THE ENERGY CRISIS AND THE CHURCHES

PROCEEDINGS OF A CONSULTATION

Sponsored by
The Christian Life Commission
of the Southern Baptist Convention
Nashville, Tennessee

August 22-23, 1977

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PROGRAM ORIENTATION

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Several months ago President Carter labeled the energy crisis "the moral equivalent of war." Among the many responses to this moral crisis is this small consultation. At the outset, several things need to be said about the nature of our meeting.

First, this is a "waterfront" consultation. In planning the program we have attempted to deal with as many energy-related topics as possible in a short period of time. That, of course, means that much will remain unthought, unsaid, and undone at the end of this meeting.

But that is not all bad, for we wish also for this meeting to be exploratory—a beginning. Perhaps in these hours together we can raise some ideas which will feed our thinking, our Christian witness, and our actions for a long time to come. If this happens, then this consultation may well be the beginning of an important Baptist response to what some people tell us is the most crucial issue of our day.

Also, this meeting is religiously oriented. Its thrust is directed at the churches, their members, and their denominational structures. Most of our speakers are identified with the religious community. We have no desire to duplicate the efforts which have been made in similar, secular consultations. We do desire to encourage the unique response which Christians and the churches can and must make if we are to be true to our commitments to the God who gave us all our energy resources.

Finally, this is a consultation and not simply a parade of speakers. No one has been invited to attend this conference who is not fully capable of participating on the program. Many of you have made important contributions to the search for solutions to our energy problems. In most instances, half of our program time has been allotted for you to share from your own expertise and experience in dialogue with the speakers.

But so much for the nature of the meeting. What is its substance to be? What are the questions which need to be faced? All of us surely have a list in mind. Let me share with you a few of the questions with which I hope we can grapple.

First, is the energy crisis for real? If it is real, then how real is it? Is it a contrivance of greedy oil barons? Or is it a result of a near depletion of energy resources? Or is it simply a figment of the imagination of the alarmists who love to hear themselves cry "Wolf!"? The very fact that we have convened this meeting and the very fact that you have come presume that the energy crisis is real and that it is serious. But George Gallup tells us that we are living out our Christian witness in a society which does not believe that a genuine energy crisis exists. In fact, the Washington Post recently published a report which said that mutterings are now being heard from the oil companies to the effect that the energy crisis is nothing more than the result of excessive government regulation of the industry. Well, if the crisis is indeed real, then where are we headed? Are alternative forms of energy going to deliver us? How near, how expensive, and how realistic are solar, geothermal, fusion, and other more exotic forms of energy?

Or can we expect increased exploration to yield new fossil fuel reserves sufficient to meet our growing demands? Or is an altered societal life style the only hope we have? It seems to me that these questions are some of the prior questions which must be asked by any group concerned about energy.

But our group has another important question to ask and it is this: What is the moral and/or religious dimension of the energy crisis? Milton Friedman, in a recent column in Newsweek, declared: " . . . for the ordinary U. S. citizen, there is simply no special moral issue involved in energy . . . . The problem is a strictly technical economic problem of adjusting consumption and domestic production to a drastic change in the world price of oil engineered by the OPEC cartel." Of course, this is to say that consumption patterns, economic behavior, and the greed of the oil producing nations are amoral issues. This is obviously patent nonsense. Such moral insensitivity is certain to compound our problems, whatever their nature. The energy crisis is perhaps above all else a moral problem — and it is a profoundly religious moral problem for it deals at its roots with the question, "How shall God's creatures use God's creation?" One thing we as Christians must do is to define more clearly for the world the moral and religious nature of this problem.

At least two other questions need to be dealt with in a group of this sort. What are the churches doing? What can the churches do? One of the gratifying aspects of working on this consultation has been learning of the many things which are being done by both local churches and denominational bodies. A lot has started to happen and for this we should be grateful. But the right hand does not know what the left hand is doing. We have no really comprehensive information which would enable us to learn from one another. Clay Price at the Home Mission Board is assisting with a research project of the Joint Stretegy and Action Committee which will seek to pull together information about how churches of various denominations are responding to the current situation. A group called the Interfaith Coalition on Energy is trying to pull together various denominational representatives to give voice to the ethical dimensions of the energy crisis and to share information about what their various groups may already be doing. Perhaps in this one day conference, we can begin to pool some information about what Baptists are doing. In this way we can learn from one another some answers to the second question: What can Baptist churches do?

Only when we seriously ask what we can do will we be ready to leave here. This meeting is wasted effort if it ends with no challenge for achievement, no vision of the possible, no renewed commitment to be God's light in a darkened world — or to be channels of God's energy in an impotent culture. In these hours together, the demands of the gospel are upon us.

UNDERSTANDING THE ENERGY CRISIS
Wes Michaelson, Editor
SOJOURNERS Magazine

Let me begin with a few words of introduction. The topic assigned is a rather formidable one, "Understanding the Energy Crisis." If I could really say that I understood the energy crisis, I probably wouldn't have to be editor of SOJOURNERS Magazine. The more you read the more you see that there are many different perspectives and many different ways of understanding the energy crisis. That is one of the things I want to talk about.

When John Wood picked me up at the airport, we walked to his car, a '65 Karmann Ghia. He said that it was a very efficient user of energy and was all paid for, which is probably the best way to understand in a nutshell the kind of response that we need to the energy crisis. What did you call the car, John? He called it the "anti-destination league," and I thought there was some meaning in that, because one of the real problems we are faced with is: What is our destination as a nation of energy users?

With those words of introduction I want to get into what I hope will be a not-too-technical description of what we mean when we talk about the energy crisis. Then I want to add some perspectives which I think will be stimulating for us to think about.

The normal explanation of the energy crisis begins with the fact that in the 1950s and 1960s we became accustomed to cheap and abundant energy resources. If you look at the figures for the 1950s and 1960s, you see that the price of energy really fell by 28 percent during that time. From 1950 to 1973 the rate at which we used energy increased at the rate of three and a half percent, and our use of energy was very inefficient. While this was happening, the demand on oil obviously increased. Our imports of foreign oil began and were greatly expanded. As resources began to shrink by 1976, about 42 percent of U. S. oil requirements were being met by imports. The time could be seen when energy resources would be depleted.

Now, another perspective which might drive home the magnitude of the energy crisis for those of us who are here is that the economic impact of the energy crisis is presently being experienced. That is the real crisis which is now upon us rather than just the fear of running out of energy at a later time. Our energy is based upon non-renewable energy resources. That means simply when all the petroleum is gone, when all the natural gas is gone, when all the coal is gone, and when all the uranium is gone, there will be no more left. So when the amount available diminishes, it makes sense that the cost of getting it goes up. This happens simply because of supply and demand, but also because the scarcer any resource gets, the more it costs to drill or to mine it. You have to go deeper, you have to go to more remote places. Oil, for instance, must be drilled offshore or in Antarctica. This increases costs. So with every barrel of non-renewable energy--oil, coal, or whatever--that we use, it only makes sense that the price is going to increase. So the real energy crisis is very much an economic crisis, and one that we all experience right now when we pay the price for the energy that we use.

I think it is also important to know that this kind of price increase was foreseen by those in the petroleum industry before the Arab embargo and before the open rise in price. It is very true that the Arab price increase and embargo brought home the realities of the energy crisis for the economy, but if you look at reports done for the National Petroleum Institute in 1971, you will see even then a rather dramatic price rise predicted quite apart from what

the Arabs eventually did. This economic factor in the energy crisis means that the rising cost of energy is a major cause of inflation. And right away you see how intricately interwoven are energy and the economy. I think it is fair to say that the major cause of recent inflation in the U. S. economy has been the rise in energy costs. So when you are talking about energy you are talking virtually about the structure of the whole economy.

There is another, often overlooked set of circumstances which is important in understanding why we are in this so-called energy crisis. The direction of U. S. industry since World War II has been to replace natural products (i.e., those produced by the energy of the sun, like cotton, wool, and soap), by synthetic products such as plastic, detergent, or synthetic fiber. The clothes which many of you are wearing are no longer made or produced directly by the sun. They are not cotton or wool, but synthetic fibers made from a base of petrol chemicals. We use detergents instead of soap. We use chemical fertilizers instead of manure and other legumes. There's been a dramatic shift toward products that require more energy to produce and require energy from non-renewable sources rather than from the sun and other natural resources. Similarly, you've seen trucks, autos, and airplanes displacing railroads for carrying freight and people. Here again, taking goods by truck from point A to point B uses far more energy than taking those same goods by train. A very simple example is non-returnable bottles, which represent a type of throw-away ethic in our society today. The amount of energy it takes to make those non-returnable bottles is the same energy it takes to make any kind of bottle. We could save that energy every time we reuse a bottle. These are examples of practices which compound the energy crisis. In all of these cases, more energy is being required to produce the same group of services. It is the same basic group of services, but the way we have been doing it since World War II has been requiring more energy to produce the same things.

I want to deal briefly with the President's response to the energy crisis as seen in his energy plan. First, let me summarize it briefly. Our 1976 energy demands are met in this way:

Oil	47%
Natural Gas	27
Coal	19.2
Hydroelectric	4.1
Nuclear	2.7

Now, the short-range goals of the plan (from now until 1985) are first of all to reduce the flow in energy demand--not to stop the growth in the way we need energy, but just to have that growth increase at a slower rate (about two percent a year instead of three and a half). The second major goal is to reduce gas consumption by about 10 percent. The third major goal is to reduce the potential level of oil imports now thought to be as much as 17 million barrels a day. The current actual figures are around seven million barrels a day, but the plan seeks to keep them about where they are, or maybe bring them down to six million barrels a day. In other words, the plan would aim at keeping the amount of imported oil from skyrocketing. Then, President Carter would increase coal production by at least two thirds and bring 90 percent of the homes and all new buildings up to some minimum standards of energy efficiency by means of the insulation-type programs which have been widely publicized. Also, then, he would increase the amount of nuclear energy.

Now, as the percentage of our demands met by oil and natural gas decreases, the President's plan calls for increasing the amount of coal and nuclear energy with hydroelectric power remaining about the same. Such forms as solar energy would be roughly around one to one and a half percent--very, very minor. Now, this transition will take place between now

and 1985 or some point beyond. It is an intermediate plan, designed to sustain until we can shift to a renewable energy resource, which is safe, is constantly available, and stable in price.

Now, I want to spell out what I see (and what many of the experts see) ahead of us. There are basically two kinds of options before us. The graphs on the following page will illustrate.

Option #1 is to rely on centralized energy resources, to assume that energy growth must continue, and to assume that oil imports must be reduced. In order to achieve this, coal production must be expanded very, very rapidly, requiring extensive strip-mining of existing coal reserves. Oil production must be increased from such sources as offshore oil wells and the Arctic and the Alaskan oil fields. Nuclear power must be expanded and we must eventually move to what are called breeder-reactors (nuclear power plants that reproduce their own fuel and thus become a renewable energy resource). The nuclear plants which are in operation today basically have conventional reactors, and do not reproduce their own fuel. If we build only conventional reactors, then at some point we will simply run out of uranium and have no more nuclear energy. When we reach that point depends upon how much energy we use and how much uranium there is in the world which easily can be extracted. The breeder-reactor is a questionable alternative since it is considered by some to be quite dangerous, and is the center of no little controversy. That is one way of approaching the problem between now and the year 2025.

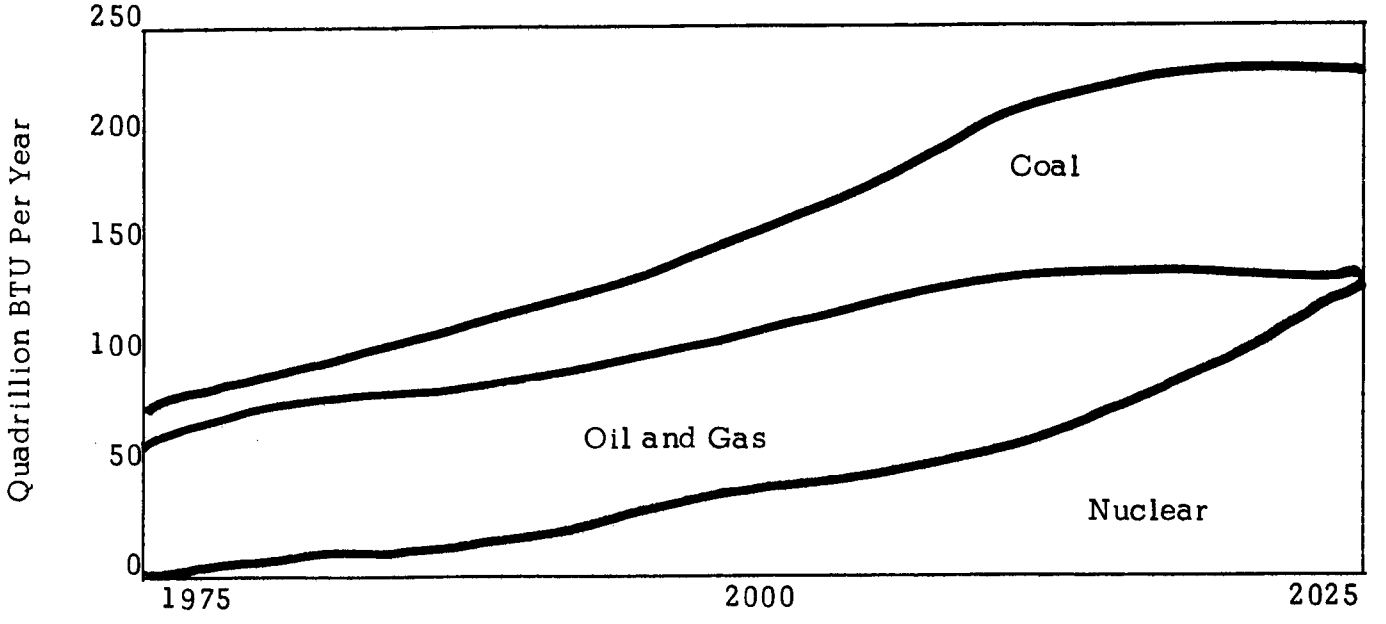
What are the consequences of pursuing this option? I think most of them are very adverse.

First, there are adverse economic consequences. The chief worry of economists today is a shortage of capital for investments. Now, all of the energy sources that we rely on in this first option will become increasingly dependent upon the huge capital outlays which will be needed in order to develop and implement the kind of technology necessary to produce these types of energy.

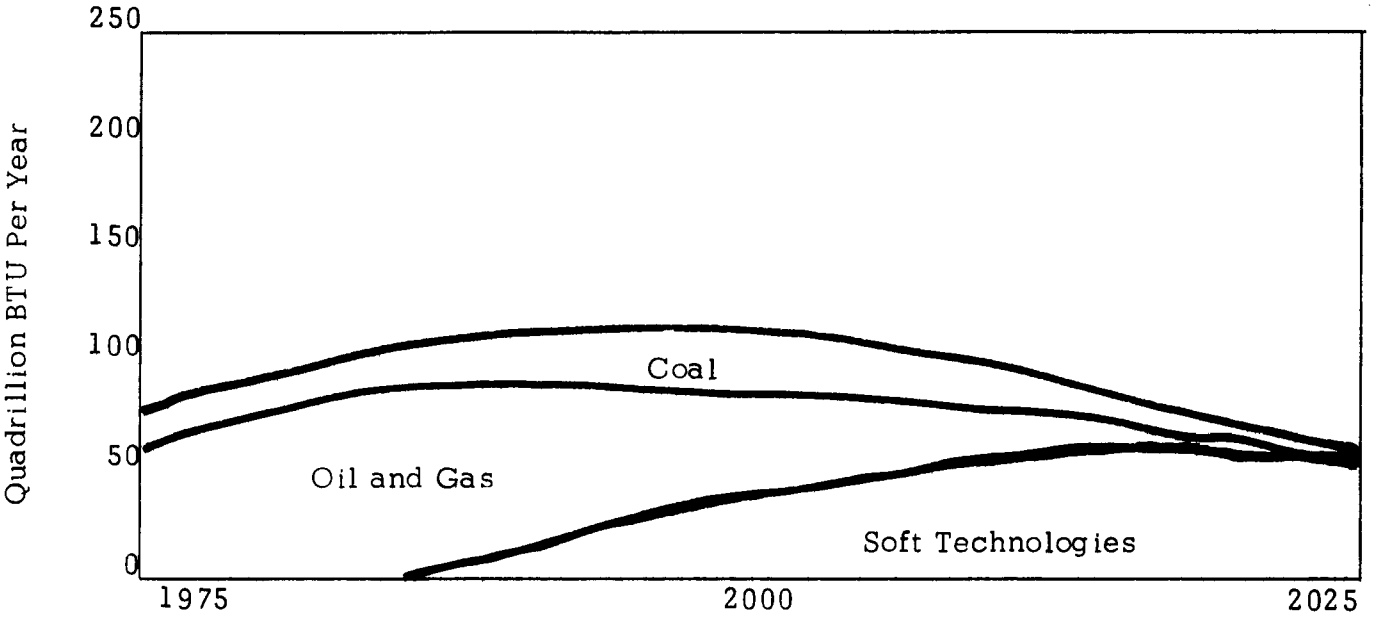
For example, compare how much it costs to drill for gas and oil in Texas with how much it costs to drill for it in the frontier regions such as the north slope of Alaska. Or compare it to the cost of coal gasification plants. In each of these cases, the necessary capital outlay increases by about ten times. Now, these are rough estimates, but this is basically the pattern. It is seen again in a cost comparison of hydroelectric plants and nuclear plants. Some have estimated that going very heavily in this direction in the next ten years could require as much as one trillion dollars in capital investments for energy. To give you some idea how much that is, capital investments for energy currently take up about one quarter of all new investment capital. A trillion dollars over the next ten years would equal that one quarter plus two thirds of all the rest of capital investment. Critics say that so much money will be needed as capital outlay for these energy resources that there will not be enough capital resources left to build all the things for which this energy is supposed to be produced. That is the most serious criticism of Option #1 from an economic standpoint.

