

# The Power To Speak Truth to Power

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A Public Policy Statement on Energy, Its Production and Use, Adopted by the 121st (1981) General Assembly, Presbyterian Church in the U.S., and by the 193rd (1981) General Assembly, United Presbyterian Church in the U.S.A.; with a Background Analysis, by Robert L. Stivers, Commended for Study in Connection with the Public Policy Statement.

## ON THE NATURE AND FUNCTION OF THE GENERAL ASSEMBLIES' STATEMENTS ON SOCIAL ISSUES

"In terms of their character and authority, affirmations adopted by the General Assembly fall into three categories which may be called declarations of conscience, moral appeals, and policy or program directives. A particular statement may include two or all three types of affirmations. To each type of affirmation the General Assembly expects a different response.

1. Statements addressed to the church as an aid to conscience are **declarations of conscience . . .** Declarations of conscience have authority to the degree — and only to the degree — that they conform to the Word of God. The Presbyterian Church in the U.S. accepts the Word of God as the only infallible rule for faith and practice. General Assembly statements on social issues are, as the 1880 General Assembly put it, 'interpretations of the Word by a church court.' These interpretations are authoritative only to the extent that they are valid interpretations of the Word of God . . .

2. Statements addressed to the government, the general public, or to others who do not acknowledge the ultimate authority of the Word of God are **moral appeals**. Moral appeals possess only such authority as those to whom they are addressed recognize . . . The General Assembly can expect its moral appeals to be considered seriously only to the degree that their fact-base is solid, their presuppositions are valid, and their moral reasoning cogent.

3. Statements addressed by the General Assembly to its own program agency are **policy or program directives**. Such directives possess the authority of a policy-making and governing body in relation to the agency it has established to implement policy and execute program."

*113th (1973) General Assembly, Presbyterian Church in the U.S.*

"Judicatory policy decisions provide the basis and define the direction for the work of the agencies of that judicatory. That is their most immediate and essential function. Each judicatory speaks for itself and its decisions are determinative only for its own staff or agencies. However, our connectional understanding of polity and of our essential unity in Christ suggests that each judicatory receive the policy decisions of more inclusive judicatories as having 'suggestive, advisory and ministerial authority.' Thus General Assembly policy declarations on social matters as all others, are binding on the General Assembly agencies. Other judicatories are informed by them. Individual Presbyterians, of course, are not bound in any sense by such policy directions for corporate witness, but are encouraged to consider them carefully as they shape their individual witness and action."

*189th (1977) General Assembly, United Presbyterian Church in the U.S.A.*

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## Part One, The Power to Speak Truth

As servants of the Truth, the truth we discern about present energy choices and our responsibility as Americans and Presbyterians can be summarized with deceptive simplicity. The era of cheap and abundant energy is over. The petroleum and natural gas currently supporting industrial-technological society are being depleted rapidly and are not renewable. Present worldwide patterns of organizing and distributing energy are lacking in justice, sustainability, and the participation of people. In the midst of this situation, God continues to call us to responsibility to the rest of creation and to the poor and helpless among us. The new era that must come offers fresh possibilities for humane communities and restored creation.

The general goal of the new era is clear and easily affirmed. The world must develop means of meeting its energy needs from sources that are sustainable over a long term, essentially renewable resources. In the course of achieving that goal, provision must be made to assure an equitable distribution of sufficient energy to support basic human needs world-wide as an initial and minimum objective, to alleviate human suffering and permit people and societies to receive and respond to God's love.

Finding our way through the period of transition to the new era is a matter of great urgency calling for decisiveness in social policy, church activities and personal lives. For the United States and its citizens, the need for urgent and decisive action is particularly important. We consume a very large share of world energy production, we produce it through heavy reliance on nonrenewable resources, and we have used it very inefficiently, even wastefully. The world's progress toward the goals will be greatly aided, and the transition to the new era sufficiently shortened insofar as United States policy continues to reduce overall energy consumption and rates of growth in energy use and moves swiftly to reliance on renewable energy sources. Thus, transition policies based on high rates of growth in energy use and increased dependency upon nonrenewable resources must be rejected. Fortunately there is some agreement among us about ways and means in the period of the transition. This agreement is far from total but it does facilitate our task of speaking truth about energy in the transition to decision-makers in government, industry, church, and family.

### I. Three Concerns

In moving with God through the period of the transition our first concern as Presbyterians is justice for the 800 million people here and abroad who are impoverished and malnourished. The poor and hungry find it hard to sustain life with dignity or to hear God's word on top of

chronically empty stomachs and impoverished living conditions. Powerless, they are the first to feel the impacts of rising prices, energy scarcity, and pollution. Although we cannot eliminate the causes of their condition, we can respond by giving them access to greater economic and social security by shifting to more frugal consumption patterns, by transferring some of our resources, and by committing ourselves to practices which put the poor and hungry first. Our second concern is for the supply of sufficient and sustainable energy to meet basic needs at a reasonable cost to people and the environment. Some of our present supply problems stem from overdependence on nonrenewable and increasingly expensive sources of energy. Others are a result of negative environmental and societal impacts of energy systems. Still others are a consequence of wasteful and unnecessary consumption. Critical in this concern is the need to provide energy for basic needs — defined as the energy needed for food, clothing, shelter, transportation, health care, and some margin above subsistence — and protection of basic ecological support systems. Although we cannot ensure energy sufficiency or eliminate all risk to society and ecosystems, we can respond by developing renewable energy sources, by adopting technologies with fewer negative impacts on society and ecosystems, and by reducing energy consumption.

Our third concern is the need for appropriate participatory mechanisms in the structures of human life through which energy choices are made and implemented. Many modern technologies and the large, centrally controlled structures which accompany them overwhelm individual and community participation and create apathy and disengagement. Participation should include individual, local and national input. Yet, the participation itself should not bring about paralysis in timely decision-making to ensure sufficient energy for basic needs. Although we do not have the power to ensure just, participatory and timely decisions, we can advocate and work for orderly and participatory decision-making structures, technologies appropriate to human mutuality, the preservation of basic human rights, and the reduction of disparities in power, nationally and globally.

### II. Energy as Symbol

The acknowledgement of disparities in power reveals one reason why energy issues are so urgently contested. Energy is much more than economic and technical decisions about alternative systems. It is also a symbol of power. Energy has for some time been closely associated in the minds of most Americans with economic growth, the fruits of modern technology, and the existing arrangement of economic and political power. For those who

make this association, prospects of supply disruptions and calls for new structures and reduced energy consumption are perceived as threats to an accustomed way of political and economic life. To the powerful this is a challenge. To the weak it is an opportunity. And to many of the rest it is the cause of a bewildering crisis of identity.

To Presbyterians the present energy situation should symbolize judgment on the misuse of power and hope for a new era of energy responsibility. It should also be the occasion for speaking truth about energy and power to those who make decisions.

### III. Foundations

The power to speak truth to power comes from the Kingdom of God. This power which we seek to employ, is the power of one who came as a servant to redeem the creation, who loved, who was crucified. This is not the power of majorities, of military might, of technical expertise, nor of uninformed enthusiasm. It is a power of faithful life and witness which flows from human communities where worship, prayer, study and action sustain new life together. We Presbyterians are called to speak the truth and to exhibit it concerning the urgent problems of our day. Energy is such a problem.

