wanted growth, they had to draw once more from the wells of OPEC. And they have been returning in such numbers recently that the cartel's spare capacity has dwindled from 12 million or 13 million barrels a day in the mid-Eighties to four million.

Thus governments and consumers will probably become more willing to pay a premium for non-oil energy, such as natural gas and coal, within their own borders. Their goal: maximum control of their energy futures. The most likely consequence: a long, slow ascendance of natural gas, which most experts believe is more plentiful than oil and more evenly distributed around the globe.

How quickly oil will lose favor and eventually market share, depends on the outcome in the Persian Gulf. A United Nations embargo against Iraq and Kuwait, if effective, will remove about four million barrels of crude and refined products a day from the world market that consumes about 65 million barrels a day. Most experts believe there is enough spare capacity in countries like Saudi Arabia, the United Arab Emirates, and Venezuela to make up the shortfall. To avoid get-

Explorers will soon begin scouring the last great frontiers for oil and gas. Seismic workers like these in Alaska (left) and northern Sumatra use sound waves to map underground formations.



SHARE OF WORLD RESERVES IN . . .	OIL	GAS
Middle East	65.2%	30.7%
Latin America	12.5%	5.8%
U.S.S.R. and Eastern Europe	5.9%	38.3%
Africa	5.9%	6.7%
Asia*	4.5%	7.1%
North America	4.2%	6.5%
Western Europe	1.8%	4.9%

* Includes Australia and New Zealand

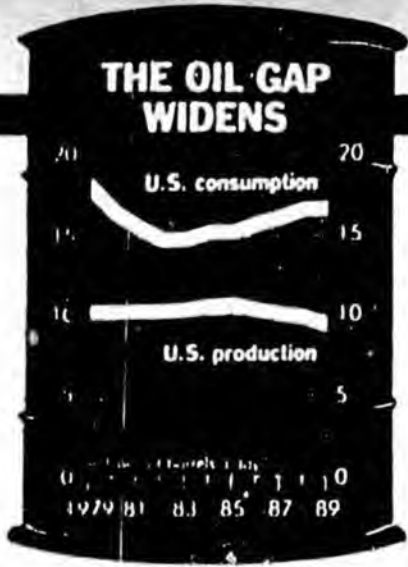
ting caught with an empty tanker in the resulting dislocations, oil companies are bidding up the price of crude. Says Ted Eck, chief economist for Amoco: "We're not thinking about price; we are focusing on feedstock." Prices may bounce around between \$25 and \$30 per barrel until the kinks are worked out.

AFTER THAT, there are roughly two possible outcomes. The first is a relatively uneventful siege of Iraq, followed by a peaceful resolution and return to the status quo—that is, to explosive ethnic and religious competition. During this time prices should settle in the low to middle 20s, according to Dennis Eklof, a senior consultant in the consulting firm Cambridge Energy Research Associates. Once peace is restored, however, prices are not likely to return to the pre-August \$14 range. Those prices owed much to OPEC members' cheating on their quotas. Tiny Kuwait and the Emirates, the worst miscreants in the eyes of the cartel, won't resume such practices lightly.

The second possibility is that a shooting war breaks out, disrupting Saudi Arabia's five million barrels a day of production, or the Emirates' two million barrels, or both. This would create the world's first serious crude-oil shortage since World War II and drive prices to unknowable heights. (In the oil crises of 1974 and 1979, supply and demand remained nearly in balance. It was the fear of shortage, which led to miscalculated government allocation rules and to such panic stockpiling as topping off the tanks of automobiles, that drove prices up.) Neither outcome to the present mess is likely to restore confidence in Persian Gulf oil.

So what should the U.S. do? Once the world's greatest oil producer, the U.S. is aging rapidly as an oil power. Production fell 6% last year, and imports account for around 50% of our needs, compared with

THE OIL GAP WIDENS



less than 30% in 1985. The U.S. is the most drilled-up land on earth, with 600,000 of the world's 900,000 producing wells. An average well produces about 15 barrels a day in the U.S., vs. 9,000 barrels a day in Saudi Arabia.

Stopping the growth of dependence on foreign oil will not be easy, as experience shows. When oil prices leaped in the Seventies, they set off a drilling boom that employed almost five times as many rigs (about 4,500) as are working today. That effort, along with prior discoveries in Prudhoe Bay, was barely able to lift U.S. production 4% between 1979 and 1985, after which production began falling again. The chances of reversing the decline in production and expanding output today are even more remote. Doing so would probably require the discovery of gigantic new reserves several times larger than Prudhoe Bay.

HOW CAN the U.S. reduce its dependence on foreign oil? There's no mystery: increasing exploration and development, stepping up conservation, and switching to alternative fuels. Every bit would help. Last year the U.S. used 16.5 million barrels a day, on average, and produced 9.2 million—600,000 barrels a day less than in 1988. Replacing that oil from abroad at today's prices would add over \$5 billion to the trade deficit of some \$95 billion this year.

All those calls we keep hearing for an en-

ergy policy, but they're right. The question is what policy changes would really do the trick? The Department of Energy is drafting a list of options known as the national energy strategy for delivery to President Bush by year-end. Before that, it would make sense—and break fresh ground—to assemble

able a team of experts from Congress, the Environmental Protection Agency, the Energy Department, environmental groups, and energy companies to synthesize a strategy that addresses both the environment and energy.

Call it an *enenergy* policy. After the *Exxon Valdez* accident last year, environmentalists beat back an industry attempt to open the Arctic National Wildlife Refuge and the outer continental shelf to oil and gas exploration. The inevitable result will be more oil imported in tankers that may be less safe than oil and gas wells. Now, with conflict in the Gulf and rising oil prices, environmentalists are understandably afraid the tide will turn against them.

Step back from the rush of today's news, and it becomes clear that the nation needs to upgrade both energy supplies and environmental quality. But that's tough to do when policy is being whipsawed between cataclysmic events. An *enenergy* policy would put us all on the same track. It might recommend, for instance, drilling the outer continental shelf because it contains mostly gas, the cleanest-burning fossil fuel, which won't befoul beaches in the event of a leak. Here are some policies for an *enenergy* team to consider:

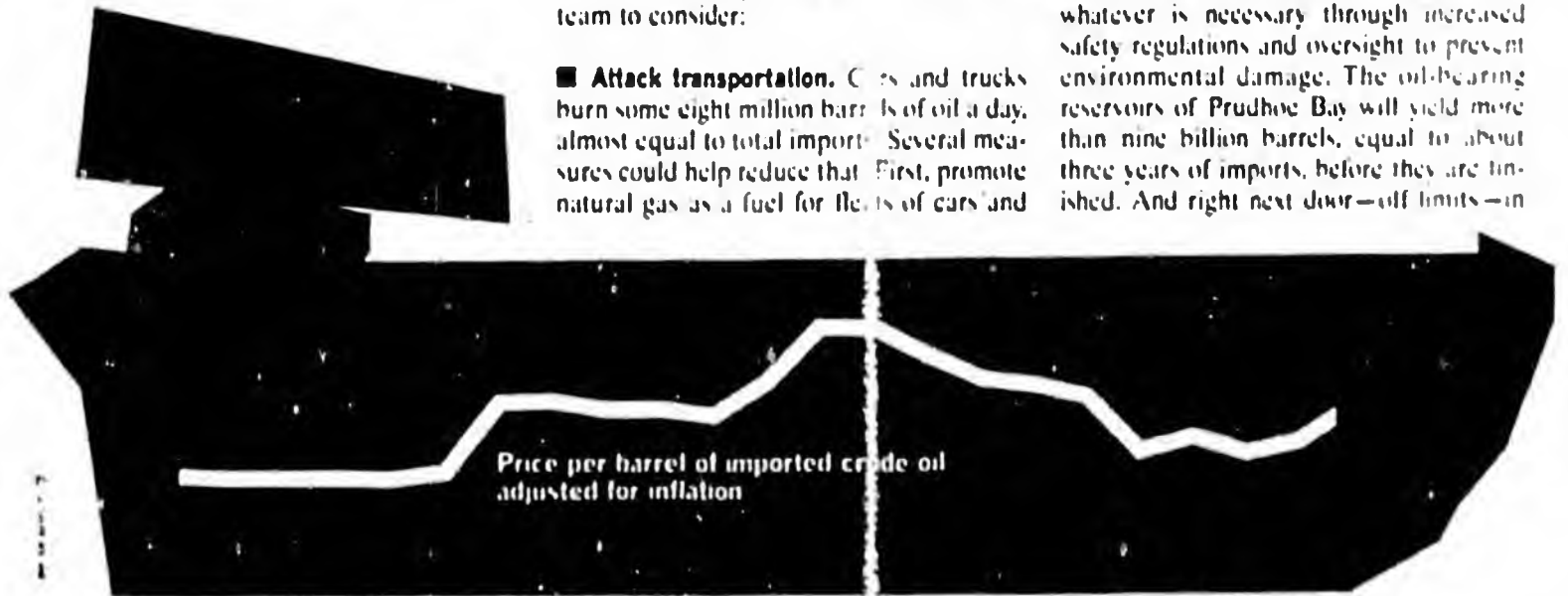
■ **Attack transportation.** Cars and trucks burn some eight million barrels of oil a day, almost equal to total imports. Several measures could help reduce that. First, promote natural gas as a fuel for fleets of cars and

trucks (not including commercial rentals, which make up about 5% of the nation's vehicles). Switching to natural gas would be tough for most motorists. Even if you could buy a natural gas car, you couldn't find a service station to refuel it (unless you are in Denver, where Amoco recently opened a station with a natural gas pump; it hopes will attract daring converts). But fleet garages can be equipped with the compressors and hoses used to refuel with natural gas. General Motors promises to produce 1,000 gas trucks a year by 1992, and several companies, including United Parcel Service and Brooklyn Union Gas, are converting some of their fleets to gas. If UPS and the post office refitted their fleets, 255,000 vehicles in all, it would save almost ten million barrels of oil a year, more than one day's imports.

Second, improve the gasoline efficiency of cars. Corporate average fuel economy (CAFE) standards imposed by Congress helped push the nation's miles per gallon from 14 to 28. Dennis Eklot of Cambridge Energy estimates this saves the U.S. about two million barrels of oil a day, roughly the production of Kuwait.

Another route to conservation might be to raise the tax on gasoline, which varies state to state and averages about 27 cents a gallon, the lowest in the developed world. The tax in Japan is \$1.62 a gallon, in Italy \$3.08. Raising the tax would be least painful, and perhaps most effective in the long run, if the federal government committed itself to raising it, say, 5 cents a year for the next 20 years. That leaves everyone plenty of time to plan and adjust.

■ **Explore the remaining frontiers.** Do whatever is necessary through increased safety regulations and oversight to prevent environmental damage. The oil-bearing reservoirs of Prudhoe Bay will yield more than nine billion barrels, equal to about three years of imports, before they are finished. And right next door—off limits—in



As of August 14

the wildlife refuge are similar underground formations in the same geologic trend. Not to explore them is shortsighted. Other frontiers exist off the shores of California and Florida.

■ **Reduce regulatory delays.** Bowen of Transco recommends creating a fast track for priority energy projects, shortening the time spent on hearings and public review and allowing some projects to move ahead even as issues are thrashed out in court. Oil Southern California is an oil field called Point Arguello that should yield at least 200 million barrels. Chevron has drilled production wells but for a year has not been allowed to produce oil by order of the California Coastal Commission.

■ **Promote natural gas.** One of the quickest ways to do this would be to speed up certification of new pipelines by the Federal Energy Regulatory Commission. In New England many businesses that burn gas in the summer must switch to imported fuel oil in the winter because pipelines into the region can't handle any more gas. New lines, such as the Iroquois project, which would bring gas from Canada, have been winding their way through the regulatory process for four years. The American Gas

Association, a trade group, says that within five years new gas pipelines could eliminate the need for 1.3 million barrels of oil a day, about 15% of today's imports.

■ **Boost research into alternative energy sources.**

Europe and Japan make more use of nuclear power (see table) than the U.S. Plant designers are linking up much safer technologies, which must be tested and refined. In one compact design the reactor building is capable of absorbing all the heat the reactor can emit in the event of a cooling system failure. More research is needed into safe means of disposing of spent fuel. Argonne National Laboratory near Chicago is studying techniques for reducing its radioactive life. Fusion reactors, which will produce almost no waste, will need at least two decades of additional development. If nuclear power can be made safe, then electric cars using power generated by nuclear stations would solve many of today's problems.