What about the social and political consequences? This option assumes strong central authority. If you are going to rely on vast amounts of nuclear power, the way to produce it efficiently is to have all of the power plants connected and to control the supply of energy by a centralized authority. Add to this the security risks that are involved because of the fuel and the waste. The wastes of any kind of nuclear plant are dangerous, and breeder-reactors produce plutonium as a by-product, which is the basic ingredient of

OPTION #1*



OPTION #2*



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atomic weapons. The plants themselves are subject to sabotage. This means that breeder-reactors would inevitably have to be protected by the military. There are already, in the legislation which created the Federal Office of Energy which Schlesinger headed, provisions for the military to have a security role in protecting nuclear plants. I think the way things are going, that is an inevitable outcome. Stanford Research Institute, which is no left-wing organization by any stretch of the imagination, said in one of its reports that a nuclear security role for the military would run the risk of fostering a kind of friendly facism or a managed society in which people are ruled by a widely dispersed complex of warfare, welfare, police, and industrial communications bureaucracies, with a technocratic ideology. I think that is an accurate assessment of the social and political risks of Option #1.

There are also environmental consequences. To increase coal burning as dramatically as we have envisioned, could within 100 years double the amount of carbon dioxide in the air. Scientists and biologists say this will drastically change the climate, and that such change could be catastrophic. You know from the drought we have had this summer what happens when the climate changes just slightly, and how arable land patterns shift dramatically.

The consequences of this kind of policy are also seen in terms of world peace. It would seem that nuclear proliferation would almost be assured. Fissionable material (the stuff that you make bombs with) would be produced in such quantities, and nuclear technologies would be so widely dispersed that the proliferation, despite whatever nuclear weapons treaties and safeguards are adopted, would seem to be almost assured. One very bright energy expert who is a Christian put it very simply. He said, "All of our figuring about the safeguards in nuclear energy simply doesn't take into account original sin, human fallibility." You can design foolproof systems, but the people who operate them also have to be foolproof.

Now, let me mention the last consequence which has to do with basic social welfare in the country. The more you divert capital resources to energy, the less there is for expenditure on social welfare. It is argued by many that this diversion of funds could be an important consequence of a policy like that described in Option #1.

Now, I want to talk about Option #2 which is described in the second graph. These graphs, by the way, are not my own; they are from Amory Lovins who is an expert on energy policy. He used them in testimony before a committee in Congress. The second option, spoken of in very general terms, would be to use soft technologies and decentralized energy sources.

Now what does this mean? It means relying on renewable resources such as solar energy or methane. The Germans in World War II got most of the fuel to drive their tanks from methane, a fuel produced by burning wood and organic waste. Methane is a fuel source which we have pretty much forgotten about in the last 25 years because gasoline was so cheap. But you can produce methane by burning much of what we take to the dump. Option #2 would call for the development of renewable resources, although available only in minor quantities, and for increased efficienty in the consumption of energy. The need for such an increase in efficiency is easily seen when you compare the per capita consumption of energy by Americans with that of citizens of other nations with approximately the same Gross National Products. Energy consumption per capita in the United States is equivalent to about 55 barrels of crude oil per year. In Sweden and West Germany, it is 28 barrels, in Denmark it is 25, and in Switzerland it is 18. The pattern of energy use in the United States obviously has become wasteful. By nearly two to one, we are the most

wasteful users of energy in the world. The country that is a distant second is Canada.

So one of the things that is involved in Option #2 is the more efficient use of energy. But more than that, this option assumes that the overall use of energy will be curtailed, rather than simply assuming that its growth will be halted. But how do you get there? Option #2 assumes the use of oil and gas in diminishing quantities. It assumes an increase in the amount of coal being used at the present time, but only a slight increase and an eventual tapering off. Then during this 50-year period, the soft technologies, or the various types of renewable resources increase in use until they virtually take over. Of course, you could take part of each option and mix them up so that you would have a third, hybrid option. But I think it is pretty clear that we are facing two kinds of choices about the direction we will go.

What, then, are the consequences of Option #2? First of all, the capital needed, though still great, is not as massive as that required by Option #1. Secondly, a wider diversity and a greater quantity of jobs is produced. One of the most inefficient ways to make new jobs per capita dollar invested is to build power plants. The number of jobs per dollar spent at traditional power plants is very, very low compared to the number of jobs per dollar spent on other energy technologies.

Socially and politically, Option #2 fosters pluralism and decentralization. The more you turn to these kinds of soft technologies, the more use you make of solar energy which literally puts the power plant on your roof. The power source is in your neighborhood, in your community. There is no need for centralized control over production or distribution. And that has dramatic social and political effects which we need to think about seriously. If we are to encourage innovation and a pluralism in the way that energy is used, there will be a lot more variety in types of energy used. In short, then, Option #1 thrusts us into a kind of technocratic autocracy. Option #2 fosters a participatory local democracy. I do not think those are exaggerations at all. Environmentally, Option #2 minimizes risks. To be sure, risks are still involved, particularly in the continued use of coal, but there are less risks by far in this alternative than there are in the other course.

In terms of our concern for world peace, this option eliminates nuclear energy as a power source. By doing so, it eliminates the problem of proliferation which seems to be an inevitable concomitant of increased reliance on nuclear energy.

Now, I would like to express some basic concerns that I have about our present energy policy and the policy as set forth by President Carter and then discuss the biblical perspective in which this whole problem should be seen.

President Carter's policy more or less commits us to Option #1. It does not do so all at once, but it does commit us. President Carter has said a lot about conservation, and for that he should be commended. But if you look at the plan carefully, you will see that only 16.3 percent of the increase in energy demand between now and 1985 is to be met through various means of conservation. About 50 percent (50.4 to be exact) is met from coal, 22.8 percent from nuclear, 8.9 percent from petroleum, and around 1.0 or 1.5 percent from solar. In all, there has been a lot of talk about conservation, and I think that has been good for the American conscience. However, the President's plan calls for us to rely far more heavily on coal and nuclear energy than on conservation to solve our short-term energy problems.

In terms of economics, there is nothing in the President's plan which would deal with the

problem of technological displacement (which we discussed earlier in relation to the use of synthetic fibers). Furthermore, it is estimated by some that half of the unemployment in the United States today can be traced to technological displacement, to using inanimate objects to do things rather than using people to do them. If that is true, it means that the unemployment problem is still with us. The capital demand problem, obviously, will remain with us under President Carter's plan. And it is difficult to see how we are going to solve other economic problems related to the energy crisis, such as inflation and unemployment.

Now, let me say a word about the nuclear dimension of the plan. The President's stance is in some ways very confusing. He is to be commended for saying that we should not move to a plutonium economy. He also says that we should forestall, or at least hold in abeyance, the development of breeder-reactors, but at the same time he places a major emphasis on the need for investments in conventional nuclear power. Now, many critics are saying, and I think they are absolutely right, "You can't have it both ways." If we put millions into building conventional nuclear plants, and then our uranium begins to run out in ten to twenty years, the pressure to convert those conventional reactors into breeder-reactors is going to be overwhelming. Breeder-reactors, as I have said, directly produce plutonium, the substance from which bombs are made and the substance which is quite possibly the most toxic material known to man. The current position of the Administration is not one that says we will not go in this direction, it just says we will not make the decision now. But in effect, once we begin moving into nuclear power and spend our millions, we will be locked into it five or ten years from now when President Carter is no longer President.

My third and last point is a biblical perspective on all of this. I thought the reading of the Psalm 24:1 at the beginning of this hour was very appropriate. It was a reference that I had intended to use at this point in my talk--"The earth is the Lord's, and the fulness thereof." Biblically, we have to say that what we have in our possession is the Lord's. Consider the fact that with six percent of the population we are using 30 percent of the world's energy resources. You see what poor stewards we have been when you add to that the fact that we have been wasting this scarce resource in a flagrant manner, unlike any other country on the face of the globe. There are two issues related to energy to which stewardship applies: (1) which fuel we select for use, and (2) how efficiently we use it. It is a sin to use non-renewable energy resources disproportionately, and it is a sin to use them wastefully.

What are the effects on the poor and the disadvantaged? I do not believe there is any one political plan or program that the Bible lays out, but I do think a biblical perspective calls us to look at social-political systems from the vantage point of the poor, the oppressed, the underdog. I think that is clear from the Bible. If you look at the effects on the poor of the route that we are going energy-wise, it is obvious that the poor are going to feel these sharply increased energy prices more keenly than others. We are <u>all</u> going to face sharply increased prices, but the impact will fall heaviest on the poor. Families in the lower one fifth economic bracket in America spend 24 percent of their before-tax income on energy. Families in the upper one fifth spend six percent of their income on energy. This means that the poor will feel the price increase four times more heavily than the rich do. There have been some proposals in the President's plan for trying to construct a system of rebates sos that this disproportionate effect would be equalized. But they have not been clear, and at this point Congress seems unlikely to enact them. We already mentioned the continued problem of inflation which hits the poor the hardest and the continued problem of unemployment caused by a multitude of factors such as technological

displacement.

What about the world poor--not just the poor in the United States? Well, our present course, which uses centralized, capital-intensive energy, is in basic disharmony with the rest of the world. It is impossible for the rest of the world to follow this course. If more poor countries try to adopt our kind of energy strategy, it will benefit their urban elite, but it will not "trickle down" to their poor. We will have succeeded in spreading the inequities of our own society to other nations. Soft technologies, on the other hand, are compatible with the needs of the poor in other countries. Soft technologies are feasible for them to use. So as we perfect those technologies and transfer them to the rest of the world, we will be making a real contribution to the welfare of mankind.

An interesting point that is pretty well overlooked is the effect of all this on native Americans. A large percentage of the remaining reserves of coal, uranium, oil, and natural gas, are on land that belongs to them. And so, the large-scale development of these kinds of resources is going to come at the expense of native Americans both here and in Canada, and it is going to thrust us into conflict with them. In the next month the headlines will confront us with the problem of natural gas from Alaska. How do we get natural gas from Alaska down to the lower forty-eight without building a pipeline over land that belongs to Canadian Indians?

Now, there is the whole area of values as they are related to the ideal of growth. Christians should note that the President's plan assumes (1) that continued growth in the economy is a necessity, and (2) that economic growth demands continued growth in energy. Both of these assumptions should be resisted. Some of you may think that is kind of radical, but I am hitting at the bedrock of our American system by saying that we should question whether or not our economy should grow. Let me read you a report of a Harris Poll which was recently taken of a cross section of Americans.

> A month ago the American people had begun to show a deep skepticism about the nation's capacity for unlimited economic growth and they are wary of benefits that growth is supposed to bring. Sufficient majorities place a higher priority on improving human and social relationships and the quality of American life than on raising the standard of living.

And here are the statistics. Seventy-nine percent of the public would place greater emphasis on teaching people to live more with basic essentials than on reaching higher standards of living. A 76 percent majority opts for learning to get pleasure out of non-material experiences, rather than satisfying our needs for more and more goods and services. Eighty-two percent would concentrate on those modes of travel we already have, rather than developing ways to get more places faster. Finally, 63 percent of the public feels that the country would be better served if the emphasis were put on learning to appreciate human values rather than material values. Also, in 1975 a Harris Poll said that 61 percent of Americans felt it was morally wrong for us to consume such a disproportionate share of world resources. Over 50 percent of that same sample felt that the rest of the world would turn against us if we continued to do so.

Now, that is just a public opinion survey; it is not scripture. But if you view that in the light of the Beatitudes, I do not think there would be any question as to what the biblical perspective is. The whole assumption that we will use more and more energy says that we want to preserve our affluent life styles. Time magazine has said that the President's proposed energy policy would not drastically alter the life style of most Americans at all.

There are no options presently before the Congress that really question our basic life style patterns. A continuation of present standards may satisfy the culture at large, but, it seems to me, it should not satisfy the church.

I think we as Christians need to be concerned about the whole issue of world peace. In my judgment, opposition to nuclear power in the United States likely will become as great as opposition was to the Vietnam War. And, this opposition will be much more easily mobilized, because you can march to a power plant. This has already happened at Seabrook where 1,400 people were arrested, and it has already happened in California. In France, where 40,000 people demonstrated against a breeder-reactor, government officials think that because of public opposition there is only one chance in three that the number of conventional and breeder-reactors presently planned will actually be constructed.

As I flew up here, I happened to sit next to John Black who is chief counsel for the Tennessee Energy Authority. We began talking about this topic, and he offered the opinion that nuclear energy was essential for preserving the American life style. Now, I do not think it is essential. I think the facts clearly demonstrate otherwise. Even if it were essential, in my judgment the dangers involved are so mammoth that we would be choosing to preserve our life style in a manner which risks continual nuclear proliferation. I think that is the most selfish of all choices we could make.

THE ENERGY CRISIS AND ORGANIZED RELIGION

Albert McClellan
Associate Executive Secretary and Director of Program Planning
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Is there an energy crisis?

Some very strong voices in the land say that there are no real shortages, and that we are the victims of hysteria and mismanagement. The oil companies admit to gasoline surpluses in America today, and say that the basic problem is too much government control. The administration says that America has all the oil it needs and more--at a cost of a frightening export of hard cash capital to OPEC countries, and unless this is greatly reduced we will become a bankrupt nation. Others say that the problem is a matter of peace and war, and that while there may be sufficient energy in America, in most other countries there are huge deficits, and unless distribution is equalized, the United States may find itself at war with the whole world, and without energy or friends to help it fight.

I come to this meeting with some confusion. On the street where I service my car, gasoline has gone down at some of the pumps three times this summer. Then, I read daily that Alaskan oil will create a petroleum glut on the West Coast and that America must sell it to other countries. Also, I hear that there may be as much as 240 billion barrels of oil still underground in America. Further, the authorities keep saying that there may be a 400 year supply of coal. Finally, there is widespread confidence among knowledgeable people that the scientists will turn up something as a substitute for hydrocarbons.

Yet, the Christian Life Commission calls an energy crisis conference, and you think it important enough to attend. So surely, there must be an energy crisis of some kind, either in supply, or in distribution, or in economics. As one who takes a world view, I have concluded that the crisis is real, and that we are here today on a grim mission, to find out how we can survive in the years ahead. Yet, I take this view with some moderation--which I hope will become apparent in this paper--and with the personal confidence that the future is bright and hopeful. Issuing from these broad underlying premises of crisis and opportunity, there are some primary assumptions I would like to set forth.

PRIMARY ASSUMPTIONS

If there is an energy crisis, and if our supply of oil is to be reduced, then given the nature of our American community, certain results are inevitable.

1. As Americans, we will be less mobile in the future than in the past. Without the power to move freely and cheaply we will move less often and in shorter journeys.