The foundation of our power to speak and live with the power of the kingdom is our faith in Jesus Christ. Faith is a relationship to God which includes three dimensions: God's gift of community, repentance, and belief. (Mark 1:14-15.)

The community of God is present in our midst, and yet still to come in its fullness. This community is a life of sharing, of justice, and good stewardship of the things we control. Yet this community is not an earthly social formula, and God stands in judgment against the idolatry of trusting too completely in any particular social structure or pattern of life. As the community of God lives, it is always discovering the poor and the oppressed in our midst and calling them to liberation. Indeed the community of God has a role in redeeming all of creation.

Paul witnesses that "the creation waits in eager longing for the revealing of the sons (and daughters) of God." (Romans 8:19.) God created all things good, and his covenant embraces all creation. (Genesis 9:8-11.) Human sin, however, has often seduced us away from tending and keeping creation and led us to abuse our environment in ways which now threaten the integrity of life itself. In our age an important mission of the community of God is to help rescue creation from thoughtless exploitation and to tend it with care.

Repentance, the second gift of faith, includes a willingness to change direction. We confess that we are implicated in the social structures and patterns of conduct which have over-exploited scarce resources, which have left too many malnourished and without energy, which have fostered injustice, and which have threatened the living fabric of the world. We seek guidance and strength to do differently, and to do better.

Following gift and repentance, the third and last dimension of faith is belief. Belief is more than the intellectual affirmation of God's mighty deeds. It is the active, obedient, and disciplined response of persons and com-

munities which follows repentance and is the fruit of being open to and receiving God's love. The content of belief, as it relates to the urgent problems which face us, is sometimes obvious. With complex social issues such as energy, this is seldom the case, however. We are forced to seek guidance in both the biblical witness and the study of energy systems and their impacts.

The analysis and recommendations which follow come from United States Presbyterians in the community of faith. We draw together in repentance for the damage we have done to the world and to fellow humanity by our abuse of energy resources. Together we examine the biblical witness and we study energy systems and their impacts. Together we find renewed faith that there are meaningful steps which we can take as individuals, as churches, and as a society. We do not have detailed blueprints for the transition to a new era of sufficient and sustainable energy to support basic human needs worldwide. The standards and actions which we do suggest will need to be evaluated and modified as they are pursued, but we believe we can recommend to our fellow Christians sound standards to evaluate our energy dilemmas and meaningful actions to move toward the fulfillment which God has promised in his Kingdom.

### IV. The Ethic of Ecological Justice

Central to the content of belief in energy choices is the ethic of ecological justice. The ethic includes commitments to justice, sustainable sufficiency, and participation.

#### A. Ethical Norms

1. Justice means fairness or equitability. In the biblical witness the touchstone of justice is consistently the welfare and liberation of the poor and the care of the land. Justice in energy decisions is the provision of sufficient and sustainable energy to all and an equitable distribution of total costs and benefits among members of the community and between generations. It is the establishment and maintenance of basic human rights as set forth, for example, in the American Bill of Rights and in the United Nations Universal Declaration of Human Rights. (For further study and reflection see: Exodus 2:23-25; II Chronicles 7:13-14; Psalm 72; Isaiah 10:1-4, 55:1, 61:1-2; Jeremiah 5:27-28, 22:13-17; Amos 2:6-7a, 5:21-24, 8:4-7; Micah 6:8; Matthew 19:16-24; Luke 4:18-21, 6:20-21; Acts 4:34-35).

2. Sustainable sufficiency is good stewardship of human society and the environment. More specifically, it refers to the long range capacity of an energy system to supply energy for basic needs at a reasonable cost to society and the environment. Sustainability assumes the limited capacity of the earth to yield energy resources at reasonable cost and to absorb pollution. It also assumes human fallibility in dealing with complex natural, social and technical systems. Sufficiency assumes the priority of the equitable distribution of energy for basic human needs. Included in this assumption are the timeliness of supply, the right of access by the world's poor to more energy, and reduced energy consumption by persons and

groups consuming in excess of basic needs. (For further study and reflection see: Genesis 1, 3, 9; Leviticus 25:1-34; Deuteronomy 6:10-11; Psalm 24:1, 104; Mark 10:24; Matthew 13:31-32, 25:14-30; Romans 8:19-23.)

3. Participation is having a voice in decisions that affect one's life. It is access by all nations to international forums where energy decisions affecting their future are made. It is living in communities whose institutions and technological systems are appropriate to mutuality, solidarity, political involvement, human diversity, and spiritual growth. (For further study and reflection see: Luke 4:18-21; Acts 1-5, 17:24-27; 2 Corinthians 8:1-15; Romans 12; Galatians 3:28; Philipians 2:1-11.)

### *B. Guidelines for Decision-making*

Relevant to the choices available in the period of transition leading to the new era are twelve norms or guidelines against which any transitional option can be evaluated.

1. Fairness concerns the equity of an energy policy or system and its impact on the poor and vulnerable. Burdens and benefits should be assessed and distributed so that no group bears a disproportionate burden. The improved economic welfare and increased political power and participation of the poor and vulnerable should be primary considerations. Basic human rights must be established and maintained.

2. Efficiency is the capability of an energy policy or system to produce basic goods and services with the input of less energy resources. Policies should discourage wasteful and unessential consumption of energy and encourage efficiency through better design in the production and use of energy, the matching of scale and quality to end use, and the education and humane employment of persons.

3. Adequacy points to the priority in policy setting of energy production aimed at supplying basic needs. The supplying of energy takes priority to the point where basic needs are satisfied adequately, whereupon it assumes reduced relative importance. Energy policies should concentrate on the provision of basic energy needs worldwide. Where basic needs are met, frugality and conservation should govern supply.

4. Renewability refers to the capacity of a system to replenish its source of energy. Energy policy should encourage the use of renewable energy systems.

5. Appropriateness refers to the tailoring of energy systems to: a) the production of energy for basic needs, b) human capacities, c) end uses, d) local demand, and e) employment levels. Energy policies should encourage systems that allow for a variety of scales and end uses that do not require infallible or error-free performance from humans and machines. Energy policies and systems should increase employment levels and contribute to community participation and mutuality. The issues raised by a policy or system should be communicable to non-experts.

6. Risk concerns the potential of an energy policy or system to cause unacceptable harm to human health, social institutions, and specific ecological systems. Policies should encourage low risk energy systems and mandate

strict environmental and human safeguards in the production and use of energy.

7. International Order points to the potential of an energy system or policy to decrease the prospects of armed conflict. Energy policies and systems should enhance international cooperation without creating patterns of domination and dependency. They should narrow the gap between rich and poor which occasions conflict. Policies should provide for peaceful alternatives to armed intervention in the event of disrupted supplies and for cooperative mechanisms to prevent the spread of the raw materials for nuclear weapons.

8. Cost refers not only to the monetary cost of an energy policy or system but also to its social and environmental costs and its costs to future generations. All of these costs should be reflected in the price of a system. Policies and systems should seek to minimize the total costs of energy services to consumers.

9. Employment concerns the impact of an energy policy or system on employment levels, skills, and the meaningfulness of work. Policies and systems should stimulate the creation of meaningful employment and new and improved skills. Policies should assist those impacted by shifts in patterns of energy production or use.

10. Flexibility points to the capacity of an energy policy or system for change. Policies and systems should be reversible within a reasonable amount of time and responsive to new technical and public impact. Systems vulnerable to sudden disruptions should be avoided.

