

Global Climate Change

Global PROUT Policy Parliament

Approved: May 4, 2011

The Global PROUT Policy Parliament (GPPP) is a volunteer group of Proutists from around the world who evolve proposed policy statements on topical issues. The material may be used freely provided GPPP is quoted and linked at <http://proutglobe.org/resources/policy-statements/>. All policy statements are subject to ongoing evaluation and may be altered in the future.

Introduction

Global climate change is no longer a conjecture; its effects are now evident. Nine of the ten years of hottest global average annual temperatures on record have occurred since 2000. And the three years of greatest Arctic ice melt happened in the past four years. Along with rising temperatures and diminished sea ice have come increasing impacts on societies and ecosystems. The pain of climate change is now being felt, and humanity is compelled to make an immediate and effective response to reverse its causes. For this to occur, proper policies and approaches must first be conceived and put in place.

In response to this need, the *Global Prout Policy Parliament (GPPP)* offers the following policy statement on mitigating global climate change.

Findings

Global climate change is a complex phenomenon. Any effective formulation to global climate change policy must be based on a clear and comprehensive understanding of the concerned physical science and of the social responses that have arisen. The following findings provide understandings that inform the GPPP's global climate change policy statement.

Physical Science Findings

1] While change in the Earth's climate is known to occur naturally — driven both by cyclical earth changes (eg, ocean temperature oscillations, cyclical variation in solar radiation, ice age cycles) and by powerful anomalous events (e.g., major volcanic eruptions and large

meteorite impacts) — there is a preponderance of scientific opinion that the dramatic increase in human produced greenhouse gases is the major cause of the present global climate change.

2] Global climate change should not be characterized simply as "global warming". The climate changes that are occurring are not limited to rising temperatures — as significant as this is — but also includes such phenomena as increasingly severe wind storms, more powerful winter storms, and drastically changing rain patterns.

3] Climate scientists have developed predictive models that give a range in the rate and extent of global warming as the result of human augmented climate change. The actual rate of global warming has been at the high end of the temperature increases predicted by climate change models. That is, global warming is occurring at an unexpectedly fast rate.

4] Scientists have identified several positive climate feedback processes that have the potential — if not the demonstrated capacity — to accelerate global climate change. Significant among these positive feedback processes are: (1) the melting of the Arctic sea-ice (which increases the ability of Arctic waters to absorb solar heat), (2) the melting of the permafrost in the northern tundra (which releases the highly potent greenhouse gas, methane), (3) the increasing frequency and intensity of forest fires (which releases stored-up carbon in plants into the atmosphere), and (4) ocean acidification due to increased absorption of carbon dioxide (which may indirectly decrease ocean cloud cover, thereby increasing the earth's albedo and allowing more solar heat to penetrate the atmosphere).

5] Inherent in the occurrence of climate destabilization are possibilities for unanticipated climate phenomena or unexpected environmental impacts. As with change in all natural systems, tipping points can be reached in which there is not just incremental global warming but a sudden shift to dramatically different climatic patternings. Of particular concern is the possibility that a sufficiently increased flow of glacier and sea ice melt in Greenland and the Arctic Ocean could "shut off" the North Atlantic Current — responsible for Europe's comparatively warm climate — bringing a harsh Siberian like climate to much of Northern Europe.

6] Scientific research has generated a large body of findings as to the ecological changes that have resulted from human-generated greenhouse gas emissions. In addition to increased average land temperatures, these include at least the following: rising ocean surface temperatures, more extensive forest and grass fire damage, earlier snow pack melting, receding glaciers, greater temperature extremes, changing rainfall patterns, diminished sea ice, changing ocean salinity levels, a heightening of the lower atmosphere, and increasing terrestrial and marine desertification.

7] Public discussion of climate change has focused upon increasing levels of the greenhouse gas, carbon dioxide, as the driving force of global climate change. However, methane, nitrous oxide, and several fluorinated gases, though much less plentiful than carbon dioxide, are even more potent greenhouse gases on a molecule per molecule basis. Methane, a gas produced in significant part by cattle, has a greenhouse gas potency many times that of carbon dioxide. And nitrous oxide, created (among other sources) from the breakdown of nitrate fertilizers, over time has 298 times more impact per unit weight than carbon dioxide.