■ **Expand the Strategic Petroleum Reserve.** It contains almost 600 million barrels of crude and is scheduled to expand to 750 million. The SPR's 90-day supply of

WHERE THE ATOM BULKS BIG

Nuclear energy as a portion of all energy consumed

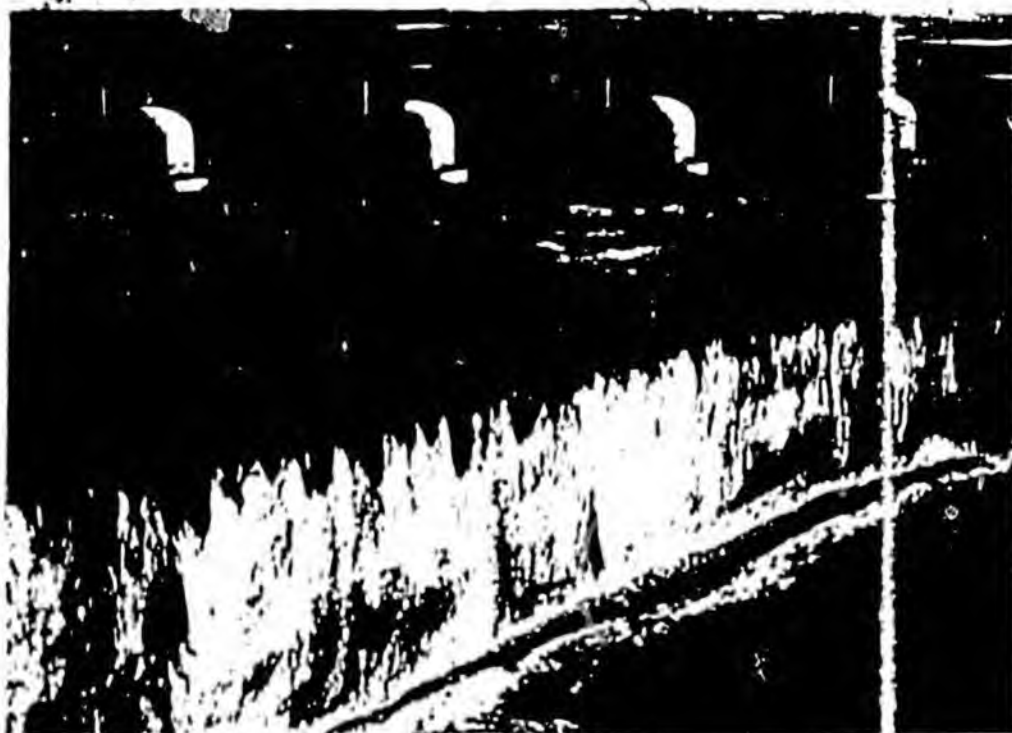
Sweden	31.6%
France	29.7%
Taiwan	15.0%
West Germany	12.6%
Japan	11.1%
U.S.	7.2%

imported oil may be one of the reasons prices didn't fly up the way they did in the aftermath of the Iranian revolution and the start of the Iran-Iraq war a decade ago. Additional supplies should be even more stabilizing. In the debate that broke out over how the SPR should be used, some politicians urged the President to open the tap to keep consumer prices from rising. Others said it should be used only to compensate for a real fall in oil supplies. In the present dispute, with the possibility of a war in the Gulf that could create monumental shortages, the President is wise to keep the reserves in check.

MANY NATIONS will be considering similar options in the years ahead, and their collective actions will likely change the face of the energy business. A consequence to watch for: The oil industry will embark on its last great elephant hunt, the pachyderms being huge oil fields. Explorers at British Petroleum estimate that the earth holds about 1,300 sedimentary basins in which oil might be found, of which 300 remain unexplored because they were too remote or because politics placed them off limits. Both conditions are changing. Technology is bringing far-off basins, such as those in ocean depths of up to a mile, within reach. (Instead of production platforms standing on the ocean floor over the wells, pipelines would gather the crude from these deep wells and transport it to platforms in shallower waters.) And countries like Vietnam and Argentina that have kept oil and gas explorers at arm's length are beginning to open up in the hope of developing their own energy sources.

For decades predictions in the oil business have been followed by caveats like "If anyone invades the Saudi oil fields, all bets are off." When the present confrontation is over, even if the good guys win, it's a safe bet that the caveats won't go away. This isn't the last crisis in the Persian Gulf. That fact, and the world's reaction to it, will shape the energy business for years to come. □

Nuclear power plants like this one near Dieppe generate 70% of France's electricity. The U.S. gets only 20% of its juice from nukes, and the figure won't increase soon; No utility plans any new nuclear plants.



GAS PUMP ECONOMICS 101

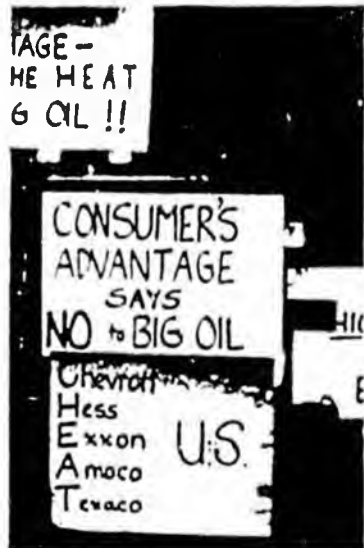
Many blame greedy Big Oil for the swift rise of gasoline prices. The real explanation is more interesting. **by Joe Dreyfuss**

THE MOST immediate and important effect of the Mideast turmoil for many Americans is at the gas pump. Higher prices are infuriating and often baffling. Says Marty Nyvall, Amoco Oil's manager of marketing: "For the average consumer, this whole area is mysterious." Herewith, answers to basic questions about gas pump economics:

■ Why did gas prices go up so fast? It's hard to blame consumers for wondering why they

should pay 10 to 20 cents more a gallon just days after Iraqi tanks rolled into Kuwait City—the oil companies were selling gasoline made from old, cheap crude, weren't they? "They'd convince me better if they told me sunspots did it," says Tim Hamilton of AUTO, an organization of independent gasoline dealers in Washington State.

The real answer is a combination of accounting and price-setting practices for crude oil. The last-in first-out method of accounting for inventory that most U.S. oil companies use causes them to price products according to the cost of replacing them, not according to historical cost. **REPORTER ASSOCIATE Jessica Matheson/Hughes**



A tempting target, but the wrong one

son: When it's time to figure profit for a given quarter, the cost of the most recent purchased oil is what gets subtracted from revenues. Since that cost goes up quickly, oil companies must increase revenues quickly as well to maintain profit margins.

Selling to the public may be a losing battle, but former Mobil spokesman Herb J. Schmetz thinks the industry should try. Says he: "What the oil companies have not adequately explained is that in a market economy, you

have to price at replacement cost." Those costs rose almost instantly after the start of hostilities because crude pricing has changed since the oil shock of the 1970s and the emergence of the futures market in oil in the 1980s. "In the past, much foreign crude was bought on a contract basis," says Amoco's Nyvall. Now 80% of the time, the price isn't set until a tanker completes the four- to six-week journey from the Middle East. So refiners' costs went up the minute news of Iraq's invasion flashed around the world—even though the oil they were receiving had been pumped weeks earlier.

■ Why did gasoline prices rise so much? They didn't. A barrel of oil contains 42

gallons, so each dollar-per-barrel increase in the price of crude translates into about 2 1/2 cents more per gallon. Since May, when anticipation of OPEC's midyear meeting started prices up, the cost of crude has risen \$10 per barrel. To completely cover this increase, oil companies would have had to raise prices 25 cents per gallon. But competition and consumer resistance have kept most increases well below this. Chevron Chairman Kenneth Derr says, "We are woefully underrecovering our costs."

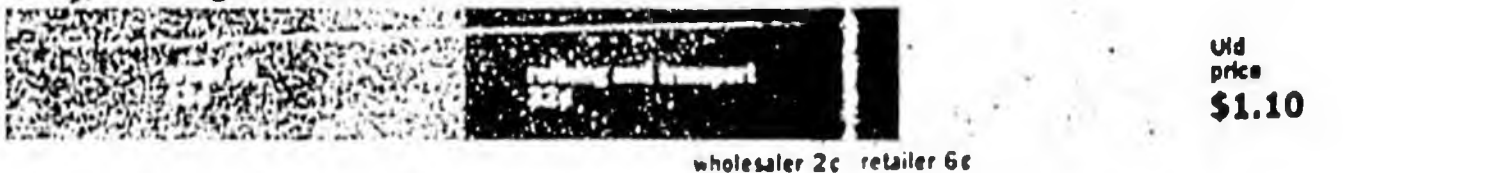
■ Who wins and who loses from the price rise? The clearest winners are those who explore for and produce crude. Their costs don't rise and they are profiting from the sudden drop in overall output.

Refiners are a more complex case. They profit most on the rare occasion when the cost of crude is declining and prices of refined products are soaring because of tight supply. They're squeezed now because competition keeps prices of refined products from rising as much as crude oil has. Average margins on refined products made from high-quality crude climbed to a 1990 high of \$4 a barrel in mid-July, according to estimates by *Petroleum Intelligence Weekly*. But when crude prices turned back up, these margins shrank swiftly. By mid-August they had sunk as low as \$1.50 a barrel.

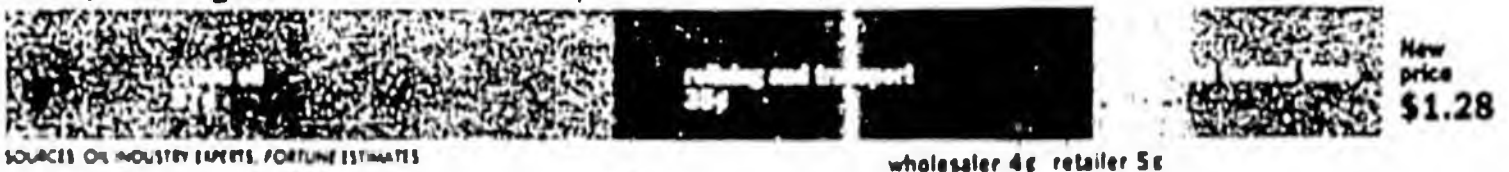
If prices stabilize, refiners' profits should fatten again. The integrated companies that produce oil, refine it, and retail the resulting products will on balance come out ahead. The losers: gas station owners who are restrained by competition—and of course their wrathful customers. **Q**

PRICE AT THE PUMP: WHERE THE MONEY GOES...

...At \$1.10 a gallon Based on a crude oil price of \$18 a barrel



...At \$1.28 a gallon Based on a crude oil price of \$24 a barrel



SCORECARDS ON THE OIL GIANTS

The U.S.-led embargo of Iraq and Kuwait, which together produced 20% of OPEC's crude exports last year, will jolt some of the world's leading oil companies and enrich others. Starting on this page are ten scorecards comparing the top companies doing business in the U.S., the world's largest market for oil and the biggest importer as well. These goliaths aren't accustomed to changing their sources of crude from month to month, but some will have to

while the crisis lasts. Hardest pressed may be those most reliant on Iraqi oil, but all Persian Gulf supplies, even from friendly Saudi Arabia, are in jeopardy from the hostile troops massed along the Kuwaiti-Saudi border. As petroleum prices rise, the big profits will go to companies that produce high percentages of the crude their refineries need—and in the long run, to those like Amoco with substantial reserves of natural gas. ■ *by Susan Caminita*



Exxon (U.S.)
 REVENUE: \$86.6 billion
 PROFIT: \$3.5 billion
 PROVED RESERVES: 6.6 billion bbls
 SHARE PRICE:
 12-mo. high: 55 1/2 low: 43 1/2
 recent: 52 1/2 P.E.: 17

WORLDWIDE SELF-SUFFICIENCY IN CRUDE: 52%

SOURCES OF CRUDE IMPORTED TO U.S.:

22% OPEC (all from Persian Gulf)
 29% Angola 16% Colombia
 16% Oman 17% Other

COMPANY OUTLOOK: Profits sagged after a \$1.7 billion write-off for the Valdez spill... Over a fifth of its U.S. imports come from Persian Gulf OPEC members... Formidable even so... Says CEO Lawrence Rawl: "Current supplies are adequate, but shortages could occur if shortfalls in Iraq and Kuwait are not replaced."



Royal Dutch/Shell (U.S.)
 REVENUE: \$85.5 billion
 PROFIT: \$6.5 billion
 PROVED RESERVES: 9.7 billion bbls
 SHARE PRICE:
 12-mo. high: 37 low: 23-1/2
 recent: 33-1/2 P.E.: 3

WORLDWIDE SELF-SUFFICIENCY IN CRUDE: 52%

SOURCES OF CRUDE IMPORTED TO U.S.:

50% OPEC (22% of total from Iraq)
 1% Mexico 6% Canada
 1% Yemen 2% Other

COMPANY OUTLOOK: Owns the world's largest proved reserves of oil and natural gas liquids, much located in the U.S.... Some offshore rigs in the North Sea are shut down for summer maintenance, temporarily halting their production... A big plus: rapidly expanding natural gas production in Britain.

* Share figures are for Royal Dutch Petroleum, which owns 60% of Royal Dutch/Shell. Shell Transport & Trading owns the other 40%.

Mobil

Mobil (U.S.)
 REVENUE: \$51 billion
 PROFIT: \$1.8 billion
 PROVED RESERVES: 2.6 billion bbls
 SHARE PRICE:
 12-mo. high: 69 1/2 low: 51 1/2
 recent: 67 1/2 P.E.: 15

WORLDWIDE SELF-SUFFICIENCY IN CRUDE: 39%

SOURCES OF CRUDE IMPORTED TO U.S.:

33% OPEC (12% of total from Iraq)
 32% Canada 11% U.K.
 24% Mexico

COMPANY OUTLOOK: Crude poor but has extensive natural gas holdings... Says security analyst William Randol of First Boston: "Companies like Mobil might whisper in policymakers' ears about natural gas as an oil alternative..." Has a lucrative chemicals sideline that makes commodity goods and hefty trash bags.



