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DECEMBER 9

MEMORANDA OF COMMENT, RESERVATION, OR DISSENT

for the policy statement Achieving Energy Independence

COMMITTEE FOR ECONOMIC DEVELOPMENT

Page 13, by JAMES Q RIORDAN, with which C. WREDE PETERSMEYER has asked to be associated

I support the publication of this policy statement because on balance it makes a positive contribution to the development of a national energy policy. The statement emphasizes the urgent need for additional indigenous production (as well as improved efficiency in energy use and conservation). It reaffirms the need to consider the costs of alternative environmental proposals so that we can avoid rushing into uneconomic programs that do more harm than good for the nation.

The statement urges the government to get on with the job of setting a national energy policy because we face a real and urgent problem, not a rigged or phony problem. It argues for a redundancy of efforts to increase domestic energy supply sources so that we can be sure that such supplies will begin to grow faster than domestic consumption. It makes clear the cruel hoax that is implied in no-growth solutions.

I approve the statement "on balance" because I am less than fully satisfied with it in a number of particulars. Throughout the statement, there are a number of fuzzy references to "blackmail," "windfall," "equity," and similar words. Typically, the paragraphs containing these words are more visceral than analytic. A number of these paragraphs also imply that since the current energy regime (which happily still relies in large part on private effort) is not working perfectly, a "new partnership" with government is required. That "new partnership" is evidently to mean more pervasive involvement by government through new regulations, sophisticated tax changes, and involved subsidies. The fact is, however, that there is already too much counterproductive involvement and control by government in the energy field. The statement makes a compelling case for deregulation of natural gas and oil, less restrictive laws relating to the development and use of coal, faster action by government in approving nuclear power projects, and more realistic and prompter approval of utility rate increases. Each specific case cited makes clear the need for government to stick to general policy and to avoid controls and detailed tinkering in the hope of fine tuning the free play of the market. The government-control road (as in the case of natural gas) has always been paved with good intentions, but it leads to shortage, not equity. Experience has shown us that greater reliance on a free market, even an imperfect free market, will achieve equity a good deal better than will increased regulation, complicated law, and increased bureaucracy. In the process, the free market is also likely to produce the additional domestic energy that we need.

Page 14, by ROBERT B. SEMPLE

Later in this statement, on page 28, we indicate that we should establish more efficient environmental controls as a means of increasing production; and on page 41, we state that "some worthwhile environmental goals may have to be postponed until a better energy balance is achieved. Some loosening of environmental standards will be necessary if the nation's coal resources are to be fully utilized." To my mind, these are important aspects of the solution to the energy crisis and our economic problems in the near term. They should have been included in this summary and emphasized in the section outlining the Committee's major recommendations. I would add that in view of the many problems facing our economy, some environmental goals will *have* to be postponed if we are to avoid even more serious problems, and this was true even before the energy crisis was thrust upon us.

Page 14, by FRAZAR B. WILDE

We recommend the need of leadership to convince the public of the benefits of energy independence. This is a nice phrase but is not sufficient for the total needs of the present situation.

The public is not yet convinced that we are in danger of a real energy shortage. Accordingly, they are by all accounts returning to their original speed-driving habits and reading with pleasure that currently gasoline is in good supply.

The danger to this country and to the world of the huge development of trade deficits and the unbelievable reserves being accumulated by the OPEC nations is not a subject of either knowledge or interest to the man in the street. The only way we will save our situation in the longer run is by specific controls (either refundable gas taxes or coupons) and maximum action on Project Independence, and we ought to say so without equivocation.

Our fundamental recommendations should not be weakened by our warning about jeopardizing the international economy or endangering the environment. It does not belong in this policy statement.

Pages 14, 25, and 56, by GEORGE C. McGHEE

Although stocks of crude oil and refined products must be maintained at a suitable determined minimum level, further drastic increases in conventional storage to take care of another possible Arab oil embargo

are both costly and require scarce steel. It could never, in any event, provide insurance against a long embargo. Saudi Arabia, with its present monetary reserves, could live with an embargo indefinitely – for years. To meet such an embargo, conventional storage must be augmented by excess productive capacity that is not now available. This could be obtained by preparing for production (but not producing) existing or indicated naval reserves, particularly that in the North Slope, or other indicated reserves under federal leases. This could be done under contract with private companies with wells drilled at close spacing into producing zones that have both high productive capacity and backup reserves which could last through any expected embargo.

Page 15, by PHILIP SPORN

The entire opening statement troubles me because it is too diffuse and does not convey the sense of grave urgency with which we are confronted. There follows my rewrite of it to fulfill this requirement more closely.

The United States is in an unprecedented energy crisis that it refuses to recognize and to take measures against consistent with its gravity and its threat to our national safety, economy, and way of life.