11. Decision-making refers to the need for participation in and timely resolution of necessary decisions. Energy policies and systems should contain provisions for both participation and timely decision-making by those individuals, communities, and countries affected. This implies vigorous support for human rights and sensitivity to minority viewpoints in the siting and selection of energy systems.

12. Aesthetics points to beauty as one aspect of the quality of life. Energy policies and systems should enhance or cause minimal damage to the beauty of the human and natural environment.

## **Part Two. Speaking Truth to Power: Our Response**

The urgent goal and task of providing an equitable distribution of sufficient and sustainable energy for basic human needs mandates changed social and personal priorities. In the developed countries change implies a reduction in waste, restraint of total energy demand, the decreased consumption of depletable energy resources, and the prioritizing of supplies for basic needs. Also implied is an increase in the use of renewable energy resources and improved efficiency. Less appreciated but equally important is a transfer of capital and depletable energy resources to poorer countries of the world that they may begin building sustainable and humane societies. Finally, the goal implies strict enforcement of environmental laws to protect forms of life from irreversible damage and a commitment to the peaceful solution of energy related disputes.

To bring about these changes and to reach this goal there must be a sense of hope and urgency, a willingness to participate in international planning forums which respond to the poor and impacted along with the powerful and inventive, an openness to innovation and sharing, and new perspectives based on an ethic of ecological justice.

To the ends of speaking truth to power with an ethic of ecological justice and of reaching this goal, we offer the following recommendations concerning social policy for the transition, directions for Presbyterian churches, and personal responsibility.

### I. Social Policy

Expedited movement through the transitional period will require the best dynamic mix of energy systems, social policies, and methods of implementation. No system, policy, or means of implementation can satisfy all the guidelines or guarantee a risk free transition. Recognizing our own limits in discerning the truth and aware of great ambiguity in a constantly changing situation, we support and recommend to all the people of Christ in the Presbyterian churches:

A. Legislation, programs, and international agreements which prepare Americans for energy emergencies and make provision for just and peaceful solutions to sudden disruptions in energy supplies.

B. A social commitment to accelerate the period of transition including policies, programs, and laws designed to decrease waste, energy demand, and consumption of depletable resources; to increase efficiency in the use of resources; and to expand the practical application of appropriate technologies based on renewable energy resources.

C. Increased social investment in conservation, and the efficient use of energy in ways which increase employment opportunities.

D. Measures to assure access of the poor to sufficient energy at affordable prices through such mechanisms as special utility rates, energy stamps or coupons, energy rebates for essential heat and transportation, and expanded mass transportation. The rationing of scarce energy supplies is a means of alleviating temporary needs.

E. Significantly increased levels of private and public development assistance of the kind which incorporates principles of participation and appropriate technology and is selectively targeted to meet the basic human needs of poor nations and the poor within nations.

F. The enforcement of rigorous environmental and human safeguards in the production and use of all forms of energy, with the burden of proof resting with claims that energy sufficiency is threatened, and that safety and environmental provisions are adequate.

G. Increased efforts to educate the public about energy systems, their ownership and control, their social, political and environmental impacts, and the technical and social policy alternatives available.

H. Accelerated investment in mass transportation, and more efficient motor vehicles.

I. The prioritizing for public and private funding of conservation, appropriate solar, and other renewable

energy systems and the improvements of skills and community-planning related to their use.

J. Modification of the market solution to the pricing of oil and natural gas by such mechanisms as profit taxes on supplies and increased excise taxes with revenues to be spent on efficiency in energy transportation systems, on the relief of hardship from rising energy prices, and on renewable, abundant, and low risk energy systems. Laws to ensure competition within energy industries must be enacted and enforced.

K. Research and development of safe and environmentally sound methods of extracting oil from shale and tar sands. Large-scale production without public subsidies should be dependent upon the solution of outstanding social, environmental, and resource issues.

L. Dependence on nuclear fission for energy production involves unresolved political issues of social and economic impact, ecological damage, and potential risks to human life. Thus, development of nuclear generating capacity should involve careful consideration of relative risks of nuclear power and its alternatives. Current dependence on nuclear generation using present technology should be phased out as quickly as possible as better sources of energy are developed and measures to promote conservation and efficiency become effective. Rigorous controls for the operation of nuclear systems and public commitment to safe storage and disposal of radioactive wastes are urgent necessities.

M. Publicly-funded research into the feasibility and consequences of energy from nuclear fusion should be continued.

N. The controlled use of coal with the protection of strict environmental and human safeguards. To reduce social dislocation, the development of coal fields in different geographical areas should be carried on in accordance with the geographical distribution of demand and be the result of participative processes in the affected region.

O. A review of the funding level of the Federal Energy Security Act, in light of the above priorities, particularly as it relates to heavy investment in *synthetic fuels* projects and to food production from food grain biomass.

P. The enforcement and establishment, when necessary, of strict environmental and human safeguards in the mining and milling of uranium.

### II. Church Responsibility

The power to speak truth is made alive in human communities where worship, prayer, study, and action are the heart and mind of life together. The spiritual and communal life of congregations is critical to discernment, for it is an avenue of God's power which has been given in Jesus Christ and is received in faith. Communities of God as recipients of the power given in Jesus Christ are called after repentance to serve by speaking and doing the truth they discern.

The speaking and doing of truth in our congregations is more than finding ways to stay afloat in the flood of rising energy prices. Prudential actions, such as lower thermostat settings, are an important agenda, but alone they only begin to realize the rich possibilities of the present energy situation. The moment is ripe with new life. The ethic of

ecological justice offers imaginative ways of thinking about the gospel, human communities, and the rest of creation. Living frugal lives of energy sufficiency opens up new possibilities for the human spirit. Finding alternatives to fossil fuels gives us the opportunity to realize new forms of community and to express solidarity with the poor and with the rest of creation.

Two measures of the Presbyterian response in this moment are a willingness to move beyond a "staying afloat" mentality and the fruition in the ministries of the church of these new and hopeful ways of thinking and doing. The ministries of the Presbyterian churches in the present situation and our recommendations within each ministry are:

**A. Education** — to probe, clarify, and communicate a theological and ethical framework for evaluating energy issues (in an ecumenical perspective).\* We support and recommend to all the people of Christ in the Presbyterian churches:

1. The dissemination by appropriate agencies of the General Assemblies of educational resources to develop and communicate the ethic of ecological justice for action and reflection.
2. The development within seminaries and church-related colleges of new curricula exploring the ethic of ecological justice and its application to energy issues.
3. Support of groups within the churches and community experimenting with alternative lifestyles and renewable energy systems.
4. The exploration of alternatives and the development of peaceful responses to sudden disruptions in energy supplies (including the ecumenical resources, particularly those from the World Council of Churches' Conference on Faith, Finance and the Future).\*

**B. Example** — to set an example of responsible energy consumption in church buildings, meeting patterns, member households, and the work place. We support and recommend:

1. An energy audit of church buildings and programs to include careful and inclusive record keeping on the use of energy, of products made from nonrenewable resources, and of the energy used in getting to and from meetings.
2. Examination of the audit and the development of plans to implement necessary weatherization and conversion.
3. The efficient use of buildings including the sharing of space and joint occupancy with other groups.
4. The setting in all new construction of strict energy conservation guidelines, of feasibility criteria for the installation of renewable energy systems, and of procedures for exploring joint building programs with churches in other denominations.
5. A review of meeting schedules for the purpose of reducing their number and frequency while maintaining member and community participation.