8] Water vapor is, by quantity, the most abundant greenhouse gas. While human activity has almost no direct effect on atmospheric water vapor, the general effect of global warming is to increase water vapor concentration, as warm air holds more water vapor. The long-range effects of increased atmospheric moisture are at present not well modeled. There is evidence that this may result in more moisture carried to polar regions where it may cause additional Arctic heating when the moisture condenses, releasing latent heat.

9] While climate change is occurring globally, its immediate effects are greater in some regions than in others. Temperature rise is far greater in the Arctic and West Antarctica peninsula than elsewhere on the planet. Drought will be felt most keenly in arid and semi-arid areas. Severe windstorms will occur with greatest intensity in regions where hurricanes, typhoons and cyclones occur. And sea level rise (caused by ice melt) will have greatest impact on low-lying coastal areas.

10] In relation to impacts on human life, the impacts of climate change, while pervasive, will be mixed. A few high-latitude regions may benefit from improved climatic conditions for agriculture. But, in the main, global climate change will bring extensive human misery. Human settlements in low-lying areas will be inundated by rising sea levels; some island nations will disappear entirely. The Indian subcontinent may experience particularly great mass suffering, due to the loss of a steady flow of water in its Himalayan Mountains glacier-melt fed rivers.

11] In relation to the impacts of climate change on non-human life, there will also be much variation. Many animal species may be able to follow the migration of warming climate to higher latitudes or higher elevations. Other species, such as the polar bear and some alpine animals, may see their natural habitat disappear, thereby bringing their extinction. Aquatic life in the earth's oceans may be particularly vulnerable, as one effect of global climate change is ocean acidification, which may decimate many species at the bottom of ocean food chains.

12] The earth's natural processes that absorb atmospheric carbon — and thereby maintain a balanced concentration range — are inadequate to rapidly reestablish a level of CO₂

necessary for a stable climate. The amount of excess carbon already in the atmosphere will take centuries to absorb. Because of this, efforts to moderate climate change that rely solely on reducing atmospheric carbon may take millennia before returning the Earth's carbon cycle to a balanced state.

13] A number of technological fixes to global climate change — called *geoengineering* — have been proposed. The most compellingly advocated approach involves dispersing sulfur dioxide in the Arctic stratosphere (thereby imitating the global cooling effect of a major volcanic eruption) and increasing the density of cloud cover (as clouds reflect much sunlight into space, so that less sunlight can reach and heat the earth). Geoengineering proposals face skepticism from climate change activists convinced that the only viable approach to climate change involves reducing fossil fuel use and downsizing consumption. They also raise genuine cause for caution due to uncertainties over the adverse weather events, crop failures, etc. that they may cause and the challenge of negotiating international agreements to assign liability should the geoengineering technologies go array — as well as due to our present limited knowledge of planetary processes.

Social Response Findings

1] The scientific method deals in probabilities, not certainties. This is especially true for making climate change predictions, given the complexity of factors that interact to create climate. While scientific findings on climate change necessarily include uncertainty, the process of deciding public policy for dealing with climate change seeks a certainty that science cannot provide. In this situation, many concerned scientists urge application of the *precautionary principle*, which asserts that policy-makers have a social responsibility to prevent public exposure to harm when scientific investigation has found a plausible risk — even though there can be no assertion of certain risk.

2] There is a vocal, dissenting viewpoint within the scientific community that global climate change either is not occurring or is not human-caused. This is a distinctly minority viewpoint, and most scientists espousing it are not climate scientists. It is significant that many scientists who are climate change deniers are associated with (if not funded by) the energy lobby, industry associations, and free market think tanks. While there are legitimate climate change skeptics, there is reason to believe that most of the dissent being put forth is an organized attempt to undermine prevailing scientific opinion on climate change in order to protect financial interests.

3] Strategies for controlling climate change — both those involving greenhouse gas reduction and those attempting geo-engineering fixes — are severely hampered by the lack of a

strong global governmental authority. There are strong voices that speak for the nations and for the corporations, but who speaks for the Earth? With respect to global climate change, national sovereignty is not a principle to laud, but an impediment to global survival. If a pathway is not found to cede sufficient authority to a global body or global commission that can act in the best interests of humanity and the biosphere, national and corporate interests will continue to paralyze effective global action to reduce greenhouse gases.

