REMARKS OF

SENATOR HUBERT H. HUMPHREY

BEFORE THE

FOOD INDUSTRY ENERGY CONFERENCE
STATLER HILTON HOTEL
WASHINGTON, D.C.
SEPTEMBER 20, 1973

I want to thank CLANCY ADAMY for inviting me here today for this unique and important conference.

To all of the sponsoring food industries, in fact, I would like to express my admiration. You have recognized a vital subject for analysis over these two days.

I have looked over your program and note that you will hear from experts on energy in general and, in particular, the energy resources problems faced by the food industry.

The timelines of this subject, by the way, might be underscored by the fact that at 10 o'clock this morning - - - just a few minutes from now - - - I will open hearings before my Subcommittee on Consumer Economics on the energy crisis.

Our Subcommittee in these next few weeks, in fact, will combine, as you have done, the subjects of both energy and food.

How did it happen
- Food Tight supply
- Energy
- Transp

Shortages - fertilizer

T FOOD AND ENERGY

There are ~~five~~ 9 critical inputs to world food supply:

-- seed
-- fuel
-- fertilizer
-- credit
-- transportation

Land - Technology - Management
Weather

With respect to fuel, it is clear we now face for the foreseeable future the necessity of ever larger imports of petroleum. This will increase from 6 billion dollars in oil imports today to 30 billion dollars in oil imports in 1980.

The major export we have to pay for fuel is our food. But we have to have fuel to produce food and to maintain our industrial economy.

Therefore food and fuel are the most serious and interrelated problem confronting America today. The standard production of food is essential to price stability and to increasing our export earnings. And, of course, the availability of fuel is essential to our agricultural and industrial economy.

Dictated by HHH
September 19, 1973

Food Shortage
Energy
Transp

Fertilizer

Hawcorn
- Popul -
- abundance
- Weather
- Panic buying

INTERNATIONAL FOOD AND PETROLEUM STATISTICS
(billions of Dollars)

	1971	1972	1973
Agriculture exports	7.7	9.4	15.5
Agriculture imports	5.8	6.5	8.2
net difference	1.9	2.9	7.3
Petroleum exports	.5	.5	.5
Petroleum imports	3.3	4.3	6.2
net difference	2.8	3.8	5.7

Our balance of payments position is greatly helped by our strong competative position for food. Just the annual increase in U.S. agriculture products earned about $ 2 billion in 1972, and agriculture could earn approximately $ 6 billion in 1973. Taking into account U.S. agriculture imports, which are increasing at a slower rate than U.S. agriculture exports, the U.S. net food surplus dramatically increased by about $ 1 billion in 1972 and a little over $ 4 billion in 1973.

But our balance of payments situation is weaked by high petroleum product exports. The U.S. in 1973 is estimated to carry a net deficit in international petroleum transactions of about $6 billion, a jump of about $ 2 billion over last year.

Thus it is clear that a strong U.S. agriculture, with food exports increasing at about $ 2 billion a year, is essential to obtaining enough foriegn exchange to buy the petroleum products we need.

What TO DO -

Food

- Interm Reserves
- Domestic "
- Production
- Reporting

Energy

- Conserve
- Allocate
- Research & Explore

Solar Nuclear
Geothermal Coal
oil Shale oil
Hydro

Food, as all of you well know, is the largest single item in the family budget. About 16 cents of every consumer dollar goes for food.

The food industry in America is larger and complex, another fact you know better than I. From 3 million farms, food products move to 23,000 food process firms, through 30,000 wholesalers, to nearly 250,000 retail grocery stores and supermarkets. In all, more than 10 million Americans are part of the food industry.

You know, too, that 1973 will be ~~infamous~~ remembered as a year of food crisis in this country.

The price of food this year has risen higher and at a faster rate than at any time since World War II. And the worst may be yet to come. I expect a retail food price increase for 1973 that will exceed the Administration's forecast of 20 percent.

The 1973 food price spiral, after due account is made for bad weather and similar uncontrollable difficulties, was in my opinion not only foreseeable but preventable.

There is simply no denying that the present Administration has groped and lurched feverishly and blindly between phases and freezes. It is now clear that its economic decisions have been based on absolutely negligent forecasting and analysis of food production and demand.

Although not a comprehensive list, let me identify some of ~~the~~ THE mistakes in agriculture production and food distribution in the last year:

-- The Russian wheat deal, an important international agreement, was marred by the Administration's intelligence and reporting system for Russian food demand, and by the unacceptable policy of providing the Russians with over $300 million in subsidies to buy products that were already priced below the world market price.

-- The Department of Agriculture's stubbornness in maintaining restrictive set-aside policies throughout 1972, even in the face of high international demand.

-- The folly of attempting to freeze food prices in the spring of this year while feed prices -- such as soybeans -- were allowed to escalate.

-- The failure, which continues, to develop a comprehensive food plan that takes into account production, international demand, transportation, and final distribution.

As the organizers of this conference have detected, there is an intriguing, disturbing and very real parallel between the energy crisis and the food crisis.

Perhaps you know the old story that if you bring water to a boil very gradually, you can boil a frog alive

before he realizes his predicament and leaps out of the pot. I have never tried it. But it is a matter of survival that we recognize - - and solve - - our food and energy problems before it is too late for us to do something about them.

For decades, Americans have produced and consumed relatively inexpensive food and fuel.

With abundance of both, our appetites have become huge, while we have grown carelessly inattentive to the supply side.

In some ways, we as a nation are consuming too much food and fuel for our own good. The signs are abundant that we are being pushed toward the necessity of a national crash diet - - not because we recognize our over-consumption, but because we are eating and fueling ourselves into very severe shortages.

This audience is certainly aware that per capita consumption of meat in this country - - not including poultry - - has nearly doubled in the last thirty years. Last year Americans ate 250 pounds of meat per capita; about 300 pounds including poultry. This is about five times as much as that consumed in Japan.

The same is true with energy. Many people who bemoan the prospective shortages of gasoline are the very same people who want inexpensive and readily available fuel in unlimited quantities to power their 300 horsepower cars in air-

conditioned splendor. They use the power of 300 horses to take themselves a few blocks on unnecessary errands. All of us could and should be walking, more than we do, for health as well as fuel conservation reasons. But we have been hypnotized by the seemingly endless supply of energy and power.

But we see each day that our energy supplies are not endless. As our dependency upon foreign energy sources becomes greater, we are coming upon ominous signs about the reliability of supplies. Arab countries are warning of higher petroleum prices, and you know that Libyan oil has already about doubled in price just this year.