**C. Local Community** — To cooperate and participate in local community efforts to implement conservation

measures, renewable energy technologies, and related new patterns of community life. We support and recommend:

1. Church initiation and support of community efforts to develop community energy plans, with emphasis on a) auditing of energy use, b) implementation of conservation measures, c) renewable energy technologies, d) new patterns of community, and e) protection of unique ecosystems threatened by energy production and use.
2. Church leadership in the pooling of community resources for meeting local transportation needs.

**D. Stewardship of money** — To foster creative uses of money in the production and use of energy. We support and recommend:

1. The use of church funds in the support of public interest organizations and programs concerned with conservation and the implementation of renewable energy technologies.
2. An increase in mission giving to support education and development projects in the Third World designed to supply basic energy needs and to incorporate principles of participation and appropriate technology.

**E. Solidarity** — to enlarge the social bond with the poor and vulnerable who are affected by energy production and pricing. We support and recommend:

1. Church leadership in the opening of channels for participation in energy production decisions by those who are affected.
2. Church sponsorship of efforts to take advantage of government and voluntary programs which assist poor communities, the unemployed, and the elderly meet high energy bills.
3. The identification of emergency shelters and means to ensure continuation of vital energy services in the event of energy supply disruptions.

**F. Advocacy** — to initiate and support changes in public policy and corporate behavior consistent with the values, criteria, and social policy recommendations of this report. We support and recommend:

1. The transmittal of this report to the Secretary of the Department of Energy, members of Congress, and other interested parties.
2. The use of this document as a basis for discussion of energy issues with government leaders at all levels, leaders in the energy industry, and other relevant groups.
3. The support of church members as they seek in their occupations and in society to implement the objectives of this report.

### III. Personal Responsibility

God's call to a new ethic of ecological justice must not only be expressed by the community of faith but also find its way into the hearts of individual believers. Our response to this call is easily diverted by claims for national supremacy, institutional rigidities, and selfish individualism. We must, therefore, heed the Holy Spirit's working within us, reordering our priorities, bringing us to repentance, and empowering us for participation in the new era. This participation will manifest itself in concern for

\*The wording in parentheses was adopted only by the 193rd General Assembly of the United Presbyterian Church in the U.S.A.



justice, in responsible consumption, and in sharing within community.

God calls Christians living in affluence to develop a lifestyle of frugality which assists human fulfillment while releasing scarce resources for use by the poor.

We support and recommend to all the people of Christ in the Presbyterian churches:

A. Periods of prayer and biblical study focusing on the implications of ecological justice as it applies to energy questions.

B. Personal study of energy systems, their social and environmental impacts, and technical and social policy alternatives.

C. A personal and household energy consumption audit and plan to reduce waste and increase efficiency.

D. A commitment to reduce consumption of energy and to use the savings for increased giving.

E. Representation and advocacy in local communities, on the job, in the church and in public forums of policies to hasten the period of transition to the new era.

### **Background Analysis by Robert L. Stivers**

"The Power to Speak Truth to Power" is a statement of energy policy undertaken by The Presbyterian Church in the United States and The United Presbyterian Church in the United States of America. It is one of several joint efforts by the two denominations to make a common statement on important social issues. The statement begins with a short assessment of the energy problem and the assumption that God is calling us to a new era of energy responsibility rich with new possibilities. It then proceeds to state the goal of the new era: the provision and equitable distribution of sufficient and sustainable energy to support basic human needs worldwide, to alleviate human suffering, and to permit societies to receive and respond to God's love. Throughout, the opening section emphasizes the importance of the period of transition to the new era as the context for present energy policy.

The statement goes on to highlight three concerns in the transition: 1) justice for the 800 million people worldwide who are impoverished and malnourished; 2) the supply of sufficient and sustainable energy for basic needs, defined as the energy needed for food, clothing, shelter, transportation and some margin above subsistence; and 3) participation in the structures of human life through which energy choices are made and implemented. All three of these concerns are ultimately dependent upon the self-renewing environmental fabric of God's creation.

The statement concludes that the era of cheap and abundant energy has come to an end. This may not seem so obvious to those individuals, corporations and government agencies which are still stimulating increased energy consumption. But a new logic begins when we recognize that every new increment of energy is more expensive, not cheaper, and that future energy supplies will depend on increasingly more difficult to get at and expensive resources.

This new logic is complicated by the attraction of energy policy as a forum for arguing deeply held but

divergent values, and by several economic, political, and ecological issues. Together the conflict of values and the issues set the context for energy policy.

## **I. Energy Contexts**

### *A. The National Context*

In the national level two primary visions of the future vie with each other to dominate the direction of energy policy. First is the vision which has prevailed in American society for several centuries and provides a solid ideological base for the structures and values associated with the large-scale, integrated industrial model. Problem-solving by new and sophisticated technologies often controlled by large, powerful organizations, the elimination of poverty through economic expansion, and the difficulties of supplying sufficient energy are among its primary emphases.

In contrast, a new vision has emerged in the past decade which offers alternative structures and values stressing frugality, dispersed and smaller technologies, ecological awareness, and redistribution. The debate between these two ideological visions is frequently acrimonious. Energy policy is well suited as a forum and symbol for this debate which has created an identity crisis for many Americans and plagues efforts to make a coherent energy policy for the transition to the new era.

Political differences intensify this value conflict. At the most fundamental level the clash over energy policy is a struggle for economic and political power. Characteristic of several energy industries, notably oil and nuclear, is a concentration of power in the hands of a few large, industrial organizations which exert a tremendous influence in their own economic spheres. To this concentration is added the monopoly power in local areas of utilities under public regulation. This concentration makes an inviting target for people with real and imagined grievances about power arbitrarily exercised.

One problem is to distinguish between real and imagined abuses. Concentration and large size are difficult to prevent given the resources, organizational skills, and the capital required by modern technologies for the extraction of hard to get at resources. Concentration and large size also provide benefits in the form of economies of scale, ease of planning, and capital formation. But they also raise troublesome questions about justice and participation. Power is never divorced from self-interest, however well it is disguised in terms of the public good or however much public benefit the wielders of power see themselves providing. Disproportions in economic power result in disproportions in political power with the weak the first to get hurt and the last to be consulted, if indeed they are consulted at all. Particularly worrisome to critics of concentrated power is the movement of already large energy corporations into unrelated fields. These critics fear that a few self-interested corporations are gaining control of the major energy alternatives and inhibiting efforts to conserve and to develop renewable sources of energy utilizing more appropriate technologies.

Another source of political conflict is sectional differences which are often a consequence of varying rates and composition of economic activity. Pricing wars and pleas



for special legislation to protect jobs and waning industries provoke these sectional conflicts. Proposals to develop new energy sources with significant environmental impacts stimulate battles over land use. Sites for the disposal of hazardous chemicals and radioactive wastes are difficult to find and maintain, and the build-up of wastes poses a serious threat to vulnerable populations.