4] The degree of concern over the looming threat of global climate change varies significantly from nation to nation, as well as among demographic groupings within nations. In general, those nations and peoples who face more immediate impacts from climate change, such as low elevation island nations and arctic peoples, invest more energy in immediate and concerted action. And, in general, those nations and peoples more engaged in fossil fuel production, or more wedded to fossil fuel energy sources, or more invested in high rates of economic growth, are less motivated to adopt meaningful change. But there are fracture points where such alignments may break down. India, for example, seeks rapid development (making use of fossil fuels), yet the increasing impacts of climate change on its agricultural productivity may reorient national policy toward one of climate change activism.

5] Certain proposed policy approaches to global warming mitigation have the potential effect of protecting the privileged economic status of developed nations. Or, their financial impact may fall disproportionately upon the poor. Cap-and-trade carbon emissions trading, in particular, could have the effect of a huge, regressive tax. To the extent that climate change policy maintains global inequalities, there will likely be diminished international cooperation. The lack of adequate support by affluent nations for financing technological changes in less developed nations will also diminish cooperation, as well as efficacy, in tackling global climate change.

6] The global action required to assure the protection of humanity and ecosystems from the potential effects of climate change must be based on the assumption of greater rather than lesser impacts. Given the strength of scientific opinion that abrupt and destructive impacts of climate change could occur in the near future, it would be irresponsible of global leaders to gamble on a slow rate of climate change onset, or a minimal extent of global warming, or there being adequate time in the future to initiate more committed actions. Humanity's future must be fully protected by assuming and preparing for a worst-case scenario.

7] To date, constructive action to abate global climate change has occurred mostly in the arenas of public education and local initiatives. Constructive responses at the international level — critically important as they are — have not been commensurate with the severity of the problem at hand; the 2009 Copenhagen climate change conference outcome is generally

regarded as especially discouraging. This has been true for most national responses as well. The profound inadequacy of action at national and international levels is creating popular frustration and giving rise to vocal, grass roots advocacy movements.

8] In some nations, climate change policy has become highly politicized. Much of the politicization is driven by campaigns of disinformation, funded by powerful vested interests. It is driven as well by appeals to the fears of people who believe that their affluent lifestyle is threatened by climate change policy initiatives aimed at downsizing consumption, reducing energy use, or radically altering living patterns.

9] While many sincere scientists and policy-makers are engaged in developing either geo-engineering fixes to climate change or methods to capture and sequester carbon emissions from coal-burning power plants ("clean coal" technologies), there is legitimate reason for concern that the emphasis given to such strategies provides an excuse to avoid dealing with the problematic aspects of fossil fuel energy. Rather than lavishing vast sums on researching clean coal and geo-engineering fixes, far more benefit would come from promoting greater efficiencies in energy use and from rapid adoption of clean, renewable energy sources.

10] The development and deployment of renewable energy technologies, and the development and popularization of alternatively fueled vehicles, are regarded as having special importance for reducing atmospheric carbon created by the combustion of fossil fuels. Such technologies create little or no atmospheric carbon in their operation; however, an evaluation of their efficacy as a sustainable technology cannot be made without consideration of the total embodied energy that goes into the full life cycle of their development, manufacture, operation and disposal. In the case of biofuels, any significant production would require use of vast areas of agricultural land, which could pit fuel production against food production.

11] A preponderance of funding for greenhouse gas reducing innovations goes toward advances in technologies used in the developed world. Comparatively little consideration is given to opportunities for reducing greenhouse gas emissions originating in less developed regions. Yet, such innovations as efficient wood-fueled cooking stoves and simple to construct solar ovens would significantly reduce both carbon-laden smoke and the deforestation for wood-fuel that reduces forest carbon sequestration — and do so to greater effect per unit investment than can be achieved with exotic high-tech innovations in the developed world.

12] Although global climate change will bring great suffering and disruption, the majority of humanity does not feel a strong investment in, or support for, taking aggressive preventive action. Public opinion among the majority remains muted. This occurs for several reasons: other issues (particularly economic hardship) are more pressing, many are influenced by a

well-organized campaign of climate change denial, those in underdeveloped economies fear that carbon emission controls will mean the loss of opportunity for material progress, and many in developed countries feel threatened that their way of life based on unrestrained energy consumption and material affluence may be curtailed.

13] The global climate change crisis cannot be viewed as an independent problem, as it is interrelated with several other major crises with which it interacts in complex and mutually exacerbating ways. Consider the sequence of economic events which began in early 2008: Limitation of oil supply — due in major part to oil depletion — caused gas prices to rise, which fueled a cost of living surge; this then became a contributing proximate cause of the American mortgage crisis. Mass foreclosures, in turn, precipitated the credit meltdown, which put the brakes on the global economy. Reduced economic activity lowered demand for oil. As gas prices then dropped, political pressure diminished for fast-tracking development of alternative energy sources intended to reduce carbon emissions and mitigate climate change.