In order to pay for this oil, by the way, and still work toward a trade and payments surplus, we must export -- and the American exports most in demand these days are agricultural goods. But though world demand for agricultural products is good news for farmers and for our balance of payments, it may mean some higher prices for our own consumers. Higher food prices for consumers can be minimized by careful management of our food exports, rather than a lurching policy from an uncontrolled free market to rigid export controls.

Now, things are never quite this simple, but what energy needs are so compelling that Americans should make food price and supply sacrifices to have more ample energy stores?

I have already mentioned the enormous petroleum consumption of the auto in America.

But have you thought of your other energy demands lately?

Americans don't limit the use of electricity for home heating, cooking, lighting and refrigeration - - though most people in the world would regard availability of electricity even for these purposes to be a luxury. Well, I have listed some things we use electrical energy for. And we might keep these in mind as we wring our hands about the energy crisis. We use the mighty - - and expensive - - power of electricity to do our:

lawn mowing
hair drying
shaving
hedge trimming
air conditioning
stereo playing
nail polishing
can opening
clothes washing
bread toasting
clothes drying
record playing
garbage disposing
tape recording
television watching
barbequeing
sun-lamp tanning

dehumidifying

floor waxing

shoe polishing

Not to mention swimming pool filtering and imitation fire-place lighting.

Isn't it worthy of pause to note that most people in the world do these things by hand, if they do them at all? That they do them without consuming energy resources?

The first point here is simply that all of us, every individual and every industry, must look for ways to conserve fuel. Petroleum is not corn and natural gas is not cabbage - - we cannot increase our supplies by planting new energy crops.

Next, recognizing that there is a limit to supply, we must sensibly allocate our available reserves. I like winter sports as much as the next fellow, but fuel for the delivery of food must of course take precedence over unnecessary fuel for motorized excursions ~~on snowmobiles~~.

Because I believe it is important for priorities to be established in the allocation of fuel, particularly insofar as the fuel shortage would affect our food system, I have worked hard in the Senate this year for a mandatory fuel allocation bill. Introducing first a Senate Resolution calling for mandatory allocation, I later jointed in co-sponsorship with Senator Jackson on S-1570 -- "The Emergency Petroleum Allocation Act of 1973," which the Senate passed on June 5, 1970.

This Act calls for the President to establish fuel priorities within 30 days of enactment, and to give the highest priority to "(a) protection of public health, safety and welfare." In colloquy on the Senate floor at the time of passage, it was agreed that this provision would be viewed broadly to include food production and distribution.

So the Senate has, I think, acquitted itself well on the question of establishing sensible priority allocations for scarce fuel supplies. The House has held HEARINGS on the matter and I am hopeful they will report a bill soon. In the meantime, we are waiting to see if the President will follow the Senate's lead and act on this matter; I think he must act soon because the situation is clearly serious and deteriorating.

We have heard a lot about national security lately, but I can tell you that one important point of national security is making sure that the American people are fed. I do not want the trucks that supply my local supermarket running out of gas before they get there. And I know you have a hard time baking bread in cold ovens.

Now let me take a few questions.

The ERI Report

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Highlights:

Food Industry Energy Conference

THE NATIONAL ASSOCIATION OF FOOD CHAINS held the first industry-wide conference on the energy crisis, September 20-21 at the Statler Hilton Hotel in Washington, D.C. Called "**The Food Industry Energy Conference**", its theme was "**The Supply of food . . . and the production of energy . . . The major issues confronting us today.**" This issue of **The ERI Report** is a recap of the conference reporting the highlights from the speeches.

The conference's **purpose was to alert the food industry to the energy crisis,** identify what is being done by industry and government to solve these problems, and provide a forum for the exchange of views about the special problems facing the industry.

Co-sponsors of the conference represented all elements of the food distribution system. They were: Americans Bakers Association, American Frozen Food Institute, Cooperative Food Distributors of America, Evaporated Milk Association, Grocery Manufacturers of America, International Association of Refrigerated Warehouses, Milk Industry Foundation/International Association of Ice Cream Manufacturers, National American Wholesale Grocers Association, National Association of Convenience Stores, National Association of Food Chains, National Association of Retail Grocers of the United States, National Canners Association, National Food Brokers Association, National Soft Drink Association, Super Market Institute, Western States Meat Packers Association, United Fresh Fruit and Vegetable Association, and the United States Brewers Association.

Registrants included representatives from a broad spectrum of the food industry: major supermarket chains, major canneries, meat processors, warehouses, food transporters, refrigeration companies, baking companies, food industry associations, utilities, food-related publications, etc.

Individual speakers included: Clarence G. Adamy, President of the National Association of Food Chains; U.S. Senator Hubert H. Humphrey (D-Minn.); James W. McLane, Deputy Director of the Cost of Living Council; Elmer Bennett, former General Counsel and Assistant Director of the Office of Emergency Preparedness; Dr. Irwin P. Halpern, Deputy Assistant Secretary for Policy and International Affairs, Department of Transportation; Paul Wollstadt, Special Consultant to the American Petroleum Institute and retired Senior Vice President of Mobil Oil Corporation; Robert V. Price, Executive Vice President of the National Coal Association; and Dr. John Gibbons, Director, Office of Energy Conservation, Department of Interior.

Besides the individual speakers, there were panel discussions on "Energy Conservation" and "Fuel Allocation." A brief outline of the panels is on page 54.

Panel participants included: Richard W. Daspit, President of The American Bakers Association; Richard A. Dudley, Vice President of S.M. Flickinger Co., Inc.; Edward A. Octocka, Senior Vice President of Nabisco, Inc.; Robert E. Shepherd, Director of Energy Programs, Bureau of Resources and Trade Assistance, Department of Commerce; John G. Muller, Office of Energy Conservation, Department of Interior; Dr. John L. Rafuse, Staff Assistant to the Energy Policy Office, Executive Office of the President; Goodwin H. Taylor, Consulting Engineer; Sam H. Flint, Vice President, Quaker Oats Co.; James R. Gill, Deputy Director, Voluntary Petroleum Allocation Program, Office of Oil and Gas, Department of Interior; Ben Tafoya, Industrial Specialist, Office of Oil and Gas, Department of Interior; and Richard Murray, President, Energy Research, Inc.

Senator Humphrey emphasized lack of planning in government and industry in both energy and food production. He recommended the same kind of planning that goes into our defense and highway systems.

Clarence G. Adamy, chief organizer of the conference, stressed the dependence of all aspects of agriculture on energy production. **James W. McLane**, Deputy Director of the Cost of Living Council, pointed out the relationship between inflation and both the food and energy crises. **Elmer Bennett**, former Assistant Director of OEP, called for a unified national strategy directed by statesmanship and without political gamesmanship to deal with the energy problem.