These conflicts are superimposed on a political system characterized by checks and balances and oriented to short-range solutions. Originally conceived as a brake on arbitrary authority, this system, while it serves certain purposes quite well, makes it difficult to set and easy to block new policy directions. It has also accommodated the development of powerful interest groups whose differences can only be resolved through political compromise. Unfortunately, policy by way of compromising powerful interests makes steadiness of direction and consistency much more difficult. Added difficulties are introduced by our commitment to democratic processes which bring office-holders before the electorate at frequent intervals. Short terms in office and the need to prepare for the next election encourage short-range solutions and a tendency to take the quick fix.

Provisions for national security add a sense of urgency to energy policy and place a greater demand on energy resources. Scenarios of oil embargoes crippling economic and military power steel our resolve to achieve energy independence in spite of the drain on resources. The sense of urgency is intensified and the drain on resources increased by a tendency to see national power in terms of military might and economic potential. This tendency frustrates efforts to change attitudes about consumption, to plan for peaceful alternatives to a sudden disruption in supplies, to provide meaningful assistance to the world's poor, and to protect the environment. Above all, like snow building up on a steep slope above us is the threat of nuclear war. This threat is heightened by competition over scarce resources and by the possibility of using high level radioactive wastes from the generation of nuclear energy for the manufacture of weapons with enormous destructive power.

The energy policy context is still further complicated by the presence of trade-offs. Energy choices force social and value choices. This fact cannot be emphasized enough. There is no such thing as a simple choice of technologies, for example, between coal and solar. The selection of one or the other or some combination has a ripple effect on the way we live. To put it simply, the energy choices we make today will have an important bearing on the shape of the social structures and the values of future generations. Hence the matter of trade-offs, none of which can be avoided in the short-run, becomes critical.

Trade-offs abound in energy policy. Justice, participation, and sustainability are not always compatible with economic growth and efficiency. Reduced rates of consumption without structural changes will cause unemployment. The choice to provide increasing amounts of energy means that conservation alternatives may be foregone. The provision of basic energy needs has unavoidable side-effects, notably pollution and safety hazards. The use of non-renewable resources now means these sources will not be available at a reasonable cost to future generations.

The need for detailed, flexible, and easily implemented policy is in potential conflict with participatory processes.

Recognition of trade-offs does not mean that specific trade-offs are everlasting. There is no iron law which locks policy into a perpetual zero-sum-game. Most of the trade-offs can be circumvented with creative programs, structural changes, and new ways of thinking. In fact, talk of trade-offs can be a block to creative problem solving by encouraging a mind-set which only considers existing alternatives and arrangements of power.

### *B. The International Context*

Turning to the international scene we find a context characterized by interdependence and instability. The interdependence is of two kinds, both of which have destabilizing features. First is the interdependence of the industrialized and OPEC countries, that of nearly equal but competing partners. This interdependence is threatened by wars over scarce resources occasioned by increasing demand. Second is the interdependence, dominated by the rich largely to their own advantage, between rich and poor nations. This one-sided interdependence leads to many practices which oppress and exploit the weak.

The situation of the world's 800 million poor and malnourished is critical. Rapid population growth and insufficient purchasing power for the necessities of life, even in the midst of great affluence, make for misery and resentment. One important ingredient for the relief of this misery and for the reduction of population growth is the attainment of basic economic security. To attain this, malnourished and impoverished people must have economic opportunities. Third World governments need to curb the power and consumption of their own ruling elites and to place a high priority on the agricultural sector including agricultural reform.

Americans have a role to play in this, although they should have no illusions about solving all the problems. Americans and citizens of other industrial countries must encourage consumption practices and forms of aid and investment which improve the condition of the poor. Included in this is a commitment to justice, sharing, and decreasing levels of energy consumption so that the poor may have easier access to energy supplies. Also included is a change to energy forms which take us out of competition with energy poor countries for dwindling supplies of fossil fuels.

### *C. The Ecological Context*

No longer is it possible to consider the environment as a giant sink or to assume that basic life support systems can be indefinitely exploited. The interdependence of life extends beyond human boundaries to include more or less fragile ecosystems. In this context the notion of limits is a basic presupposition however difficult limits may be to measure precisely. There are limits to what may be considered a reasonable and just level of energy consumption. Supplies of certain forms of energy are limited. Ecological systems have a limited capacity to absorb

wastes and renew themselves. Finally, human beings have a limited ability to organize, manage, and foresee the negative side-effects of complex technological systems. This last limitation is increasingly important with the evolution of powerful technologies capable of intruding deeply into ecosystems. The future of many systems has become a human responsibility which is poorly carried out by attitudes minimizing the harmful impacts of powerful technologies on the environment.

#### D. The Technological Context

Energy policy must concern itself not only with disagreements over the harmful environmental impacts of energy systems, but also with the conflicting attitudes toward modern technology. Some celebrate the extension of human power made possible by the technologies involved in the extraction, conversion, and consumption of energy. Others see them as weapons in the hands of a new power elite or personify them as monsters reducing human variety and imposing a narrow way of life.

It is a truism that technologies are extensions of human power and can be used for good or evil purposes. What is seldom recognized in this truism is the enormous influence technologies have on social structures and values. It is perhaps too strong to say that the technologies a society elects determine the shape of its social structures and values. But at least this view alerts us to a partial truth about the power of our appendages. While we elect individual technologies for the benefits they promise, we seldom take account of the totality which these individual choices produce. This totality has an evolutionary and sometimes revolutionary character. The evolution seems to be in the direction of increasing complexity and the need for larger and more sophisticated organizations to perform managerial and marketing functions. Complex technological systems and the products of these systems create dependency. Social institutions are put into a reactive mode and are constantly in need of readjustments to accommodate new technical developments and unpredictable side-effects.

Some observers have called this totality the technological society or way of life. Whatever it is called, it points to a society whose structures and values are compatible with the perpetuation and increase of sophisticated technologies and the interests they serve. This compatibility does not always extend to the environment and, in the view of some, infrequently to those things that make for more humane communities and greater spirituality.

In recent years a reaction against the so-called technological way of life and to large-scale, complex systems has set in. Central to this reaction is the concept of appropriate technology. This is an ambiguous concept but in general points to technologies tailored to energy efficiency end-use, the human capacity to comprehend and employ participative decision-making, and ecological soundness. Appropriate does not mean small or large exclusively, but a variety of scales depending on the situation. In a period stressing complexity and large-scale, however, it has been interpreted as a call to change the direction of the evolutionary trend. While this interpretation may be valid, we must guard against associating

“appropriateness” exclusively with size or ideological posture.

The setting of energy policy in a context of constant technological change and fundamental disagreement about the desirability of this change is like trying to build a house on a geological fault zone prone to slippage. Policy must be constantly readjusted to accommodate new developments, unpredicted side-effects, and shifting perceptions about the technological enterprise itself.

#### E. The Church Context

While life in our churches is not a concern of national energy policy, it certainly is relevant to the task of setting a Presbyterian energy policy.

Our church life is characterized by a plurality of theologies, lifestyles, and viewpoints. To some extent we are American society in microcosm with all its conflicts, ideologies, and visions of the future. Because of this no Presbyterian energy policy can hope to express the conscientiously held viewpoints of all members, nor can it claim to be the only valid Christian policy.

Policy statements such as this should therefore be seen as an attempt by two church bodies at a given point in time to come to a few common judgments which are more than a least common denominator and a repetition of conventional wisdom but at the same time are sensitive to conscientiously held views of members. To accomplish this the churches must call to speak those in their midst who are acquainted with energy issues, while being open to participation at all levels and aware that those who claim expertise do not always share it in a selfless manner.