We are perhaps confronted by the need completely to redirect our national course on a new theory of economics and society that would not be consumption- (market-) oriented, but rather resource- and environment-oriented. We may, in fact, be entering an energy age of limited availability and delimited applicability – a sharp change for our society, which has developed under a consumption orientation and which has brought us to the preeminent position we hold today, although somewhat precariously, in production, social, and economic welfare.

Recognizing the stark reality of the current crisis and the threat of its continuance to our national life, we must accept and adopt as the means of saving ourselves the earliest possible completion of Project Independence. To implement that and to counter the threat to our society and to the entire Western world implicit in a disruption in our energy supply and its burgeoning economic burden, we must: (a) reduce our rate of growth of energy use and firmly, but without threat or bluster, put a limit on the short-term and long-term use of energy, particularly of oil; (b) expand our indigenous sources of oil and gas from our present supplies by intensified stripper operations on old wells and drilling of new offshore wells and by conversion, as technology and economics make feasible, of coal, tar sands, and oil shales to liquids, high-BTU gas, and low-BTU gas; (c) carry out a major expansion of our mining and our direct burn of solid fossil fuels – coal, that is, in its various forms – and nuclear fuel, the only two indigenous fuels we can rely on for assured availability; (d) carry through a major selective program of research and development oriented to speed the achievement of Project Independence while never losing sight of the Damoclean threat overhanging this nation as long as the energy crisis continues.

This statement is designed to develop the details of the program here outlined in as succinct a form as possible.

Page 15, by PHILIP SPORN

I believe this is a superficial observation. The actions of OPEC are far from unpredictable. On the contrary, having established its ability to disrupt our society by shutting off the oil spigot, OPEC will inevitably and recurrently be tempted to do so again on lesser or even no provocation.

Page 15, by E. SHERMAN ADAMS, with which LINCOLN GORDON, GILBERT JONES, ROBERT R. NATHAN, and ELVIS J. STAHR have asked to be associated

Energy conservation is not simply "the quickest and surest path" to reduced dependence on Arab oil; it is the *only* effective short-term means available for dealing with the energy crisis. The unavoidable implications of this fact are as follows:

Voluntary conservation measures are all to the good, of course, but they clearly cannot be counted on to do the job that needs to be done. We urgently need not only to reduce our consumption of imported oil but we must build up an emergency reserve at the same time. No one has yet suggested how these goals can be accomplished without increasing the price of gasoline used for nonessential purposes, particularly nonessential driving.

This does not imply a flat, across-the-board tax on gasoline which would be inflationary and inequitable. There are various alternative ways to provide a reasonable degree of equity while reinforcing the incentives for conservation. For example, persons who must commute to work by car could be exempted from the tax on the quantity of gas needed for that purpose.

Such a tax appears to be the only way to reduce oil consumption rapidly, to build reserves for an emergency, and to demonstrate to the

oil cartel our determination to achieve energy independence. In addition, revenues from the tax could be used to subsidize public transportation, thereby reducing living costs for many people and further conserving energy.

Page 18, by THOMAS G. AYERS

I regard this sentence as inconsistent with the italicized statement in the following paragraph.

Page 18, by SHEARON HARRIS, with which ROBERT B. SEMPLE has asked to be associated.

The policy statement would make a more effective contribution if it identified more clearly and specifically the serious barriers to achievement of electricity's role: that is, limited access to capital and environmental restraints.

Page 19, by ELVIS J. STAHR

I believe that a crash program in solar energy, such as has just been suggested for the next generation of nuclear reactors, can achieve comparable success in a comparable time frame; thus, widespread use of solar energy (and, for that matter, wind and geothermal energy) *need not* be much, if any, "farther off." My reasons for urging such a crash program are summarized briefly in a later comment relating to page 49.

Page 19, by IAN MacGREGOR, with which LINCOLN GORDON, JOHN D. HARPER, GILBERT JONES, and C. WREDE PETERSMEYER have asked to be associated

On the whole, this policy statement is an excellent one. It puts the emphasis where it should be: on the policies that now need to be adopted and followed by the United States. CED has admirably resisted the temptation that is so faddish today to drift into computer printouts of alternative scenarios that might be followed and that, even at the highest levels of government, have accounted for nearly a year's delay in coming to policy determinations and in other respects are obscuring the public understanding of the essentials of the energy problem.

In my view, however, the statement is unfortunately deficient in one important respect: It fails to stress the importance of the rapid expansion of production of domestic coal, especially Western coal, which could contribute so greatly to achieving the energy independence that CED seeks.