Dr. Halpern, Deputy Assistant Secretary for Policy and International Affairs, Department of Transportation, discussed fuel conservation in general and some specifics as far as the food industry was concerned. **Wollstadt** outlined what he considered to be the seven major factors that have produced the energy shortage. He pointed out that the petroleum industry had no control on five of these and only limited options on

Continued on page 54

Official monthly publication of Energy Research, Inc. Address inquiries to Eustace Durrett, Director of Publications, Energy Research, Inc., 1019 19th St., N.W., Washington, D.C. 20036.

Highlights:

Energy Conference Panels

THE CONFERENCE included two panel discussions: one on energy conservation; the other on the fuel allocation program. **Richard W. Daspit,** President of the American Bakers Associaton moderated the **Energy Conservation Panel.** It included: Richard A. Dudley, Vice President, S. M. Flickinger Co.; Robert Shepherd, Director, Office of Energy Problems, Department of Commerce; Dr. John Gibbons, Director, Office of Energy Conservation, Department of Interior; Dr. Jack Raufuse, Staff Assistant, Energy Policy Office, Executive Office of the President; and Goodwin Taylor, Consulting Engineer.

The Energy Conservation panel heard government representatives describe efforts to reduce energy consumption in the federal government by 7% over the next 12 months and the government's desire that industry and the general public take steps to reduce their energy usage by 5% over the same period. They also advised the food industry that there was a need for energy management in the private sector but that industry not government must decide how to efficiently utilize energy. It was pointed out that energy conservation was obviously consistent with environmental policy, and that a reduction of energy usage is good business practice since it saves money and obviously reduces business expenses. It was also suggested that energy conservation would assist in mitigating the impact of any petroleum allocation program.

Industry representatives described efforts underway to conserve energy and enumerated ways in which energy could be saved. Suggestions for energy conservation in delivery and sales were offered, such as switiching to smaller compact cars for sales personnel (*in the case of Nabisco this involved a saving of 32,000 to 50,000 gallons of gasoline per month*) changing routing schedules and routes for greater fuel economy, and improving packaging to conserve space in delivery vehicles. Other ideas included resetting thermostats in plants and office buildings, improving maintenance procedures, recycling waste heat, and upgrading insulation standards for new office or plant construction.

It was agreed that the potential for energy savings was significant and could amount to as much as 25-30% of current usage. The group suggested that companies within the food industry would be well advised to conduct an energy audit, determine an energy efficiency goal, sponsor public relations campaigns to encourage the public to conserve energy, and centralize the responsibility for energy management in a top corporate officer.

The Fuel Allocation Panel was chaired by **Sam H. Flint,** Vice President of the Quaker Oats Company. It included: Alvin Dobbin, Vice President, Giant Food, Inc.; James R. Gill, Deputy Director, Voluntary Petroleum Allocation Program, Office of Oil and Gas, Department of Interior; and Richard Murray, President, Energy Research, Inc.

The fuel allocation panel heard a status report on the voluntary fuel allocation program from the government representatives followed by a discussion of the prolonged standby mandatory allocation program regulations. It was emphasized that priority users had a responsibility to use their allocatons efficiently. Industry representatives suggested that priority users should be required to establish an energy conservation program as prerequisite to receiving priority status.

The industry representatives stressed the importance of priority status for the food and grocery products production, manufacturing and distribution system in petroleum, natural gas, or other energy allocation programs. For example, Giant Food favored a mandatory allocation program since their principal supplier limits them in 1973 to 90% of their 1972 diesel fuel usage. They needed 110% to operate their truck fleet.

It was also suggested that some relaxations of environmental standards might be necessary on a short term basis in order to provide enough supplies to see the nation through this winter.

NOTE: *Anyone interested in obtaining additional information on energy conservation (including assistance in evaluating current energy utilization in their facilities) or information on the government's allocation program should contact Alfred R. Greenwood, ERI's Executive Director, 1019 19th St., N.W., Washington, D. C. Telephone (202) USA-1942.*

Unfortunately, the transcript of the speech by Dr. John Gibbons is not available as we go to press. Dr. Gibbons is the Director of the Office of Energy Conservation, Department of Interior.

FOOD INDUSTRY ENERGY CONFERENCE HIGHLIGHTS—CONT.

the other two. **Robert V. Price,** Executive Vice President of the National Coal Association, offered coal as a solution if some of the ecological restrictions were removed.

The 200 food industry leaders concluded the conference by adopting **four resolutions** aimed at conserving existing supplies of fuel and easing the current shortages. The resolutions were:

1.) Adopt a program of energy conservation to reduce energy consumption in their facilities and transportation systems;

2.) Endorse the highest priority status for the food and grocery products production, manufacturing, and distribution system in any petroleum allocation program;

3.) Communicate to the petroleum and natural gas industries and the public the seriousness of this "energy crisis" and the importance of continued, uninterrupted fuel supplies to the fuel and grocery products industries; and

4.) Develop a program for continuous action in the energy, food and grocery products areas.

Highlights:

The Food Industry and The Energy Crisis

from a speech by Clarence G. Adamy, *President,* National Association of Food Chains

IF A COMPLETE SHORTAGE of fuel occurs for just five days in this country there will be no way for people to eat. There will be no food transported in trucks to stores. Thus, no way for anyone to obtain their usual food supplies.

As far as I know this is the first meeting in which all segments of a single industry beset with energy problems has gathered together in an attempt to measure the situation and—hopefully—to map ways in which we—cooperating among ourselves, with producers of energy, and with the government—can effectively meet the growing challenge.

Food production and distribution in the United States is the world's most efficient industry. One characteristic of our nation's food industry that had previously escaped public attention is the degree to which a virtually unlimited supply of low-cost energy has allowed this miracle of productivity to evolve.

. . . In a time when conservation is so obvious and desperately needed, we want to explore every possible way to make our energy uses even more efficient and productive than they are today.

When we speak of energy we tend to think of gasoline. As a nation on wheels—and as an industry that depends so much on trucks and tractors—this is perfectly natural. But our dependence on energy is an extremely complex one. The growing fertilizer shortage is the most recent and distressing example of this.

The unprecedented demand for our nation's food supply forced the removal of production restrictions on our nation's farmers. The most important step taken was the removal of the limitation on the numbers of acres grain farmers could plant. This meant the use of millions of acres of new land for production of much-needed crops, but only recently have we recognized the marginal quality of most of this new acreage.

To get maximum yields from this relatively poor soil, farmers in 1973 had to use record and unexpected amounts of fertilizer. The best estimate indicates farmers used 12% more fertilizer this year than they did in 1972, rather than the 5% increase that had been expected.

In one way or another, fertilizer—which gives energy to the soil—is itself an energy byproduct. Nitrogen fertilizers are themselves produced from natural gas. The production of phosphates requires such enormous amounts of energy that 10% of the energy consumed by the entire state of Florida—our major phosphate producer—is consumed in phosphate production.