2. Diminished mobility will come slowly. The jig is not up, else the automobile manufacturers would not be planning cars far into the 1980s. Others are confident that there are alternative sources of power for personal mobility.

3. All forecasts seem to indicate that, in spite of diminishing supplies, there will still be a considerable amount of hydrocarbons for some time to come. As time goes on, these may be reserved for petro-chemical purposes and not available for personal transportation.

4. But as shortages grow acute, systems of priorities will be invoked. These systems already exist and will soon be implemented in such forms as import controls and rationing.

5. Energy for "vital services" will have highest priority, and intensive debate will take place over what these vital services are.

6. Energy for cooling will likely be sacrificed to provide energy for heating. Few people die from getting too hot compared with those who die from getting too cold.

7. Other forms of energy will be devised to augment and substitute for hydrocarbons, though these will not come quickly or cheaply. Modest electrical cars are a possibility. Some believe hydrogen can be controlled and used for cheap transportation.

8. The diminishing of resources of all kinds is certain to bring less emphasis on the importance of things.

9. A post-industrial age with less emphasis on the machine and more on personal skills is inevitable.

10. Standards of living will be measured by qualitative criteria more than quantitative criteria.

SECONDARY ASSUMPTIONS

The primary assumptions call for certain secondary or corollary assumptions. These will bring us closer to our subject of "The Energy Crisis and Organized Religion."

1. Diminished energy and less mobility may be catalysts for new life styles but the real power behind the changes to come are the vast revolutionary social influences at work for the last 20 years. The energy crisis is not the only crisis with which we will have to deal in the years ahead. Among these will be the threatened collapse of the family and the depersonalization of man.

2. The life style changes may be subtle. We will not junk our bulldozers, but we will find gentler and more objective criteria for their use. We will still have our lawns, but the standards will be to get them grow longer and higher with parts of them au naturel with weeds, bugs and snakes abundant. I recently ventured this opinion to my next-door neighbor, a woman of German background who mops her back porch four times daily. She said, "I hope I die first."

3. Our diminished mobility will mean that: (a) we will travel shorter distances, (b) stay longer periods, (c) use public surface transportation, (d) find recreation closer home, and (e) do better planning. This will surely also mean reordering of our institutions, which in turn will have tremendous significance for our churches.

4. As priority systems for uses of energy sources are developed, non-commercial, non-educational, non-health care facilities and services must justify their existence in terms of human values. Esoteric values will not be favorably entertained by practical minded people. The majority unfriendly to the churches will see them as non-vital services. They will not be tolerated in some cases as a traditional favored minority.

5. In World War II, gasoline for pastoral work held high priority. Thirty-five years later, we may have come to the time when the general public attitude no longer gives popular support to the churches, and except in isolated localities, they may have a difficult time maintaining their positions of highest priority.

6. There may come a mammoth re-ordering of the world's architecture as we are compelled to: (a) convert highly energy inefficient buildings into manageable work and living centers and (b) as we begin to build common-sense buildings that make maximum use of natural energy sources such as sun, wind, shade, darkness and even subterranean sources of heat and cooling.

7. We cannot count on alternative forms of energy to totally replace hydrocarbons. E. F. Schumacher suggests that assuming a pro quid pro substitute is a copout, when nothing can be proved about the future. Alternative forms of energy will require almost totally different production and use technology. They will be expensive and slow in developing. There could be horrendous problems in capital funding and disruption of the economy.

8. Substitute energy will not behave in the economy in the same way as hydrocarbons. This new economic behavior will itself demand social, religious and political reconstructions.

9. With less energy available, and changed life styles, perhaps less energy will be demanded. This in turn may slow the search for new sources of energy. There is an implication here that a reverse progress will take place, and as one whose world view does allow him to believe that universal materialistic progress is equally available to all nations everywhere, this prospect holds no terror for me. It has long seemed to me that the doctrine of inevitable self-enrichment as a possibility for all people is crassly materialistic and that clinging to this does exactly opposite what its proponents claim it will do. It does not bring happiness but dissatisfaction; not peace, but war.

IMPLICATIONS FOR THE RELIGIOUS INDIVIDUAL

Most of us cannot escape our religious nature. We run from it only to find ourselves re-entering it from the other side of the circle. Religion as a system of proven spiritual values and as a self-revelation of the unseen, wherein God himself approaches man in love, is bound to be affected by the energy crisis--I am convinced, for the good. Even in the midst of the most direful of prophecies, I take a redemptive view of the future.

1. As we face the problem of diminished mobility, we see two things taking place: (a) A frantic and desperate drive by many to preserve our old ways of life. This summer's highway traffic is maddening as people try to get what in the hidden recesses of their minds they sense is their last fling at travel. The sales of the recreational vehicles have skyrocketed since the 1973 oil crisis, itself a kind lemming drive into oblivion. (b) An equally frantic and desperate withdrawal from life. For example, I know a man that bought a small foreign car for $8,000 to save two miles per gallon of gasoline. A third thing should take place: a reasoned deliberate search by the individual for a balanced low energy life style. This search should try seriously to understand the future in order to know what actions need to be taken now, and should consider individual ethical and moral obligations.

2. As the individual seeks his new life style, his temptation might be radical change, which, of course, could create uncomfortable stress. Under our present energy outlook we should not overdo our changes, but come to them softly and gently. Though energy may be diminished, life will go on for us. We will not suddenly cease being who we are.

3. The individual must establish his own personal energy priorities. This may be very difficult for him to do, as he wants everything just as he has had it in the past: extended vacations, frequent trips to see Aunt Susie, and particularly extensive recreation and sports. It just may be in this that he will have to learn to live his life by what Schumacher calls that radical revolutionary principle: "Man shall not live by bread alone, but by every

word of God." The energy crisis could be religion's great opportunity to reassert fundamental spiritual values.

4. The individual will receive one of his most serious challenges at the point of sacrificing his personal energy demands to meet community priorities. In other words, the fundamental ethical concept of individual responsibility may receive one of its greatest tests. Not only must he answer to the race for what he has done in his past extravagances of energy resources, he must also answer to the race for what he will do in the future. Will he become ethically responsible in the reduction of his appetite for energy? The energy crisis will force him to settle clearly and decisively the twin issues of rights and duties. I personally believe he must settle these in light of his place as a world citizen, not just as a citizen of America. We are past the time when any nation can reckon its future solely for its own good. It must also consider the world good. (I've noticed that where people talk about the energy crisis, they divide at the point of world view. Those with provincial American views say there is no crisis. Those with world views say there is.) This is also true for the individual. Personal survival in an over-populated, energy-short world demands of me that when I look at the fuel gauge of my car, I see the whole human race.

5. Energy for vital services makes us aware that even our definition of vital services must change. Take for example automobile racing with its great Sunday gulp of precious natural resources. This may be vital for the people employed on the tracks, but for the community, such waste can hardly be said to be vital at all. What about busing children to school when walking could be done? (There is a frightful conflict of ethics here.) What about five and six trips to church during the week? What about 1,000 mile journeys to summer assemblies? What about commuting home from college on weekends? Of all the questions we face in connection with the energy shortage, defining what is vital and what is not vital in a system of priorities may be the most difficult.

6. Comparatively, not many people die from being too hot in summer, but many die from being too cold in winter. If there is a choice to be made then it is likely we will choose to stay warm. But for the individual this means a different re-ordering of personal comfort priorities. It means also painful participation in community decisions for the redesign of old energy wasteful buildings. For example, where does one sit in a church without windows - or without air conditioning? Or, how does one decide to tear down a historic old building unadaptable to restrictive energy resources?

7. Consider the likelihood of slowly developing viable substitutes for hydrocarbons, how does one balance himself between panic and false optimism? The prospect forces personal decisions and these are hard to make. But individuals are making them daily. Just yesterday a real estate broker told me of suburban families in Nashville re-entering the inner city. It seems to me they are dealing with the reality of a low-energy tomorrow.

8. The individual must decide on what things are essential and what are non-essential. A new personal ethic is surely developing. One part of it is what Schumacher calls "production for permanence." Because of the lessening of energy sources, we are beginning to see the need of building things that last. Hopefully, the doctrine of obsolescence is gradually disappearing. Another part of the new ethic is a diminished emphasis on the possession of things for happiness. Schumacher also makes a point of this and expresses hope that we are entering the era of the learning society, wherein bric-a-bracs and folderol are unessential clutter of human existence. But he is not the first. Long ago George Santayana, the Spanish naturalist philosopher, sold all his properties, gave away all his paintings, reduced his personal needs to the absolute minimum in order to become a free spirit. He believed that behaving economically was a requisite to living his maximum. On both

points (production for permanence and behaving economically) we must take great care, for work also is important. Work means production, and if we produce, we must consume. I believe the ethical consideration in this problem is moderation.

9. Surely there is coming a post-industrial age in which the gross national product will not be the principle measuring stick for progress. It simply cannot always be that all nations will every year produce and export more than they produced and exported previous years. The gross national product measurement surely must be important, but with diminished energy, it is not the final criteria, for it surely does not measure the human dimension. For the individual, again the basic questions are spiritual. What are my real values? What is the world? Why am I in it? Where am I? Who am I? Who is my brother? Am I truly his keeper?

It is easy to look at the sun and tell the time of day. With a sextant I can even tell the precise geographical place where I stand. But in a world of constant flux all distorted by a broken energy picture, I am not sure where I stand as a person, especially when my person has been totally conditioned by abundant low cost energy. So again it comes down to the need for determining for myself exactly what are my values and how can I exercise them in the world that suddenly is vastly different from my world, the past, a world in which others are so desperately dependent upon me and my behavior.

IMPLICATIONS OF THE ENERGY CRISIS FOR ORGANIZED RELIGION

First, I want to make my position very clear: organized religion is not finished. The inherent nature of the church is relationship, and relationship is the matrix for organization. In a world approaching six billion people the alternative for organization is chaos. The religious institution is here to stay and to grow despite Karl Rahner and other ominous prophets. Jesus said, "My church." He also said, "The gates of hell shall not prevail against it." These sayings point to the church as an institution. We must take care, however, to guard our institutions from institutionalism, and at this point the energy crisis may prove to be our best friend. It may also help us rid ourselves of the unbecoming aspects of bureaucracy. It may also help fully re-establish New Testament koinonia in modern congregations.

1. The implications of diminished mobility. Present day congregations are built on private wheels. Without them, some congregations--perhaps many--would be greatly changed and possibly eliminated. The facts are clear for any who want to look at them.

a) Our churches are not situated on viable public transportation lines.

b) They are not neighborhood churches within walking distances of the homes of the members.

c) Some of them depend upon a network of church owned buses.

d) Programs are staggered and overlapping in such ways as to necessitate many trips to the meeting house each week.

e) Some of them actually depend on two-car families. To reduce cars to one per family would greatly alter some programs.

f) Youth programs are not local any more. One month a youth group tours another state singing to other youth groups. Another month they float a mountain river. Another month they retreat to the beach.

g) Sometimes I get the feeling that the local church is not local any more. They range all over--dependent on private wheels.

With the elimination of these private wheels, churches will face the need for vast reorganization of their programs. New patterns of attendance, new kinds of services, new centers of fellowship must be taken into account in the reorganization.

The implications for organized regional and national work are just as serious:

a) We have allowed ourselves to become dependent on the artificial stimulation of promotion. We employ people to keep the program pumped up, and these people require mobility to do their jobs. Without wheels there is bound to be some slowing of momentum. This may be a good thing, for in slowing down we may find we've been outrunning the Holy Spirit of God.

b) We thrive on group meetings, associational, state and national--conventions and assemblies. If there is a serious curtailment of energy resources, it is inevitable that these meetings will be curtailed and in some cases eliminated. For example, can we really make a good case for a huge national convention every year? Also, this summer I walked the grounds of Glorieta for days searching for an answer to the question, "What will happen to this ten million dollar property if wheels are no longer available? There is only one train a day that passes the center and it flies through at 80 miles per hour. Ridgecrest does not have any train. Long range planning of a truly professional kind is needed to help us bridge the gap.

c) Colleges are also dependent on wheels. What will happen when these are not available at low cost? What will happen to organized mission? How can we raise the money to keep them going? Someone has suggested we ought to go back to horses and buggies. Not yet anyway, for at best there is no way to supply the hardwood needed to make buggies and barns for 250 million people, much less supply the hay and corn to feed the animals.

In viewing the problem of diminished mobility three things need to be said:

First, not even the most extreme prophets predict a sudden overnight total loss of energy. The situation is not one for alarm, but for caution and planning.

Second, there is a backdoor danger that could affect churches and organized work. It is that the redirection of the economy could bring a crisis in giving, even without a severe recession. As the price of gasoline rises, it may take a higher percentage of the consumer's dollar. My experience in Spain, Switzerland, Greece, and Israel last spring where gasoline can be as much as $2.00 per gallon, leads me to believe that come what may, in the use of the automobile the high cost of gasoline is no deterrent. This means more of the available consumer dollar going for gasoline, which in turn means less going for durable goods and personal services. It also means more capital export to OPEC countries and less to stay at home to keep our economy running. It appears that unless balance of payments are equalized, the richest country in the world is almost on the road to the poor house. This cannot help but hinder the economics of the churches.

Third, we must stress over and over again the need for planning, church planning, denominational planning, organized-religion planning. Isolated localized strategies are not enough.

There must be national strategies well led and well executed. Dr. Foy Valentine and Dr. David Sapp deserve our strongest support in their effort to open the door for us.

2. The implications for church buildings. In the last 50 years we have built buildings on the assumption that unlimited energy would always be available at very low cost. If the last three years have taught us anything, it is simply that this is no longer true. We have numerous barn-like structures with thousands of cubic feet to heat and to cool, often without windows that open, or any possibility of cross ventilation. Some buildings are built with sophisticated systems that require furnaces to help cool and air conditioning units to help heat. With natural gas shortages, furnaces have had to be shut down, hence buildings are either too cold or too humid, and changing the systems is frightfully costly.

We have built buildings on the assumption that more is good, and bigger is better. So we have both government and denominational standards that increase the size of buildings. Affluence has helped expand church plants beyond actual need. One church with 300 in Sunday School can get along well with 15,000 square feet of floor space, another the same size must have 75,000.

Local code demands impose impossible regulations. Last summer in Louisville I lived one month in Mullins Hall at Southern Seminary. Between my parking place and my bedroom there were eleven fire doors that had to be kept closed at all times. Moreover, all stair wells are enclosed. This means that upward and cross-building ventilation are impossible. This closed condition greatly increases the demand for energy. The bottom line question: Who can pay the bill?

It is a situation that calls for the better planning of future church buildings and for the reconstruction of older ones. Somehow the denomination must find ways to help the churches solve their energy problems.

We must somehow discard the idea still prevailing that more is good and better is best. New standards calling for fewer square feet per person need to be set.

3. Ethical implications. A friend of mine is a regional oil distributor. Recently we engaged in a heated discussion over the energy problem. He said there is no energy shortage; there are excessive controls by government regulation. I then asked him what would happen if controls were removed. He said quite frankly the cost of gasoline might go to $2.00 a gallon and the cost of heating oil double. What about the widow whose winter heating bill now exceeds her winter income? He quickly answered, "I am genuinely sorry about her, but the law of economics is based on supply and demand. There is no other way." I really don't know how to deal with this man. Maybe you know. I only know that there is something foreboding in a world where the laws of economics superseded the exigencies of basic human needs. I also said to my sincere friend that in America we average more than two automobile seats per person, in China there are 27,000 persons for each car seat. He said, "I'm sorry about that but Americans will not relinquish their car seats. Why should we? We can afford them." I was reminded of something John Kenneth Galbraith wrote in The Age of Uncertainty: "People of privilege will always risk their complete destruction rather than surrender any material part of this advantage."

I think one complication for organized religion is that we must be involved even though there are political dangers because as churches and as Christians we cannot escape our world responsibility and we cannot ignore basic human need.