For example, under the heading of "Near-Term Possibilities" (pages 43–45), only "conventional oil and natural gas" are considered as "familiar fuels." Coal is relegated to a paragraph on page 45 under the heading "Other Available Sources of Energy." Unfortunately, the report has missed the opportunity to direct public policy attention to the most familiar fuel, coal, the supply of which can be expanded relatively quickly provided that highest priorities are assigned to this objective. Discussion of the potential for expanding U.S. coal production in that paragraph is entirely inadequate. Although there is a reference to the implication that 1972 coal production might be almost doubled if certain CED goals were to be reached, CED has failed to seize the opportunity to *recommend* that the doubling of U.S. coal production is the most immediately available near-term contributor to the reduction of our energy problem. Finally, this paragraph ends with a reference to the equipment bottlenecks and environmental problems still to be solved if coal production is to be expanded, without making any recommendations as to how they should be solved.

I believe that surface mining of coal can be carried out with entirely acceptable reclamation, especially by large-scale, well-capitalized companies. The Western coals are available in substantial quantities; they have very low sulfur content; they can be mined with a minimum of manpower problems. The Western deposits are so thick that they can be mined without disturbing more than relatively small acreages for a temporary period of from three to five years before reclamation.

Relative to capital costs alone, the expansion of domestic coal production and all the associated transport, reclamation, and community infrastructure requirements can be achieved at a fraction of the capital cost of synthetic oil or gas from coal or oil from shale. Perhaps as little as one-fourth to one-fifth as much capital cost is required for equivalent BTU output of coal for burning.

Page 22, by PHILIP SPORN

As to the first dimension, I would think that the threat of destabilizing our economic system with its sequential adverse effect on our military security would be a far greater one than the threat either to our foreign policy or directly to our military security.

Page 23, by FRAZAR B. WILDE

Project Independence, if pushed vigorously, will largely reduce the risk of political blackmail or the balance-of-payments problem for the United States.

Page 23, by FRAZAR B. WILDE

This paragraph at best is highly debatable. Our balance-of-payments structure can and should be made favorable by two things: (1) a sharp reduction in importation of oil through specific conservation measures and (2) an early reduction in the rate of inflation in this country, which the administration claims is its number-one priority. If we reduce inflation and prices, as we must, and increase our exports, including agricultural products, we will have a modest trade deficit (if any) unless we increase foreign military activities and aid.

The investment choices of the OPEC nations and the arrangements made to recycle their funds are too uncertain and complicated to discuss here other than to express a hope for a constructive world plan through the World Bank and International Monetary Fund. The best solution for recycling is spelled out in this statement: Reduce the oil deficit and world prices.

Page 23, by PHILIP SPORN

As regards the alternative energy sources mentioned, the times within which they can become significantly effective are so different for conservation measures, nuclear energy, and solar energy that to bracket them is on a par with adding horses, apples, and bathtubs.

Page 23, by ELVIS J. STAHR

One of my principal reasons for urging a crash program in solar, wind, and geothermal energy rather than nuclear energy is that I do not believe nuclear energy *can*, as a practical matter, "be used throughout the world." Few, indeed, of the developing countries, in which most of the earth's inhabitants will be living, have either the scientific capability or the political organization or stability to cope with the enormous safety problems involved in nuclear energy systems, including the transport, processing and storage of nuclear material. The United States still has serious unsolved problems in these respects, in spite of the availability here of many of the world's most competent scientists and engineers and a well-disciplined, well-financed nuclear energy system. Very few of the developing countries have coal, petroleum, or uranium. Virtually all of them have abundant sunshine, as do we, and solar technology is safe and thus exportable. The fuel source itself is both inexhaustible and free.

Page 24, by PHILIP SPORN

As regards the preservation of the market-price system: This is an interesting objective, but the market-price system in energy disappeared with the October 1973 embargo. It is nonexistent today.

Page 25, by JOHN D. GRAY (Omark Industries)

In private or government funding of new energy-producing sources or funding of new energy source research projects, it is urged that all parties involved develop an understanding of "net energy" produced or hoped to be produced and that most funding be directed into those production and/or research projects which promise the highest "net energy" output.

Pages 25 and 32, by PHILIP SPORN

I am heartily in accord with the recommendation that the government should provide a petroleum storage system for emergencies, and I would like to put some flesh on the bones of that recommendation.

If we assume the possible energy supply and demand patterns for 1985 postulated in the table on page 16, and if we further assume that we provide storage to take care of 120 days of oil imports, or roughly 3×10^{15} BTU (but it might on subsequent experience prove desirable to double, and possibly later, even redouble this quantity), this would mean storage of 500 million barrels of oil. Although this storage might be put together at a single location, there is good argument for dividing it on an arrangement that balances geographic location against the differences in cost of the storage facility between various locations.

Probably the most economic storage areas are those that can provide underground facilities in mined-out or excavated salt beds, and for this purpose, a number of areas on the Gulf Coast are available. Underground

storage in such a location can probably be provided at a cost not to exceed $1 per barrel. The Gulf Coast also has the advantage of being a center for a radiating network of pipelines, making possible the economic transmission of the oil to most of the rest of the country.