British Petroleum (U.K.)
 REVENUE: \$49.5 billion
 PROFIT: \$3.5 billion
 PROVED RESERVES: 4.9 billion bbls
 SHARE PRICE:
 12-mo. high: 82 1/2 low: 54 1/2
 recent: 80 1/2 P.E.: 13

WORLDWIDE SELF-SUFFICIENCY IN CRUDE: 68%

SOURCES OF CRUDE IMPORTED TO U.S.:

80% OPEC (all from Nigeria)
 1% U.K. 2% Zaire
 1% Colombia

COMPANY OUTLOOK: Scant exposure to Persian Gulf... Big holders of Nigerian light crude... Says BP Oil's general manager, Len Atkinson: "We would not describe the current situation as a supply crisis, nor is one imminent. Other producers can make up the supply that had been coming out of Iraq and Kuwait."

* Share figures are for ADRs of British Petroleum.



Texaco (U.S.)
 REVENUE: \$32.4 billion
 PROFIT: \$2.4 billion
 PROVED RESERVES: 2.3 billion bbls
 SHARE PRICE:
 12-mo. high: 68 7/8 low: 49 1/2
 recent: 63 7/8 P.E.: 14

WORLDWIDE SELF-SUFFICIENCY IN CRUDE: 121%

SOURCES OF CRUDE IMPORTED TO U.S.:

97% OPEC (92% of total from Saudi Arabia)
 3% Egypt

COMPANY OUTLOOK: Flush with crude... Its joint venture with Saudi Arabia in Star Enterprise has the right to buy 600,000 barrels per day of Saudi oil... Management is minding the store again after long battle with investor Carl Icahn... Says Todd L. Bergman, security analyst at Goldman Sachs: "I expect to see a big increase in cash flow and more emphasis on exploration."



Chevron (U.S.)
 REVENUE: \$29.5 billion
 PROFIT: \$2.5 billion
 PROVED RESERVES: 2.8 billion bbls
 SHARE PRICE:
 12-mo. high: 31 1/2 low: 23 1/2
 recent: 29 1/2 P.E.: 12

WORLDWIDE SELF-SUFFICIENCY IN CRUDE: 45%

SOURCES OF CRUDE IMPORTED TO U.S.:

51% OPEC (26% of total from Persian Gulf)
 20% Mexico 3% China
 1% Norway 7% Other

COMPANY OUTLOOK: Chevron has shifted from Persian Gulf crude to more from Mexico, and holds reserves of domestic natural gas and heavy oils... Wrote off \$1.2 billion in 1989, partly as a result of environmental concerns that led regulators to bar production from offshore wells near Santa Barbara, California.



Amoco (U.S.)
 REVENUE: \$24.2 billion
 PROFIT: \$1.6 billion
 PROVED RESERVES: 2.7 billion bbls
 SHARE PRICE:
 12-mo. high: 60 3/4 low: 45 1/2
 recent: 56 7/8 P.E.: 19

WORLDWIDE SELF-SUFFICIENCY IN CRUDE: 76%

SOURCES OF CRUDE IMPORTED TO U.S.:

48% OPEC (23% of total from Persian Gulf)
 18% Canada 7% Norway
 15% Mexico 12% Other

COMPANY OUTLOOK: Largest nongovernment owner of natural gas reserves in North America; sees future in that fuel—at least in the U.S.... Says H. Laurance Fuller, president: "I've seen crude prices at all levels. I can say that we won't be making substantial changes in our strategy in the near future because of Iraq."



USX (U.S.)
 REVENUE: \$12.7 billion
 PROFIT: \$965 million
 PROVED RESERVES: 1.4 billion bbls
 SHARE PRICE:
 12-mo. high: 37 1/2 low: 21 1/2
 recent: 32 1/2 P.E.: 10

WORLDWIDE SELF-SUFFICIENCY IN CRUDE: 30%

SOURCES OF CRUDE IMPORTED TO U.S.:

21% OPEC (all from Persian Gulf)
 20% Mexico 11% Canada
 15% U.K. 17% Other

COMPANY OUTLOOK: The steelmaker that bought Marathon Oil still gets 30% of revenues from steel... 7% of its U.S. imports come from Iraq... Expects to make up the shortfall with purchases from U.S. independents or on spot market, but that won't be cheap... Well positioned in the Brae oil fields of the North Sea.



Atlantic Richfield (U.S.)
 REVENUE: \$15.9 billion
 PROFIT: \$1.9 billion
 PROVED RESERVES: 3 billion bbls
 SHARE PRICE:
 12-mo. high: 140 3/4 low: 95 1/2
 recent: 136 3/4 P.E.: 13

WORLDWIDE SELF-SUFFICIENCY IN CRUDE: 177%

SOURCES OF CRUDE IMPORTED TO U.S.:

63% OPEC (51% of total from Persian Gulf)
 15% Mexico 8% U.K.
 8% Colombia 6% Other

COMPANY OUTLOOK: Rising price of crude means increased profits for oil-rich Arco... Produces oil in Alaska and Texas... Exposed to Middle Eastern tumult only through its 49.9%-owned Lyondell Petrochemical, a \$5.3-billion-a-year refiner that imports the bulk of its crude, over 200,000 barrels per day.



Phillips Petroleum (U.S.)
 REVENUE: \$12.5 billion
 PROFIT: \$219 million
 PROVED RESERVES: 991 million bbls
 SHARE PRICE:
 12-mo. high: 31 1/2 low: 21 1/2
 recent: 28 1/2 P.E.: 54

WORLDWIDE SELF-SUFFICIENCY IN CRUDE: 88%

SOURCES OF CRUDE IMPORTED TO U.S.:

45% OPEC (23% of total from Saudi Arabia)
 47% Angola 8% Ocean

COMPANY OUTLOOK: No U.S. imports from Iraq or Kuwait... Produces almost 90% of its refinery needs... Like Chevron, Phillips is barred from pumping oil from its offshore California field, causing a \$280 million write-down in 1989... Expect the company to invest any increased cash flow from higher crude prices in its promising U.S. and Canadian natural gas operations.

SPECIAL REPORT

WHERE THE OIL FLOWS

The world's major crude oil importers and exporters—and who gets what from whom.

OPEC member
 Importer
 Exporter

NORTH AMERICA		EXPORTERS		IMPORTERS	
		Annual amount (billions of bbls.)	Main markets	Annual amount (billions of bbls.)	Imports as a % of total consumption
MEXICO	497	U.S. 52%, Spain 16%, Japan 13%, France 5%, Brazil 2%	54,100		
CANADA	256	U.S. 96%, Japan 0.7%, Netherlands 0.2%	6,800		
		Annual amount (billions of bbls.)	Main suppliers		
U.S.	2,421	Saudi Arabia 18%, Algeria 12%, Mexico 10%, Canada 11%, Venezuela 10%, Iraq 7%, U.K. 7%, Indonesia 2%, Kuwait 2%	45%		



SOUTH AMERICA		EXPORTERS		IMPORTERS	
		Annual amount (billions of bbls.)	Main markets	Annual amount (billions of bbls.)	Imports as a % of total consumption
VENEZUELA	382	U.S. 44%, N. Antilles 15%, W. Germany 9%, Canada 3%	58,100		
ECUADOR	72	S. Korea 33%, U.S. 23%, Puerto Rico 16%, Panama 5%	1,400		
COLOMBIA	54	N.A.	2,000		
ARGENTINA	3	N.A.	2,300		
		Annual amount (billions of bbls.)	Main suppliers		
BRAZIL	233	Iraq 38%, Saudi Arabia 22%, Iran 9%, Nigeria 6%, Kuwait 5%	53%		
CHILE	30	N.A.	86%		



AFRICA		EXPORTERS		IMPORTERS	
		Annual amount (billions of bbls.)	Main markets	Annual amount (billions of bbls.)	Imports as a % of total consumption
NIGERIA	454	U.S. 49%, Spain 11%, W. Germany 8%, France 7%, Netherlands 6%	18,000		
LIBYA	312	Italy 36%, W. Germany 26%, Spain 10%, France 7%, Greece 8%	22,000		
ANGOLA	152	N.A.	2,200		
EGYPT	145	N.A.	4,300		
ALGERIA	80	Italy 33%, Spain 15%, W. Germany 14%, U.S. 10%, France 7%	8,400		
GABON	49	France 31%, Netherlands 27%, Brazil 11%, U.S. 10%, S. Korea 3%	720		



MIDDLE EAST		EXPORTERS		IMPORTERS	
		Annual amount (billions of bbls.)	Main markets	Annual amount (billions of bbls.)	Imports as a % of total consumption
SAUDI ARABIA	1,343	U.S. 25%, Japan 14%, France 6%, Bahrain 5%, Singapore 5%	255,000		
IRAQ	823	U.S. 16%, Brazil 11%, Turkey 11%, Japan 8%, U.S.S.R. 7%	100,000		
IRAN	564	Netherlands 14%, Japan 12%, Italy 9%, Turkey 7%, Belgium 7%	92,900		
U.A.E.	500	Japan 47%, Italy 7%, Singapore 7%, U.S. 5%, S. Korea 5%	96,100		
KUWAIT	279	Japan 27%, Netherlands 17%, U.S. 12%, Italy 9%, Brazil 4%, S. Korea 4%	94,500		
QATAR	107	Japan 58%, France 11%	3,200		

WESTERN EUROPE EXPORTERS

	Annual amount (millions of bbls.)	Main markets	Proved reserves (billions of bbls.)
U.K.	513	W. Germany 27%, Canada 18%, U.S. 18%, France 13%, Netherlands 10%	5,200
NORWAY	343	U.K. 34%, Sweden 12%, W. Germany 12%, Netherlands 11%, France 9%	10,400

IMPORTERS

	Annual amount (millions of bbls.)	Main suppliers	Imports as a % of total consumption
W. GERMANY	524	U.K. 26%, Libya 16%, U.S.S.R. 8%, Norway 8%, Venezuela 7%	94%
FRANCE	483	Saudi Arabia 18%, U.S.S.R. 14%, U.K. 14%, Iraq 9%, Norway 7%	96%
ITALY	481	Libya 25%, U.S.S.R. 19%, Iraq 13%, Saudi Arabia 12%, Iran 11%	93%
NETHERLANDS	352	Iran 22%, U.K. 14%, Kuwait 13%, Saudi Arabia 13%, Norway 11%	94%
SPAIN	338	Mexico 23%, Nigeria 15%, U.S.S.R. 13%, Libya 10%, Iraq 10%	97%
BELGIUM	172	Iran 24%, Saudi Arabia 15%, U.K. 11%, Norway 10%, Iraq 8%	99%
SWEDEN	104	Norway 40%, U.K. 16%, Iran 12%, U.S.S.R. 11%, Venezuela 7%	95%

EASTERN EUROPE EXPORTERS

	Annual amount (millions of bbls.)	Main markets	Proved reserves (billions of bbls.)
U.S.S.R.	1,028	E. Germany 13%, Czechoslovakia 12%, Poland 10%, Bulgaria 10%, Italy 9%	58,54

IMPORTERS

	Annual amount (millions of bbls.)	Main suppliers	Imports as a % of total consumption
E. GERMANY	150	U.S.S.R. 90%	9%
CZECHOSLOVAKIA	120	U.S.S.R. 100%	9%
POLAND	110	U.S.S.R. 97%	9%
HUNGARY	62	U.S.S.R. 98%	8%

ASIA EXPORTERS

	Annual amount (millions of bbls.)	Main markets	Proved reserves (billions of bbls.)
INDONESIA	249	Japan 64%, U.S. 27%, Australia 3%, Taiwan 2%	8,300
CHINA	202	N/A	23,600
MALAYSIA	148	N/A	2,900
BRUNEI	81	N/A	1,400

IMPORTERS

	Annual amount (millions of bbls.)	Main suppliers	Imports as a % of total consumption
JAPAN	1,191	U.A.E. 20%, Saudi Arabia 16%, Indonesia 13%, Iran 6%, Kuwait 6%	99%
S. KOREA	261	Saudi Arabia 14%, U.A.E. 9%, Kuwait 4%, Libya 2%, Indonesia 2%	100%
SINGAPORE	282	Saudi Arabia 28%, U.A.E. 15%, Iran 10%, Kuwait 2%	100%
INDIA	130	Saudi Arabia 28%, Iran 23%, Iraq 20%, U.A.E. 11%, U.S.S.R. 8%	38%
PHILIPPINES	74	U.A.E. 13%, Iran 10%, Kuwait 10%, Saudi Arabia 6%	97%

All figures are based on 1988 data from the United Nations and OPEC, with these exceptions: Oil reserves were provided by OIA Gas Journal; data for Hungary are 1997 and U.S. figures are for 1989, provided by the International Energy Agency. U.S. imports include natural gas. Insufficient data were available for Myanmar (formerly Burma).

OIL PRICES WON'T BRING A RECESSION

Yes, the economy is fragile, but pessimistic forecasters have learned the wrong lessons from the past. The jump this time doesn't compare with the earlier ones. ■ by Todd May Jr.

HIGHER OIL prices have raised simmering worries about the economy to a boil. The small band of forecasters who expect recession—some say a downturn started last spring—is growing and getting a lot of attention in the press. But the Middle East events that have raised uncertainty to nerve-jangling heights do not spell doom. *Fortune's* judgment remains basically the same as in our midyear 18-month forecast: Despite lots of slow-growth discomfort and nail biting, no recession before at least the end of 1991. Inflation will get worse—but oil will be the least of the reasons.

A common mistake is to draw the wrong lessons from the past. The 1973 and 1979 oil shocks that ushered in recession and inflation were much bigger relative to the economy than this one is so far. Many pessimistic discussions measure the \$25-a-barrel U.S. price of imported oil reached in mid-August against the transient low of around \$14 in

OVERVIEW

- Inflation will climb to over 5% this year.
- Consumers will keep expenditures growing at only a moderate rate.
- Businesses will continue to lift capital spending.