4. Special implication for a new understanding of stewardship. The situation calls us to a new understanding of stewardship. If we are to replenish and subdue the earth, this does not mean to deplenish and ruin the earth. We have a theological obligation based on the doctrine of responsibility both retrospectively and prospectively. As I see it there are some clear mandates:

a) We must think through the problem in many such dialogues as this one.

b) We must ourselves balance our basic space and mobility needs with the needs of others for space and mobility.

c) We must provide more real services to the church to help them solve their space and mobility problems.

d) We must learn to accept that more is not necessarily good and that best is not always better.

e) We must accept our responsibility to discuss from an ethical perspective the problems of energy.

f) We must learn how to do promotional work with fewer miles traveled and less people used.

g) We must make all our group meetings more meaningful in order to discontinue some of them.

h) We must not alarm, and accept that moderate changes in life styles are needed.

i) We must in solving this problem take a world vision. Surely we must see that the issue of world peace is at stake here.

Again, I want to congratulate the Christian Life Commission for calling this conference, and I sincerely hope it is the prototype of many similar conferences to come. In a sense, the Commission is pulling us into tomorrow. As I contemplated my part I stumbled on some words by W. H. Auden:

> Sometimes we see astonishingly clearly
> The out-there-now we are already in;
> Now that is not what we are here for really.

What Auden surely is saying is that "Tomorrow is here." It has suddenly dawned on us that we must get with it or perish.

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RESPONSES OF THE FIRST BAPTIST CHURCH OF DALLAS, TEXAS

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If all of creation is a stewardship, which I accept as my basic working concept, then every part of life is a stewardship. However, I find that I must occasionally put my spiritual foot on my physical neck to remind myself that the receipts side of the ledger must be balanced, not overbalanced, by the expenditures side. Though our church had long subscribed to the truth of the scripture, "It is more blessed to give than to receive," we discovered we were practicing this far too generously with the power company. This is not to condemn the power company; the price of groceries is going up too. However, we discovered that we were planning menus much more wisely than we were the climate control, lighting, and scheduling of our space.

When your sixth sense tells you something is going awry, what do you do? It seems to me you begin to ask questions so you can plan and implement on the basis of reasonable information. The education and business worlds know this as M.B.I. (management by information). Too often the churches do not know it at all. But it is your task and mine to acquaint them.

When we take a look at the pertinent questions, they seem to fall easily, if not homeliticially, into three basic categories relative to energy consumption: (1) What is happening? (2) What can we do now? and (3) What long-range plans can be initiated?

It seems to me that we face a preparatory need immediately when we face the first question. The need is namely to get our people to address the question with urgency but not with panic. First, the situation at hand does not call for panic; we know from other societies that we could still survive even though conditions become much worse. Secondly, no situation ever calls for panic because panic simply dissipates the resources available to us for the solution of any problem. There is no question about it: The churches could solve their energy management problems by simply going out of business. This is obviously not what we want. But the problem is urgent, and the people charged with responsibility in our organization set the time frame within which to work. By a predetermined date a preliminary report was to be made.

When the report was issued, it told us first what was happening. Our utility bills had grown from $100,000 in 1973 to over $200,000 by 1976 (more than $500 per day). A little extrapolation told us this amount could climb to $400,000, or $1,000 per day by 1981 (in just five additional years) unless we did something about it. The $400,000 figure is approximately four times the Lottie Moon Foreign Missions allotment for South Korea during the entire year of 1974. When you begin to think about it in this light, dollars take on a spiritual implication.

We refined our study further to get a handle on what was being spent and where. First, all utilities were isolated. Though electrical energy is our greatest problem, heating costs are rising rapidly too. Also, the price of water is becoming a significant item. We are not going to quit baptizing every Sunday night, and we have no lawns to quit watering.

We do think it is very wise though to make closer checks for leaky faucets, et cetera.

Still a further isolation of the problem revealed information on what portion of each individual energy dollar was being spent in each facility. This can quickly be related in our thinking to scheduling and programming. Additional information refined this picture further by showing what part of the dollar was being spent on what specific types of equipment such as lights, fans, motors, compressors, and chillers.

To add still an additional dimension to the picture, a projection was made comparing the advance in our energy costs with the advance of the consumer price index. We were reminded of the analogy given by Dr. R. A. Springer, our late Texas Baptist Treasurer. He once reported that Baptists were growing more rapidly than the population of the state. He noted that if this should continue there would eventually be more Baptists than people in the State of Texas! We would not object to such an eventuality. However, we do not want more bills than money.

When we had gotten a fair picture of what was happening, the second question crashed in upon us with a terrible thud: What can we do now? We decided to go to our deacons, staff, and entire congregation to give them the picture we had found. We then appealed to them to:

1. Cut off useless lights.

2. Close down rooms not in use (without waiting for a porter to do this for them).

3. Plan programs for the efficient use of space.

4. Develop a schedule of building closings when not in use. We operate in all or part of fourteen buildings situated on seven city blocks of downtown Dallas. This represents in excess of fifty floors with some 600,000 square feet of floor space serviced by twenty-five elevators. I have often told our visitors in jest that only the jail and First Baptist Church operate in Dallas on the weekends, but both of us really operate!

5. Our maintenance people were advised that all lighting, systems, and circuitry would be double-checked. Along this line, plans would be set to delete some "pattern lighting."

Actually, when we asked ourselves what could be done NOW, the answers came back in tandem. That is to say, we learned that there were some things which could be done NOW, like yesterday almost. These are the five things I have just discussed with you. We determined too that there were other things which could be done NOW in the sense that we could begin them almost immediately even though their completion would take some time. Some of these will require a greater expenditure of money to implement and will therefore necessitate further decisions. Typical is a program to reduce our several demand meters to one demand meter. This will reduce our cost even though the same amount of energy might be used.

Someone might ask how we could use the same amount of energy and pay less. Most people are vaguely aware that industrial meters have charts and that rates are established by the peak usage in a given period. Perhaps fewer are aware that churches are included

in this industrial category. Now if we have five meters, we establish a demand on each one. Then after so many kilowatt hours are used on each meter, the price per kilowatt hour is dropped to a lower rate. After still additional use on each meter, the price is dropped to a still more desirable level.

The point is that for each demand meter, you go through an interval of time at the beginning of the month when you pay the high rate on each meter instead of simply having a total consumption that gets you out of the high rate five times sooner if you have one meter, rather than five.

Now the question arises, if you have five, ten or fifteen meters in a plant because you have acquired these properties over a period of time, what will be the cost of eliminating them? Will it not be prohibitive to change all the wiring, construct the vaults, et cetera? How long will it take to amortize the cost of such a project? Of course, specific answers cannot be given for each case. However, it can be said that one cannot consider this just from a view of one point in time. He must extrapolate and consider the inflation that is likely to take place out in the future. When he does this there is likely no way for him not to be pleased with his decision eventually.

The question arises as to whether load management can be effected in any way short of computer use? Yes. There is apparatus manufactured by Allen Bradley and others which is electronic and electromechanical. The apparatus simply turns off loads when the demand in a fifteen-minute interval approaches some predetermined maximum that you are willing to live with. Its only capability is in sensing the approaching peak and demand within a fifteen-minute interval. It is critical that it be interfaced with the same fifteen-minute interval being recorded on the metering chart. Once the two are synchronous, things can be turned off when you approach the peak demand that you do not wish to exceed. This apparatus does not work by blocking more power from coming through the meter. It simply turns off some air handlers or chillers. This is sometimes referred to as duty cycle control. Such considerations were made by our committee.

There are other considerations we cannot touch upon for lack of time. Let me simply mention in passing though another factor for savings for those who find themselves with several power plants instead of one central plant. This has resulted in our own case because of the fact that our facilities range in age from almost 100 years to a year-old building. The first steps are being taken to loop or pipe all these plants together to make, in effect, one plant. This will, we feel, result in a more economic use of power through more efficient operation. We are convinced that it will also decrease the maintenance and wear on some very expensive equipment.

Last, what can be done ultimately? We decided to address the problem of load management through the installation of a computer. The development of microprocessors and minicomputers makes this alternative feasible for more people than we sometimes imagine. First, we must erase the stereotype in our minds that the computer is a room full of whirring wheels which must be kept at a critical temperature and can be repaired only by a technician who flies in from a distant city.

With its ability to take overlays of information in complicated formulas of operation, the computer can do a better job at load management than the best possible on-location engineer by himself. At the same time it is capable of detecting smoke or heat, determining if a door is open when it should be closed, alarming a maintenance man, and

doing a million other tasks important or trivial which you care to program into it. We have programmed fire detection and security at First Baptist of Dallas.

The computer being installed at First Baptist of Dallas is actually being constructed for us by the Micro Mega Company of Dallas as a result of their favorable bid. It is being dubbed the "Moses." It is hoped that this means it will not only lead us through the wilderness, but out of it into a more favorable, if not a promised, land of more efficient energy consumption control.

You don't have the answers to energy consumption problems which are staggering to you? My friend, Dr. H. Leo Eddleman, says that we often don't get the right answers because we are not asking the right questions. I would suggest you go home and ask some of the same questions we asked ourselves. Ask them in terms of your own situation. Ask them with a willingness to accept the answers that come. If you do this you will get the raw material which will serve as a starting point to put you on the pathway to problem solution and move you beyond complaints.

RESPONSES OF THE NORTH CAROLINA BAPTIST STATE CONVENTION

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The energy crisis holds specific meanings for all Baptists. Our encounters with some of the early energy shortages alerted us to the potential seriousness of the problem. The severely cold of the winter of 1976 made this potential problem a reality. This one encounter with shortages temporarily changed our workday and work hour schedules in the Baptist Building in Raleigh. It required the adjustment of meetings for the Convention staff, the associations, and most of all for the churches. A change that everyone felt was the 62 degree thermostat setting.

This cold-weather-induced crisis came when the memory of the gasoline shortage of two years earlier was still sharp in our minds. The gasoline shortage temporarily touched the entire programing scheme of the Convention staff.

These changes were real, but temporary. The predicted changes now coming from the energy issue do not have the promise of being temporary, and this fact is sobering. The May, 1977 issue of U.S. News & World Report carried the prediction, "The energy crisis in the U.S. will do more to disrupt and to change the American way of life than any other domestic problem facing the nation."

All the prophetic voices claim that change in our American way of life is inevitable. The responses now being made by the North Carolina Convention staff stem from the conviction that we dare not simply wait to be forced to respond later and from the conviction that change is not necessarily the enemy of the church and its ability to witness for the Living Christ.

Three deeply-rooted convictions motivated the responses that have just begun in the Convention. These are:

1. The conviction that we are obligated to give leadership in times of crises.

It is tragic that our nation has been caught in this crisis without a national energy policy. It is equally tragic that we as spiritual leaders are ill-prepared to equip our people with the needed spiritual perspectives. We have allowed our value systems to be shaped by society. Now in the crisis we are caught without the needed understanding of the distinctly Christian values of life.

2. The conviction that we have a God-given stewardship which calls for the care of all material resources and mandates the living of the responsible life.

It is sad that we have waited until the crisis hit to give our attention to the meaning of the Christian life in contrast to secular values.

3. The conviction that God has led us into Bold Missions and expects us to respond with commitments equal to the task.

There is a very real danger that we will find ourselves not only wasting precious energy, but wasting precious dollars on unneeded energy uses to the neglect of this great mission opportunity.

The question now facing those of us in North Carolina is the same issue that is before everyone; namely, "What response are we to make?" While questions about the seriousness of the crisis still abound, it is apparent that it is time to respond. We took the initial step in May of this year by naming a small, but well-chosen committee: Charles Petty, named as our chairman, along with staff members Gwenn McCormick and Robert Riley. These three brought to the committee the sensitive insights of Christian ethics, practical church building know-how, and the knowledge of day-by-day operation of the Baptist Building.

This committee has formulated a strategy for Baptists of North Carolina to relate to the crisis. It is a strategy for undertaking the task. Still ahead is the sobering task of improving and implementing the plans. The proposed strategy calls for actions in three broad areas:

1. Theological insights.
2. Helping the churches know how to respond.
3. Assisting the Convention and its institutions to act with energy-conservation sensitivity.

I. A STRATEGY FOR DEVELOPING THEOLOGICAL INSIGHTS

The present crisis is being described as the "moral equivalent of war," as an energy shortage, and as an economic crisis. However, for us it must be viewed as a people-crisis, a situation in desperate need of a champion. The church, and the church alone, is in position to fill this specific role. It is imperative that the church provide the spiritual guidance required to help our people make necessary changes.

The future is uncertain. It is only certain that we will be faced with many vital decisions. We will make these decisions not so much on the strength of what we know as of what we believe and of what we value.

Materialism and modern secularism have taught us to believe that:

1. The purpose for living is to satisfy self-needs.
2. The incentive for living is to accumulate possessions and thus to assure personal satisfaction for now and tomorrow.
3. The reward of life is abundance in comforts and pleasures which one's storehouse provides.

Members of the American public have bought this idea of the "good life" and given themselves in full pursuit of it. What must concern us is that so many Christians, and even many churches, have done the same.

Now our task is to deal with the crisis in which people see these gods of pleasure and abundance beginning to die. We must provide new insights and positive Christian help.

Our State Convention strategy calls for the production of carefully prepared materials for use by pastors, Sunday School teachers, and all church members. We need materials on such subjects as: (1) A Theology of Scarcity; (2) A Theology of Enough; and (3) A Theology of Christian Life Styles. The Convention must provide these materials in printed and visual form.

II. A STRATEGY FOR HELPING THE CHURCHES RESPOND AND MINISTER

A potential result in this crisis confrontation is the emerging of a better church. Indulgence in the world's materialistic concerns has not blessed the church. A proper response now can give the churches their greatest hour.

The proposed strategy calls for the Convention to help the churches consider the many possibilities of adjustment in schedule and to plan with greatest wisdom in church building matters.

Helps anticipated for the churches include:

1. Material on theology (already discussed).
2. A packet of energy-saving construction tips.
3. A guide for a walk-through checklist of church energy uses with help on discovering energy waste.
4. "How-to" help on remodeling that assures the best approach to insulation, heating and cooling, and outside landscape design.
5. Organizational ideas on how to enlist and use conservation-conscious persons for cutting off cooling-heating systems promptly, et cetera.
6. A survey of what other churches are doing that WORKS.
7. Printed help on program adjustment.

To effectively cope with the crisis each church will need to:

1. Set goals to be achieved.
2. Survey their building to reveal ways to cut down on waste.
3. Set guidelines to be followed.
4. Plan implementation.

III. A STRATEGY FOR ASSISTING THE CONVENTION AND ITS INSTITUTIONS IN ENERGY CONSERVATION

There are many more churches and church buildings than there are denominational buildings, and, therefore, it is urgent that churches respond well. However, it is equally essential that Baptist convention buildings and institution buildings be operated with a high degree of energy-saving sensitivity.

Our strategy anticipates:

1. A conference for representatives of each of the Convention institutions and agencies.
2. The committee's seeking the counsel of State Government task force personnel in formulating training materials.
3. Asking each institution to set up a task force to study energy conservation.
4. Special audio-visual (probably videotape) programs for use in these institutions.

The present strategy is only a beginning. It is still to be implemented. North Carolina needs the help of the entire denomination in the creation of these studies and materials. In turn, we want to become part of a total Baptist effort.

RESPONSES OF A BAPTIST BUSINESSMAN

Gilbert Turner, President
Bortunco of America, Inc.
Houston, Texas

We have met the enemy, and the enemy is us. However, the enemy is confused. He doesn't know whether to attack, retreat, or just to pitch tents and wait for the predicted doomsday. Shall we continue in our Tower of Babel — incoherent, fearful, and uncommunicative — as the foundations crumble about us, or shall we take our tools and abundant resources and build anew on enduring foundations of continuing technological achievements?

Never before has so much been written and debated about a subject so important, with so few clear-cut decisions being reached as is the case with energy-related issues. Yesterday's refusal to consider has become today's proposal, tomorrow's debate, and next week's law. Laws, however, too often are administered by shortsighted bureaucrats who publish regulations and administrative guidelines which impinge on business decision making far beyond the scope of congressional intent or voters' desires — and sometimes in entirely different directions than originally intended.

But don't despair! Fortunately, we live under a form of government and an economic system where millions of individual businessmen can still make economic decisions which contribute to the good of all (if wisely made and vigorously pursued). This is true, even though decisions are made with the goal of enhancing both the profit potential and the continued well-being of each individual decision-making economic unit. Under a free market economic system, wrong decisions and inflexible goals soon result in decay and death to inefficient individual economic units with limited effect on the country at large.