If, now, you assume that 400 million barrels of the total of 500 million would be put in the Gulf storage area, a logical locus for the 100 million block of oil would be the West Coast, where Alaskan oil could be brought in very reasonably. Since there are no salt deposit areas on the West Coast, the chances are this would have to be a steel tank farm, and here the storage costs would run to $4 per barrel or possibly slightly higher. Thus, the total storage facilities would amount to $800 million. With oil at $10 a barrel, the oil would represent a frozen investment of $5 billion; and in rounded figures, the total project cost would be $6 billion, which is not too high a price to pay for what would be obtained in protection to the economy in case of a short-term emergency.

Pages 26 and 62, by JOHN B. CAVE, with which GILBERT JONES has asked to be associated

I am concerned with the recommendation that a new cabinet-level department be formed to handle all energy matters. Although I in no way consider myself expert in the affairs of the federal government, it seems wasteful from both manpower and time standpoints to attempt to form another cabinet-level department. History shows that it takes many months, and sometimes years, to steer a new department through Congress; and even after it is formed, there is usually some substantial time lapse before it becomes effective. In my judgment, the energy matter is sufficiently important that it should be assigned to a present cabinet-level department (Interior or Commerce) which could be strengthened and revitalized to assume the additional duties.

Pages 26 and 62, by PHILIP SPORN

The linking up of energy and natural resources into a single department, presumably headed by a cabinet officer, has been suggested in many places elsewhere in the course of the many studies of the energy question that have been made in the last few years. It is my considered judgment, however, that this would be a great mistake because energy itself is not only one of our most important, complex, multifaceted, and pressing problems but is likely to continue so for at least the balance of this century. Therefore, once we move along to the idea of setting it up as an item warranting a cabinet post assignment, we ought to recognize its critical importance by not mixing it with other responsibilities. We can well leave these to be taken care of by the Department of the Interior, where they are being taken care of now.

Pages 26 and 62, by FRANKLIN A. LINDSAY

Although there are clear advantages to a single, consolidated department of energy and natural resources, there is also the danger that the new department will emphasize one technology at the expense of others. Steps must be taken to guard against this danger.

Pages 26 and 65, by JOHN R. COLEMAN

It is all very well to express the pious hope that EPA might maintain status and influence within a cabinet department on energy. But when the pressures mount to let us go on living just about as we have in the past, it is a reasonable guess that environmental concerns will get short shrift.

Pages 26 and 65, by ELVIS J. STAHR, with which LINCOLN GORDON has asked to be associated

I must stress that it is of the greatest importance that EPA be "coordinate, not subordinate." This is easy to state, but it may be so difficult to achieve as a practical matter that it had better not be attempted. Human nature being what it is, and the tendency of Presidents to appoint "experts" in key government positions affecting energy being what it is, one can understand the skepticism with which the concept of combining energy and the environment in a single administration is viewed in many quarters. This problem should be carefully thought through and thoroughly debated to see whether proper safeguards for the general public interest can be built into the proposed new legislation. The tardily recognized need to separate the regulatory from the promotional functions of the old AEC is something of an analogy.

Pages 26 and 30, by JOSEPH L. BLOCK, with which LINCOLN GORDON and ELVIS J. STAHR have asked to be associated

This statement falls far short of meeting its own objective that "conservation should be a full partner in a strategy for bringing supply and

demand into better balance." The recommendations on this score seem inadequate and related primarily to emergency conditions. Surely more vigorous, mandatory measures are needed promptly if what we believe is the major industrial power on earth is not to be browbeaten, blackmailed, and perhaps bankrupted by the sheiks of the OPEC countries.

Many such methods of conserving oil supplies have been suggested. One that should be effective and that appears equitable is to require automobile owners to refrain from using their cars one day each week, on a day of their choice, designated by an appropriate sticker. This would encourage the use of public transportation and pool car riding while eliminating some needless automotive travel. No doubt there are other measures, equally worthy of consideration, that would effectively and fairly curtail demand. One or more of these schemes should be adopted without delay.

Page 26, by JOHN R. COLEMAN

This policy statement ultimately has a tone of "We'll muddle through without too much change in our lives." The extent of the changes needed to respond to worldwide pressures for more conservative and more equitable use of resources seems to have escaped us. I suspect that there will need to be more drastic steps on the side of restraining U.S. demand than we allow for. I read us as pussyfooting on the hard questions about demand ("Consideration should be given to establishing penalty rates for energy consumption in excess of some reasonable standard," page 27, and "In some cases, this may require restricting auto and truck access to portions of the central city at certain times of day," page 40), and elephant-stomping on the easy ones ("We recommend that appliances be clearly labeled to show how much energy they consume").