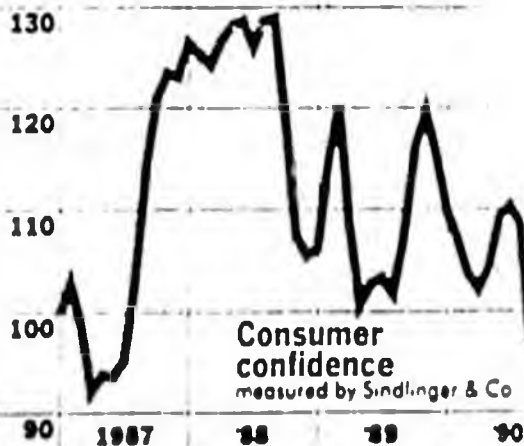
July (see chart, next page). Instead, you should weigh the new prices against those that had been generally expected before the Iraqi invasion. *Fortune* was looking for close to \$19 by the end of this year and \$21 by the end of 1991. So the Iraqis have added about \$5 to the cost of oil for the rest of this year and even less next year. Nothing is certain in the volatile Middle East, but the

most prudent assumption is that once the promised additional production is pumped, the price will settle close to the current level, perhaps after going a bit higher before the increased flow has started. With U.S. oil consumption at 6.3 billion barrels a year, a \$5 increase would add \$30 billion to the cost of oil, the equivalent of 0.5% of nominal GNP. That will produce a much smaller jolt to inflation and growth than the increases in 1973-74 (2% of GNP), in 1979 and 1981 (1.5%), and 1980 (2.4%).

The economy is weaker this time, to be sure, but that has its bright side: fewer excesses waiting to be corrected. For example, consumer spending was rising at a rapid 4% pace just before all the earlier crises. But having already slowed to a moderate 1% to 2% in the past year, it is now sustainable.

Consumer confidence as measured by the Sindlinger & Co. index took a dive during

140 Index December 1986 = 100



STALWART SPENDERS

Consumer confidence has taken a tumble, but not to a dangerous depth. Radio Shack customers are buying as before at stores everywhere, including this one in Torrance, California.



The week of the invasion and the week after. Sindlinger has shown much the same trends in the past as the Conference Board monthly index of consumer confidence, but is usually more volatile, perhaps because it asks only about personal outlooks and has a changing sample. Even taking the drop at face value, the early August number is still above the lows of 1987, when consumer spending barely stumbled.

Consumer attitudes will bear watching in the months ahead, but so far other measures confirm their relative buoyancy. Tandy Corp. receives daily reports from its 4,800 company-owned stores covering every city of 15,000 or more. Through mid-August, says Tandy Chairman John V. Rouch, "there has been no change in customer volume, unit volume, or purchase size." Sales of domestic cars dropped to a 6.6 million annual rate in early August from the 7.1 million pace for July as a whole, but that's no lower than many ten-day periods in the past few months. Homebuilding has shrunk from the excessive pace of a few years ago, and single-family starts may even recover some in the months ahead.

Business spending for inventories, plant, and equipment is somewhat more problematic. With recession talk abounding, corporate officers could lean on the divisions to stretch out or delay capital projects. But they've heard dismal appraisals many times before during this long expansion without losing nerve. And mounting inflation will spur some investments before equipment costs go higher, especially when many manufacturing companies are striving to improve efficiency to meet tough competition.

Note well: Manufacturing capacity utilization is still a mite above the average for the past 20 years and only marginally below last year's peak. The accumulated stock of plant and equipment, a rough measure of capacity for the whole private economy, is growing only 2.7% a year, compared with over 4% in 1973 and 1979. The increase is just about in line with average output gains expected over the next several years: no big correction needed here. So capital spending in real terms will at least hold steady over the next few quarters and likely rise a bit.

An inventory cutback was already in the

Chief Economist *John M. De*
 Senior Economist *William Hamilton*
 Staff Economist *Joseph Spira*
 Research Associates *Edward Schiff* and
Leanne Caron

FORTUNE'S forecast is produced by this magazine's economists using our own economic model.

FORTUNE'S BASIC OUTLOOK

- **Growth: Real GNP will expand 1.5% during both 1990 and 1991.**
- **Inflation: GNP price increases will climb from 4% during 1989 to 5.5% in 1991.**
- **Interest rates: Next year they will be up a percentage point from the spring lows.**

cards following the large pickup in the spring. In Fortune's survey, inventory policy taken before the invasion, business wanted a slower and more manageable pace but wasn't planning any liquidation. Here, again, any fear of recession will probably be offset by anticipation of higher prices for purchased goods and materials, as well as for the goods sold. As accumulated inventory levels fall, growing final demand will lift output slowly.

Thus real GNP will grow at a rate of 1.5% annually through 1991. That's a half percentage point less than projected in our midyear forecast; the reason for the reduction is not just oil but also the Commerce Department's revision of earlier GNP data. The 1.5% pace will hold during 1991—only a slight improvement from the 1.2% of the past four quarters and well below the 2.7% in the year ended in mid-1989.

The recession forecasters are still in the minority. The Blue Chip Consensus forecast following the invasion predicts nearly the same growth, Fortune's does, for the rest of this year and even foresees a 1.7% gain during 1991. Five of the 48 forecasters now predict the two consecutive quarters of decline in real GNP that is usually cited as the definition of recession. But that definition is erroneous. Though most recessions include at least two such quarters (the 1980 recession had only one), the National Bureau of Economic Research, the official arbiter in these

matters, examines a wide range of other measures in judging whether a recession has actually occurred and when.

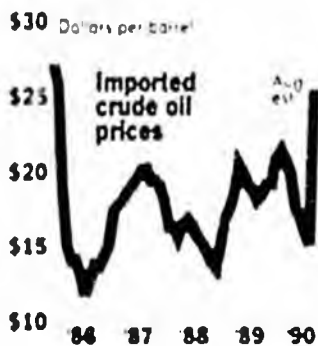
One clear victim of the new pressure on the budget summit. We never thought the Congress would enact the \$100 billion package of tax increases and spending cuts they had talked about for fiscal 1991. At only \$45 billion, it seemed a more reasonable bet. Now \$20 billion appears most likely—and the \$10 billion swing in fiscal stimulus will offset a good chunk of the drain of our 1989-90 deficit, half of which will escape the Congress.

Fortune expects the oil price to rise more than a half percentage point to the inflation rate this year, but then will be more bearish than most about the outlook for the inflation rate. During the next few months inflation will probably reach an annual rate of 6% or more before subsiding. With profits already strained, many industries will pass along the costs before the year is out. So inflation in the broad GNP price index will average 5.2% up from 4% in 1989. Next year that oil prices, assuming no oil price losses in production, will ease the inflation. But this year's rate will add a percentage point, adding to the climb in 1990, and pushing companies to raise prices these and other oil-induced costs through higher prices. Fortune expects inflation at 5.5% next year, 1.5 percentage points higher than the current consensus.

With inflation running at such a rate, the Federal Reserve won't be swayed by slow economic growth. Nor will it worry much about a moderately weakening dollar. Once Chairman Alan Greenspan has clear evidence of higher sustained inflation, he will tighten.

Short-term interest rates have barely budged since the invasion—investors

have been parking their money while sorting out the prospects. As they do, short rates will rise—next year they will be a point or so above the spring lows. Long-term rates have less far to travel. Yields on the 30-year Treasury bonds had climbed about a half percentage point by mid-month and should go up somewhat further in the months ahead. The increase will be limited because the Fed's tightening will show investors that it is serious about fighting inflation. Slow growth and tight money is a formula guaranteed to keep anxieties on a high plane—but it beats any of the realistic alternatives.



The Next Move in the Energy Game

The federal government hasn't been able to come up with an energy policy, but there are plenty of good ideas in the

Paul Doyle

When Iraq invaded Kuwait and assembled troops on the Saudi Arabian border, the United States began to fear for its economic security, so dependent on oil. But with victory for our side, and oil prices falling, the incentive to develop an energy policy may be waning. Unfortunately, the problems remain.

- Saudi Arabia, Iraq and Kuwait contain roughly 45 percent of the earth's oil reserves and 20 percent of all current oil production capacity.

- The United States imports twice as much oil today as in 1973, the time of the first energy crisis.

- A record one-half of the 17 million barrels of oil used to run the U.S. economy daily comes from foreign sources. In 1973, only 35 percent came from overseas.

With no other alternative to fuel our nation's economy in the short run than foreign oil, the prospect of Saddam Hussein controlling almost half of the world's oil made Americans very nervous. Gasoline prices shot up and many energy officials warned that a new energy crisis was imminent. J. Michael Davis, the Energy Department's assistant secretary for conservation and renewable energy, called the Iraq crisis a "wake-up call" for a U.S. energy policy.

But now that Hussein has been defeated, Americans may be falling back to sleep. Energy analysts believe that the crisis in the Persian Gulf will do little to break the country's addiction to foreign oil. Failure to adopt an energy policy

that would move the country toward energy independence may lead to even greater problems in the years ahead.

"Our nation has its head in the sand when it comes to domestic energy policy," says Senator Ralph Rosenberg, chairman of Iowa's Senate Environment and Energy Utilities Committee.

One of the main reasons why a policy has not been developed has been a lack of consensus over what form it should take. There is an ongoing debate within the energy community over whether to increase energy production or reduce consumption.

Conservationists believe the answer is greater emphasis on energy efficiency and renewable energy measures. They say we must look at mass transit and require auto manufacturers to produce more fuel-efficient cars. This view was expressed by the *Christian Science Monitor* when it declared that the nation needed to go on a "fossil fuel diet."

Conservationists also foresee the country returning to some of the Carter-era industries such as alternative fuels and solar energy. Federal spending on energy research and development was cut in half in the 1980s, with renewable energy research and development falling from \$700 million in 1981 to \$115 million in 1989.

But the war with Iraq may rekindle some of these industries. Anticipating a new-found interest, the Florida Solar Energy Industries Association has nominated Saddam Hussein for its "Solar Man of the Year" award. But even if the government once again gets behind the industry, it may be 10 years before renewable energy sources are used

extensively.

In contrast, those supporting production believe the nation should focus on developing energy sources that already exist such as coal, oil and natural gas. Oklahoma Congressman Bill Brewster, a former state legislator, maintains that the nation's energy efforts should be based on maximizing domestic oil reserves and producing alternative fuels.

Coal is the nation's most abundant fossil fuel. There are 268 billion tons in reserve, enough to last three centuries at current consumption rates. Today, 57 percent of the nation's electricity needs are supplied by coal. Unfortunately, one-third of all carbon monoxide emissions come from coal-related activities. The use of coal as a major energy resource will be limited without development of new clean coal technologies.

Oil industry officials believe the recent increase in oil prices will result in new exploration and more oil production, which will drive oil prices lower. Domestic crude oil prices jumped from an average of \$19.65 a barrel in 1989 to about \$24 in 1990, yielding greater profits for oil companies. As a result, according to a recent Salomon Brothers survey of 210 companies, exploration and production spending may rise 17.5 percent to \$46.8 billion in 1991.

Our country's supply of oil, however, may be drying up. The United States is still one of the largest oil producers in the world, but capacity is diminishing rapidly. Currently, OPEC nations have 75 percent of the world's oil supplies, compared with the United States' 4 percent. Domestic oil production has declined from a high of about 9.7 million barrels a day in 1970 to about 7.7 million barrels today.

The country's best immediate alternative to imported oil may be natural gas. The United States has an abundant supply, and it emits the lowest levels of air pollution of all the fossil fuels. According to the American Gas Associa-

Bush Energy Plan Borrows from States

The National Energy Strategy released by the Bush administration in February is possibly the most political document to circulate through state and federal policy channels in the last decade. Culminating more than 18 months of public hearings and debate, the strategy was drafted by the U.S. Department of Energy and designed to spur more efficiency and competition in energy markets while balancing environmental and economic interests.

You can tell what's in the plan by the lineup of critics and supporters. Secretary of Energy James D. Watkins said it "lays a comprehensive foundation for a cleaner, more efficient and more secure energy future." Oil company executives called it "sound public policy." The American Gas Association commended its dedication to cleaner fuels.

Democrat Senator Timothy Wirth, a member of the U.S. Senate Energy and Natural Resources Committee, said the administration's plan was "short on vision and short on strategy." One major environmental group called it the "Christmas wish list" of the nuclear power and coal industries. *Washington Post* columnist David Broder said the plan was "too serious to be dismissed, but too constrained by complacency to serve as a spur for needed action."

The administration's energy package is not just a policy statement; it includes recommended legislation, and that legislation must now be passed by Congress — the Bush administration's toughest battle. There are more than 80 different energy-related bills circulating in Congress now, and each has the potential to affect the Bush plan.

One of the bills sure to impact the Bush plan is the Johnston-Wallop bill (the National Energy Security Act), which also calls for increased production but relies more on conservation measures than the president's proposal. Senator J. Bennett Johnston, chairman of the Senate Committee on Energy and Natural Resources, maintains that Congress can pass a "com-

prehensive national energy policy which will emphasize the Made in America parts of energy, including conservation.

The National Energy Strategy contains hundreds of good ideas (old and new), and if it is passed at the national level, most of these ideas will have far-reaching implications for the states.

A few of the more salient areas where the states will be affected include coastal plain and offshore oil production, regulations for coal and natural gas production, nuclear plant licensing, utility reform (including integrated resource planning), alternative fuels, mortgage financing incentives for energy efficiency and building and lighting efficiency standards.