Many million more acres are expected to be brought into production during the 1973-74 planting season—indeed, they must be if the rise in food prices is to be controlled—and this will further strain our nation's fertilizer supply. Yet there is serious question about whether or not this supply will be available. One of the major problems here is the creation of yet another shortage by price controls. World demand for food translates into world demand for fertilizer and the price fertilizer producers are allowed to charge American farmers is far lower than free market prices in other countries. The result is that **American fertilizer—which is so desperately needed here to stabilize food prices—is going to farmers in other nations, instead.**

Should price controls be removed, freeing up domestic supplies but at much higher prices that will add appreciably to the cost of food production and—ultimately—the price of food to the American consumer? Or should controls be maintained, shortening the supply of food products and—again—driving up the price of food to the American consumer? There is no easy answer. Neither is there an easy answer to questions involving energy and agricultural policy as they relate to the very real balance of payments problem that is one of the many twisted roots of today's inflation.

Our chronic and growing dependence on foreign oil is a major cause of the balance of payments problem. On the other hand, our most recent favorable trade balances have been the direct result of burgeoning exports of American farm products. Thus **Americans are paying for their insatiable need for fuels and in large measure, in the price they pay for food.** This needs more public attention.

I am not suggesting we either can or should return to the unrealistically low food prices that we enjoyed for so many years. While it remains true that part of the most recent food price increase is a result of our demand for oil, in a larger and more fundamental sense, the high prices of today were caused by the low prices of the past. While there has been considerable grumbling about farm subsidies in the past, I think we are only beginning to realize the extent to which the urban consumer has been subsidized for many long and desperate years by the farmer.

As a nation with only 6% of the total world population, we consume nearly a third of the total energy resources of the world. Our energy requirements are growing so rapidly that by the early 1980s we will consume twice the energy that we did in 1970. Energy experts tell us that our energy requirements will continue to double every 16 years.

Today, over 90% of the energy consumed in the United States comes from three sources: petroleum, natural gas and coal. Domestic oil production can no longer keep pace with petroleum requirements. Last year alone we imported 29% of our crude oil requirements. It is estimated that by 1985 consumption of imported oil will exceed domestic oil production and average nearly 15-million barrels per day. Dependency on foreign sources removes from our control the possible accessability of oil supplies in a national emergency, or our ability to influence its price.

Continued on page 56

Proved reserves of natural gas indicate that we currently have only about 13 years of available supply. Without further exploration we will continue to experience a serious scarcity of natural gas.

Coal is the third major source of energy and we have in this country vast resources of this fossil fuel, estimated at a 300 to 400 year supply. However, this fuel presents serious environmental problems unless new technologies are developed to ensure its use under environmentally acceptable conditions.

We must either find more domestic energy resources, import more from abroad, develop new energy sources, or more wisely, conserve our existing energy supplies.

The government, industry, and the general public are all consumers of energy and therefore in competition for existing supplies. Since early January, many members of the National Association of Food Chains have expressed concern about diesel fuel shortages to run truck fleets and other facilities. In some areas, contracts have been cut back by as much as one-third of last year's requirements, forcing chains to buy supplies on the road at costs as high as 70% over normal prices. For many chains, the ability to purchase adequate quantitites of fuel has been in serious question.

Produce, meat, dairy, and bread supply in stores depend upon three to five deliveries per store per week. Adequate dry grocery supplies, canned and boxed goods, depend upon one to five deliveries per week. If truck service is curtailed, the problem is obvious.

Farmers and retailers are not the only ones in the food industry with energy problems. For example, the bakers operate sizable truck fleets and are concerned about gasoline and diesel fuel; bakers also need fuel oil or gas to heat plants and have a special need—natural gas (or propane)—to heat ovens. Baking is a relatively precise art which will tolerate only very narrow variations in gas pressure, burning quality and residues. Threatened shortages and temporary dislocation last winter prompted some bakers to insall standby alternate supplies of oven fuel. This usually took the form of reserve propane capacity to be used if the supply of natural gas was interrupted. (*Few of today's modern ovens can readily accommodate conversion of oil.*) Of course, propane is not in plentiful supply, either.

If a shortage of natural gas suggests that householders and office workers should "turn down the thermostat a few degrees and wear a sweater," that remedy will not work in the bakery. The effect in the bakery would be shorter runs and a cutback in supplies of product. Being a perishable product, it can't be stockpiled.

Some system of priorities must be imposed on utilities by regulatory bodies so that food producers are not treated in the same way as a steel mill, despite the fact that both might have an "interruption" clause in their contracts. **Each segment of the American food industry has its own characteristics and its own special fuel requirements.** For canners and other food processors who convert perishable foods into non-perishable form, it is essential to have adequate supplies of fuel on hand with which to process the crops or they will be lost.

It is important to work with the members of Congress who are developing measures to insure adequate energy supplies in the next decade so that we need not rely on foreign sources to the degree we now do. We should follow the several bills now on Capitol Hill and support the positive legislative matters in energy research: development of the Alaskan pipeline and deep water ports among the key bills in the Congress.

Planning Needed

from a speech by Hubert H. Humphrey, *U.S. Senator*

I'M GOING TO TRY to show some interrelationships between two facets of our economy, energy and food. We have never heard in all my years that we might be short on fuel oil except immediately after World War II. I was the Mayor of the City of Minneapolis when a temporary fuel oil shortage was caused by labor management disputes and strikes. **We never thought in our life that we would ever be confronted with the possibility that there might not be enough fuel to heat your homes.** Americans have just never believed that that could happen.

In all my years in Washington there were just two things that I ever heard about agriculture: there were surpluses and farmers were subsidized. That was the whole thing. All the major newspapers criticized this situation. Farmers were criticized for being on the government payroll and the surpluses were crowding our storing facilities. It was a terrible thing. This is the way it was interpreted and I suppose in part that that was the way it was. You just couldn't believe you could ever be short. **You never dreamed that you would be short of fertilizer.** As a matter of fact the fertilizer wholesalers or retailers were knocking at your door urging you to use more.

You never believed that you would have real trouble with transportation. Once in awhile at the time of harvest, of course, there'd be some shortage of boxcars. But it was temporary shortage. To have it for a year or two years, well, it was beyond your imagination. But it is a fact.

It is a fact that there is a food shortage. It is a fact that there is a critical supply of food. We must think in world conditions, today. Everything that we think of must not be thought of as an isolated America protected by two oceans, because the oceans are conduits now not barriers. You have to think in terms of every single aspect of our economy as it is affected by the world in the relationship of the dollar to the deutchmark, the french franc, the Swiss franc, the yen. You can't think in terms of energy just in terms of the United States nor can you think of the food supply in terms of the United States. It's become internationalized.