This is in stark contrast to the far-reaching effect of unwise decisions by an all-powerful central government which has absolute and dictatorial economic control. Mistakes are slow to be corrected if paid for by others and seldom are admitted unless they can be attributed to events, conditions, or persons other than the perpetrators.

I am confident that despite some tendencies to the contrary and the desires of some so-called leaders to direct our every act, the people of this country are going to recognize the necessity for a renewal of the principles that made the United States the economic wonder of the world. This action would encourage individual initiative and resourcefulness, conserve our energy and natural resources, and promote the freedom we cherish; and, our energy crisis would be greatly alleviated.

These basics, as seen by the businessman, are simple. First, we need a return to the Christian work ethic. A day's work for a day's pay and pride in a job well done would increase productive capacity by 15 to 25 percent, with little or no increase in energy consumption.

Second, coupled with the return to the Christian work ethic, we need a return to what could be called the Christian conservation ethic. The basic teaching of sharing with others implies not only that no more will be used than is needed, but that personal sacrifice will be required as well. I am afraid that all of us are far short of perfection

in this respect. However, we need more positive teaching in homes and in our churches to make conservation a voluntary act of love. There must also be less talking and teaching by irresponsible individuals that we who work, who make a profit, and who save, invest, and accumulate are guilty of exploiting our fellowman. We must rid ourselves of the idea that those who have little and refuse to work are entitled to "sell their votes" and give their allegiance to modern-day Robin Hoods who promise free handouts for no effort where such effort could be made.

A third basic need felt by businessmen, if we are to produce more goods and services with less energy consumption, is that government must be less restrictive and punitive in the application of laws, and rules and regulations. These laws usually are designed to halt flagrant abuses, but often they become a trap or obstacle in the path of the everyday businessman. Equally as harmful as the restrictive and punitive application of these laws is the confusion and uncertainty caused by the constant stream of guidelines, regulations, policies, and rulings that flow from our government in an unending flood. We face a serious danger of runaway inflation from runaway regulation. We need a political economist messiah to rescue us from these twentieth-century Levites. I have hopes that this messiah will come in the form of enlightened and freedom-loving voters, who recognize that the energy crisis is merely a symptom of a disease that is not incurable, but which requires immediate and radical attention.

The businessman's greatest contribution to solving the energy crisis will be made by more efficiency in the production of useful goods and services. To do this, the businessman needs the utmost cooperation from his employees, his customers, his government, and the general public. A businessman today must not only be a technical expert in his field, but he must be a historian, an analyst, a lawyer, a forecaster, a financier, an organizer, a leader, a worker, a politician, and a fighter. He must possess incredible intuition (or luck) in addition to knowledge in making correct economic decisions. Furthermore, he must find the courage to act upon these decisions in a timely manner.

Our capitalistic free enterprise system has produced an abundance of such businessmen. If we do not destroy this system, we will continue to produce such business leaders who, with our cooperation, will solve this energy crisis in a manner that will enable our great grandchildren to look upon the present-day crisis in much the same manner as we now view the whale-oil crisis of the nineteenth century.

Shall we join the enemy and destroy ourselves? Or shall we invite them to join us in building a better tomorrow? We, in the business community, choose the latter. Gentlemen, we invite you to use your influence in urging others to join with us. You are in a unique position to do so.

Our alternative may well be illustrated by the last will and testament of the businessman who was disappointed and frustrated by his unproductive and avaricious relatives. As they gathered expectantly after the funeral, the attorney read from the will: "Being of sound mind, I spent it all."

THE ENERGY CRISIS AND A CHRISTIAN LIFE STYLE

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The energy crisis means no more or less than this: there is a wall around our garden. Creation has its edges. Those predecessors of Columbus were right, one can literally sail off the edge of the Earth. A laboratory culture really can breathe up all the air in its envelope. A species really can overrun the garden. Us bees really are killer bees and us brown rats really do get cannibalized, if crowded. The poor we do have always with us and we create the poor!

"You should have seen this field when God had it all to himself" runs the old farmer-preacher joke, but the line has this merit. It reminds us that even God had need for a keeper-agent-partner, responsible for Creation, too, and so, made, and commissioned a species of caretakers.

A Christian life style takes its rise not in salvation but in Creation —for if, as the blessed Psalter puts it, "God belongs in the heaven of the heavens," and it continues, "...the earth He has given to us" — but not, surely, to make it a swampy sewer, choked with the bones of the prematurely dead, strangled on the noisome gaseous fumes of our iron horses breaking wind in their climb to the top of Mt. Athos, or Sinai, or the Moon.

I have stated swiftly and now shall explicate, or at least expatiate upon, three points:

I. The Limits on Creation and the Ethic of Parsimony
II. The Nature of Covenant and the Ethic of Responsibility
III. Incarnation as Mode for an Ethic of Identity

Salvation is created! This is the text of a glorious Russian anthem that Berry's great choir sometimes sang. For here, I reverse the words: Creation is Salvation. God's first "good, good" is a word of grace, before man or law or atonement were more than a gleam in God's eye. Christians divide, unhappily enough, into sheep and goats—and one can really tell one from the other by whether they have made the matter of our salvation a means or an end. This way of saying this I owe to Ernest Campbell, who sees too, with me, that Salvation is a stopgap to keep the keeper from running off the edge of Creation into Abyss; Redemption is a bypass to keep the traffic flow toward God's own destination, which end is the triumphant completion of Creation and all that the Maker has made, and makes, and will make.

Creation is the stage; creatures, part of Nature all, are actors. And God? God is the only audience, unless indeed there are angels.

Stages have edges, and so does Creation. This we simply have not seen. All gardens have two characteristics in common: order—some kind of order, even a studied disorder; and boundary, fence, limit. In the ancient Canaanite myth, God moved against disorder first, the Chaos—dragons; and the Jews "remembered" he did it with a garden which had limits, beyond which lay the Land of Nod, wandering, no home, no limits, darkness. But who could have believed it? Man grew up thinking and acting, ripping and tearing,

using and misusing as if the Garden had no edge or limit and, as if he-she—himself-herself, were not a part of nature whose very continual existence depended upon the state of the garden. It may be the heresy of all our reading of our history that we have thought ourselves above nature instead of nature-bound.

Prometheus is bound. Prometheus is beholden to the Sacrament of Limits, I have called it. Phylogenetic, biochemical, photosynthetic processes bind our species and everything that organic life exhibits. Systems—neural, blood, bone, and cellular; cultural, familial, political, mythic; ethical, psychic, sociobiological, philosophical, economic, and religious; Spheres—biosphere, zoosphere, noosphere, hemisphere and galactic contain us. No escape, we cannot get out. There is no door and here we adjust and adapt and/or die. And if we bear the cosmic burden of knowing this, it only adds to the incredible obligation we have within all this, precisely because we can/do know it.

The Sacrament of Limits is served only by acceptance of limits. Acceptance of limits imposes upon me that I have fled all my life: discipline. This I must buy if I continue and live long, or if even I should live well. This discipline it is, which if preservative, will be conservative. That is to say, I am pushed to an ethic of parsimony even while living in a cornucopia of supplies for living. Parsimony is the only ethic I know that can protect homeostasis in a context of limited creation.

But look again at my limits: stomach, bladder, bowels; heart, kidneys, head; muscle, nerve, bone; time, space, place; mind, memory, and expectation. I am surrounded, halted, stopped with minimal power to move or move out. This is the given basis for an ethic of parsimony. I have survived a systolic blood pressure of 47, but I was cold and clammy, and barely living. If that same pressure should reach 180, I am sitting on an explosion looking for a weak arterial wall where it can happen. My belly juices are no longer those of an Irish Setter. I can burn only 30 grams of carbohydrate a day, not the 380 grams of the average American's diet. I cannot live if I am more than six days from any water, and while my average is about three hours, I will be convulsive if I go too long between urinals. One-hundred and thirty days without food, three minutes without air, I need electric stimulus on a mini-second interval, potassium, magnesium, salts, and metals in constant supply; and I can't live a day without love. On the average American street, they say, there is a sexual stimulus about every seven minutes, but if expressed in a breeding situation I am out of room to live in a single generation, marooned on acres of babies. How now does one live with limits? Up to my ears in crocodiles, how do I concentrate on draining the swamp?

The ethical principle involved here I call parsimony and this seems a crazy inversion when one has lived in an unlimited creation. The law of parsimony means both qualitatively and quantitatively the least that will really do!

Professor Torrence told me last week that Dr. Einstein hesitated when asked to set a salary at Princeton, then said he preferred a checking account. At the end of a year, trustees found the great mind and his wife had used $1700! Wesley may have said, "Get all you can; give all you can," but he proscribed no more than 8 ounces of any meat and 12 ounces of vegetables a day for clergy, then added, "and no more than a glass of wine." "never take more than three items at table," he said, which may be why he weighed 120, but it's also why he could preach to 4,000 miners at Gwennup Pit at 4 a.m. when he was 84. He was even parsimonious about sleep and ordered his men to study themselves and to take no more sleep than they needed to work well.

Not frugality, which is the least I can get by with. Not penuriousness, which begrudges me even the minimum need of my own belly; but parsimony, the least that will really do.

Parsimony over creation means the shrinking of Gargantua's gullet; the constriction of the appetite of Amazon; the drastic reduction of the belly of Mammon; this is what I mean, and have sought. "One is rich in proportion to what he can do without," says Thoreau on Walden's Pond. "The House Farthest Out," sent me by Dean Sam Miller during my long convalescence, had no television. "He shall give thee thy heart's desire," said Joe Carrington to me in a tiny room in Paraguay. Mishalah really means, "God Almighty will fix your wanter!" Augustine, ten days a-dying with the penitential psalms, had no will; there was nothing the poor man had for disposal.

Not frugality, which is a venal sin and crime against nature; not penuriousness, which is a spiritual condition; but parsimony, an empirical, administrative, judgmental principle operative with the least that will really fulfill the end of Creation. This is what I mean—it works even, and especially even, in psychic-therapy. For here the hearer's response is properly the least that will really do. Or, as Chuck Gerkin of Emory has taught me, I invade and assume another's domain and privacy and responsibility.

II

Of Covenant and its concomitant responsibility, I do speak with passion. And my passion is not devoid of precedent. Gerhard Von Rad begins, "Striking decisive moments of Covenant-making by Yahweh mark Israel's epic." What a thrill it was for me twenty years ago, when I had come East from Austin to "do" my Structures of Prejudice in public, to find myself rooming with that covenantal monument, James Muilenberg, and hear-see him being that Abraham, sinking into Covenant with the Yahweh of Grace and Mercy, then to feel myself climbing with Muilenberg through all seven levels of Covenant to arrive at length at the Elohist Sinaitic material of the Jewish memory when the human partner, connected by Covenant with both Creation and Salvation, is vigorously reminded of duty, decision, and a necessary declaration. It's an ethic of responsibility, I find. Responsible, I am, as imago Dei, for the parsimonious caretaking of everything else and myself in Creation.

If, entering now the zenith of my brief arc across and within Creation, I should enter God's grand Assize Hall tomorrow, called to account for myself, I should offer this confession and defense if, indeed, I could do more than fall down. But if able to give vocal response at all, I should say this:

> Thou knowest, dear Lord of our lives, that for fifty of thy-my years, in ignorance, zest, zeal, and sin, I lived as if Creation and I had no limits. I lived and wanted and was, as if I had forever—without regard for time, or wit, or strength, or need, or limit, or endurance, and as if sleep were a needless luxury and digestion an automatic process. But Thou, O Lord of my real love, didst snatch my bits and ride me into Thy back pasture and didst rub my nose in my vulnerability and didst split my right lung into acquiesence, and didst freeze my colon for ten days in grief and loss, and didst press me into that year of depression in the anger I had diverted against myself at a threat to my nearest and dearest. Thou didst press me to knee-drop where the only word of petition I could utter was a despair-ridden, "Open, open." Thou didst read over my shoulder my diary of that terrible journey when I did melt before Thee as a mere creature. Thou, then, didst hear.

Hear, now, my pitiable defense: In all my sixty years I killed no creature of thine I did not use for food except for a few rattlesnakes, a jackrabbit, a turtle or two, two quail I left overlong in my coat, and three geese poisoned on bad grain in Nebraska before I shot them, plus one wood duck in Korea. In all my years, I consciously battered no child, though my own claim much need to forgive me, and consciously misused no woman. Thou knowest my aim to treat no human as thing, never to hate overlong, to pass no child without his-her eye, and my innermost wish to love as Thou dost love by seeing no shades of color or class. And Thou didst long ago hear my cry to let me go from Paducah. Thou knowest my covenant with Elizabeth in our youth and thou knowest it has been better kept than my Covenant with Thee, and wilt thou Forgive? Indeed, thou hast. Hear now my intention with grace as if it were fact. I do intend and have intended to be responsible in Creation by Covenant and where I have defaulted do Thou forgive. Forgive, too, my vicarious responsibility for all the defection from thy purpose of all thy responsible creatures, and accept Thou this my admission of utter dependence upon Thy mercy."

And this, dear friends, is as near as I wish now to come to the exposure of what I mean by responsible ethic within my limits of God's limited Creation. But there is more, much more.

III

The Name above every name, at which every knee shall bow, has not yet been uttered. And His name is, appropriately, the content and context of my responsible identity.

I wrote, years ago, my Suffering Servant; and the artist, commissioned to do His dear face for the cover, smitten deaf—mute in her infancy, to the astonished eyes of her colleagues, did for Christ's face, a self-portrait. It's authentic and hangs in my study. But the blessed Jesus never referred to Himself by that "Suffering Servant" title. Servant? Yes. Son? Yes. Rejected? Yes. To suffer? Yes. But he never appropriated Isaiah's graphic poem as His own name.

Who, then, laid it on Him that:

"He was bruised for our iniquities
The chastisement of our peace
was laid upon Him"?

Who recognized first that:

"He was despised and rejected,
A Man of Sorrows and acquainted with grief"?

That:

"All we like sheep had gone astray"?

And that:

"We had turned every one to his own way"?

And that:

"We hid our faces from him"?

And that:

"The Lord had laid on him
The Iniquity of us all"?

Answer? The whole believing first-century community laid it on Him when they saw His Cross-Death. In unison, later, as they looked back, they said: "There, there, the Lord hath reigned from the Tree——and He is Suffering Servant."

Jesus never claimed the title—no label on Matterhorn. It waits for the onlooker to gasp and know where he is. No sign on Grand Canyon. The overlooker gasps and draws back. No placard for Suffering Servant, but the whole community of believers says: God comes and has come to us! The Divine has emptied himself!

God has become a peasant!
And still man is proud. (Augustine)

"Pass by Him, the Man, and you will come to God.
Do not seek for any other way to come to God for if
He had not vouchsafed to be the way we should
all have gone astray. Therefore, I say to you,
do not seek the way. The way has come to thee.
Rise and walk!" (Augustine)

The Christian Secret, says the aged Karl Barth, is that I know you, who you are——and you know me; our Name is "Jesus Christ," and this puts us in Church! But, and also, we know this about all those others out there, "whether they know it or not"—and this puts us all in Church!

And what does this mean for us here and now? It means at least this—I am not to derive my name and my identity from culturally imposed designations. My sex, race, religion, class, economic location, family, play, and education are not identification tags. My name is the highest I know, Jesus who is the Christ is the best of breed. This imposes a higher identity for me.

But how and with what effrontery do I assume this identity? My culture, family, class, town and region; my religion, education, and value structure; my race, economic location and national heritage, all tell me I am male, white, East Tennessean, democrat, lower class, Baptist, ordained, half educated and certified in these. Is there for me a higher identity resting on God's own memory?

Indeed, Jesus Christ is my species and my breed, or Incarnation is a stupid fantasy. But what happens when I know and assume this self-recognized identity?

Catastrophe! An ego-maniacal, self-aggrandizing assumption of false identity—unless, unless I wait. Wait? Wait for you to see this. For you to name me Priest of God to You; for you to tell me whom I am, Jesus—who—has—appeared. But if I say this I disfranchise the Blessed Jesus and me. You must tell me this if it's so, and I must wait. This is the Ethic of Identity. I need you to tell me whom I am—Jesus! Merci!