As expected, the White House plan calls for opening up the Arctic National Wildlife Refuge and some outer-continental shelf areas, primarily on the West Coast. The Bush administration plans to deregulate oil pipelines further in an effort to reduce costs and make oil even less costly to the consumer. The plan calls for working with state regulatory agencies and removing current coal and natural gas regulation, and streamlining the environmental reviews of natural gas pipelines and coal slurry pipelines.

The strategy calls for scaling back regulations that govern new nuclear power plants, while increasing subsidies to the nuclear industry, and minimizing public input on where nuclear plants should go. The administration's plan would reduce the states' veto power over nuclear siting.

Integrated Resource Planning (IRP) advocated in the plan, may be an unfamiliar term, but it's a term that will dominate many state energy agendas in the next few years, with or without a national energy strategy. IRP requires that when a utility plans future energy use it must take into account energy efficiency and environmental and social costs as well as direct economic costs, public participation and the uncertainties and risks asso-

ciated with producing power (including unintended results). The federal government realizes that states are best equipped to deal with these kinds of utility reforms.

The Bush proposal endorses alternative fuel production. The administration is inching toward requiring alternative fuels for vehicles in car, truck and bus fleets, as well as requiring federal fleets to use alternative fuels. The plan supports the use of ethanol, and the administration has proposed increased support for "energy crops" and alcohol fuel production.

The administration's proposal does not include a recommendation to increase automobile fuel efficiency standards, which is seen by some to be a shortcoming, since in 1988, U.S. vehicles alone consumed 22 percent more oil than the nation produced. However, Bush does call for a Department of Transportation study of fuel economy standards this year.

The administration has pledged to provide technical and financial support to states to develop and expand energy efficiency ratings for use in home financing. Some states are already experimenting with mortgage financing incentives that benefit buyers of energy efficient homes, and 32 states have set up systems to rate the amount of energy a new home will use.

Most of the significant energy legislation in the last decade was designed and implemented at the state level. California, Massachusetts and Florida have required energy efficient lighting and appliance standards for years. Iowa and New York already have comprehensive state energy strategies in place, and California, Vermont and Washington are considering such plans this session. Nevada has legislated Integrated Resource Planning, and Wisconsin has nationally recognized energy efficient building codes. In a sense, the Bush energy strategy mirrors successful state programs already in place.

—George Burmeister, NCSL

tion, within 10 years natural gas could be substituted for 2 billion barrels of oil, an eighth of current American oil consumption. For this reason, many energy experts believe that government policies should encourage the development of natural gas. Congressman Brewster says natural gas is the wave of the energy future because it is abundant and cheap.

According to Senator Pat Delahery, sponsor of Iowa's Energy Efficiency Act of 1990, the lack of consensus over the nation's energy policy means that citizens are looking for direction and leadership in the area of energy. As a result, many policymakers are calling on Washington to develop a national energy agenda that federal, state and local officials could rally behind. President Bush directed the Department of Energy to prepare a national energy plan for the country. The strategy was released in February, beset by criticism.

The strategy now goes to Capitol Hill where it will be considered along with more than 80 other energy bills pending before Congress. Assemblyman William Hoyt, chairman of the New York Assembly Energy Committee, warns that it may be a long time before a national energy policy becomes reality. "It will be at least a year before DOE's national energy strategy is translated into specific legislative initiatives," says Hoyt.

The cornerstone of the president's strategy is increased domestic oil production. This will mean exploring new areas of the country that may have oil. One such area is the Arctic National Wildlife Refuge (ANWR) in Alaska, a national sanctuary for wildlife located 60 miles east of Prudhoe Bay. Oil officials believe that ANWR, with an estimated 3.2 billion barrels of oil, has the greatest potential for domestic oil production. "It is most important that we know what our actual energy reserves are," says Alaska Senator Drue Pearce, past chair of the Senate Special Committee on Oil and Gas. For this reason, we should begin exploration activities in ANWR as soon as possible.

Assemblyman Hoyt agrees. "Our nation needs oil production," he says. "An effective energy strategy must couple conservation and efficiency with production measures. Developing new sources of oil [such as ANWR] can be done without damaging the environment."

Hoyt maintains.

With images in mind of the environmental damage caused by the Exxon Valdez oil spill, opponents of a massive oil exploration project in ANWR fear the effects it may have on the state of Alaska and Prudhoe Bay. They contend that the country should at least try conservation measures and development of renewable energy sources before jeopardizing an environmentally sensitive area. They also point to geological estimates that there is only a one-in-five chance that oil exists in the refuge.

The Alaska Legislature passed a resolution endorsing the exploration in ANWR, subject to four conditions. The project would have to guarantee to protect the environment, provide job opportunities for Alaska residents, continue the current revenue-sharing formula where 90 percent of the federal government's royalties are paid in cash to the state, and indemnify any action that damages fish and wildlife resources.

Senator Pearce believes oil production must be a part of the nation's energy strategy, but he warns that exploration in ANWR is no quick fix. "If we discover oil in ANWR tomorrow, it will be 10 years before it is on the way to refineries."

With the supply of domestic energy falling and the federal government's energy policy uncertain, the burden of reducing the nation's dependence on foreign oil falls on the states. According to Hoyt, "the states are way ahead of the federal government in terms of developing energy initiatives." As a result, "it will be state legislators and state energy officials developing the nation's energy policy," says Rosenberg.

While Washington is still debating whether to pursue conservation or production, the states are doing both. Oil producing states are pushing companies to explore new wells and to get more out of old ones. "Dependence on foreign energy supplies will decline as we increase research into alternative fuels and discover more efficient recovery methods for existing oil reserves," says Alaska Senator Drue Pearce. "I foresee us [now] returning to oil fields one or two more times."

Because the nation's oil supply is diminishing, we need to make sure we get every drop of oil out of our wells," says Congressman Brewster. He recommends tax incentives to encourage oil recovery and wildcat (new) drillings. We

need to be innovative in providing incentives to increase oil production," he says.

Some states have created tax incentives to encourage new drilling and the recovery of oil from existing wells. For example, Oklahoma provides tax incentives for horizontal drilling, a procedure designed to extract as much oil as possible out of a well.



In addition to encouraging production, states are also adopting conservation measures. State programs that focus on reducing the demand for energy have paid major dividends in recent years. Officials estimate that energy efficiency measures already implemented at the state level save more than \$170 billion a year.

Most of the state efforts have been to encourage utility companies to conserve. Iowa has one of the most comprehensive programs. It was developed as part of the state's major energy efficiency bill adopted in 1990. According to Senator Delahery its purpose is to "move utilities into the energy conservation business."

The program calls for utility companies to consider alternative energy sources in meeting their energy projections rather than just constructing new power plants. They are required to reinvest 1.5 percent to 2 percent of gross operating revenue in energy efficiency practices. And they must also offer technical assistance on saving energy to low income families and provide loans to customers to help them retrofit homes

and buildings to be more energy efficient. According to Senator Deluery, utility companies should become energy efficiency consultants rather than just suppliers.

New York is another state using energy experts as efficiency consultants. The state's Energy Advisory Service to Industry (EASI) program offers on-site energy surveys to small and medium-sized industrial and commercial firms. The program has 60 trained advisers who are mostly retired engineers with technical expertise in efficient energy use.

Since the program's inception in 1979, more than 8,300 surveys have been provided at no cost to the firms. The businesses following the EASI recommendations have cut approximately 15 percent off their energy bills. In total, the program saves over \$64 million per year in energy costs.

Another way states promote energy efficiency is to set minimum standards for building codes. In 1990, Connecticut passed a law setting energy performance standards for existing and new state buildings. The goal of the new program is to reduce energy use by 15 percent by 1995, 30 percent by 2000, and 50 percent by 2010. An advisory group was established in the Office of Policy and Management to make recommendations on how to increase energy efficiency.

Washington's 1990 Energy Code established minimum insulation standards for residential buildings. The legislation combines mandatory building code changes with financial relief for utilities. The code is now 30 percent

California Moves Toward State Energy Plan

Vowing not to wait for a national energy plan, California lawmakers have unveiled a state energy strategy that includes 24 bills by 11 different authors. Senator Herschel Rosenthal says doing nothing and waiting for the "so-called National Energy Strategy could well become an energy tragedy for the nation."

He says that troops coming home from the Persian Gulf are a reminder that California must become more energy independent "so it will not be contributing to foreign control or conflicts over future energy supplies."

Like Iowa and New York, which have already implemented successful statewide energy programs, California is moving toward a plan that addresses four different areas: energy efficiency, renewable energy, alternative transportation fuels and regulatory agency reorganization. Washington state is also considering a similar state energy strategy this session.

Rosenthal is chair of the Joint Committee on Energy Regulation and the Environment, a special committee established in 1989 to analyze how energy policies are intertwined with environmental problems and solutions. The committee's vice chair, Assemblyman Byron Sher, is carrying two bills that encourage conservation and renewable resources.

One bill would set a goal of reducing the state's per capita energy consumption by 50 percent. The other would require state regulatory agen-

cies to provide regulatory and financial incentives to boost production of renewable resources by 1994. While agencies figure out how to do that, the bill requires all future power plants authorized in the state to produce 50 percent of their power from renewables such as solar, wind and geothermal fuels.

No doubt some of the 24 bills will face opposition. The oil companies are sure to oppose a Rosenthal bill, for instance, that would impose a 10 percent surcharge on oil industry income and would use half of the revenue to purchase older polluting cars and get them off the road in order to help cities meet federal air quality goals. A bipartisan plan to reduce California's current \$10 billion budget shortfall includes a similar, though more modest, proposal to tax the oil industry.

A consensus on many energy policy questions may be emerging in California. The legislature now has the support of the governor when pushing energy and environmental reforms that make use of market incentives and are touted as good for the economy.

Governor Pete Wilson supports plans to sell the state's innovative energy technologies—solar, wind and geothermal—to the developing world, a move seen as state economic development that also benefits the environment.

—Peter Asmus, California free-lance writer

more stringent than the previous standard. Electric utilities are required to make payments to homes (\$900) and apartments (\$390) to offset the costs of meeting the new standards.

According to Julie Burman, assistant to the director in the Washington state energy office, the program is estimated to save 200 megawatts of electricity by the year 2010, which amounts to half that used by a moderate-sized coal plant. In all, the program will save enough power to fuel 135,000 additional homes. In Iowa, Senator Rosenberg wants to

move toward a system where all buildings could be rated based on their energy use. The program would be similar to the miles per gallon rating in cars. This would give consumers easy access to finding out which buildings are energy efficient," says Rosenberg.

Most energy experts believe that in order to reduce the nation's dependence on foreign oil, citizens will have to change their transportation habits. Although automakers are making more efficient cars, transportation is



NCSL Takes a Stand on Energy

NCSL's policy on a national energy policy contains several basic themes: It urges the federal government to develop a comprehensive energy strategy; to provide for the most efficient use of energy; to promote reliable sources of domestic energy supplies; to ensure the exploration, development and use of energy in an environmentally sound manner; and to develop and promote the use of alternative and renewable sources of energy.

NCSL believes that the production of domestic energy sources such as oil, coal, natural gas, nuclear energy, hydropower, wind, solar and geothermal should be encouraged to offset the nation's reliance on oil imports and to move the United States toward greater energy independence.

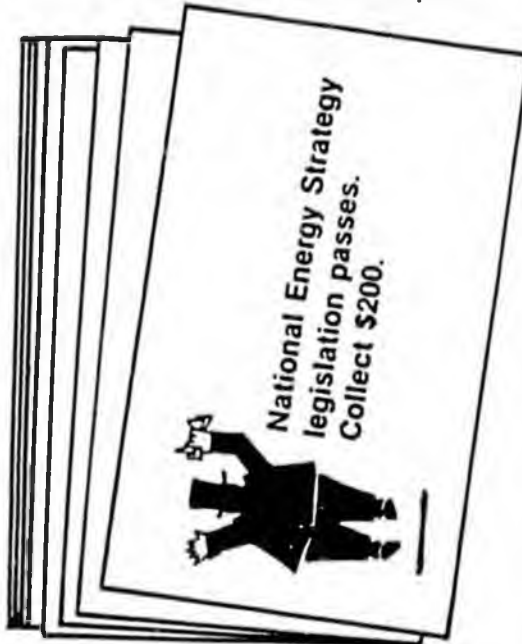
The NCSL policy on a national energy policy, like other NCSL policies, provides guidelines for representing state interests before Congress, the federal government and other interested parties.

consuming a greater portion of oil. In 1989, the average car got 28.3 miles per gallon, which is almost double the 1974 level of 14.2 miles per gallon. But transportation still accounts for approximately two-thirds of the oil consumed in the country, and 20 percent more than it did in 1973.

Many conservation proponents want to raise the average mileage for automobiles to 40 miles per gallon by the year 2000. Federal legislation is currently pending. According to the bill's sponsor, U.S. Senator Richard Ryan of Nevada, the measure could save 2.4 million barrels of oil per day by the year 2005, more than the nation is importing from the Persian Gulf. However, auto companies warn that this will mean smaller, more expensive cars that are more dangerous to drive.