## II. Theology

There are a variety of perspectives from which to address energy policy. Our perspective is Christian, and the heart of Christianity is a relationship to God through Jesus Christ called faith. This relationship is summarized in Jesus' message on the kingdom (community) of God (Mark 1:14-15), “The time is fulfilled, the community of God is at hand; repent and believe in the Gospel.” Within this message are the three dimensions of the faith relationship: 1) God's gift of community, 2) repentance, and 3) belief or response. This relationship of faith is the basis for our approach to energy policy and the source of our power to speak truth.

While Jesus never spells out the details of the community of God, the first term in this relationship, his teachings, give us a few hints as to what it is like. It is a gift of God, not a product of human hands. It begins small and grows. It is a community, not isolated individuals working alone. It frees those who receive it and gives them power to love and hope. It reverses expectations. It is both present in our midst and yet to come in its fullness. It promises a fruitful and redeemed creation. The decision to translate *basileia* as “community” rather than “kingdom” was made to avoid a word which many find confusing and to introduce a word we feel carries more of the original meaning.

These hints, however lacking in concrete detail, are helpful in finding our way through the complexities of

energy policy. That the community is a gift of God relieves us of any illusion that a perfect society can be built by human hands or that our particular version of the truth is God's preferred one. While this note of humility comes first, it does not let us sit back and wait for God to act. God has begun the work of community building in Jesus Christ and joins us through the continuing work of the Spirit and the Church. When Christ the Servant-King is present, his rule is seen in our sharing communities. But God does not provide energy or make our communities livable. Instead, the love of the Spirit calls us to exercise our limited freedom and gives us the power to join confidently in the process of building humane and livable communities with sufficient energy supplies.

Jesus' teachings on the community of God sensitize us to look for the small, the everyday, and the unexpected in our energy choices. Complex solutions utilizing sophisticated technologies are not the only viable ones. Present ways of thinking are not the only ways. His teachings also point to the fallacy of individualistic solutions and reveal the power of God to be the power of the cross: of love, justice, and caring stewardship, not technology, money, and status.

In addition, the community of God reveals the idolatry of total reliance on any form of political authority, style of life, or pattern consumption. The ideals of community — mutuality, justice, participation, and sustainable sufficiency — become the goal of life together. Justice and liberation are extended even to the poor. Generosity, sharing, and justice become the responsibilities of everyone, especially of the rich, powerful, and inventive. Good stewardship of the creation is made a community responsibility.

The nearness of the community and its presence among us lend a sense of urgency to our community building. They are also the source of our power to speak and act in love and to hope for a better future. Yet in comparison to the fullness to come we still see, to use the words of Paul, "through a glass darkly" (1 Cor. 13:12) and "the creation waits in eager longing for the revealing of the sons and daughters of God" (Romans 8:19). God's good creation, the image of God in us, and the covenantal relation between God and creation have been and continue to be distorted by the misuse of human freedom. Given dominion and called by God to careful stewardship of the creation, we have put ourselves in place of God selfishly appropriating the rest of creation without due regard for its worth in the eyes of God or capacity to support life. Dominion has become domination. Instead of caring stewardship, an impersonal, often careless, and sometimes reckless use of natural ecosystems threatens the whole of God's creation. Violence at home and warfare abroad, impoverished and malnourished persons, dictatorial corporate and political structures, rapid exhaustion of natural resources, and pollution of ecosystems reflect life lived in alienation from God, other persons, and the rest of creation. God's covenant stands in judgment on our competitions over scarce resources and our misuse of persons and ecosystems.

With the approach of the community of God and its beginning in Jesus Christ the possibility of a renewed relation to God and the creation emerges. This is the

redemption that God promises to the entire creation and has made available already to those who repent and believe.

Repentance is the second term in Jesus' message. It is a call to social and personal change and is expressed in those activities, such as prayer, confession, solidarity with the poor, the appreciation of beauty, and respect for ecosystems which sensitize us to God's community. Of particular importance is the confession of our own part in the structures and values which have led to the present situation. We Americans have contributed to and received the benefits from a way of life that approaches the worship of mammon; from consumptive practices which disrupt and exhaust ecosystems; and from attitudes which pay little heed to the basic needs of present or future generations.

Repentance in this situation means: 1) taking this confession seriously; 2) sensitivity to the world's 800 million malnourished and impoverished; 3) awareness of the delicacy of ecosystems; and 4) a change of direction to more frugal energy consumption, justice, and greater sharing in community.

Belief is the third dimension of faith. Belief is much more than the intellectual affirmation of God's mighty deeds. It is the active human response that flows out of us when we are open and receive God's love. It is based on our freedom and ability to respond (response-ability), and leads us to life in the cross and resurrection of Jesus Christ. It involves the whole person including body, mind, will, and emotion.

What our responsibility means in specific terms is sometimes intuitively given. Open to community, we respond to God's grace spontaneously. More often we need guidance in responsibility. Sin still partially blinds us. Problems are often far beyond our level of comprehension. This is especially true with modern social problems whose complexities confound even the most insightful and sensitive.

Guidance for responsibility in energy choices comes from two sources: the biblical witness as interpreted by the Church and the context of energy choices. The effective use of these sources presupposes biblical study and at least minimal investigation and understanding of the energy context.

Combining faith with guidance, we conclude that the specific context of what we should do comes from a process of prayer, reflection, and creative imagination in which faith is joined with Bible study and an investigation of the context. This process provides us with guidelines which help us to choose among the full range of energy policy options available at any one moment. The process never yields perfect results. The choices which we make are therefore tentative and must be periodically re-evaluated.

What have emerged from our process of prayer, reflection, and creative imagination is the ethic of ecological justice and a list of recommendations. The ethic has three primary norms — justice, sustainable sufficiency, and participation — and twelve guidelines for decision-making. The recommendations apply to social policy and church and personal responsibility. The ethic and the recommendations can be found in the report itself.

### III. Social Policy

One important part of our responsive belief is confronting social policy with an ethic of ecological justice. Here we enter a zone of urgent, ambiguous, and sometimes incompatible choices affecting the lives of people and the rest of creation. Ambiguity can cause paralysis and flight until we realize that both are choices themselves and not very good ones at that. Paralysis and flight are a retreat from faith, a refusal to carry repentance into belief, and a retreat from responsibility. Faith involves choices and responsible energy choices require an investigation of social policy questions and an assessment of available energy options.

#### A. Social Policy Questions

Our goal for energy social policy in the period of the transition is the provision of an equitable distribution of sufficient and sustainable energy to support basic human needs, to alleviate suffering, and to permit society to receive and respond to God's community.

This goal implies changed social and personal priorities. In the developed countries it implies a reduction in waste, total energy demand, and the consumption of depletable energy resources. Dependency on fossil and other non-renewable fuels and the neglect of energy efficiency and waste are not sustainable practices. Historical patterns of increasing energy consumption place tremendous pressures on economic and political institutions. Disregard for the social and environmental side-effects of modern technologies reduces human potential and threatens life sustaining ecosystems.

To take into account these implications, social policy in the transition must encourage a shift to renewable energy sources and to more appropriate energy technologies. It must also attend to questions of justice and sharing so that the poor may achieve levels of material consumption compatible with full human development.