Page 26, by LINCOLN GORDON, with which JOHN R. COLEMAN, ROBERT R. NATHAN, and ELVIS J. STAHR have asked to be associated

This policy statement is far too weak, in both tone and content, in its recommendations for energy conservation. A much more vigorous conservation effort is feasible without radical changes in life-styles or significant adverse impact on levels of employment and output. It is by far the quickest means of reducing oil imports. It would improve our bargaining posture toward the oil exporters and enhance the prospects for price stabilization or reduction instead of further increases.It would reduce pressures on our balance of payments and somewhat moderate the scale of the petrodollar problem.

During the period to 1985, we should aim at an overall energy consumption growth rate of only 2 percent a year instead of the 2.9 percent shown in the table on page 16. That would bring total energy demand in 1985 down to 93 quads, compared with 105 quads in the table, a difference equivalent to a saving of 5.6 million barrels per day of oil. A vigorous conservation policy would offer far greater flexibility of choice among supply options and import levels and would permit more orderly development of long-term supply alternatives to imported oil.

The major potential savings are in transportation, space heating and cooling, and on a longer time scale, electric power conversion, which should have been singled out for priority attention. Specifically, we should have given emphatic support to a substantial ($.15 to $.20 per gallon) tax on gasoline, with appropriate relief for low-income users, along with the recommended differential tax on higher-fuel-consumption motor vehicles. A gasoline tax is the best means toward President Ford's modest goal of saving 1 million barrels per day in oil imports by the end of 1975, vastly superior to coupon rationing or to import quotas and the probable resulting service station queues. We should also have stated an order of magnitude for the recommended additional subsidies to public transportation.

Page 26, by ROBERT R. NATHAN, with which LINCOLN GORDON and ELVIS J. STAHR have asked to be associated

This is one of CED's finest statements. The strong emphasis on conservation and restraining demand is commendable. However, it does not go far enough, especially relative to the grave emergency this country faces even without another embargo. We must speed and broaden and intensify the support for conservation.

We should not just call for a "review of rate structures for electricity and natural gas to ensure that price differences . . . do not encourage inefficient energy use"; we need rate structures that effectively and positively *discourage* inefficient use. Building codes and regulations were designed without any possible concern about our energy crisis and all of them (not just "where necessary") should be reviewed, with the federal government taking the initiative in establishing strict standards wherever it has the authority and encouraging such standards where it can exercise influence without authority. Furthermore, the specific recommendation to subsidize modernized and expanded public transit must be paralleled by

tough public measures to reduce the use of private vehicles. The idea of individual meters in multifamily structures is a good one, and it would also be appropriate to have separate meters for each tenant in commercial buildings.

We need to know much more about price elasticities with respect to use of energy resources. Very large increases in gasoline taxes may well curtail utilization, but the taxes will need to be large to be effective. That means substantial countermeasures will be needed to ease the burden on those least able to pay much higher gasoline prices. A steeply graduated tax on cars in relation to gas usage would be more equitable and perhaps more effective, but that is going to take a considerable period of time to become fully effective. It should be started immediately. We need to experiment with various techniques and devices to achieve the most significant and the most sizable curtailment in gasoline use. If other measures do not bite deep enough, rationing should be applied.

Above all, we need to be tough and even unconventional in meeting these difficult challenges. Reductions in imports of oil should be imposed alongside firm and equitable conservation programs.

Pages 27 and 39, by THOMAS G. AYERS

This sentence is the single most objectionable item in the whole statement. I regard this as advocating a totally impractical policy. Taking into account that many residences and businesses use several forms of energy, and the extreme difficulty of adapting and policing standards that will fit the changing circumstances of individual families and businesses, I regard this as pretty silly.

Pages 27 and 39, by PHILIP SPORN

I am unalterably opposed to establishing penalty rates for energy consumption in excess of some "reasonable" standard. Although energy is important, surely food is of even greater importance. Yet, with the world-wide crisis we have in food, I have not heard of anybody proposing setting up penalties for food consumption in excess of some "reasonable" food standard. Who is to determine what is a reasonable energy standard, and how is it to be determined? If an ill elderly person is confined to bed in a room that is not heated and uses an electric heater to keep from sliding into a deeper illness, are we to deny that person the saving grace of the electric heater? Have we gotten to the point where we have to do that?

Pages 27 and 39, by ROBERT D. LILLEY, with which LINCOLN GORDON, and ELVIS J. STAHR have asked to be associated

The promotion of recycling of material should also involve the removal of transportation regulations that discriminate against recycled materials and goods. For example, freight rates for recycled paper are much higher than those for virgin paper.

Pages 27 and 41, by OSCAR A. LUNDIN, with which C. WREDE PETERSMEYER has asked to be associated

The motor vehicle industry has a large and immediate concern for energy-related issues. Policies in this area impact directly on our day-to-day business operation, and much thought and careful analysis have been directed at determining the proper parameters of a wise future energy program.

Against this background of examination, I cannot concur with the specific recommendation that a higher tax be applied to higher-fuel-consumption motor vehicles.