In the states, most of the legislative activity has centered on developing alternative fuels. Legislators consider the use of alternative fuels as serving a dual purpose. It will not only reduce the country's dependence on oil, but also reduce

air pollution. Arizona, California, Colorado, Iowa, Louisiana, New York, Oklahoma, Texas and Washington are among states experimenting with converting parts of their government fleet vehicles to alternative fuels. Louisiana passed



legislation in 1990 that deregulates natural gas when it is used to fuel vehicles. Up to 80 percent of the cars in the state fleet are to be converted to alternative fuels, including natural gas, by 1995, and local governments are being urged to convert their fleets also. Assemblyman Hoyt wants to expand New York's program. He is introducing a bill that would make it the first state to convert its entire public fleet to alternative fuels by the year 2001.

Washington is also experimenting with letting workers spend one or two days a week working at home with their computers rather than driving in to work. Companies volunteer for the program, which is coordinated by the state's energy office. The program aims to reduce congestion in the Puget Sound area.

One idea that has not been adopted but is being promoted by the World Resources Institute is a "sipper-guzzler" fuel plan that would impose a levy on cars whose fuel consumption rate is below a set figure. The money generated would be used to offer rebates on cars rating higher. Another idea is a "teebate" system where the amount of gasoline an automobile consumes would be linked to car insurance premiums — the more efficient the vehicle, the cheaper the rate.

But many policymakers believe that a

piecemeal approach to transportation will not be sufficient. According to Assemblyman Hoyt, the country needs to change its concept of transportation.

Transportation departments need to focus beyond building bridges and repairing highways. Someone has to look over the horizon, says Hoyt.

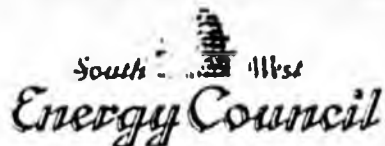
One idea that may be over the horizon is the development of an extensive mass transit high speed rail or train system to accommodate the growing population and people's need to travel. According to the Motor Vehicles Manufacturers Association, motorists drove more than two trillion miles in 1989. The EPA estimates that this number could double by the end of this decade.

According to Hoyt, "Our country is 20 years behind the Japanese, French and Germans in developing a mass transportation system. A high-speed system would both save energy and reduce auto emissions, which means the environmental impacts are much less hurtful."

In addition to state sources, state energy efficiency programs have been financed through federal energy grants and oil overcharge funds. The overcharge funds originate from a series of court rulings in the early 1980s against oil companies who violated federal regulations in the pricing of their oil. (The largest ruling was against Exxon, which was ordered to pay nearly \$2 billion.) The fines went into a fund to be distributed to the states for energy efficiency programs. To date, the states have received almost \$4 billion but the fund is drying up and will be depleted in the next five years.

Without the overcharge fund, says Dick Byers, energy policy specialist with the Washington state energy office, "We will be asking the Legislature for more money, and this is probably true with other states." In some states the potential shortfall could be large. New York, for example, has received a total of approximately \$300 million in oil overcharge money to help fund its energy conservation programs.

But Senator Rosenberg believes that energy is so interconnected with other public policy issues such as the environment that lawmakers have no choice but to find new ways to fund energy programs. "By pushing state energy programs we are not only protecting the environment but also preventing future Persian Gulfs."



MEMORANDUM

TO: South/West Energy Council's Executive Committee
FROM: Lori Cameron, Executive Director
RE: Alberta
DATE: April 1, 1991

EXECUTIVE SUMMARY

As discussions of affiliation between the Canadian province of Alberta and the South/West Energy Council progress, parallels in resources, energy development and legislative participation are clear. The purpose of this memo is to provide background information germane to the ongoing discussions.

In terms of energy production, Alberta is to Canada what the members of the Council are to the U.S. For example, Alberta produces 79 percent of Canada's crude oil and 83 percent of its natural gas. The member states of the Council produce 80 percent of the United States crude oil and 88 percent of its natural gas. Many of the same companies active on the Council for Legislative Energy and Environmental Research (CLEER) have Canadian affiliates in Alberta, developing the province's energy resources.

Alberta has a unicameral legislative assembly. The premier forms a cabinet of legislative members, each appointed as a minister, to direct operations of the provincial government. An Energy Committee, composed of eight cabinet members (legislators) is analogous to legislative energy committees in the Council's member states.

Affiliation of a Canadian province with a organization of states is not a novel concept. The province of Quebec became an affiliate of the Eastern Regional Conference of the Council of State Governments in 1990. Discussions between the Western Legislative Conference and the western provinces are underway.

The role Alberta might play as an affiliate of the Council must be carefully defined. A review of the Council's By-laws will be helpful in this regard, as will a review of the Council's attorneys' opinion on the federal Foreign Agent Registration Act. In the meantime, the Council's Chairman has been invited to meet informally with Alberta's Deputy Premier and Energy Minister in late May. The Chairman will report to the Executive Committee at the June meeting.

ALBERTA, CANADA'S ENERGY PROVINCE

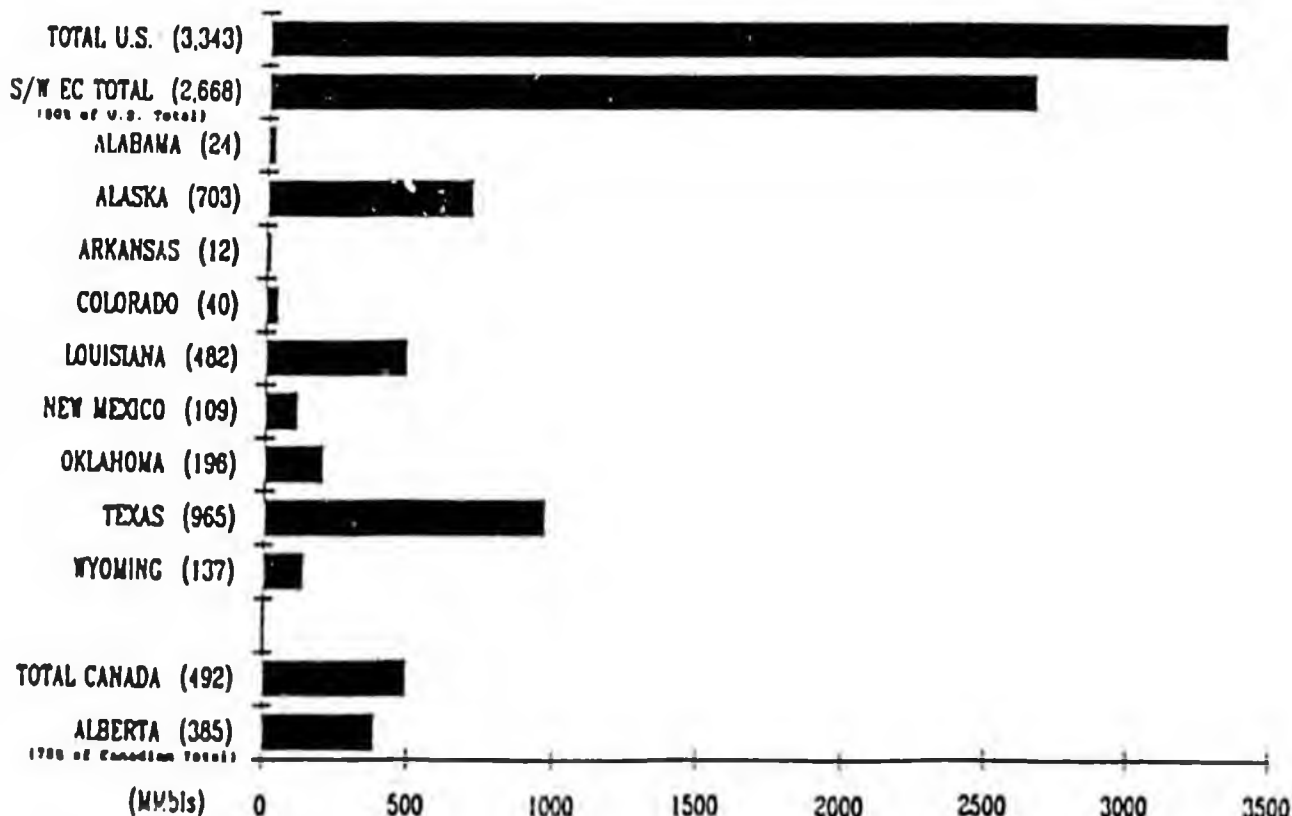
One of ten Canadian provinces, Alberta is responsible for more than 80 percent of all the energy produced in that country. With a population of 2.1 million spread over an area slightly smaller than Texas, Alberta claims energy resources to rival leading energy producing nations anywhere in the world. The province's resources include conventional crude oil, natural gas, and large amounts of coal, as well as heavy oil and oil sands.

Crude Oil

Alberta's crude oil reserves are estimated at approximately 3.2 billion barrels, about three quarters of Canada's total reserves. Relative to the U.S., the oil industry got a relatively late start in Alberta. The first commercially significant discovery of crude oil was near Leduc in 1947.

Alberta produces about 385 million barrels of crude oil a year (1989). About 20 percent of production is refined in the province, 45 percent goes to other provinces and 35 percent to the U.S. for processing. Diagram I illustrates 1989 crude production for the U.S. and Canada.

DIAGRAM I
SELECTED DATA ON
U.S. AND CANADIAN* CRUDE OIL PRODUCTION FOR 1989
(IN MILLIONS OF BARRELS)



Source: SouthWest Energy Council

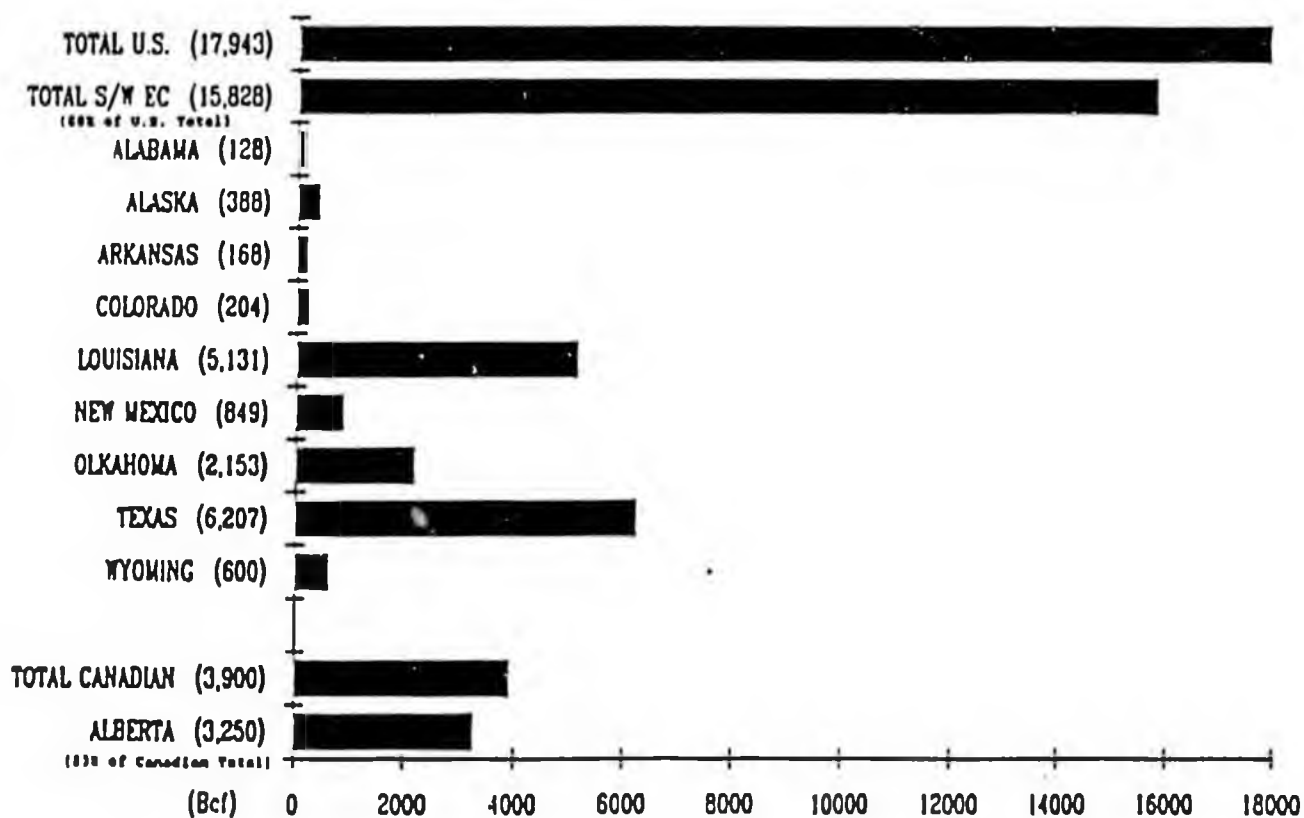
* Canadian Crude Oil Includes Light, Medium and Heavy Oil

Natural Gas

Alberta's natural gas reserves have been estimated at 63 Tcf, more than 90 percent of Canada's total reserves. Wells in the province produced about 3.2 Tcf of natural gas in 1989, a figure which represented 83 percent of Canada's natural gas production. On an energy equivalent basis, the province produced about 25 percent more natural gas than oil in 1989.

Of the natural gas produced in Alberta, twenty-two percent was consumed in the province; thirty-eight percent of the gas was consumed in other Canadian provinces; and forty percent was exported to the U.S. Diagram II presents data on U.S. and Canadian natural gas production for 1989.