In the countries where an impoverished sustainability is an enslaving way of life, this goal implies an increase in energy consumption to a level sufficient for the provision of basic needs. To achieve this there must be a transfer of capital and depletable energy resources from rich to poor; increased participation by poorer nations in forums where energy decisions are made; and commitment to basic human rights and the well-being of the poor.

In all countries this goal implies enforcement of environmental laws to protect ecological systems from irreversible damage. The increasing deployment of appropriate technologies can be an important factor in such protection.

Finally, this goal demands a reduction in spending on armaments throughout the world. Not only does military spending consume precious energy resources and promote waste in useless competitions for national power, but it also threatens the peace essential to sufficiency and sustainability. Particularly stressful is the possibility of nuclear war, a possibility which becomes a probability as nuclear weapons proliferate.

To achieve this goal several outstanding policy choices must be made. The first concerns the timing of the transi-

tion. The options are to let market forces accomplish the transition in their own good time and way or to make a conscious social choice to interfere in the market to accelerate the transition and to ensure equity and participation. There are well known advantages and disadvantages to each option. Market solutions, while relatively efficient, are frequently slow, unpredictable, and unfair to the poor. The conscious choice to interfere could result in cumbersome, bureaucratic manipulations that accomplish little while spending vast sums.

We consider the problems associated with the production and consumption of energy to be urgent and ethically to demand equitable and participatory outcomes. We therefore opt for a transition which makes provision of basic needs its first priority and uses market forces where possible, but interferes to shorten the period of the transition and to ensure equity and participation.

Beyond this general conclusion there are a range of policy alternatives having to do with means. Among the most important are the following:

1. Alternatives to decrease total energy demand and the demand for specific forms of energy, such as price manipulations through taxation, rationing, and the setting of mandatory standards.

2. Alternatives to increase investment in conservation, renewable forms of energy, and appropriate technologies, such as tax incentives, low interest loans, direct subsidies, and taxation of undesirable alternatives.

3. Alternatives to prevent damage to the environment and to ensure that the full costs of energy production and consumption are included in fuel prices, such as pollution licenses, taxes, and mandatory emission standards.

4. Alternatives to ensure equity and participation, such as unemployment compensation, job retraining programs targeted to select groups, redistribution through tax reform, life-line rates, guaranteed annual incomes, programs to enhance family and community life, and increased and reformed programs of foreign aid.

5. Alternatives to encourage a new ethic of ecological justice, such as advertising and the introduction of new educational materials.

6. Alternatives for responding peacefully to a sudden disruption in vital energy supplies, such as oil reserves, standby rationing plans, and a reduction in energy consumption.

7. Alternatives to increase the prospects for peace and to stop the spread of nuclear weapons, such as initiatives to seek worldwide agreement barring the use of plutonium, to reduce armament expenditures, and to block the international traffic in weapons. We do not think it is wise to specify which means will best accomplish the goals of the transition. It is the task of the churches, however, constantly to monitor the means used, to check for consistency with the ethic of ecological justice, and to advocate and support those policies which best satisfy the guidelines for ecological justice.

#### B. Assessing Major Energy Options

No energy system satisfies all the guidelines. No energy system is risk free. Some energy systems satisfy most of

the guidelines but fail at one or two critical points. Others have negative impacts primarily on persons, while still others impact ecological systems. Finally, how the systems are chosen and implemented is crucial to several of the guidelines. With these ambiguities in mind, yet aware that choices are inevitable, we offer the following summary assessment of existing energy systems.

1. Conservation or energy efficiency, while technically not a source of energy, is an alternative whose potentialities are just beginning to be realized:

a. Forms:

- (1) More efficient consumption of energy, such as weatherization and improved industrial processes.
- (2) More efficient production and distribution of energy, such as co-generation.
- (3) Social and personal restraints, such as driving fifty-five miles per hour and reducing thermostats.

b. Strengths:

- (1) In most forms the costs and risks are low.
- (2) It encourages sufficiency and appropriateness.
- (3) It generally produces more employment than is provided by the waste it replaces.
- (4) Flexibility is high. It can be easily reversed.

c. Weaknesses:

- (1) Like all options, it could be implemented unfairly.
- (2) Reliance on constraints rather than on improved efficiency could reduce employment.
- (3) Its potential is limited in the long range.

d. Assessment: Political savings of up to forty percent without a significant change in the quality of life are estimated by some experts. Conservation should be a top social priority and be vigorously promoted by incentive programs and public and private investment.

2. Solar energy was the principle form of energy for centuries and now offers a promise as a sustainable and appropriate fuel for the transition and beyond.

a. Forms:

- (1) Thermal applications, such as the heating and cooling of buildings, hot water heating, and agricultural and industrial processing.
- (2) Biomass, such as the burning of wood and alcohol from food grain biomass.
- (3) Solar electric, such as power towers, photovoltaics, wind, ocean thermal, and hydropower.

b. Strengths:

- (1) Solar is a renewable and low risk fuel.
- (2) By providing energy on a variety of scales from decentralized space heating to large electricity generating power stations it sets a standard for appropriateness.
- (3) Efficiency, as measured by fitting energy source to end use, and flexibility are high.

c. Weaknesses:

- (1) Some forms are not cost-competitive.
- (2) Infrastructure is not in place for most solar forms.
- (3) Inflexibility is caused by problems with storage in periods of darkness.
- (4) Large tracts of land are required for power towers and hydro.

d. Assessment: Along with conservation solar energy should be the number one priority for research and development and for public and private investment. Costs of most new forms should become competitive as technical innovation and economies of scale reduce the price of solar relative to other sources of energy. A major commitment to alcohol from food grain biomass should be rejected because of inflationary effects on food prices.

3. Oil and Natural Gas, while flexible and important for specialized purposes, suffer from a fatal flaw as major energy sources. They are nonrenewable and supplies will become increasingly scarce and expensive during transition.

a. Forms:

- (1) Petroleum, such as gasoline and fuel oil.
- (2) Natural gas.

b. Strengths:

- (1) Both oil and natural gas are among the most flexible of fuels.
- (2) Potential use on a variety of scales for a variety of uses and ready comprehensibility make both highly appropriate fuels.
- (3) The cost of both is now low relative to other fuels.
- (4) Natural gas is clean burning.

c. Weaknesses:

- (1) Both are exhaustible, nonrenewable sources and will be high priced sometime in the next century, if not sooner.
- (2) The burning of gasoline causes severe pollution in some locations.
- (3) The present dependency on foreign oil discourages sufficiency and reduces flexibility.
- (4) Geopolitical distribution is poor.

d. Assessment: Non-renewability is a fatal weakness. Subsidies and price controls have resulted in an artificially low price which has stimulated overconsumption and waste. Prices should rise to reflect nonrenewability and to reduce consumption and waste. But price rises result in extraordinary profits for most firms in the industries at the expense of consumers, especially poor consumers. The political and ethical problems associated with rising prices thus call for some modification of what might otherwise be left to the market for solution. Concentration and size in the participation, and appropriateness, but reducing the concentration runs into problems of political feasibility and of the need for planning and organization to facilitate the development of new energy sources.

4. Nuclear is the most controversial and least understood of the alternatives.

a. Forms:

- (1) Conventional reactors (fission).
- (2) Breeder reactor (fission).
- (3) Fusion.

b. Strengths:

- (1) Supplies are long lasting with the breeder reactor and fusion.
- (2) Historically, the safety record has been good.

c. Weaknesses:

- (1) Mining accidents, the possibility of a major accident such as a core melt down, the storage of radio-



active wastes, the threat of sabotage, and the dangers of weapons proliferation make the risk factor high with nuclear.