14] Global climate change is a problem of unprecedented proportions, a problem that will affect most life on the planet. Humanity should use the opportunity presented by this crisis to reflect on how it is that human life has come to have such a destabilizing effect on the earth's natural functioning. Based on this reflection, changes should be made in the values, developmental paradigms, lifestyles, and technologies responsible — even if this requires making systemic change.

A Principle-Guided Policy Framework

The global climate change policies put forward for consideration by the GPPP are guided by several principles:

1] Climate change policies and actions should be solution-oriented; they should emphasize viable, positive alternatives and not dwell on fears or political posturing. Humanity should appreciate that implementing these solutions will bring opportunities for a better life.

2] Proposed solutions should emphasize dealing with the root causes of climate change and make use of the opportunity to build a proper balance between human activity and the ecological integrity of the natural world.

3] Recognizing that global climate change is interconnected with other important global problems, climate change solutions should be preferred which simultaneously help resolve other major crises facing humanity.

4] Approaches to mitigating climate change should be taken that foster global equity and that provide positive opportunities for underdeveloped regions and peoples to gain increased cultural and economic self-determination.

5] The value of social or technical approaches to reducing greenhouse gas emissions must be holistically evaluated; with respect to energy conserving technologies, there must be whole cost accounting of the embodied energy in a product's entire life cycle.

6] A balanced policy framework should be formulated that emphasizes both local empowerment and global cooperation; local communities and cultures have scope to express grass-roots wisdom and initiatives, and global councils must establish common expectations.

7] The politics of special interests and polarizing rhetoric should be brought under control so that humanity can face the threats of global climate change with maximum unity. This requires a strengthening of morality and of citizen participation in the political arena.

A Framework of Deep Solutions

While global climate change poses a major planetary threat, this threat has not been met with a concerted and adequate response. This is in part because the climate change crisis cannot be adequately addressed simply by technological innovation or policy initiatives. What is additionally required is a change of values and systemic changes in humanity's prevailing approach to economic development. It is in these realms — in reorienting values and restructuring economic development — that the GPPP's policy statement gives focused attention.

The policy that the GPPP proposes also seeks to provide a multifaceted, holistic approach to resolving the climate change problem, rather than focusing on single solutions, such as carbon trading systems or the transition to genuinely carbon neutral energy sources.

The GPPP policy on climate change goes beyond the limited goal of reducing human-caused greenhouse gas emissions. By stressing the need to change values, by proposing an alternative model of development, and by calling for a holistic framework of solutions, this policy seeks the more ambitious objective of establishing a human culture and economy that will maintain an enduring climate stability amidst the progressive advance of human civilization.

Spiritual Values

At its root, the global climate change crisis is not an economic or technological or cultural problem. It is a spiritual problem.

Present human culture is dominated by materialism. Under materialism, human activity gets preoccupied with the accumulation, consumption and enjoyment of material amenities and material based experiences. This occurs at the expense of relations with loved ones, participation in community life, cultivation of knowledge and creativity, connection with the natural world, a life of deep meaning, and attaining spiritual connection with the Divine.

Because materialism cannot give authentic meaning or provide inner security, it breeds efforts to satisfy longings through material addictions. As a result, the amount and style of consumption prevalent on the planet disrupts the balanced functioning of the natural world and becomes a principle force driving human-caused climate change.

So long as materialist values dominate, it will be difficult for humanity to live in harmony with the larger fabric of life. Even the threatened loss of earth's climate stability has not curbed materialist culture's addiction to irrational and meaningless patterns of consumption.

1] Individuals should be encouraged to pursue a spiritual life that provides them with meaning and security beyond that of excessive material consumption. Should efforts to abate global climate change require constraints on consumption, spiritual purpose can fill the void left by insatiable material cravings.

2] Global climate change speaks to the need for humanity to adopt a new values base, one that expands humanistic concerns to embrace the welfare of the natural world. Such a value base would be grounded in the proto-spiritual and non-sectarian realization that all life is interconnected in a wholeness of being.