DIAGRAM II
SELECTED DATA ON
U.S. AND CANADIAN NATURAL GAS PRODUCTION FOR 1989
(IN BILLION CUBIC FEET)



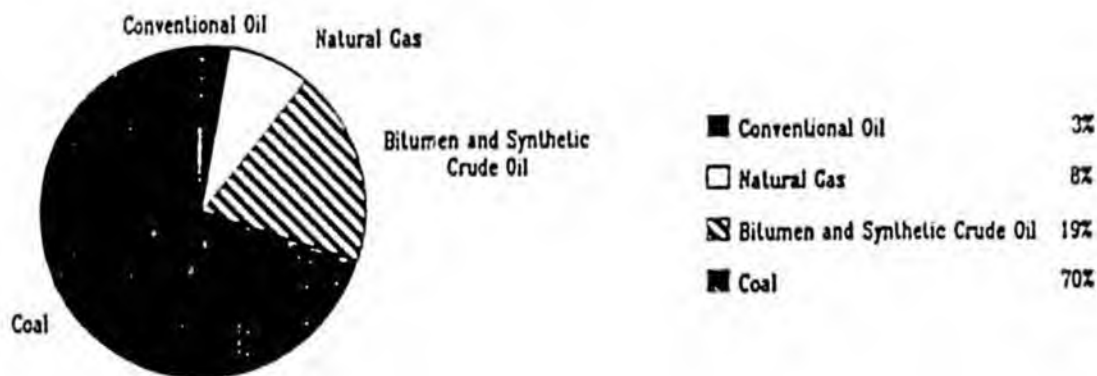
Source: SouthWest Energy Council

Coal

Alberta's coal resources include four different ranks of coal: semi-anthracite, bituminous, subbituminous and lignite. Only bituminous and subbituminous coals are currently commercially mined.

The province's low-sulphur recoverable coal reserves have been estimated at 32 billion tons. This compares to Wyoming's demonstrated coal reserve base of 68 billion tons. Coal is, by far, the largest fossil energy resource in Alberta. Fully 70 percent of the province's energy reserves are coal. Diagram III illustrates comparative energy reserve data for Alberta.

DIAGRAM III
ALBERTA'S REMAINING ENERGY RESERVES
1989



Source: SouthWest Energy Council
From ERCB Data

The province produced almost 35 million tons of coal in 1989. This compares to Wyoming's production of 172 million tons for that year. Two thirds of the coal produced in Alberta was utilized in Alberta to generate electricity, while about one quarter was exported to Japan and Korea. The remainder was shipped to other Canadian provinces.

Coalbed methane reserves have been identified in Alberta. However, no commercial production has been undertaken.

Heavy Oil And Oil Sands

Alberta's oil resources are classified by density, a property which largely dictates production techniques. Heavy crude is so thick that only ten percent may be recovered using "normal" drilling and production techniques. Steam stimulation is the most common technique used to coax recovery of heavy crude.

Oil sands are thicker still. The energy resource in oil sands is bitumen, which is found with sand, clay and water in a solid, immobile mixture. Where reserves are close to the surface, open pit mining techniques, much like those used to surface mine coal, are employed. Mined oil sand is heated and treated to separate the bitumen.

In deeper reservoirs, oil sand is heat-treated in place to make the bitumen flow to the surface in conventional wells. Once extracted, the bitumen is upgraded to synthetic crude oil, ready for conventional refining.

Alberta has spent over half a billion dollars in research and development on oil sands and heavy oil. The magnitude of the resource in Alberta justifies such massive investment. On an energy equivalent basis, the heavy oil/oil sands resource is equivalent to one third of the world's conventional oil reserves.

Production of bitumen and synthetic crude oil from oil sands in Alberta equaled 122 million barrels in 1989. This mounted to one quarter of Alberta's total oil production. Oil sand energy production has doubled over the last decade, while conventional oil production has declined slightly. Synthetic crude oil is produced at two facilities in the province: Syncrude Canada Ltd and Suncor Inc.

GOVERNMENT AND ENERGY IN ALBERTA

Canada is a federation of 10 provinces and two territories. The national capital is Ottawa, Ontario. The national government is an elected parliament.

Alberta's provincial government is a unicameral legislative assembly. Following an election of the Legislative Assembly, the leader of the party with the most seats becomes premier. The party "forms" a government for the province by appointing Members of the Legislative Assembly (MLA's) to the Cabinet. Currently there are 58 MLA's from the Progressive Conservative Party (the Government Party). The two other parties hold a total of 24 seats.

Of the 82 MLAs, 27 serve in the Cabinet. Departments in the provincial government are administered by members of the Cabinet (elected members of the Legislative Assembly), referred to as Ministers.

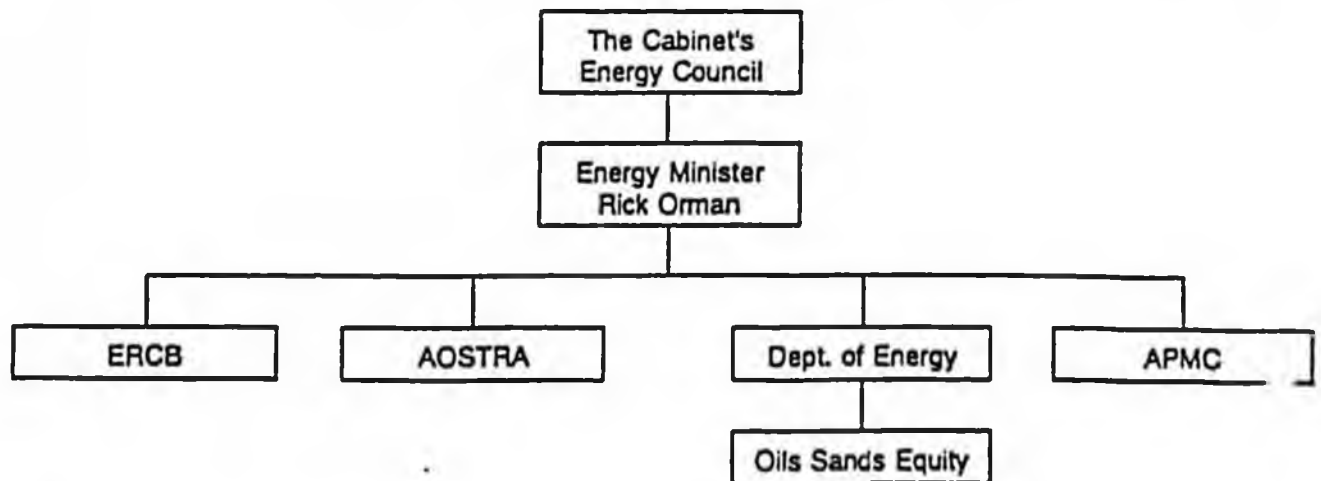
For example, Rick Orman, a member of the Legislative Assembly from Calgary, is the Minister of Energy. Jim Horseman, elected to Alberta's Legislative Assembly from Medicine Hat, is the Minister of Intergovernmental Affairs, as well as being Deputy Premier.

Alberta's Energy Council is analogous to a state's legislative energy committee. It is comprised of nine members of the Cabinet and chaired by the Minister of Energy, as well.

The provincial Department of Energy is under the direction of Energy Minister Rick Orman. The Department of Energy includes the Alberta Oil Sands Equity (which manages the governments investments in three major projects related to synthetic crude). The Alberta Petroleum Marketing Commission (which markets the government's royalty crude oil), and the Alberta Oil Sands Technology and Research Authority (which directs the government's research and development work in oil sands and heavy oil), also report to the Minister of Energy.

The Energy Resource Conservation Board is another separate agency, answering to the Energy Minister. The ERCB regulates oil, gas, oil sands, coal and electric energy in Alberta. The Board is comprised of seven members and oversees a staff of more than 700. The ERCB is analogous to the Texas Railroad Commission. In fact, when it was formed in 1938, the ERCB was modeled after the TRC. Diagram IV illustrates the structure of provincial energy regulation in Alberta.

DIAGRAM IV
ALBERTA'S ENERGY REGULATORY STRUCTURE



Source: South/West Energy Council

Mineral Ownership

Ownership of minerals in Alberta rests primarily with the province. This was not always the case. In 1867 the founding provinces of Canada (Ontario, Quebec, Nova Scotia and New Brunswick) reserved ownership rights to land and resources under the terms of the Constitution Act. However, when Alberta and Saskatchewan were created as provinces on 1905, all lands, mines, minerals and royalties were reserved to the Dominion (federal government).

After 25 years of objection, the so-called "Prairie Governments" succeeded in winning a transfer of title of public land and mineral rights to the provincial government. Only those lands in Dominion parks and Indian reserves remained in the ownership of the federal government.

In addition to provincial and Dominion ownership, mineral rights are held by successors in title to homesteaders who acquired land prior to 1888 and by a few companies who acquired large tracts during the last century (e.g. Canadian Pacific Railway). These "freeholders" are the exception though; the Province of Alberta is the major mineral holder with approximately 85 percent of oil and gas rights in the province.

In areas like those where the oil sands are found, fully 99 percent of the mineral rights are owned by the province of Alberta. This public ownership scheme is not dissimilar to that in Alaska, where 87 percent of the land and consequently most of the mineral rights, is owned by the federal or state government.

Regulation of Energy

Just as the province has wrestled the right of ownership of public lands from the Canadian government, so it has fought constantly to protect its authority to regulate energy.

The roles of the provincial and federal government in natural resource regulation were clarified dramatically 10 years ago with the adoption of Section 92(A) of the federal Constitution Act. This provision gave the provinces the right to legislatively regulate exploration, development, conservation and management of non-renewable natural resources, including rates of primary production. However, Section 92(A) prohibits discrimination among provinces with regard to energy prices, supplies or taxes.

The passage of Section 92(A) in 1982 and the signing of the "Western Accord" in 1985 were two extremely significant steps toward the creation of the current energy regulatory scheme in Canada. The agreement known as the Western Accord was reached among the producing provinces and the federal government of Canada. It decontrolled the Canadian energy industry by removing crude oil price controls and beginning a phased decontrol of natural gas prices.

Further, the Canadian - U.S. Free Trade Agreement in 1988 reaffirmed the new, limited, role of the Canadian government with regard to energy. The terms of FTA assured that export restrictions, such as price and production controls, can not be reimposed.

Private Development of Alberta's Resources

Although ownership of energy resources is predominantly held by the province of Alberta, exploration and development activities are undertaken by private companies. Major integrated oil and gas companies, which operate worldwide, participate next to locally-owned independents. The Canadian Petroleum Association consists primarily of major companies. Many of the members of CLEER's Program Advisory Board operate, or have Canadian affiliates operating, in Alberta. CPA members include:

- Amoco Canada Petroleum Company LTD.
- BP Canada Inc.
- Canadian Occidental Petroleum Ltd.
- Chevron Canada Resources
- Conoco Canada Limited
- Esso Resources Canada Limited
- Gulf Canada Resources Limited
- Mobil Oil Canada
- Phillips Petroleum
- Shell Canada Limited
- Standard Oil Production Company
- Texaco Canada Petroleum Inc.
- Unocal Canada Limited

A second organization represents smaller exploration and development companies; this group is the Independent Petroleum Association of Canada (IPAC). Like their American counterparts, the independents own only about 20 percent of total oil and gas assets, but are responsible for over fifty percent of the wells drilled.

ALBERTA AS AN AFFILIATE OF THE SOUTH/WEST ENERGY COUNCIL

At the December, 1990 meeting of the Executive Committee of the South/West Energy Council discussion on a relationship with Alberta were begun. There are a number of interesting parallels between Alberta and the members of the South/West Energy Council.

It is essential though, that the role Alberta would play as an affiliate of the Council be carefully defined and thoroughly understood. Voting status, dues, leadership roles and other issues addressed in the Council's By-laws, are all questions remaining for discussion.

The question of applicability of the federal Foreign Agents Registration Act has also been raised. This federal statute requires that anyone acting as an agent on behalf of a foreign principal file a registration with the Department of Justice. Attached as Appendix A is a memo prepared by the Council's attorneys, Vinson & Elkins, discussing the applicability of this Act.

The attorneys point out that, in a legal sense, there are two tests to determine whether the Council would be considered an agent of the Province of Alberta (a foreign principal):

"The first concerns whether, by virtue of the Alberta membership, the Council itself would be a foreign agent. This determination should be based on the extent, if any, to which Alberta would be able to determine the actions of the Council. A category of nonvoting membership, for example, should help to show the inability of the Province to "control" the Council.

Even if the Council were not considered a foreign agent, the second question to be resolved is whether anyone acting on behalf of the Council itself would be a foreign agent. The answer to this question turns on the extent of control over and the degree of funding for the Council's activities provided by Alberta relative to that of other Council members. If dues paid by Alberta are a relatively small percentage of the overall funding of the Council, for example, a strong argument exists that the organization is not financed in major part by the Province. A percentage well under 50 percent would help.

... the ability of the Council to avoid registration under the Act will depend on being able to establish that no agency relationship exists and that the Province of Alberta does not possess or exercise control over the Council's activities."

Continuing Discussions

With the ongoing approval of the Executive Committee, discussions with Alberta are scheduled to continue. Council Chairman Ted Strickland has been invited by Alberta Deputy Premier Jim Horseman and Energy Minister Rick Orman to meet informally in late May.

Those discussions follow the presentation made to the Council's Executive Committee in December, 1990 by David Manning, Alberta's Senior International Trade Counsel to the U.S. Manning's participation in Council conferences has been continuous for more than a year. Additionally, 10 members of the Council visited Alberta in September, 1989 and toured oil sand operations.