(2) Of all the alternatives, nuclear energy is the least appropriate in terms of scale, centralization, technical complexity, and participation. The social and value impacts of a commitment to nuclear are potentially enormous.

(3) The cost of making nuclear reasonably safe, environmentally sound, and politically acceptable is likely to be prohibitive.

(4) Nuclear energy has become a "symbolic" issue and thus its political acceptability is questionable. Timely resolution of necessary decisions will be very difficult.

(5) The possibility of nuclear weapons proliferation is a real and present danger.

d. Assessment: The dilemmas posed by large-scale commitment to energy from nuclear fission stand at the core of the current debate. On the one hand, the provision of basic needs, the availability of long-lasting supplies and the unattractiveness of coal make this energy system difficult to rule out (particularly in countries less well-endowed with energy resources than the United States). On the other hand, there are a number of factors which combine to make nuclear fission incongruent with the ethic of ecological justice presented in our policy statement. Among these are the risks, real and perceived, associated with nuclear power; the cost of making it reasonably safe and environmentally sound; the effects on future social institutions and values; the tying up of large amounts of capital; and the constant threat of nuclear proliferation. In addition, in this country and various other societies, a highly-charged political context makes participatory decision-making and timely resolution of issues concerning nuclear power almost impossible.

At present there is a de facto moratorium on orders for new conventional reactors in the United States. Whether this will continue depends in part on the inexpensive resolution of outstanding problems and the overcoming of political opposition by proponents of conventional reactors. Should this moratorium be lifted and new orders lead to the expansion of conventional nuclear, construction should be constrained by strict environmental and human safeguards. Conventional nuclear should also be seen as a source of last resort, with the burden of proof resting on the demonstration of a threat to energy sufficiency defined in terms of basic human needs. Our ultimate goal should be reduced dependence on conventional nuclear with eventual phaseout as conservation and renewable sources are developed. The same logic applies to the breeder reactor only more strictly since the breeder reactor produces plutonium in far greater amounts thereby increasing the waste hazard and the threat of nuclear proliferation. With fusion the risks, so far as we can know them in advance, will be reduced, although many of the social and value impacts of complex technologies will remain. Fusion offers a potentially huge source of energy. Research into the feasibility of fusion should therefore continue, but with a careful assessment of social and environmental impacts.

5. Coal has become an increasingly attractive alternative for the transition as the problems with nuclear energy mount. This attraction misses the mark by failing to see the risks associated with the production and consumption of coal.

a. Forms:

(1) The direct combustion of coal.

(2) Synthetic fuels (gas, low-sulfur fuel oil, and methanol).

b. Strengths:

(1) Coal is in plentiful supply in the world's industrialized nations.

(2) Costs, while rising, are competitive with other transitional fuels and easier to predict.

(3) Coal can be used in a wide variety of appropriate scale burnings.

(4) Flexibility is increased with syn-fuels but with a greatly increased cost and new environmental risks.

c. Weaknesses:

(1) The risks associated with the production and consumption of coal, including mine accidents, black lung disease, air, heat, and water pollution, acid rain, and land degradation, place it with nuclear as the riskiest of the alternatives.

(2) Stripmining rates low on aesthetics.

(3) The national commitment to spend \$88 billion on syn-fuels is a costly choice in terms of conservation and solar alternatives lost.

(4) The transportation of coal is cumbersome and costly.

(5) Coal resources are scarce in most of the world's poor countries.

d. Assessment: Coal and nuclear are often cited as the major fuels for the transition. Neither is very attractive although the provision of energy for basic needs may dictate reliance on one or the other. Coal should not be viewed as some sort of panacea. It is a "messy" fuel which can be made acceptably clean and safe only with the expenditure of large sums. As for syn-fuels, a careful reassessment of our commitment in the Energy Security Act is in order on economic and efficiency grounds.

6. Oil shale and tar sands are a potentially plentiful supply of oil, but extraction and refining are costly and present new environmental risks.

a. Forms:

(1) Kerogen, a substance mixed with shale and refinable into oil.

(2) Heavy oil mixed with clay and sand.

b. Strengths:

(1) In addition to the other strengths of oil, the abundant supply locked up in shale and tar sands in the United States and Canada dramatically increases reserves.

c. Weaknesses:

(1) In addition to all the weaknesses of oil as a fuel, the costs of extracting and refining oil from shale and tar sands are high.

(2) Most extraction processes cause considerable damage to the environment and are aesthetically displeasing.

(3) Water requirements threaten to disturb the delicate water equilibrium in the arid states of the West.



d. Assessment: Research and development by private industry should continue, but full exploitation of this potentially plentiful source of fuel should await solution of the outstanding environmental and water problems.

#### IV. Church and Personal Responsibility

The community of God is both present in our midst and yet to come in its fullness. Insofar as it is yet to come, American Presbyterians live in a broken world where unsustainable energy consumption and polluting lifestyles are considered normal and where concern for the poor has a low priority. These lifestyles and the lack of concern for the poor are built into the structures of society and into the very being of Americans. Movement toward the ethic and practice of ecological justice will be slow and its flowering will be delayed by attitudes developed in an age of cheap and abundant energy and by a predisposition to hang on to the known and familiar. Presbyterians should have no illusions about what Paul called the "principalities and powers" of this age. Realism must inform our thoughts and actions at every point.

Realism in a broken world deteriorates into pessimism, apathy, and despair, however, unless the words of the church about Jesus Christ and the Holy Spirit are heard and affirmed. The community of God has begun. It is presently working with power in our midst. Faith, hope, and love are its partial fruits. The transition to the new era can be negotiated.

Although detailed directions for the transition to the new era are not available, we think Jesus Christ has given us clues and resources. His teachings on the community of God and his call to repentance and responsibility are starters. Justice, sustainable sufficiency, and participation are biblically based values which give us general direction. The twelve guidelines derived from these values offer more specific direction. A factual basis is provided by the study of the energy context and the review of options. The tools are in hand, the wisdom and power of

the Holy Spirit are present, and the time is ripe for us as a church and as individuals to make a decision about direction.

The churches have a large task ahead of them if these tools are to be used properly. In accomplishing this task, worship, prayer, and study are critical first steps, for it is through them that the wisdom and power of God's community is made present by the Holy Spirit. Here the spiritual and community life of congregations must be stressed. Care and nurture in community are essential to responsible action.

The second step is recognition of our complicity in structures and practices which are unjust, unsustainable, and lacking in participation. And beyond this recognition lies an openness to change.

The third step is responsible action based on an ethic of ecological justice. In the churches this takes form in six ministries:

- Education
- Example Setting
- Community involvement.
- Stewardship of money.
- Solidarity with the poor.
- Advocacy.

For individuals in their personal responsibility the ethic of ecological justice is a call to new lives in which:

- Trust is rightly placed only in God.
- Openness to change and to new patterns of living predominates over a predisposition to preserve the past.
- The needs of the poor, the environment we are leaving to future generations, and social justice become priority concerns.
- Mutuality and sharing in community characterize life together.
- Sufficiency and sustainability of energy systems become matters of personal lifestyle and social advocacy.
- Worship, prayer, and repentance are accepted as personal and corporate patterns.