And now I need a summary which defies my powers of condensation and degree of consanguinity: Jesus is my name, I am one of the Goyim, born out of due season, included by

God's Creator Grace in all He has intended for all men, included in God's Israel, by adoption, as are all "them" peoples, and called to be Jesus when I can. I am under an ages-old covenant of responsible presence in an arena of created powers and processes over which I exercise as "me" some kind of responsible oversight, but vulnerable, limited, inhibited; victim, sinner, and recalcitrant, redundant, reluctant partner in a creative process which may or may not reach its fulfillment far beyond me. "Naked came I into the world." How I'm dressed at conclusion makes no difference. A pair of jeans or a Glasgow robe, it's samo-samo. Meantime? I mow, and cut wood, and clean ditches, and preach what is happening and listen, and wait, and want, and work, and look to see what God will do in the Earth, His limited Creation, which asks for Covenant response and glories in Redemption, as a way-station enroute to completion —Selah! I watch out always for peoples, and for babies, and little rabbits, and black snakes worth preserving, and little puppies on the road, and old folks nearby who stutter and lack, and can hear, too. Come, Lord Jesus.

THE ENERGY PROBLEM AND THE NATIONAL ENERGY PLAN

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INTRODUCTION

President Carter has formally presented the outlines of a comprehensive new energy plan and a collective legislative and administrative program for the United States. The proposal is to achieve by 1985 a series of specific quantitative production and conservation goals. Urgency of national action is predicated on a judgment that the world's demand for oil and natural gas, if not significantly moderated, will exceed world productive capacity as early as 1985, threatening "catastrophe" and calling for "the moral equivalent of war." Whether the Congress and the public will accept the validity of this assessment of the energy problem is a major issue. Will world demand for oil and natural gas outrun supply by 1985? If the danger is that imminent, are the incentives and disincentives proposed by the President sufficient to reach the quantitative goals? If it is not that imminent, are the proposed measures necessary at this time?

Because the design of a program which will meet the problem depends very much on general agreement on the nature of the problem to be addressed, perhaps I can make a contribution to this continuing consultation on energy by documenting the nature of the energy problem as defined by the President, describing the Plan and some recent actions and assessments of the Plan's efficacy in relation to its goals. This paper is taken from Issue Brief 77060, a Congressional Research Service (CRS) publication which is regularly updated and is made available on request to members of Congress. CRS office policies preclude CRS analysts from taking policy positions on action programs directly under legislative consideration. This paper will, therefore, not include the personal comments on renewable fuels policies included in the informal extemporaneous presentation to the participants in the Consultation in August. I would like to express my appreciation for the opportunity to take part in a stimulating and inspiring session.

This paper covers the following topics:

- Assessment of the Energy Problem
- The National Energy Plan: Proposed Principles, Goals and Strategy
- Previous Congressional Action on Energy
- Distinctive Features of the Proposed Plan
- Initial Congressional Response
- Preliminary Public Response to the Plan
- Preliminary Assessments of the Impact of the Plan on the Goals
- Assessment of the Impact of the Continuing Problem

ASSESSMENT OF THE ENERGY PROBLEM

Congress has already given considerable attention to the problem of near-term exhaustion of domestic reserves of oil and natural gas, and the congressional debates on the omnibus energy bills in 1975 and 1976 reflected this awareness and concern. As noted in Table 1, at least five major reports had projected exhaustion of domestic oil and natural gas liquids as early as 1992, assuming imports at 35% of demand, even if energy consumption could be constrained to an annual growth rate of only 2.5%. Such estimates are consistent with

the general parameters of domestic U. S. oil and gas reserves which are included in the Central Intelligence Agency's study on the international energy situation through 1985, a two-year study sponsored by the Massachusetts Institute of Technology (known as WAES, the Workshop on Alternative Energy Strategies), and the report of a 1976 United Nations conference of geologists and other specialists, which were widely publicized after President Carter's April 18th energy address.

Table 1: Year of Exhaustion of U. S. Oil and Natural Gas Liquids Reserves
With 2.5% growth in energy consumption and:

Estimated by:	No Imports	35% Imports
National Petroleum Council (1972)	2000	2009
Mobil Oil (1974)	1994	2001
National Academy of Sciences (1975)	1996	2004
M. K. Hubbert (1974)	1992	1999
U. S. Geological Survey (1974)	2003-2117	2013-2029
U. S. Geological Survey (1975)	1991-1998	2000-2009

Source: "An Analysis of the Department of the Interior's Proposed Acceleration of Development of Oil and Gas on the Outer Continental Shelf," a study prepared by the staff of the National Ocean Policy Study, with the assistance of the Congressional Office of Technology Assessment, for the Senate Committee on Commerce, 94th Congress, 1st Session, Committee Print, Mar. 5, 1975, p. 11; and "Geological Estimates of Undiscovered Recoverable Oil and Gas Resources in the United States," Geological Survey Circular 725 (1975).

These earlier estimates, however, were directed primarily at assessing the physical and geological probability of U. S. reserves as potential supplies. The CIA and WAES reports, on the other hand, concentrated on the trends in world demand for oil in relationship to the present and anticipated capacity for production, particularly the capability of the OPEC countries on whom the rest of the world is expected increasingly to depend over the next 10 years.

The targeting of 1985 as a point of critical energy emergency is based on the conclusion that, as stated in the CIA report:

> "Between 1979 and 1985, increasing world demand and stagnating oil production in the major consuming countries will result in increased reliance on OPEC oil. By 1985 we estimate that demand for OPEC oil will reach 47 to 51 million b/d (barrels per day). Even if all other OPEC states produce at capacity, Saudi Arabia will be required to produce between 19 and 23 million b/d if demand is to be met. This is well above present Saudi capacity of 10 to 11 million b/d, and projected 1985 capacity of at most 18 million b/d. With the present expansion plans of the Saudis, their excess productive capacity be exhausted by 1983, and with it their ability to act as a price moderator in OPEC."

Similar conclusions were reached by the WAES study, released May 16, 1977:

> "Unless appropriate remedies are applied soon, the demand for petroleum in the non-Communist world will probably overtake supplies around 1985 to 1995. That is the maximum time we have: thirteen years, give or take

five. It might be less. Petroleum demand could exceed supply as early as 1983 if the OPEC countries maintain their present production ceilings because oil in the ground is more valuable than extra dollars they cannot use."

The President and his energy advisors have focused on this approaching point of domestic and international crisis, when world demand for oil outruns world capacity to produce, a date well ahead of ultimate exhaustion of world reserves of oil and gas but no less threatening as a force for domestic and international economic chaos and disaster. In his April 18th speech in which he defined the nature of the energy problem to the nation, President Carter said:

> "Tonight I want to have an unpleasant talk with you about a problem that is unprecedented in our history. With the exception of preventing war, this is the greatest challenge that our country will face during our lifetime. . . .the moral equivalent of war, except that we will be uniting our efforts to build and not to destroy. The oil and natural gas that we rely on for 75 percent of our energy are simply running out. In spite of increased effort, domestic production has been dropping steadily at about 6 percent a year. Imports have doubled in the last 5 years. Our nation's economic and political independence is becoming increasingly vulnerable. Unless profound changes are made to lower oil consumption, we now believe that early in the 1980's the world will be demanding more oil than it can produce. Six years ago, we paid $3.7 billion for imported oil. Last year we spent $36 billion for imported oil--nearly 10 times as much--and this year we may spend $45 billion. Unless we act, we will spend more than $550 billion for imported oil by 1985--more than $2,500 for every man, woman, and child in America. Along with that money that we transport overseas, we will continue losing American jobs and become increasingly vulnerable to supply interruptions.
>
> "If we wait and do not act, then our factories will not be able to keep our people on the job with reduced supplies of fuel. Too few of our utility companies will have switched to coal, which is our most abundant energy source. We will not be ready to keep our transportation system running with smaller and more efficient cars and a better network of buses, trains, and public transportation. We will feel mounting pressure to plunder the environment. We will have to have a crash program to build more nuclear plants, strip mine and burn more coal, and drill more offshore wells than if we begin to conserve right now. Inflation will soar; production will go down; people will lose their jobs. Intense competition for oil will build up among nations and also among the different regions within our own country. This has already started. If we fail to act soon, we will face an economic, social, and political crisis that will threaten our free institutions. But we still have another choice. We can begin to prepare right now. We can decide to act while there is still time."

The CIA and WAES studies were reviewed together with four other reports on world oil supply and demand--by the OECD, Exxon, Stanford Research Institute, and the United Nations Institute for Training and Research--in briefings held by the House Ad Hoc Committee on Energy on May 25 and June 9, 1977. There were differences among the various estimates of world demand, particularly on whether, as the CIA report projected, the U.S.S.R. would become a net importer of oil by 1985. However, all were agreed in their near-term estimates that world productive capacity would not be sufficient to meet unrestrained world demand by the mid-1980s and that Saudi Arabia's policies, on both price and production, would play the critical and controlling role.

A dissenting assessment was made in a later study prepared by the United States International Trade Commission under the title "Factors Affecting World Petroleum Prices to 1985," concluding that "although crude petroleum supplies may tighten between now and 1985, no disruptive shortage is foreseen." The study assumes some 3 million b/d more in production of oil in the OECD countries, excluding the U. S., than do other estimates; about 3 million b/d more in oil produced in the rest of the free world; and savings from conservation and fuel switching efforts that would reduce U. S. import requirements to 7.2 million b/d. These major variants underlie the ITC judgment that OPEC could hold supply at about 32 million b/d, well below current and anticipated productive capacity, without producing any "disruptive shortage."

THE NATIONAL ENERGY PLAN: PROPOSED PRINCIPLES, GOALS, AND STRATEGY

The new National Energy Policy, proposed by the President to meet this impending danger, is based on 10 principles which are translated into a three-phase strategy and seven quantitative energy goals. A short summary of the substance of these elements follows.

The Principles

The fundamental principles which the President identified as underlying the policy are:

(1) The energy problem can be effectively addressed only by a Government that accepts responsibility for dealing with it comprehensively and by a public that understands its seriousness and is ready to make necessary sacrifices.

(2) Healthy economic growth must continue.

(3) National policies for the protection of the environment must be maintained.

(4) The United States must reduce its vulnerability to potentially devastating supply interruptions.

(5) The program must be fair. The United States must solve its energy problems in a manner that is equitable to all regions, sectors and income groups.

(6) The cornerstone of National Energy Policy is that the growth of energy demand must be restrained through conservation and improved energy efficiency.

(7) Energy prices should generally reflect the true replacement cost of energy.

(8) Both energy producers and consumers are entitled to reasonable certainty as to Government policy.

(9) Resources in plentiful supply must be used more widely and the nation must begin the process of moderating its use of those in short supply.

(10) The use of nonconventional sources of energy--such as solar, wind, biomass, geothermal--must be vigorously expanded.

While thus far there has been little disagreement with most of these principles, the assertion that the Federal Government must take a leading role in dealing with the energy problem comprehensively and the concept that energy prices should generally reflect the true replacement cost of energy represent major changes as compared with the national energy policies

and assumptions of the past.

The Quantitative Goals

The President has proposed specific energy goals to be achieved between now and 1985, the year identified by the President and the Plan as generally the period when world demand for oil and natural gas, if not significantly moderated, is likely to exceed world supply. The Congress has been requested to support these goals by enacting legislation committing the nation, by 1985, to:

(1) Reduce the rate of growth of energy demand to below 2% per year.

(2) Reduce gasoline consumption by 10% below the 1976 level.

(3) Reduce oil imports from a potential level of 16 million barrels per day to 6 million barrels per day, about one-eighth of total energy consumption.

(4) Establish a strategic petroleum reserve of 1 billion barrels.

(5) Increase coal production by about two-thirds to more than 1 billion tons annually.

(6) Bring 90 percent of existing homes and all new buildings up to minimum energy efficiency standards.

(7) Use solar energy in more than 2 1/2 million homes.

This list of goals, presented in Presidential addresses, on Apr. 18 and Apr. 20, 1977, in the draft legislation, and in the White Paper entitled "The National Energy Plan," does not include any reference to quantitative goals for nuclear energy, although that source of energy is discussed in the White Paper and the President has submitted draft legislation embodying his recommendations for national policy on nuclear nonproliferation.

The White Paper stated, "Today 63 nuclear power plants provide about 10 percent of the U. S. supply of electricity. By 1985, an additional 75 nuclear plants already planned or in construction could be in operation, and nuclear power could provide as much as 20 percent of electricity supply. Thus, the United States has the option of relying on light-water reactors to provide nuclear power to offset a share of the nation's energy deficit without undue risk of proliferation." The Plan's fuel balance table (Plan, p. 96) projects a possible quadrupling of energy derived from nuclear power in 1985, from one million barrels of oil equivalent per day (mb/doe) to 3.8 mb/doe.

The Strategy

The general strategy is to rely on higher prices, under continued Federal controls, and a wide variety of tax and other incentives and disincentives to encourage voluntary conservation of energy and conversion to fuels other than oil and natural gas, reserving the possibility of resorting to rationing and other mandatory measures if voluntary action does not suffice.

A series of income tax and other rebates are provided, intended both to encourage conservation and to offset the economic input of higher prices, particularly on lower income groups.

Equalization and other taxes combined with price regulations would be promulgated to produce an upward adjustment of oil and natural gas prices to levels that would reflect more realistically the replacement costs of energy. Natural gas price controls would be applied to intrastate as well as interstate first sales. The effect the measures would have on inflation and other economic activity would be closely monitored; oil price and allocation controls would be available on a standby basis to insure continuing predictability and relative stability of those prices.

In the short run, the strategy concentrates on energy conservation, augmented in the mid-term by increasing conversion to fuels other than oil and natural gas, particularly coal and nuclear energy. To meet longer run objectives, there will be a concurrent acceleration in research and development and commercialization of unconventional fuels, including coal gasification, but with increasing attention to renewable fuels to more completely replace depletable fuels early in the next century.

The Administration calculated that the proposed new energy policy and plan, if fully supported, could save about 4.5 million barrels of oil per day over the amount of oil which would otherwise be required in 1985. If fully reflected in reduced imports, this could bring the level of oil imports down to about 7 million barrels a day by 1985, 2 million below the daily average of 8.9 million b/d reached during the first six months of 1977, but still one million b/d below the Plan's goal.

A critical aspect of this strategy is that the success of the whole new "united" and "comprehensive" program still depends on the voluntary response of the private sector. If consumers do not respond to the incentives and/or disincentives sufficiently, the conservation and fuel conversion goals will not be met. If the producers do not respond to the price incentives the production goals will not be met. Although the White Paper and the President state that if voluntary measures do not suffice, mandatory measures will be resorted to, the measures detailed involve only conservation and conversion actions and do not in any way involve "mandating" production of either fuels or fuel conservation or conversion equipment and facilities.

PREVIOUS CONGRESSIONAL ACTION

This is not the first time that the Congress has considered quite comprehensive, omnibus energy legislation. The 94th Congress debated and passed two major omnibus bills--the Energy Policy and Conservation and Production Act (P.L 94-385)--which together with a number of related energy enactments, have already provided for the following program elements, which are also part of the President's proposed national energy plan:

Strategic Reserves. Authorization to create a system of national strategic petroleum reserves (of up to 1 billion barrels) and development and civilian use of naval petroleum reserves: P.L. 94-163 (Title I), P. L. 94-258.

Emergency Authority. A wide range of standby energy emergency legislation, including continuing authority for allocation of scarce materials and petroleum, as well as end-use rationing of gasoline: P. L. 94-163 (Titles II and III) P. L. 93-319.

Energy Pricing. Permits carefully monitored and moderated increases in domestic crude oil prices to world price levels over a period of 39 months under new procedures ensuring close congressional management, oversight and control. Stripper-well production is exempt from the price ceilings, effective September 1, 1976.

Proposals for utility rate reform are to be prepared by FEA: P. L. 94-163 (Title IV), P. L. 94-385 (Titles I and II).

Conversion from Oil and Gas to Coal. Extended authority for the FEA Administrator to force industrial conversion from oil and natural gas to coal: P. L. 93-319, P. L. 94-163 (Title I).

Energy Conservation. A $2 billion loan guarantee program to encourage industry and business to practice energy conservation; a $200 million grant program for a three-year weatherization assistance program administered by FEA; $82.5 million for a weatherization program administered by Community Services Administration; a two-year, $200 million loan-grant demonstration program to finance conservation and use of renewable resources in existing homes; $150 million to aid States in developing conservation plang; mandatory building standards are to be drawn up; mandatory labeling for energy-using appliances; additional funding to promote mass transportation, recycling and resource recovery; and mandatory fuel economy standards for passenger automobiles: P.L. 94-163 (Title III), P. L. 94-385 (Titles III and IV), P. L. 94-107, P. L. 95-26.