Manning set up meetings for the Council's Executive Director in early February with staff members of the Alberta Department of Energy, the Alberta Petroleum Marketing Board, and IPAC, as well as with the ERCB. Those meetings provided the background for this memo.

A formal invitation to the Council to hold its global energy and environmental issues conference (December, 1991) is anticipated from Ministers Horseman and Orman to Senator Strickland in May. The Chairman will report to the Executive Committee at the June meeting and the issue of Alberta's role as an affiliate of the Council will once again be on the agenda for that meeting.

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SOUTH/WEST ENERGY COUNCIL

STRATEGIC PLAN

1991-92

**Colorado Senate President
Ted Strickland
Chairman**

INTRODUCTION

The South/West Energy Council turned 15 years old in December, 1990. Those years have seen the growth of the Council (from the five original states, to the current nine), as well as an evolution of the Council's purpose. This Strategic Plan will serve as a guide through 1992, allowing the Council to better direct its resources, financial and human, toward specific goals and objectives important to its member states, and the nation as well.

GOALS

There are three primary goals of the Council; these are the purposes for which the Council exists:

1. To participate in the development of the federal energy and environmental policy;
2. To assist member states in developing sound legislative energy and environmental policies; and
3. To initiate dialogues with energy and environmental policymakers at all levels, to improve the understanding of issues facing the states, the nation, and the world.

OBJECTIVES

The objectives set by the Council are specific methods to achieve the Council's purposes. The objectives may be discussed in terms of organizational matters within the Council; interaction with state and federal governments; and the establishment of dialogues policymakers, in some cases utilizing the Council's research affiliate, CLEER, to accomplish such ends.

Organizationally, it shall be the objectives of the Council to:

1. Meet on a quarterly, scheduled basis at an identified location, under the direction of the Chairman and the Vice President for such meeting, to address identified objectives, which are compatible with the meetings topical theme.
2. Consider changing the name of the Council to reflect its non-regional, legislative nature and energy and environmental policy interests.

3. Evaluate expanding the membership of the Council to include Alberta (as non-voting, international affiliate), and Mississippi (a Southern oil and gas state); as well as Kansas (a Midwestern oil and gas state), North Dakota (a Midwestern oil and gas state), Utah (a Western oil, gas and coal state), West Virginia (an Eastern gas and coal state), and Pennsylvania (an Eastern oil, gas and coal state).
4. Hold a symposium on environmentally-significant energy technology in the Council's member states, developing a directory of exemplary projects.
5. Schedule a formal budget review by the Council's Executive Committee twice a year (at the Annual meeting and the second meeting thereafter).

Objectives relating to interaction with state and federal governments will include:

1. Developing a means of effectively providing input into federal energy and environmental policy making, to include regular meetings with Congressional advocates and adversaries, and the development of a distribution list for Council policy statements.
2. Working closely with the USDOE on the development of a National Energy Strategy, while reviewing and updating the Councils' own proposal.
3. Developing dialogues with Northeastern and Midwestern States.
4. Maintaining close contact with the NCSL.
5. Developing a program for tracking environmental legislation.

Objectives dealing with the development of dialogues range from discussions with private sector executives to state regulators, and will include international agencies and contacts:

1. Working closely with CLEER to facilitate meetings with energy company executives.
2. Scheduling programs to assure discussions with state regulators (e.g. oil and gas commissioners, railroad commissioners, corporation commissioners) and the initiation of an exchange of views with NARUC.
3. Maintaining and further developing Western Hemisphere contacts; monitoring European Community energy actions, as well as OPEC's; and educating the Council on Pacific Rim energy concerns.

IMPLEMENTATION

The bulk of the work in implementing the objectives, and consequently, the goals of the Council, will be in conjunction with the Council's quarterly topical conferences. Structurally, each meeting is designated as a Federal Energy and Environmental Matters Conference, a State Trends in Energy and the Environment Conference, a Global Energy and Environmental Issues Conference, or the Annual Meeting.

Under the terms of the Council's by-laws, the Chairman appoints a Vice President to supervise the development of each topical meeting. Prior to each topical meeting, the Vice President, the Chairman and the leadership of CLEER meet with CLEER's Program Advisory Board to receive recommendations on issues of interest and qualified speakers.

Table One, "Council Meeting Schedule by Topic, Location, Vice President and Objective Implementation," sets forth the proposed schedule for the Council's 1991-1992 meetings.* Because the Council meets quarterly, many of the objectives will be addressed at these conferences.

The Executive Committee will meet at each Conference to monitor the Council's progress and address administrative, as well as policy, matters. Additionally, staff and leadership will continuously pursue the objectives over the course of the year.

SUMMARY

During the period 1991-1992, the South/West Energy Council will systematically address its goals of influencing the development of federal energy and environmental policy, assisting its member states and developing energy and environmental policies; and initiating dialogues with energy and environmental policymakers at all levels, improving the understanding of such issues facing the states, the nation, and the world.

These goals will be implemented as a series of objectives which address not only the management of the Council, but its interaction with state and federal agencies and officials, as well as energy and environmental policymakers. The Strategic Plan provides the structure of a conference schedule; the leadership of appointed vice presidents; and objective milestones which will enable the Council to well serve its states and the nation in 1991-92.

* The Council met in Lafayette, Louisiana (December, 1989); Gulf Shores, Alabama (March, 1990), Washington, D.C. (June, 1990, Oklahoma Representative Bill Brewster was Vice President); and Anchorage, Alaska (September, 1990, Arkansas Senator W.D. Moore was vice President).

TABLE ONE

COUNCIL MEETING SCHEDULE BY TOPIC, LOCATION, VICE PRESIDENT
AND OBJECTIVE IMPLEMENTATION

Meeting Date	Meeting Topic	Meeting Location	Vice President For Meeting	Implementation Of Objectives
April 7-9 1991	Federal Energy and Environmental Matters	Washington, D.C. Loews L'enfant Plaza Hotel	Rep. Taylor Harper (AL)	<ol style="list-style-type: none"> 1. Review DOE's progress on the progress on the NES; prepare comments 2. Develop a means of effective input into federal energy and environmental policymaking 3. Organizationally <ol style="list-style-type: none"> A. Consider name change B. Consider Alberta, Mississippi for membership
June 20-23 1991	State Trends in Energy and the Environment	Colorado CO Springs Cheyenne Mtn. Conference Center	Rep. Glen Johnson (OK)	<ol style="list-style-type: none"> 1. Invite key legislators from the Northeast and Midwest, as well as the South and West, to participate on panels on state trends 2. Invite legislators from Kansas, North Dakota, Utah, West Virginia, and Pennsylvania, as well as NCSL Energy and Environment Chairmen, and staff to attend 3. Invite NARUC and other state regulators to participate in the program
September 5-8 1991	Annual Meeting	New Mexico Albuquerque	Sen. Manny Aragon (NM) Energy Technology Symposium V.P.	<ol style="list-style-type: none"> 1. Hold Symposium on Environmentally-Significant Energy Technologies as part of the Annual Meeting 2. Organizationally, review budget and institute alumni project
December 5-8 1991	Global Energy and Environmental Issues	Alberta (Canada)	Sen. Terry Guice (WY)	<ol style="list-style-type: none"> 1. Develop new Western Hemisphere energy contacts 2. Monitor European Community and OPEC actions 3. Educate the Council on energy issues in the Pacific Rim
March/April 1992	Federal Energy and Environmental Matters	Washington, D.C.	Sen. Drue Pearce (AK)	<ol style="list-style-type: none"> 1. Review and update Council's NES proposal 2. Review (and adjust as necessary) Council's program for effective input into federal energy and environmental policymaking
June 1992	State Trends in Energy and the Environment	Oklahoma	Rep. Sylvester Turner (TX)	<ol style="list-style-type: none"> 1. Develop program for tracking environmental legislation 2. Develop systematic approach to interaction with NARUC
September 1992	Annual Meeting	Arkansas	Rep. Doc Bryan (AK)	<ol style="list-style-type: none"> 1. Prepare 1991-92 Strategic Plan for the Council 2. Review Budget

South West
Energy Council

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SOUTH/WEST ENERGY COUNCIL

The South/West Energy Council is the organization of state legislators representing the energy-producing states of America. Drawing on the knowledge gained through years of hands-on experience, the Council provides a forum for state legislators to develop public policy responses to national energy and environmental issues. The purpose of the Council is to promote a national energy policy that encourages domestic energy production and ensures long-term energy security for the nation.

Through the Council, legislative leaders from the states of Alabama, Alaska, Arkansas, Colorado, Louisiana, New Mexico, Oklahoma, and Texas identify emerging policy issues in the areas of energy production and environmental protection. In developing public policy recommendations, the Council strives to effectively promote energy and environmental policies which will provide the greatest incentive for the development of our energy resources while maintaining the integrity of our environment.

For over ten years, the South/West Energy Council has actively encouraged the federal government to provide the incentives necessary for the development of domestic natural resources while limiting the regulation of production, transportation, and pricing of energy resources.

To promote its policy recommendations, the Council has provided testimony at Congressional and federal agency hearings, coordinated letter-writing campaigns in support of legislation, and filed intervention briefs in adjudicatory hearings.

In addition to direct contact with federal officials, the Council influences national energy policy by forging broad-based coalitions and coordinating grassroots lobbying efforts. The policy statements contained in this booklet are examples of the Council's ability to engender wide spread support for its policy recommendations. Many of these policy statements were adopted by three or more of the following government associations: the Southern Legislative and Western Legislative Conferences of the Council of State Governments, the National Conference of State Legislatures, and the Southern Governors' Association.

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PAN AMERICAN ENERGY ALLIANCE

Background.

The past year's fluctuations in world oil prices and supply patterns once again demonstrate that the United States' access to this vital strategic resource is vulnerable to concerted political action by governments in the Middle East.

In 1987, the United States reliance on imported oil increased to forty-one percent - the highest percentage in seven years. With the United States' demand for oil increasing at a rate of two percent per year, the reliance on imported oil will increase because the United States' domestic exploration and production capability has been seriously eroded.

Over the past decade, the United States has successfully increased its share of imported petroleum products from our Western Hemisphere neighbors and decreased our imports from the volatile Middle East. Alarming, this positive trend has recently reversed and the Middle East is again the dominant exporter of crude oil to the United States.

The energy crisis of the 1970s taught the United States that manipulation of the world oil market by sovereign governments can run counter to the United States' interests. However, that crisis also proved that several of the United States' trading allies could be counted on for support in troubled times. In particular, Venezuela, Mexico, and Canada, increased their exports of oil to the United States when other nations reduced their exports.

Canada and the United States have the largest two-way trade in the world. We are each others largest export markets. Canada sells three-quarters of its exports to U. S. markets, while at the same time absorbing almost one-quarter of total U. S. exports.

As energy partners, Canada and the United States have a history of cooperation and trade. Canada currently supplies about five percent of the total U. S. oil consumption and approximately five percent of the natural gas consumed in the United States - the equivalent of over 700 thousand barrels of crude oil per day. In the event U. S. supplies tighten, one of the first places for the United States to look for incremental supplies is Canada. In times of U. S. supply constraints, imports of Canadian gas lend greatly to U. S. energy security.

Mexico shares not only a common border, but also a rich cultural heritage with the Southwestern United States. It has grown into one of our major sources of imported oil and natural gas. In fact, Mexico was our third largest supplier of crude oil during 1987, with only Saudi Arabia and Canada ranking higher.

Mexico's dependence on oil earnings to provide government revenues and foreign exchange is very clear. PEMEX investments in future oil and gas development and the United States' clear need for stable, long-term supplies of oil indicate that our trading relationship can do nothing but grow in the future.

Similarly, almost half of all Venezuelan oil exports are to the United States. During 1987 Venezuela was the leading exporter of petroleum products and the fifth largest exporter of crude oil to the United States. Combining products and crude oil, Venezuela is virtually equal to Canada as the exporter upon which the United States most depends.

1
2 Venezuela has the ability to export large quantities of crude oil and petroleum
3 products for many decades. The United States and Venezuela are close geographical neigh-
4 bors, who like Mexico and Canada, share similar forms of democratic government. The
5 United States will need to continue to rely on foreign sources of oil for the foreseeable fu-
6 ture. Therefore, the oil situations of both countries are complementary and both countries'
7 long-term energy interests are such that the United States and Venezuela should continue
8 to be important commercial partners for many years under fair conditions of trade.
9

10 Action.

11
12 Canada, Mexico, Venezuela, and the United States are long-standing energy trading
13 partners. We share a history of working together in successful oil and gas exploration and
14 development. We share the ups and downs of a rapidly changing energy environment. And
15 we share a common vision of the future - a vision of a sound energy industry in each of our
16 countries - able to provide the energy security needed to ensure the health and vitality of
17 the entire Pan American economy.
18

19 The United States also shares a democratic bond with the people of Canada,
20 Mexico, and Venezuela. Our governments strive to improve the overall well-being of all
21 our citizens, while providing rich opportunities for individual freedom and growth. Thus,
22 it is only natural that representatives of our four nations have gathered to explore options
23 which will increase the hemisphere's energy security.
24

25 Therefore, in recognition of our long-standing trading history and to plan for the
26 increased security of our peoples and economies, the South/West Energy Council urges the
27 Congress and the Administration to engage in formal deliberations with the governments
28 of Canada, Mexico, and Venezuela, as well as other interested American states, to develop
29 a Pan American Energy Alliance to provide reciprocal energy security measures for the
30 nations of the Western Hemisphere.
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