HOW DID IT HAPPEN? Well, I think one simple reason above all as far as we are concerned is that we have never planned anything.

It isn't as though we didn't know some of this was going to happen. If you will examine back into the records, you will see that sub-committees of the Congress—10, 15 years ago—were at least somewhat concerned about the possibility of an energy shortage in the 1970s without prophetic wisdom just projections from experts. If you'll look back into those hearings, you'll find that there were those then who were saying that with the population increase, with adverse weather, with growing prosperity, the food supply would run short.

And when? In the mid 1970s. But we were so concerned about our immediate needs here at home even though we had become internationalized in our diplomacy and international in our military commitments. But as far as our natural resources, the resources of food, energy, and minerals, we were still thinking in terms of the U.S. and not in terms of our relationship to the rest of the world.

To put it simply and directly, and you are in part responsible for this just as I am. We have refused to plan. You didn't want your government to have any plans. The last planning agency of the government was the National Resources Planning Board which was dissolved in 1940 because it was considered "socialistic".

Well, now every business man plans. Every corporation plans. If you find one that doesn't you should get your money out of it fast. They plan for football teams. They say, for instance, we have a young team now but five years from now we will be a contender. They do it for everything except in government. Yet, the government makes all the rest of the economy look like it's a peanut stand. Remember we are dealing with budgets in this government not just of $270-billions of dollars. With the commitments that are made, that are not included in the budget, it is over $300-billion with a pipeline that has $175 to $200-billion in it every day.

There are only two departments of government that plan and they get the money. They are the Defense Department and the Highway Department. Which proves what planning can do. When I ran for President in 1968, I told the American people that the next President would have to make decisions about weapon systems running into $100-bill. Those were weapons systems that were developed eight, nine, ten years ago. The B-1 bomber began to be planned when the B-52 was on line. The day the B-52 became operational they began to plan for the next generation of planes.

Well, we hadn't planned a thing about our fuel situation and that's part of the problem. We haven't planned anything about rural development.

We did plan the Interstate System. We had the money set aside. We had it within a time frame. We knew we couldn't build the Interstate System overnight, that it would take ten or fifteen years. We had the plans, the engineers, and we are going to be on target with the Interstate Highway System.

Now coming back to why I think we're in this fix. We are in it because we did not allocate our resources, because we did not have any way, and we did not set up any way to monitor what was going in the rest of the world. We did not appreaciate the interdependence between energy and food. We did not understand the inter-relationships between what we did here and what we did in the rest of the world.

Petroleum imports of 1971 were $3.3-billion. In 1972, $12.3-billion. 1973 will be between $6.5-billion and $7.5-billion. Projections are that by 1985 our outflow of dollars, even under current prices, will be between $25 and $30-billion. That would bankrupt us. Therefore, the energy crisis along with food are the two most critical problems this country faces. Today, food is an asset, fuel is a liability. That's why we have to tool up our agriculture for export. We have to look for those markets. That's why we have to be a reliable supplier. We have to be ready to supply. We have to build our reserves; we have to be able to take care of our customers. Because just the fact that we slipped a little this year caused the Japanese to go into Brazil and buy up hundreds of thousands of land to insure their own crops, to go to Australia and buy up wheat acres to produce their wheat.

The Japanese yen is a revalued currency. The Japanese have the money and are not going to starve just because we don't know how to manage our affairs. Everytime we drive a customer away, we have a hard time getting them back. I learned that a long time ago in Humphrey's Drug Store.

ENERGY: Now on the energy side I don't have any immediate answers nor does anybody else. Mandatory allocations will not give you more oil. There are just so many gallons that come out of the barrel. But what we do have must be equitably distributed. If we can't get the fuels needed to the rural section of the country you ain't seen nothing yet.

What are we going to do about fuel production? Well, we no longer have any surplus oil in America. We quit exporting any oil to any great degree about the mid '50s. We're going to have to go into a research program just like we did with the atomic bomb—a kind of Manhattan Project to see what we can do with the vast coal reserve that we do have. We've got to put money into research for solar energy. We're going to have to look at all the possibilities, geo-thermal, etc.

On the food side we have much to offer and it is a positive force if we don't mismanage it. We've got to build a domestic reserve—a cushion—to give the consumer some protection. We must not go any longer without a reserve of wheat, soy beans, and feed grain. It has to be sealed off from the regular market so it does not depress it. You can't ask us to open up every inch of land. Not only are we using up our fuel reserve but also our land reserve.

We also have to consider the international food need because we can not sit over here as a surplus food producing nation and let many people worldwide starve. We're going to have to become export conscious. We're going to have to look for markets, develop markets, and penetrate markets.

Highlights:

The Transportation Sector

from a speech by *Dr. Irwin Halpern*
Department of Transportation

THE TRANSPORTATION SECTOR of the U.S. economy annually accounts for about 25% of the total energy demand and for more than half of the domestic consumption of petroleum. Petroleum accounts for almost 98% of total energy used in the transportation system. The two leading transportation consumers are highway vehicles, which use approximately 80% and aircraft, which use about 10%. Automobiles are the leading consumer, using 56%; trucks and buses together account for 24%.

FOOD INDUSTRY DEPENDENT: Each year more than 100-million tons of farm machinery, fertilizers, household food products and other farm production commodities move to farms across the U.S. Each year, recently, some 425-million tons of farm crops have moved from farms to domestic and foreign distribution centers. Railroads haul over half of the nation's agricultural products, while trucks carry almost one-third. Nearly 54% of all farm and construction machinery is carried by rail; 40% by trucks; 57% of all food and drug products are transported by rail; 38% by truck.

ADMINISTRATION APPROACH: President Nixon has called for the development of long-term conservation plans for the private and public sectors. The President has written every Governor asking him to work to reduce highway speed limits in order to reduce the amount of fuel consumed.

We see national goals coming into conflict (energy and clean air—there are always trade-offs to make and decisions on the price to pay). On September 8, 1973, the President announced two proposals aimed at getting the country through the short-term severe energy shortages. The proposals are a temporary relaxation of clean air standards and the development of the Elk Hills naval fuel reserves in Northern California for use in emergency situations.

In dealing with the long-run energy problem, the President is launching a five-year, $10-billion R&D program. The Transportation Department is already at work searching for ways to reduce the fuel consumption of highway vehicles and to stimulate the development of efficient petroleum substitutes. Since highway vehicles consume such a large fraction of energy, our R&D program has placed high priority on increasing the efficiency of these vehicles. We have identified several engine types which may have advantages in fuel consumption over the present internal combustion engine and are working with the Environmental Protection Agency (EPA) to assess the prospects. We have sponsored evaluations of the problems of bringing gas turbines and the Rankine cycle engine into mass production.