In the first place, it has long been my view that, in general, the proper function of the tax system is to generate revenue, not to implement social policy. The history of the overall value of special-purpose taxes argues in this direction. They tend to misallocate resources and, over time, outlive any usefulness they once may have had.

In the specific case of a tax on high-energy-consumption motor vehicles, there are even more pointed objections. Vehicle energy consumption is directly related to vehicle weight, and much of that weight is attributable to such desired, and in many cases mandated, vehicle characteristics as safety and performability. For example, the man with a larger family requires a larger car, and heavy commerce requires heavy trucks. To the extent that such requirements can be met with smaller vehicles, there are already sufficient fuel price incentives to cause that to happen. These same forces, acting through the discipline of the competitive process, are also already forcing manufacturers to make maximum effort to reduce weight without sacrificing certain required aspects of vehicle performance.

There is therefore no current need for such a tax. Moreover, if energy price controls are abandoned, as they should be, and all fuel prices seek their proper market clearing levels, the free market allocating mechanism will serve to direct economic activity even more efficiently. This should be greatly preferred to any arbitrary taxing scheme as a method to encourage energy conservation and develop domestic supplies.

If, however, some form of energy consumption tax is adopted as public policy, it should be an evenhanded, nondiscriminatory tax on all undue energy consumption. The concept of social equity would require no less.

Pages 27 and 41, by ROBERT B. SEMPLE

With regard to the recommendation to develop a consistent national policy to apply a higher tax to higher-fuel-consumption motor vehicles, I am not against a uniformly applied weight tax in the licensing of automobiles, as is done in most states, but I do not approve of a tax on fuel consumption per se. It just does not appear that this could be done in an equitable manner and that the effects of price in the marketplace would eventually accomplish most of what is desired in the way of conservation in this area.

Pages 27 and 32, by ELVIS J. STAHR

I would also recommend major cutbacks in the energy and dollars expended on the interstate high-speed highway construction program.

Pages 27, 29, 33, and 47, by THOMAS G. AYERS, with which JOHN D. HARPER has asked to be associated

In principle, capturing excess profits or windfalls is a great idea. In practice, it is likely to produce more inequities than it cures.

Pages 27, 29, 33, and 47, by JOSEPH L. BLOCK, with which GILBERT JONES and C. WREDE PETERSMEYER have asked to be associated

I have no objection to capturing so-called "windfall profits" through taxation and heartily commend channeling them "into net additions to energy-producing investment." However, in my judgment, much too much has been said in the press and in Congress about the increased profits of the oil companies and much too little about the imperative need of getting on with the job of remedying the energy shortage. One would think that the culprits are the American oil companies rather than the sheiks, that the latter and not the former discovered, developed, and marketed these much-needed petroleum products.

It is most likely that the concentration on the subject of oil company taxation and its uncertainty has delayed projects and lessened investor interest to the detriment of the ultimate objective of increasing energy

supplies as rapidly as possible. And surely Congress and the public need to be reminded repeatedly of the dire need for profits to finance the gigantic exploration and development programs that must be undertaken.

Pages 27 and 33, by JAMES R. KENNEDY, with which LINCOLN GORDON has asked to be associated

I recommend that the wellhead price of *new* natural gas be deregulated and that the demand-reducing effects of higher prices be allowed to function. This deregulation should not be allowed to disrupt or abrogate current contracts.

Pages 27 and 33 by ROBERT B. SEMPLE

I consider the suggestion that windfall profit taxes on "old" gas be used to reduce taxes on low-income consumers that burn gas to be a poor concept and virtually impossible to administer. "Old" gas differentials should better be dealt with through the regulative agencies, that is, the Federal Power Commission and the state public service commissions.

Page 28, by ROBERT R. NATHAN

Most of this statement's proposed measures for expanding supplies are commendable, especially with respect to actions designed to speed and enlarge exploration and exploitation of new energy sources. Also, all feasible steps must be expedited to increase coal output and transport capacities promptly. This does raise the serious question of common ownership of different sources of energy.

Is it in the national interest for the oil companies to own more and more coal resources? Should and can healthy competition be assured between different fuels? Are very large profits for oil companies the best way to achieve investments in much more coal mining and transport capacity or to increase research and development expenditures for getting oil from shale or to enlarge supplies of synthetic fuel and related sources of energy? The combination of vigorous competition between modes of energy sources and government actions to provide strong developmental incentives would better serve the nation's interests.