Energy Research, Development and Demonstration. Increased funding for solar and other renewable fuels, continued work on nuclear power research , and a quite substantial research and development program to promote the commercialization of electric vehicles: P. L. 93-577, P. L. 93-473, P. L. 93-409, P. L. 93-383, P. L. 93-410, P. L. 94-413, P. L. 94-116, P. L. 94-180, P . L. 94-269, P. L. 94473.

In addition, another omnibus bill, the Energy Conservation and Production Revenue Act of 1976 (H.R. 6860), passed the House in June, 1975, and cleared the Senate Finance Committee in August 1976 (but was not considered on the Senate floor). The Act included a wide variety of measures similar to those proposed in the Administration legislation, including:

Conservation Tax and Investment Credits. For homeowners and businesses who install new or improved insulation, better heating systems, solar and geothermal energy equipment, heat pumps, and wind-related energy equipment.

Production Investment Credits. Additional credits were provided to encourage investment in waste conversion equipment, organic fuel conversion, railroad equipment, deep mining coal equipment, coal liquifaction and gasification technology.

A tax on the business use of oil and natural gas was included in H.R. 6860 as it passed the House, but eliminated in the Senate version. The Senate bill included an increase in the gasoline tax of one-half cent per gallon for a three-year period, although gasoline taxes had been voted down in the House.

Five proposals designed to achieve the quantitative goals--the "gas guzzler" tax, natural gas price increases, standby gasoline tax, tax on the business use of oil and natural gas and the crude oil equalization tax--have been extensively debated and failed to gain congressional acceptance in the 94th Congress. They are still controversial. Only a utility conservation service proposal and proposed rebates of "gas guzzler" and gasoline taxes can be considered to be new.

DISTINCTIVE FEATURES OF THE PROPOSED PLAN

As noted above, few of the proposed specific program incentives and disincentives included

in the National Energy Policy Act represent any marked divergence from energy legislation already enacted or, in the case of the taxing measures, already thoroughly considered or passed by the House during the 94th Congress.

The distinctive features of the proposed new plan lie, rather, in the rationale and guiding principles that provide a different context within which policies and programs already underway can be understood, amended, and extended, and in which future policies and plans can be developed and accommodated.

The following three features of the rationale appear to be the most at variance from the past:

(1) A World Context. The outlook for U. S. energy is presented within the context of the whole world's energy requirements and anticipated production capacity and supply, particularly of oil. U. S. domestic energy actions are viewed as an important component of national security and other foreign policy objectives. Earlier proposals focused primarily on U. S. needs and sources of supply.

(2) A New Energy Pricing Context. The assertion that "the pricing of oil and natural gas should reflect the economic fact that the true value of a depleting resource is the cost of replacing it" represents a major break with previous pricing policies affecting those two fuels. Previous policies were oriented towards producing the lowest prices consistent with production and delivery costs and reliability of supply.

(3) The Federal Role. An even more fundamental break with previous policy lies in the claim that the Federal Government must take the leading role in exercising responsibility for comprehensive policy making intended to reshape the price, volume and proportionate mix of consumption and production of major fuels. This is a role which, except in times of war, has been deliberately delegated to the private sector as a matter of long standing bipartisan national policy consensus. In energy, the Federal role was to remain subordinate to private action, intervening only when the private sector could not or would not take responsibility for additional action deemed essential in the public interest.

Despite this drastic shift in the Federal policy making role, as noted earlier, the strategy of the new plan is to continue to rely on the voluntary investments and response of the private sector for achievement of its substantial conservation and production goals.

INITIAL CONGRESSIONAL RESPONSE

By August 5, both the House and the Senate had taken action that reflects a substantial degree of acceptance and endorsement of the two most controversial aspects of the President's proposals: The assertions that the Federal Government should take the leading role in determining national energy policy and that the price of energy should reflect its replacement cost. Both Houses have approved and the President, on August 4, signed legislation creating a new Department of Energy with formidable powers taken over in entirely from FPC, FEA, ERDA, and partially from other energy-related agencies. On the same day - August 4 - the Senate confirmed the appointment of James R. Schlesinger, Jr., former Secretary of Defense, as the first Secretary of Energy.

The House, completing a three-month, almost non-stop review of the Administration's draft omnibus bill, approved on August 5 an amended version, which in the key elements of oil and natural gas pricing and control closely followed the Administration's proposals. The House has thus implicitly accepted and endorsed the Administration's insistence on the necessity for an expamded and preemptive Federal role in the design of national energy policy. The choice of methods which the House has endorsed is especially significant: A still equalization tax is to be paid by the refiners of crude oil, and control over the price of wellhead natural gas, formerly limited to interstate trade, is now extended to intrastate trade for "new" gas.

Under the pricing formulas, the price of domestic crude oil will reach that of foreign oil imports around mid-1979--as intended by EPCA (P. L. 94-163)--but the equalization tax will not expire or go on standby then, as would have been the case under EPCA. The tax will continue until Sept. 30, 1981, unless later changed. Similarly, the Natural Gas Act has been specifically amended to set the ceiling levels and formula for "new" natural gas at Btu equivalency with domestic crude oil delivered to refineries, indefinitely. The regulatory adjustment authorities, formerly exercised by the Federal Power Commission and now transferred to the new Federal Economic Regulatory Commission in the Department of Energy, would be thus specifically circumscribed.

This action by the House represents a dramatic reversal of Federal energy policies that only a few years ago used concessional tax exemptions for oil and natural gas producers as a means of keeping prices low and delegated primary responsibility and risk for energy development and pricing decisions to the private sector.

The Senate, although generally agreed that domestic oil and natural gas prices should be raised more closely to reflect the oil import replacement cost, is sharply divided on the methods to be used. On September 20, the Senate began debate on the natural gas provisions of the President's energy plan --as a clean bill, S. 2104--with its Members almost equally divided between deregulation of "new" natural gas over five years and the Administration proposals. On October 4, the Senate voted 50-46 to free new onshore natural gas from price controls in two years, continuing a price ceiling on newly discovered onshore gas of about $2.48 per thousand cubic feet until then. Offshore gas would be deregulated in five years.

PRELIMINARY PUBLIC RESPONSE TO THE PLAN

Although the initial reaction of the public at large has been generally favorable, substantial doubts exist as to whether the American public understands even the nature of the problem, much less its severity.

As measured by a national opinion poll (ABC News/Harris) taken immediately after President Carter's April 20th televised energy address, the number of Americans who now feel that the energy shortage is "serious" has gone up from 81 to 86%, with the number who say it is "very serious" up from 44 to 50%.

However, according to a Gallup Poll taken April 29-May 1 and released early in June, only half of the American public (52%) knows that America must import oil to satisfy its energy demands. The remainder either have the impression that there is enough oil produced domestically (33%) or do not venture a guess at all (15%). Furthermore, among those who do know that the country is dependent on imported oil, only a third--or 9% of all adults--have an accurate idea of how much petroleum the country imports, namely 42% last year and 47% for the first three months of 1977.

PRELIMINARY ASSESSMENTS OF THE IMPACT OF THE PLAN ON THE PROPOSED GOALS

Four congressional agencies--the Congressional Budget Office (CBO), the Congressional Research Service (CRS), the General Accounting Office (GAO), and the Office of Technology Assessment (OTA)--have completed preliminary assessments of the President's proposed National Energy Plan, in response to requests from Committees and Members now engaged in marking up the Administration's omnibus bills, H.R. 6831 and S. 1469. All of these are agreed, with minor differences, that the direct and indirect price and other economic impacts of the Plan itself would not produce results very different from what might take place without the Plan, with oil product price increases of between 7 to 12 cents a gallon believed likely, (not counting the impact of the Administration's proposed gasoline tax, a measure dropped in the House).

All of these assessments, however, also conclude that the Plan, even if enacted as proposed, could not produce the quantitative oil savings effects targeted in the Plan's goals because of shortfalls which would occur in virtually all other quantitative goals.

Congressional Budget Office

The CBO report, issued May 31, 1977, concluded that anticipated oil savings will reach only 3.6 million barrels a day, rather than the Administration's estimated 4.5 mb/d. About 0.6 of the 0.9 mb/d discrepancy, according to CBO calculations, results from lower estimates of coal conversion potential. The remaining 0.3 mb/d discrepancy is due to differing estimates of impact of home insulation and solar equipment tax credits.

The Congressional Research Service

Although no specific quantitative shortfall is provided, the initial CRS assessment, issued June 1, 1977, concluded that the Plan's estimated import savings are "optimistic and not likely to be achieved" although imports probably will be higher than 7 mb/d. CRS analysts do not expect imports to exceed a ceiling of 12 mb/d, even without the Plan, because of other constraints.

A subsequent CRS report on "The Carter Coal Conversion Program," issued June 10, 1977, concluded that the 5.1% per year growth rate of energy input to industry forecast by the Plan from 1977 to 1985 is far too high. Based on historical performance of the U. S. economy since 1960, the rate would be closer to 3.1%, even subtracting recession-caused decreases, and would be further decreased by the effects of the Plan, as the Administration has since conceded. Furthermore, costs assumed in the Administration's calculations--estimated at $6.4 million for a 25 megawatt boiler plus $1.9 million for a scrubber--differ markedly from a number of other industry estimates, such as those presented in testimony to the Texas Industrial Commission in January 1977 (about $10 million without scrubber) and estimates made by the American Boiler Manufacturers Association (that scrubbing investment for a 25 megawatt boiler would be about $5 million rather than $1.9 million). The CRS report concludes:

> "In sum, the Plan claims an increased coal use in industry of about 200 million tons in 1985. The concerns raised in this paper call into question some 140 million of these tons, 120 million tons of which result from an improbably high estimate of rate of growth of energy demand and the rest as the result of unreasonably low Plan estimates of the cost of coal-burning equipment."

General Accounting Office

In a preliminary review of the Plan released on June 8, 1977, the GAO strongly criticized the Administration for proposing a Plan which could not meet its own goals, and concluded that further shortfalls would occur:

> "We generally agree with these goals and believe that they can form the basis for developing a national energy policy between now and 1985. On the basis of our prior work, we believe that there is a serious energy problem and that the goals proposed by the National Energy Plan provide a useful way to address this problem. One fact that has not been widely recognized, however, is that the Administration did not design its Energy Plan to achieve the stated goals without unspecified voluntary actions or further mandatory actions not specifically identified except by example. Based on the Administration's own estimates, with a few exceptions, the Plan will fall short of the goals--even if the Plan is fully implemented."

The GAO cited the following goals and Administration estimates as evidence for this Internal Plan discrepancy:

Administration's proposed energy goal for 1985	Administration's estimate of what the Plan can accomplish through 1985
Reduce total energy growth to below 2%/year	Reduction to 2.2%
Reduce oil imports below 6 million barrels/day	Reduction to 7 million barrels/day
Insulate 90% of all buildings	Insulate approximately 60%
Use solar energy in 2.5 million homes	Use solar energy in 1.3 million homes.

The report concluded:

> "We believe that it is somewhat incongruous to ask the Congress to establish a set of National Energy Goals, and then propose a National Energy Plan that is not expected to achieve them....Since under the best of circumstances, plans designed to meet goals often fall short, we believe that the plan should be redesigned to provide a reasonable opportunity of achieving the stated goals."

Office of Technology Assessment

OTA in a prepublication draft analysis released June 24, 1977, also has concluded that although "The Plan is a major move in the right direction...the levels of supply projected by the Plan represent the upper limits of capacity and supplies of all fuels are likely to fall below the Plan's goals."

Two assessments of the degree of shortfall are contained in the report, one by a Task Force on Energy Supply, which attributes the shortages to a wide variety of probable logistical

and regulatory delays, another by the OTA staff using 1950-1976 historical trends in energy supply and demand. The Task Force concluded that shortfalls of between 4.6 to 6.0 mb/doe would occur with shortages in oil and natural gas totalling between 1.0 and 3.0 mb/doe, as much as 2.4 mb/doe in coal, and 0.6 mb/doe in nuclear energy. The OTA staff concluded that the gap between U. S. energy demand and domestic supply would widen to 15.6 mb/doe if the historical trends in demand (averaging 3% per year) do not change and if aggregate domestic energy production does not increase faster than historic trends indicate it will.

> "The 'historic trends' analysis suggests that international shortages and price rationing are inevitable if United States oil import demands are not reduced. The basic question appears not to be whether the economy can continue to grow under more stringent conservation policies but whether conservation measures can take hold fast enough to head off the crippling impact of abrupt oil shortages in 1985."

Other Assessments

Dr. Hans Landsberg, economist and senior fellow at Resources for the Future, in a mid-May review of the Plan's fuel balances (Plan, p. 96) also pointed out that these projections revealed projected results significantly at variance with the Plan's quantitative goals: Energy demand, according to the figures provided in the fuel balance tables, would grow at an average annual rate of 2.5%, not 2%. He considered coal conversion and nuclear power additions to be overestimated due to foreseeable logistical difficulties, by as much as 3 mb/doe and concluded that the nation will need, in the absence of drastic mandatory conservation and conversion measures,

> "3.5 to 4 million barrels per day of oil above and beyond the target, or total 1985 oil import volume of 10.5 to 11 million barrels--if we are lucky, that is."

Another study, representing the "independent and individual evaluations" of some of the members of the faculty and staff of the University of Texas at Austin, issued May 11, 1977, places the oil import gap at 4.2 mb/d by 1985, primarily because production of oil, natural gas, and nuclear energy will be less than the Plan's balance sheet projections because of constraints (mainly price, according to these analysts) built into the Plan. Oil imports are likely to be as high as 11.8 mb/d by 1985 unless much more serious fuel production efforts are undertaken.

The International Economic Policy Association (Washington, D. C.) also issued a preliminary appraisal in June 1977, with special emphasis on the international economic implications of "America's Oil and Energy Goals." Pointing out that even if the Plan does achieve the goal (of 7 mb/d oil imports in 1985), the cost to the United States in that year would still be $37.1 billion (at a reference price of $14.52 per barrel, and in 1976 dollars). If imports do not drop to that level and reach 11.4 mb/d, the cost to the United States would rise to $60.9 billion for the year 1985 (also expressed in 1976 dollars and a $14.52 reference price).

ASSESSMENT OF THE IMPACT OF THE CONTINUING PROBLEM

Senate and House hearings on the President's National Plan have focused primarily on the details and potential economic impact of the specific tax and non-tax measures proposed, rather than on the impact of the continuing energy problem the Plan was intended to address. However, a few witnesses have addressed this ongoing issue.

In testimony presented to the House Ad Hoc Committee on Energy, May 12, 1977, the Secretary of Treasury, W. Michael Blumenthal, pointed out that last year's outlay for oil imports of $36 billion is already being overtaken by a 1977 first quarter's bill for over $11 billion for imported oil, well on the way to a predicted $45 billion, with imports averaging 9 million b/d. The U. S. trade balance, including fuel imports, has moved from a $9 billion surplus in 1975 to a $9 billion deficit in 1976 to a projected trade deficit in 1977 likely to total over $25 billion, with a resultant deficit on current account of over $15 billion. This massive shift in balance of payments to a deficit on current account has also been experienced by 18 members of the Organization for Economic Cooperation and Development, including such high-income countries as Great Britain, France, Canada, Sweden, and Norway with a combined deficit of $31 billion expected this year.

There is no immediate question over the ability of the U. S. and other developed countries to continue to finance their oil imports even at present levels for some years to come. However, there is considerable concern over the cumulative impact of persistent balance of payments deficits as a continuing depressant, a "deficit drag," on economic growth for the U. S. and other oil-importing countries. At the May 12, 1977, Ad Hoc Committee hearing, the Chairman of the Council of Economic Advisors, Charles L. Schultze, flagged the drain on the economy of every increase in oil imports. In general, it is now costing the economy about $6 billion a year for every increase which raises the rate of oil imported by one million barrels of oil a day. This means $6 billion not available to invest in or spend on domestically produced goods.

In earlier hearings, on the economic and financial impact of OPEC oil prices, held before the Senate Committee on Banking, Housing and Urban Affairs, Jan. 6, 1977, witnesses expressed concern over the cumulative effect of the large, destabilizing changes in the structure of the U. S. balance of payments and the whole international trade and financial adjustment systems which have been underway since 1973.