One R&D program, "automotive energy efficiency" has two principal elements. The first is designed to provide information about the status of technology available to the automobile and truck manufacturers to reduce fuel consumption, the costs and performance trade-offs involved, and the time needed to make necessary changes.

The second element of "automotive energy efficiency" is the exploratory development of the kinds of high-performance, advanced batteries that are needed to make electric vehicles a viable option. We have underway a program to evaluate alternative economic and institutional options for reducing energy consumption in the transportation sector. The alternatives being investigated include economical ways to increase load factors in both passenger and freight transport and diversion of traffic to more energy-efficient modes. In examining technological improvements to automobile and truck fuel economies, we shall consider changes in environmental impacts, direct costs to consumers, costs of plant conversion, structural unemployment, gross national product effects, possible adverse balance of payments impacts, as well as fuel savings. **Our objective is to select the most advantageous opitons.**

OPPORTUNITIES FOR FOOD INDUSTRY: The food industry can conserve fuel by improving driving habits. Ask your truck drivers to voluntarily reduce their rate of acceleration and operating speeds where it does not critically affect productivity. Derating a truck engine (that is, lowering the rpm's by a simple fuel adjustment) in combination with aerodynamic drag-reducing devices on the truck, can lower fuel consumption. Carry a full load. Use radial tires. Keep engine maintenance high. Avoid unnecessary idling. Truck primarily during the non-congested hours. Avoid routes that have many hills and curves.

Whenever alternatives exist, shippers are encouraged to use the more energy efficient modes when economically feasible. Rail or piggy-back truck on trail may be more energy efficient than truck, for long haul shipments. There are increasing incentives to use fuel more conservatively because the fuel cost will likely be more fundamental to your total distribution budget. Regarding truck mix, most urban trucks use gas; most inter-city trucks use diesel. You may be wiser when making new purchases to buy the more fuel efficient diesels (on the other hand, availability of diesel fuel vs. gas is uncertain). You may benefit from innovative food packaging that conserves space.

In urban freight delivery, possible conservation measures include optimizing delivery by combining shipments from different companies, requiring lightly loaded vehicles to transfer their loads at terminals, and containerizing cargo. Use of non-congested periods for delivery is especially important in improving urban freight movement.

Although each procedural or technical change may represent only minor savings, collectively these savings could make the difference in having an adequate supply of fuel—as well as a more attractive profit and loss statement.

Highlights:

Statesmanship Needed

from a speech by *Elmer Bennett*
former General Counsel
Office of Emergency Preparedness

THIS CONFERENCE illustrates the growing awareness that every phase of American life is affected by the energy problems this nation faces. We cannot afford to rely either on traditional fictions or easy answers or political expediency. Our very standard of living, as well as our national security, may well hinge on the solutions we choose as a nation.

Americans as a totality, never before have had to focus so sharply on energy supply. Our economic system and our resources together have always assured the availability of fuels in peacetime at reasonable costs. There are people now who do not want to acknowledge that we are in the early phases of a new era in energy.

We have had major shifts in fuels at several times in our history. For decades wood was plentiful and constituted the major source of energy. By 1870 coal was overtaking wood and dominant by the turn of the century. After World War II, oil overtook coal and soon was our primary fuel.

All these shifts were attended with major economic consequences. We have adapted to such changes before, and I am confident we can do so again. However, the potential consequences of error are more severe today because of the vastly more complex economic and international situation. Fortunately, there is a growing awareness at the grass roots level that we do have energy problems and new approaches will have to be adopted or the problems of today will be tomorrow's crises.

When the consumer buys groceries at his local supermarket, he seldom considers the energy elements that go into his bill. Yet, there is some such component at almost every step through which his food is processed and ultimately delivered. The grain in his bread was probably planted and harvested behind the power of a combustion engine tractor; the harvested grain may well have been dried by propane, transported by gasoline, milled and baked by fuel oil, and the bread delivered to his local outlet by diesel fuel.

In terms of today's immediate situation the pressure for answers is most critical with respect to oil and natural gas. These two fuels have borne the largest share of the demand in our economy. In recent years they have supplied about 75% of our energy requirements, up from about two-thirds in 1960.

Though our long term answers may come from such developments as conversion of our large coal reserves, the breeder reactor and solar energy, **in the short term oil seems to be our refuge.** No other fuel is as interchangeable. Oil can fuel a generating station which can no longer be fired by coal because of environment regulations. Oil can also be used in an industrial plant when natural gas is no longer available because of uneconomic pricing. We do not have the means today to substitute coal or natural gas for oil. Thus, oil is the pressure point in today's energy cooker.

The escape valve today is expansion of imports. A few years ago that was a most attractive answer in many places. It was widely believed that world oil prices could go nowhere but down, even in the face of world demand which was rising rapidly even then.

Oil products tend to be higher elsewhere than here, partly because of American price control policies. As a result, we have a growing pressure to divide our lower-priced domestic product by governmental action. If we continue to blind ourselves to the fact that we are facing the probability of higher priced imports of crude oil and oil products for years to come, it seems inevitable to me that our domestic industry—producing, refining and marketing segments alike—will be throttled in their efforts to satisfy our energy needs. Capital, for example, will tend to flow overseas to meet the problems of Japan and Western Europe rather than stay here.

Everyone has price control problems these days, so I don't want to be misunderstood as spotlighting too sharply the impact of economic stabilization policy. That is only one facet of a multi-faceted bundle of interrelated problems. In the eyes of some, the impact of environmental restraints on the energy supply is more amenable to change than economic stabilization goals. In the eyes of others, restraints on demand through conservation should be adopted first. Still others would put a higher priority on relieving natural gas producers from federal utility regulation.

We must have a strategy, short-term and long term. No strategy will be perfect. nevertheless, the nation must have one and it must be pursued to a conclusion, just as was the Manhattan Project of World War II and the man-in-space program.

We cannot afford the luxury of political gamesmanship. A successful energy strategy will require agreement and action by both great branches of our federal government, the Congress and the Executive. Each should be willing to enter into a give-and-take process to find a strategy that will promote the national interest on balance.