Another major policy issue relates to decontrol of oil and gas prices. Under decontrol, the statement properly calls for excess profits taxes to capture windfalls on existing contracts. But what about "new" oil and gas? Also, in view of the serious inflation now raging and the high degree of uncertainty of the supply responses to decontrol of the wellhead price of natural gas and of the price of "old" oil, the proposal is objectionable. In

view of the continuing shortages, prices of domestic oil will tend to equal the politically determined import prices. What level of domestic prices is needed to bring increased domestic supply, and how much more supply and for how long? Secondary recovery of oil costs more. But should the price to encourage this higher-cost supply be set only by import prices? What rise will be needed in the natural gas price to find and exploit more gas fields? Should that price be determined by high-cost liquified natural gas or by even higher priced synthetic gas? Other incentives for further exploration may be far more efficient than price decontrol and recapture of excess profits on only "old" oil and gas. Also, if higher prices were desirable for discouraging consumption, excise taxes would appear preferable, with the proceeds assigned to exploration incentives or for offsetting some of the high price of imported oil and gas.

Pages 28 and 47, by PHILIP SPORN

This paragraph certainly takes in a lot of territory, and I want to comment on three items.

1. What we need is not more "efficient" controls but more balanced controls. In a very narrow sense, the present controls are too efficient. They throttle the subject of their control.

2. The "streamlining" of procedures for leasing shale deposits may be a good thing, but I do not believe that will contribute much to expediting production of oil from oil shales. In the *Wall Street Journal,* November 14, 1974, John M. Hopkins, vice-president, refining and marketing, Union Oil Company of California, notes that the capital required to produce certain shale oil is estimated at $12,000 to $15,000 per barrel of daily capacity. At a capital charge of 20 percent, this amounts to $2,400 to $3,000 per year. At the latter figure, if you assume a yearly production of 300 barrels per barrel of daily capacity, this amounts to a $10 capital charge per barrel of shale oil for facilities alone, without any allowance for the cost of the shale or the material and labor for the operation and maintenance of the equipment. This is the reason why in opting for a program of conversion of "coal, tar sands, and oil shale" in my comment on page 15, I qualified it by postulating "as technology and economics make feasible."

3. It is not clear whether the purpose of the leasing program recommended is intended to provide for extraction, processing, or conversion. Quite likely, each of the fuel items has a different objective that needs to be clearly spelled out.

Pages 28 and 47, by SIDNEY J. WEINBERG, JR., with which LINCOLN GORDON and C. WREDE PETERSMEYER have asked to be associated

We have enormous domestic reserves of coal. The recommendation should place greater emphasis on the role coal must play in resolving our energy problem. A timely and practical energy policy should actively encourage the use of coal as our principal U.S. source of electrical energy. A paragraph on page 45 states the facts, but it needs emphasis here.

Pages 29 and 47, by JAMES R. KENNEDY, with which LINCOLN GORDON and GILBERT JONES have asked to be associated

I support the deregulation of *new* oil and the classification of oil produced from secondary recovery techniques as *new* oil.

Pages 29 and 47, by GEORGE C. McGHEE, with which LONCOLN GORDON has asked to be associated

Further decontrol of the price of "old" domestic oil should begin now with oil being produced by secondary methods and other high-production-cost oil to prevent premature abandonment of reserves that cannot profitably be produced at present controlled prices. This could then be expanded to include new secondary recovery projects and other production as costs rise. This would also have the effect of cushioning the estimated $9 billion inflationary impact of complete decontrol and eliminate necessity for a "windfall" profits tax on oil that can still be produced at a cost below the present controlled price.

Pages 29 and 55, by IAN MacGREGOR, with which LINCOLN GORDON, JOHN D. HARPER, GILBERT JONES, and C. WREDE PETERSMEYER have asked to be associated

The recommendation to reduce the "front-end costs of oil and gas leases" fails to mention that the same problem arises with respect to coal leases, where the National Coal Association and the American Mining Congress have both urged that front-end bidding be replaced by systems of royalties on production.

Pages 29 and 54, by ELVIS J. STAHR

In addition to the use of solid waste as an energy source, I would suggest the use of wind machines.

Pages 29 and 54, by PHILIP SPORN

The research program postulated in this paragraph troubles me deeply. We are living in an age where research is worshiped with a fervor that very few people generate in giving substance to their religious or ethical beliefs. But since we are operating under a Damoclean threat, it is necessary that we moderate our research religiosity and focus it more sharply and more selectively, researching in particular those areas that will help us achieve Project Independence. This will make for a more productive research program and give us results at an earlier date. It will also save us from carrying out a substantial basic research program in solar energy where we need no basic research, in geothermal energy, which needs it even less. With these savings in money and in manpower, it will make possible a more intensive basic program in fusion, where we are carrying out a major program right now, and a more intensive applied research and development program to give us a breeder.

As to international coordination, to postulate international coordination whenever possible is, I believe, a mistake. The entire program should be basically a U.S. program, except that where opportunities present themselves to carry out research and development in cooperation with any foreign nation or nations, this should be taken advantage of, *provided it can be done without introducing additional delays.* We simply cannot jeopardize our future safety or welfare by losing any appreciable time in smoothing the ruffles always generated in widespread international cooperative efforts.