3] Engagement in the global climate change issue by religious and spiritual leaders, institutions, and movements must deepen. They should both bring forward the moral and spiritual dimensions of the climate change challenge and also intensify efforts to give humanity a deepened inner connection with the Divine and to respect the Earth as a living entity.

Strengthened Global Authority

Humanity has become increasingly globalized. This trend is irrepressible. Yet it is emerging without a global political authority to properly manage our globally integrated affairs. Climate change is a vivid example of a global problem requiring globally coordinated action, decided upon and overseen by a global political body having suitable authority.

A legitimate planetary federation must evolve and derive its authority from earth's peoples — not from the powerful transnational corporations whose vast wealth buys political power. So long as the meta-corporations have power to dominate the workings of global

institutions, a world government can speak neither for the living Earth, nor for humanity. And any attempt to frame climate change policy will be compromised, as corporate interests will be put before planetary interests.

A global federation also cannot be viable should its power remain concentrated in the hands of a few powerful nations. No nation should enjoy veto power. This becomes all the more important when framing climate change protocols, as the nations who enjoy veto power in the United Nations Security Council are themselves major generators of greenhouse gases.

1] A global commission on climate change should be formed to frame policy and to establish compliance mechanisms. This commission would have three compartments: (1) representatives of nations; (2) an advisory body of eminent climate scientists; and (3) a council of eminent moral and spiritual leaders — this last body serving as a powerful voice to speak — without political compromise — for the welfare of the earth and its peoples.

2] The global commission on climate change should be invested with sufficient authority to recommend stiff sanctions on nations or on transnational corporations that fail to comply with globally enacted climate change mitigation policies and practices. Sanctioning power should include the capacity to declare trade boycotts — with nations or corporations — and punitive tariffs on internationally purchased fossil fuels.

3] The global commission should also have capacity to help direct international funding assistance to developing countries for the purpose of capitalizing technology changes and infrastructure development that serves to reduce greenhouse gas emissions.

4] The global commission must be impeccably insulated from the compromising influence of transnational corporations, or of bodies that serve their interests. The commission's council of moral leaders must be the guarantor of the global commission's uncorrupted integrity.

Regulating Corporations

In putting free trade above fair trade, growth above sustainability, and profits above people and planet, corporate economic globalism does not, in the main, foster the global unity, equity and eco-morality so essential for responding to global climate change.

The amoral behaviors of transnational corporations occur because they are not sufficiently regulated by governmental bodies. The power of the transnational corporate entities is so great they are able to exercise significant control over governmental policy-making. As a result, when nations put forward climate change policy, those policies rarely jeopardise the interests of the transnational corporations.

The threat of global climate change brings to a head the problem of under-regulated corporate behavior and of their corrupting political influence. To control climate change, humanity must stand together; none can be allowed to surmount the common cause.

1] The global commission on climate change should have authority to monitor the policy-making processes of national governments to certify that a strong protective firewall exists between corporate influence and governmental climate change deliberations. Nations that do not maintain such protections from corporate influence would have reduced status within the decision-making processes of the global climate change commission.

2] Large corporations with significant investment in fossil fuel production or technologies, or in technologies dependent on fossil fuels, should operate under a charter issued by an appropriate governmental body that would set out strict operating guidelines for reducing greenhouse gas emissions that these corporations must observe. Their operations should also come under the oversight of either a governmental or autonomous body, which would include an appointee of the global commission on climate change or comparable national agencies. Among other objectives, the oversight bodies should guide the transition of the concerned corporations toward economic activities that minimize fossil fuel production or fossil fuel use. They should also see that they operate on a no profit-no loss basis.

3] Where there is genuine need, corporations whose operations significantly contribute to greenhouse gases should have access to low interest financing, and to technological innovations, to help them produce or make use of zero-carbon technologies. This financing could come from a global fund, overseen by an appropriate global body. This fund would be endowed by taxes or tariffs on hydrocarbon fuel production or consumption. This policy should not be applied in a manner that gives special advantage to hydrocarbon fuel related corporations over corporations already dedicated to carbon neutral energy technologies.

4] The global commission on climate change should establish strong regulatory policy guidelines for the purpose of controlling the operations of large corporations with respect to practices that impact climate change. These policy guidelines would then go to the nation-states to frame appropriate statutes and form appropriate regulatory bodies with which to implement the globally recommended policies.