Particularly in those areas involving environmental considerations, state and local governments will be called upon to cooperate in carrying out a successful strategy. It is apparent to me that appeals for cooperation at that level will have only minimal effect if the Congress and the Executive paint a picture of divisiveness and do not seem to regard energy strategy as calling for a united national effort. **With the world situation as it is, our very national security will turn on the formulation of such a strategy. We must have statesmanship and not gamesmanship.**

Highlights:

Phase IV Controls On Food and Fuel

from a speech by *James W. McLane*
Deputy Director
Cost of Living Council

THE PHASE IV CONTROLS PROGRAM provides an easy target as the cause of all our problems. I would like to put in perspective a few things over which the Cost of Living Council has jurisdiction. The resolution of our conflicting goals—a more moderate rate of inflation and an alleviation of the nation's energy problems—is in no small way dependent upon your understanding, your active participation, and your constructive cooperation. Federal, state or local government cannot and should not resolve these apparently conflicting problems by itself.

"Pocketbook power" can have a far greater long-run effect on prices than any wage-price controls. Energy conservation can do more than a few new oil wells or a few more agreements with energy producing countries.

Price has historically been the most effective mechanism for rationing demand and encouraging investment. But great price increases feed inflation. We try to balance the needed price flexibility so necessary to attract the capital required, to develop additional resources to alleviate long-run inflationary problems, and to allocate demand while preventing significant inflationary price increases.

FOOD AND FUEL PRICES are a good example of this conflict. You cannot effectively control food and energy prices in an overly tight restrictive manner, or you will have a worse situation. You can eliminate peaks and spread increases over time, but not halt all price increases if you want future supply growth.

Phase IV food rules are designed to provide a realistic balance between incentives for producers and minimizing the price rises for consumers. Food companies may increase prices only to reflect dollar-for-dollar pass-through or cost increase. No additional profits are allowed. Combined with the new farm policy and suspended restrictions on imports of basic needs (meats, dairy products)—these rules should lead us to some food price stability in the not too distant future.

Phase IV oil rules allow price flexibility to attract necessary capital to develop additional resources and to tap higher cost oil sources while preventing further unnecessary inflationary increases. With increasing oil demands throughout the world outstripping short-run capacity, there is tremendous incentive for U.S. prices to rise to world parity. Without price controls, this rise would be so rapid as to be intolerably inflationary.

IMPORTS: World prices are skyrocketing. Phase IV rules permit pass-through of these increased import costs.

The Council allows retailers to adjust ceiling prices each month to reflect any higher costs they have paid on a dollar-for-dollar basis. These increases may be put into effect automatically. A report then has to be filed after the fact with IRS. These self-adjusted ceilings are intended to assure that regulations do not restrict importation of heating oil which will be vitally needed.

DOMESTIC CRUDE: Special rules apply to domestically produced petroleum. A fixed ceiling price has been established for domestic crude pumped from U.S. oil fields. But since current levels of domestic crude are insufficient to meet demand, Phase IV rules create an incentive to encourage additional production. This incentive program operates by releasing from the ceiling price so-called "new oil"—oil produced above last year's levels—plus an adjustment for the remainder of current production.

PERIODIC CEILING PRICE ADJUSTMENTS: The system of ceiling prices applied to retail gasoline sales, home heating oil and diesel fuel was established with full recognition that increased costs of imports and domestic crude petroleum will ultimately raise the price which retailers must pay for the products they sell to the consumer. These cost increases, which the ceiling prices prohibit being passed along immediately in the form of retail price increases, have the effect of squeezing retail margins. Thus, if the price which a retail gasoline dealer must pay for his gasoline goes up, and he cannot increase his prices as a consequence, his margin will necessarily fall. For this reason, the Council is committed to periodic increases in ceiling prices.

PROPANE SHORTAGE is the direct result of constriction in natural gas supply. Natural gas production relative to demand has been decreasing and average well depths have been increasing—and propane comprises a smaller fraction of the gas in the deeper wells.

Controls themselves may be causing problems. Demand may have been artifically stimulated due to relatively lower costs. Supply to normal users may have been disrupted by promoting internal refinery use. Controls on big refiners may have encouraged shifts to different distribution channels. But decontrol means higher prices with no appreciable expansion in supply, or with any decrease in demand.

Mandatory propane controls may also have a role. A proposed system has been issued for comment.

FERTILIZER represents a slightly different problem. Farm production is directly related to availability of fertilizer. Energy resource availability also has an impact on fertilizer production since it is used to produce nitrogen, the basis for most fertilizer.

SUMMARY: If we want more, we must be willing to pay more, but not too much more. Price controls can serve as a mechanism for preventing people from paying too much but they are not a cure-all. Mandatory fuel allocation is not a cure-all either. It solves some problems but creates others. There is no one simple solution to either the energy or the food crisis.

Highlights:

The Energy Problem, Real and Serious

from a speech by Paul Wollstadt, *Special Consultant*
American Petroleum Institute

THE ENERGY PROBLEM is real and it is serious. The basic cause is a rapidly and continuing increasing demand for energy when efforts to develop energy supplies are being thwarted at every turn.

Factors contributing to the abnormal increase are:

1.) Artifically low prices for natural gas due to regulation of wellhead prices.

2.) Elimination of coal from traditional markets due to environmental switches to oil. The electric utilities' use of distillate oil—from which home heating and diesel fuel are made—rose from 123-million gallons in 1967 to nearly 3-billion in 1972.

3.) Increased gasoline use by automobiles.

4.) The delay in getting nuclear plants into operation.

5.) Long period of economic prosperity. Our high level of industrial activity produced greatly increased industrial, commercial and consumer demand for energy.

Factors adversely affecting the industry's effort to develop oil and natural gas supplies are:

1.) Decline in refinery construction mainly due to uncertain crude oil supply and environmentalists' objections to siting new facilities.

2.) Delays in the leasing of tracts in the Gulf of Mexico.

3.) Drilling curtailment in the Santa Barbara Channel.

4.) Delay in building the Alaskan Pipeline. It's not merely a matter of delaying delivery of oil already found. Further exploratory drilling along the North Slope obviously is impractical until there is assurance that petoleum, if found, could be moved to market.

5.) Low prices for natural gas, and continued low prices for domestic crude oil.

6.) Reduction in the depletion rate and other tax changes in 1969.

Heading short term solutions is increased crude oil and product imports. Changes in the import program made by President Nixon in the Spring were significant. However, **imports are not the complete answer to our problems because:**

1.) There is a worldwide shortage of crude oils that can be readily used in refineries not equipped for high sulfur crude.

2.) As for importing finished products, there is no great store of surplus waiting in world markets.

3.) Imports expose the country to increased deficits in the balance of trade.

4.) Imports expose the U.S. to countries wielding their oil as a political club.

Action which could have immediate or early effect would be to ease or modify the timetable for environment rules to permit coal and high-sulfur residual oil to be used at times and in areas where such use would not constitute a danger to public health. Still another would be to grant permits, after appropriate review, to nuclear power plants currently prohibited from proceeding to complete their facilities.