Pages 29 and 54, by ELVIS J. STAHR

Bare mention, at least, should also be made of wind energy, the technology for which has long been known, and of ocean-wave energy, which is already being worked on seriously by at least one foreign country. The United States is rather well supplied with both winds and waves.

Page 38, by ROBERT D. LILLEY

Subsidies interfere with the operation of a free market and tend to grow unless their area of use is carefully defined. Since nearly everyone will be disadvantaged in some way by the energy problem, a subsidy program could be an endless process unless it is rigidly limited. Because of this tendency, this recommendation seems too general and vague, and the examples on the preceding pages do not offer sufficient additional guidance. Moreover, this statement seems broader than the summary recommendation on the subject on page 28.

Page 38, by ROBERT D. LILLEY, with which LINCOLN GORDON, ROBERT R. NATHAN, and ELVIS J. STAHR have asked to be associated

Industry seems capable of greater energy savings than is implied here. Apart from transportation, the assumption seems to be that higher energy costs alone will stimulate energy conservation by industry. Although this is undoubtedly true, the savings of energy can be increased through special programs, even where energy costs may not be major factors in an industry's cost structure. For example, some industries have achieved considerable success in energy conservation, due in part to well-defined energy-conservation programs that include the setting of objectives and the measurement of results. Some such focus on industry conservation programs would be helpful.

Page 46, by ELVIS J. STAHR

By no means all the scientific community is optimistic that the safety and safeguard problems inherent in nuclear energy can be completely solved in the immediate future or perhaps ever. For this and other reasons, I believe that crash programs on a scale far greater than presently contemplated in solar energy and possibly geothermal and wind energy should be undertaken without delay. A nuclear program of the size envisaged in the preceding paragraph would cost scores of billions of dollars and would make it almost impossible to turn back, no matter what the risks of going forward. See also my comment regarding page 49.

Page 48, by GEORGE C. McGHEE, with which ROBERT B. SEMPLE has asked to be associated

I do not believe that this offers a practical solution. There is no such thing as absolute safety. Accidents can always occur. The principal experience in this country, however, in offshore drilling, which is presumably the issue under discussion, has occurred in the Gulf of Mexico, where exploration and production from hundreds of wells over decades has resulted in extremely few spills or other environmental threats, none of catastrophic magnitude.

Page 49, by ELVIS J. STAHR

I certainly agree that maximum effort should be put into nuclear safety. However, I am seriously concerned about the statement's tendency to equate risks in the nuclear field with risks in other human activities. There is a *qualitative* difference between nuclear systems that are not perfectly safe and transportation systems that are not perfectly safe or wiring and heating apparatus that can cause accidents. That difference is because of something called *radioactivity,* which, unlike the other hazards mentioned, persists for generations, even centuries. I am not talking about the danger of explosion, such as an atomic bomb, but rather of the enormous dangers of plutonium and the not inconsiderable dangers involved in processing, transporting, and storing nuclear material and wastes in general. This, plus the fact that it is not exportable (because it would be even more unsafe in the hands of most other nations), makes the nuclear option unattractive, even if we *can* make it "almost perfectly safe."

The same billions (or some of the billions) of dollars needed to solve these problems (assuming they can be solved) and to construct hundreds of nuclear power plants in the next decade or two could make possible the breakthrough needed for large-scale generation and storage of electricity from solar energy and the widespread application of known technologies for utilizing solar heating and cooling as well as wind, geothermal, and possibly, wave energy. *These* technologies *are* safely exportable to the billions of people in the developing countries, whose energy needs are even more serious than ours.

Page 53, by FRANKLIN A. LINDSAY, with which LINCOLN GORDON, ROBERT R. NATHAN, and ELVIS J. STAHR have asked to be associated

Solar energy may be able to make a significant contribution to energy needs in a relatively shorter time than required for some of the other newer sources, provided research and development on the basic technology of both thermal and direct electric conversion is successful. The reason for some optimism is that unlike other sources such as nuclear power and shale refining, huge central facilities, each taking seven to ten years to build, are likely not to be required. Solar energy collectors and converters will be very simple and can come in small modules manufactured in mass production facilities and installed locally. Furthermore, long-distance high-capacity power lines or coal and oil transportation systems would not be required because of installation at or near the user.

The requirement for "dependable" sunlight for effective solar energy conversion may be overstated in this statement. Both light scattered by clouds and direct sunlight can be trapped by collectors designed to heat and cool dwellings. And the sum of direct and scattered light is abundant enough for utilization in almost all parts of the United States. For example, on a yearly basis, Boston receives almost 80 percent as much useful solar energy as Miami does.

Page 54, by ROBERT D. LILLEY

The increased costs of new electric utility plants that need to be allowed for by rate regulation include higher capital costs as a whole, comprising not only higher interest costs on borrowed capital but also higher costs of equity capital, which is an indispensable element in public utility financing.

Page 60, by THOMAS G. AYERS

This sentance is to me both inaccurate and gratuitous.