Former Assistant Secretary of the Treasury, Gerald L. Parsky, reported that according to the results of recent Treasury simulation study

> "the oil embargo plus the 400% OPEC price increases will probably cost the U. S. economy a cumulative loss in real output of about $500 billion over the period 1974 to 1980."

This may be compared with estimates--by members of the faculty and staff at the University of Texas--of the capital investment which would be needed to meet the specific conservation and energy production goals of the Plan, which range from about $645 billion to $1159 billion during the period 1977 to 1985.

Looked at in terms of the effect on the international financial system, the current account deficits in the oil importing world that had to be financed between 1974 and 1976 totalled more than $200 billion. These had to be handled by a combination of reserve draw downs and borrowing--largely the latter.

Parsky reported that roughly three quarters of this borrowing has been provided by the private capital markets of the world. As an indication of the magnitudes involved, the medium-term Euro-currency credit and Eurobond markets extended an estimated $65 billion (gross) in international credits during 1976 alone--compared with $25 billion in 1973, the year before the oil price hike.

Another witness, Lawrence Veit, a U. S. economist with broad experience in international monetary affairs, pointed out that the first round of adjustments has been managed by private commercial borrowings, initial easy conservation measures, and the recycling of OPEC dollars into investments in oil-consuming countries, but that as time passes, "the problems will become greater as the tolerances in the world trade and payments structure are progressively stretched to their limits."

Quoting his article in the January 1977 issue of Foreign Affairs, Mr. Veit said:

> "For 1977, oil prices are already sufficiently high--quite apart from whether the Organization of Petroleum Exporting Countries (OPEC) raises them still further--to depress world production and employment by lowering domestic and net export demand in the oil-consuming countries at a time when the world economic recovery is still very hesitant. And one must now presume that the tolerances in the world's financial structure that permitted the financing of balance-of-payments deficits from 1974 through the current period are now close to exhausted for many major international trading countries--and that as private individuals and corporations opt out of the role of petrodollar recyclers, official and semiofficial bodies will be slow to take their place. ... [M]ost oil-consuming countries (excepting the United States) have now put into practice many of the more obvious and less costly means of energy conservation. In addition, many have eroded and in some cases virtually used up their international lines of credit and ability to float bonds abroad, and some have depleted their reserves assets in an effort to sustain economic activity levels. For an increasing number of industrialized and developing nations, therefore, balance-of-payments deficits have become even more of a depressant on growth than normally. By curbing their imports, they have not only constrained their own development but also reduced the exports of others."

These and other related developments suggest that, although the domestic macroeconomic effects of the National Energy Plan itself may be only minimal, the accumulating macroeconomic impact of the rapidly worsening energy problem--which, in the opinion of many observers, the Plan as presently designed seems incapable of solving--should be great indeed.

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WHAT BAPTIST CHURCHES CAN DO

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Churches have at least three options in attitudes relating to the energy crisis and what they will do about it. Obviously, the members can pretend that there is no issue and that the whole notion of shortages has either been manipulated or contrived by business or government. A second option is to react and resist. This may involve persons insisting that the church is above such concerns, or that God's house deserves the best and there should be no shortages there. Instead of seeing a leadership and redemptive role for the church, these members are insisting on a favored position for the church.

The third option open to the church is to respond with responsible Christian stewardship. In this, the members see the church in the role of ministering and witnessing. The church sets the example and leads the way.

While each of the options exists, it is obvious to all of us that only the third response is desirable. Conservation is a proper Christian concern and rightfully the business of God's people. One of the current definitions of conservation describes it "as the rational use of the environment to achieve the highest quality of living for mankind."

Two expressions in this definition speak clearly to the Christian's heart - "rational use" and "quality of living." "Rational use" suggests in secular terms part of what is inherent in the responsible life of Christian stewardship. "Quality of living" brings to mind the words of our Lord who said, "I have come that you may have life and have it more abundantly."

Our Baptist churches are involved in this crisis. They cannot avoid it. What can be hoped is that their role will not be by default or by resistance but rather by deliberate and prayerful choice. Crisis times have always been testing times for God's people and have invariably become their greatest hours.

One definition of crisis often used notes that it is "danger-filled opportunity" or "special opportunities surrounded by dangers." The scientists are telling us of the dangers as well as pointing out many of the opportunities. The churches dare not be indifferent when crises arise. It has properly been observed that "the church has always done its best in times of crisis."

Personally, I find it impossible to separate the churches' call to bold mission on one hand and the call for leadership in the energy crisis on the other. Christ's followers cannot be indifferent to acts of abuse of God's creation any more than we can turn deaf ears to the needs and hurting of God's creatures - his people.

The churches' role must involve a multiplicity of responsible actions. The church must now articulate with clarity:

1. The stewardship message of responsible use of God's creation;
2. The call for believers to adopt distinctly Christian life styles;
3. The charting of a course of energy conservation in the church activities.

I. RESPONSIBLE USE OF GOD'S CREATION

God created both man and the material universe. He saw both as good. He made man his responsible representative in his world and the responsible manager of his world. Man's instructions to "subdue, dominate" were never a license to exploit or destroy. By divine assignment, man is a conservationist.

This is and must be the churches' message. It is a message that needs to be heard both by the believers and the non-believers. The fact is, "This is my Father's World," and the sobering reality of this truth should motivate the positive response of every Christian.

This particular crisis time gives the church the special occasion to introduce Christ's people to the fact that there is a special Christian view of material things. Others have taught that "material things are evil," that "material things are valuable," or as in the western culture, that "material things are everything." These non-Christian views have too long shaped the minds and consequently the responses of many Christians. It is now time to teach the Christian view -

1. That sees material things as "made by Christ and for Christ."
2. That understands the meaning of ownership in terms of biblical perspectives.
3. That recognizes a special and distinct purpose for which material possessions are to be used by Christians.

In brief, there is a Christian view. It is distinct and it needs to be proclaimed. Christians need the message. The world in crisis needs the message.

II. ADOPTION OF A DISTINCTLY CHRISTIAN LIFE STYLE

Most of the problem of the energy crisis is a matter of life style. We are confronted with people who are overcome by runaway appetites for the luxuries produced by unlimited use of oil and electricity.

No greater obligation now confronts the churches than that of effectively challenging the American life style and calling Christ's people to adopt and live by distinctive Christian patterns.

The term "life style" is being used in this statement to refer to the manner of life which includes the values, purpose, conduct patterns, activities, and standard of living. The standard of living is properly viewed as a part of one's life style and is understood to refer to the quantity and quality of material things used in everyday life.

Most Christians have adopted with little or no resistance the "American way" ideas of life style which insist that -

1. Every family should press for a standard of living that calls for the greatest abundance of material things.
2. A standard of living can only be high if one's income is high.
3. Profit is always the ultimate good regardless of what must be done to achieve it.
4. We are a special people and deserve privileges regardless of what happens to others.

Although it may be barely understood, the greatest crisis involved today is the crisis growing out of Christians' acceptence of these secular values. We have thus become part of the problem, instead of being part of the answer.

As Christians we have hardly been aware that in bowing to these secularistic values, we have

- muted the sounds of God
- sought serenity in things rather than in God
- valued things over people
- been indifferent to the lessons of history and the needs of our children and grandchildren.

The world's idea of life style has brought us into a crisis. Now it is time for the church to stand up and teach a life style that honors our Lord and blesses his people.

III. A COURSE OF ENERGY CONSERVATION IN CHURCH ACTIVITIES

The church's message must always be idealistic and corrective. At the same time, the church and its people are to be practical and sound in their functions. Church buildings and church program functions should reflect the wisest use of energy.

To achieve this, church leaders must lead. A successful energy-saving plan for the church must have:

1. the commitment of its leadership.
2. a clear designation of responsibility assignments.
3. a definition of goals to be achieved.
4. a plan for check-up and evaluation.

Also essential to success is a grass-roots movement. This cannot be simply a pastors' or denominational leaders' movement. It must belong to the people.

The list of things to be done by the churches should include:

1. Teaching on Christian life style and responsible use of energy.
2. Planning new buildings with energy conservation in mind. Many building committees are still unaware of this necessity. One good example of a church trying to respond is the Mt. Zion Church in Richmond, Virginia that installed a solar energy unit and now reports that 44% of energy needs are being met by this innovation.
3. Surveying all existing buildings for ways to conserve energy.
4. Assigning specific persons the responsibility for "cutting off" heating, cooling, and lighting units immediately after use.
5. Assigning energy-conservation study and supervision to a task force group. This might be the Church Building Committee or the Properties Committee.
6. Calling in for consultation a team of "experts" such as individuals from the utilities companies.
7. Remodeling with energy-saving features in mind.
8. Keeping constant reminders before the people such as the display of decals and posters with messages on "saving energy."
9. Learning from other churches. Surveys such as that prepared by Jerry Privette of the Church Architecture Department of the Sunday School Board and published in the April-May-June, 1977 issue of "The Quarterly Review" are valuable helps in knowing what others are doing.
10. Resetting the thermostat.

11. Being creative in church program scheduling.
12. Giving attention to the time, location, and frequency of meetings.

Such simple acts as not scheduling a room that seats 300 for a meeting of 30 are important. It is likely that creative planning can reduce and combine meetings in such a way as to increase the effective ministry of the church.

This partial list suggests that there are many things the churches can do. Our history reveals that we are unusually adept at finding the "ways to do." This we can achieve now. The most urgent need is the will to accept the responsibility to act responsibly.

NUCLEAR POWER: PROBLEMS AND PROMISE

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Wes Michaelson, in the keynote address of this meeting, appeared to favor complete abandonment of nuclear reactors for electricity generation. If I interpreted correctly the second set of curves he used, he is recommending conservation and development of "soft" technologies to deal with the problem of dwindling supplies of oil and natural gas, along with continued reliance on coal during the period required to develop new energy supplies from renewable resources.

I believe that rejection of the nuclear power option is neither necessary nor desirable. In fact, considering the huge amount of money that American industry has invested in building nuclear power reactors and in facilities for their production, and considering that a severe power shortage would result if all nuclear power plants were shut down, Mr. Michaelson's proposal seems completely impractical.

During twenty-nine years of research and development work in Oak Ridge, Tennessee, I have been an interested observer of the development of nuclear power from a gleam in the eyes of a few scientists and engineers to a fully developed industry. In addition, during the past several years, I have weighed carefully the health effects of nuclear power as compared to use of fossil fuels, using the best available information on this subject.

Some critics of nuclear power have questioned the morality of using the nuclear power option. They have, at different times and to varying extents, been concerned with fission products released either during routine operation or as the result of a reactor accident; health effects of plutonium dispersed in the environment and the possibility that this fissionable material could be diverted to atomic bomb production; and the problem of long-term disposal of nuclear wastes. There are other arguments that have been advanced against nuclear power reactors but those listed here have been most persistently advanced and they are the ones that I will try to address.

Peter Beckmann, in his book The Health Hazards of Not Going Nuclear (The Golem Press, Boulder, Colorado), questions the morality of using fossil fuels, principally coal, in preference to nuclear power. While there is much in Beckmann's book that I do not approve of, I agree with his principal thesis: the health effects of nuclear power generation are less than those resulting from fossil fuel combustion. I have stated this conclusion a number of times in a lecture titled "Health Effects of Fossil Fuel and Nuclear Power Generation" and in my review of Beckmann's book (Nuclear Safety, January—February, 1977). This comparison can be summed up by saying that estimates of excess deaths (the number of deaths above the figure normally expected in the exposed population) from one year's operation of a 1000-megawatt power plant that can meet the electricity needs of a city with 0.5 million people, are in the range 2 to 116 for a coal plant and 0.1 to 1.0 for a nuclear plant. These health effects include those from

(NOTE: Dr. Barton was present as a registrant at the consultation and asked for the opportunity to respond to Mr. Michaelson. This paper is his response.)

the entire fuel cycle, including mining, shipping and processing of the fuel as well as the operation of the power plant. The wide range in estimates of excess deaths from coal combustion reflect the difficulty in measuring health effects of low levels of environmental contamination on large population groups. Other effects, such as deaths among miners, both coal and uranium, are more easily measured. It should be noted that the top estimate for the nuclear power plant is one half of the lowest estimate of excess deaths from a coal-burning plant and about 1 percent of the top estimate. I want to make it clear that, in spite of this unfavorable comparison of health effects, I believe that coal must be used on a large scale for electricity production during the rest of this century. Further, I believe that technology can be developed to reduce the negative health effects of coal combustion. The top limit represents about a 0.3 percent increase in deaths over the normal rate.

Before leaving the subject of health effects of nuclear power plants, I want to point out that, as was noted in the CBS program on energy on August 31, no one has been killed, or even injured, by radiation from a nuclear power plant. Government regulation of routine release of fission products from such a plant limits the radiation dose of a person living at the perimeter of the power plant property to about 5 percent of the background dose that the average U. S. citizen receives from his environment. Also, a very thorough study,(The Rasmussen study, WASH-1400) of the safety of light water reactors, the type most used in this country,showed that the probability that a person could be killed a a result of an accident in a nuclear power plant is approximately 1 in 300,000,000 per year . This should be compared with the probability that one person in 200 will die in this country from all causes each year.

Turning to some other worries of nuclear critics mentioned above, plutonium is one of the scare words that they use. It has been called the most poisonous substance known to man. Having worked with this man-made element in the laboratory and having written a chapter on safe methods and equipment for handling it (recently revised), I can testify that plutonium must be handled with care. However, there has been no reported fatality from exposure to this hazardous material in over thirty years of large-scale use. Bernard Cohen has carefully evaluated the health effects of plutonium in a recent article (Health Physics, May, 1977) and his estimated effects are much smaller than those supplied by nuclear critics.

A number of people, including President Carter, favor minimizing the availability of plutonium because of the possibility that quantities of it may be diverted to bomb production by terrorists or by foreign governments. This is, indeed, a legitimate worry, but there are some facts in this regard that nuclear critics choose to ignore. One is that there are tools that are much more readily available to terrorists than atomic bombs and which are much less dangerous for them to handle. Also, the ease of fabricating atomic bombs has been exaggerated by the news media. It is also a fact that, if foreign governments want to obtain fissionable material for bomb production, there are easier ways to do it than through use of nuclear power plants. Rep. Mike McCormack, in a recent article in the WASHINGTON POST, stated: "Trying to divert nuclear power plant fuel into weapons production is the most expensive, clumsy, dangerous, and inefficient way for any nation to make a weapon."

Senator Frank Church, in a speech delivered at the Massachusetts Institute of Technology on May 2, 1977, dealt very effectively with President Carter's proposal to prevent reprocessing of used nuclear fuel to recover unused uranium and plutonium and to deactivate

the effort to commercialize plutonium breeder reactors. He believes that the Administration's policy will reduce, not enhance, U.S. influence in shaping world nuclear policy. All the statements by foreign nuclear experts that I heard at the International Atomic Energy Meeting in Washington last November seem to support Senator Church's belief.

Finally, nuclear critics cite the lack of a demonstrated method for long-term waste disposal as a basis for considering nuclear power production immoral. They say we are passing on to future generations unmanageable quantities of deadly radioactive materials from nuclear power production. The fact is that we have a waste disposal problem even if commercial reprocessing of power reactor fuel never occurs. It has been estimated that about 99 percent of the nuclear waste that now exists in this country is from our weapons program and that, at the predicted rate of growth of nuclear power reactors, it will be about 1990 before wastes from the nuclear power program are equal to the quantity from weapons production.

The other point that I want to make is that there is a safe, permanent method available for handling nuclear wastes: converting the radioactive liquids into a glassified solid for burial in an underground salt formation or other suitable geological formation known to be free of water for many centuries. Each step in this process has been demonstrated on a pilot-plant scale and there seems to be no reason to doubt that a commercial-scale facility will be available by 1985 unless government support for this program is withdrawn.

In conclusion, I believe that nuclear reactors provide a safe, environmentally acceptable method of producing electricity; that reprocessing of power reactor fuel and development of plutonium and other types of breeder reactors should be pursued with continued emphasis on safeguards both at home and abroad; that development of alternate energy sources, including solar, geothermal, wind and fusion, should continue; and that coal and nuclear power will play a major role in supplying our electricity needs for the remainder of this century.

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