Allocation in some form may be necessary to assure optimum distribution of available supplies, but allocation is just a means of sharing scarcity. It will not add a single gallon to the overall supply.

Actions that ought to get started now, but will not have major effect till 1985 and probably not then:

1.) Private development of vast volumes of raw materials potentially available for manufacturing such synthetic fuels as oil shale, tar sands, and gasified and liquefied coal.

2.) More intensive research and development with government support of other non-conventional sources of energy, such as geothermal steam.

3.) Mass transit development.

There is no easy or simplistic solution. All concerned—including, and especially, energy users—must start working now to get the necessary actions started. To move ahead will require tough decisions.

There are seven factors that will determine the balance for oil supply and oil demand. **First is weather.** The difference in distillate demand between a normal winter and a winter 10% colder than normal is nearly 2-billion gallons.

The second factor is the willingness and ability of the American people to conserve energy—in their homes, on their farms, and in their commercial and industrial businesses. I believe that the conservation efforts by the oil product users this past Spring and Summer—modest though they may have been—made the difference between what was a spotty, occasionally annoying gasoline supply problem and what might have been a critical one.

A third factor affecting the supply/demand balance will be the state of the economy. If the economic boom continues, demand for energy will grow at a faster rate than if the boom cools off. **Number four is the effect of additional demand for oil because of the natural gas shortage.** It has been estimated by **Charles DiBona**, Deputy Director of the Energy Policy Office, that the shortfall of natural gas supply compared to natural gas demand increased the demand for oil by nearly 7-billion gallons last winter.

The fifth factor is the degree of substitution of oil for coal by electric utilities and industries, primarily as a result of efforts to meet federal, state and local air quality standards. **The sixth factor is the ability to produce heating oil by U.S. refineries.** This will be primarily determined by the ability to import crude oil, but also the degree of freedom from accidents, and the balance between distillate and gasoline production.

The seventh factor is the ability to import oil products. Generally speaking, imported products will be more expensive and higher in sulfur content than domestic products.

Over the first five factors, the oil companies have no control. With the last two, they have limited options.

Highlights: Coal: A Possible Answer

from a speech by Robert V. Price, National Coal Association

LAST YEAR, petroleum and gas caused a $4-billion outflow of American currency. Massive oil imports will result in a steadily worsening balance of payments. There's only one way out—our proven coal reserves of 1.5-trillion tons, roughly 88% of the nation's known fuel reserves. Increased exploration and development of our remaining oil and gas supplies, as well as nuclear power, all have important roles.

Obstacles to coal will have to be removed to free scarce oil and natural gas for those unique needs only they can meet. A regulatory and investment climate favorable to coal mining's expansion and faster and more efficient mining technology will have to be developed. The broadest obstacle is the Clean Air Act of 1970. It's not its admirable goals but rather the methods of implementing them which have resulted in the unnecessary assault on coal without commensurate benefit to the public.

Electric utilities, to meet the Act's stringent standards, have been switching from coal to residual oil. They estimate that by 1975 about 26-million tons of coal demand will have shifted to oil, creating a demand of some 104-million barrels of oil per year. Nearly 75% of this switching has taken place. The White House has already posed regulations to prohibit utilities from switching from coal to oil. Further steps should be taken toward firing coal under every utility boiler capable of burning it, consistent with public health requirements.

Through proper energy resource allocation, coal can meet not only your direct energy demands, but also those of your ultimate suppliers, the farmers. Fertilizer is vital and in diverting natural gas from boilers through increased use of coal, more gas is made available to the petro-chemical industry for manufacturing this essential agricultural supplement.

Insuring electric power by greater use of coal could benefit all agricultural support industries. More fuel could be made available to run farm equipment and the trucks which transport the goods. Food processors, especially those dependent on gas and oil, would also derive direct benefit. **All in the food industry have a vital stake in putting our energy store in order. Coal is certainly a cornerstone to any workable solution.**

EPA is seriously concerned because many states have selected the 1975 deadline for the primary standards as the reasonable time for also enforcing secondary standards. This action is as unlikely to serve the clean air crusade as it is certain to aggravate the energy problem. Meeting the more stringent secondary standards would require large coal-fired installations to shift to low-sulfur oil or gas, or use more low-sulfur coal.

THE PRATT DECISION: The Supreme Court upheld a lower court decision that EPA must require state air quality control implementation plans to forbid "significant deterioration" of air quality anywhere. This ruling will not only affect power plants, but imperil coal gasification plants and plants to make synthetic oil from coal. All processes, with the possible exception of underground gasification of coal in place, emit something into the air, and that could render them inoperable under the Pratt Decision. Congress must quickly amend the Clean Air Act to allow rational enforcement to preserve air quality while permitting coal usage where health is not involved.

The National Petroleum Council projects a potential coal demand level of 1.5-billion tons a year by 1985, nearly triple last year's production. The coal industry believes it can meet this but only if a climate is developed favorable to its expansion. It is imperative that we use the types of coal available from today's mines, particularly in the Eastern higher sulfur coal regions—not possible with today's environmental restraints.

Federal coal mine leasing policies must be changed, particularly if coal is to undergo rapid expansion in the West. For approximately three years, the Department of Interior has refused to grant any exploration permits for coal leases on public lands. This has seriously undermined industry's ability to expand in this area of huge low-sulfur coal deposits.

We need a wholly new integrated-systems approach to underground mining to boost our declining productivity. Finally, we cannot lose current production if we are to nearly triple it by 1985. That is the implicit threat posed by surface mining bills now before Congress. Half the coal produced in the U.S. comes from surface mines.

We fear that Congress will pass a law that will effectively prohibit coal extraction in many regions where meaningful reclamation is possible. If this happens, all energy consumers throughout the nation will be deprived of a major source of fuel.

There are at least four processes to make pipeline-quality gas from coal and commercial production may begin before 1980. The Federal Power Commission estimates that our lower 48 states will need about 433-trillion cubic feet more gas than will be produced throughout this century, a shortage that could be made up by synthetic gas from a mere 3% of our known coal reserves.

A simpler, more economic version of the gasification process can produce a sulfur free gas at considerably lower cost than the pipline product. It will have only about 1/5 the heat value of natural gas, so it will not pay to pipeline it. Low-BTU gas made at plant site could be burned as boiler fuel in conventional equipment without air pollution. It holds yet a better prospect—burning the gas in a turbine to spin a generator, and using the hot exhaust gases to make steam to turn a second generator. This is the combined cycle. It will have an efficiency of about 55% contrasted to the 35% efficiency of a modern conventional power plant.

Other possibilities being examined are conversion of coal into crude oil, the solvent-refined coal process, generating electricity from coal, and the coal fuel cell. These programs call for vast amounts of money if they are to become commercially useful.

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