Economic Decentralization

The global economy requires the use of huge amounts of hydrocarbon fuels for the transportation of goods. Yet, there is great scope to produce many goods locally, rather than

provide them through importation. This is particularly true for most basic commodities, such as food, fuel, fiber, medicines, and building materials.

The shift from centralized to decentralized economic production would, in balance, achieve great reductions in the creation of greenhouse gases. This structural shift in the modality of production would have many other benefits as well. Among others, it would help keep capital circulating in local economies, better stimulating economic well-being.

1] Among the various approaches to decentralized economic development, the PROUT decentralized planning model offers the most comprehensive and balanced approach. Nations and communities in general, and those suffering from dependency in particular, should study and implement the PROUT planning methodology for achieving balanced economic decentralization.

2] Institutions and schemes for providing sources of capital for local production and enterprise should be developed and should receive privileged status and assistance to assure their stability and their preferential use by the local community. Special importance should be given to allocating investment capital for developing self-reliant, carbon neutral regional energy systems.

3] Strong national or regional policies should be put in place to develop and promote local sources of renewable energy. Each regional economy should, so much as may be feasible, become energy independent, with fossil fuel energy sources being used only during a phased transition to renewable energy sources.

Technological Change

Global climate change, along with environmental pollution and destruction, requires a profound change in the purpose and nature of technology. While this change is occurring with accelerating speed, its momentum must be further increased. For this, there is need on the one hand to ratchet up pressures to abandon unsustainable technologies and on the other hand to arrange incentives and assistance to develop and deploy greener technologies.

Technology is not inherently a destructive or destabilizing force. This destructive impact of technology is primarily because the development and use of technology is guided by narrow profit motives that are without sufficient humanistic conscience. Technology must be brought to both serve the common human welfare and to have a very light impact upon the earth.

1] In appropriate settings within both developing and developed countries, there should be aggressive popularization of energy efficient appropriate and intermediate technologies.

There should also be a balanced allocation of R&D funding for appropriate and intermediate technologies and public support and venture capital for small-scale enterprises producing these technologies. Where possible, designs for such technologies should come within the public domain so they can be freely produced.

2] Governmental bodies should be established that assess the energy efficiency of, and of the greenhouse gases produced by common and large-scale technologies and energy consuming appliances and devices. This assessment should provide a holistic, life cycle assessment of the greenhouse gases created in the production, use and disposal of such products. Appropriate incentives and disincentives should be arranged to encourage maximally efficient utilization of energy in all technological artifacts.

3] While nuclear power does not directly produce greenhouse gases, it is not a suitable energy source to promote for several reasons: (1) The huge governmental subsidies awarded to the nuclear power industry deprive funding for the development of more desirable carbon neutral energy technologies. (2) The construction of nuclear power plants involves materials having huge amounts of embodied energy, which is often generated by greenhouse gas producing fossil fuels. (3) There are huge externalized costs, and deferred costs, involved in nuclear power, and these costs result in a waste of social resources that could be better directed toward more desirable ends, such as funding the development of efficient clean energy technologies. (4) There is not at present a permanently secure method for storing nuclear wastes.

4] There should be systemic overhaul of transportation systems with the intention of massively reducing transport-generated greenhouse gases. This can be accomplished through a combination of approaches such as: using new carbon neutral fuel sources, planning urban areas to make for efficient public transport, designing vehicles that have far greater fuel efficiency, developing and promoting mass transit and rapid rail travel, creating greater opportunities for home work and local cottage industries, promoting human-powered and human-assisted transportation, and taking measure of the embodied energy in all transportation system choices.

Lifestyle Change and Population Stabilization

Analyses of humanity's ecological footprint have indicated that the Earth's carrying capacity, as of 2006, has been exceeded by some 40 percent. Such estimates involve making certain assumptions; they are far from definitive. Yet it is apparent from even a cursory look at the living conditions of humanity and at the rapid depletion of the earth's resource base that our situation is unsustainable.

There are too many people, consuming too many resources, using technologies that are too damaging and too powerful. The earth that nurtures all life is being damaged; its life-support systems are being degraded, among other ways, through the impacts of global climate change. The global effort to mitigate climate change cannot fall only to governments and corporations, and to changes in economies and technologies. There is also profound need for cultural and lifestyle shifts to occur.

While lifestyle shifts are necessary, it is important that certain perspectives guide this adjustment: (1) the affluent consume vastly more than the poor, (2) wealthy nations generate far more greenhouse gases per capita than do poor nations, (3) the major portion of energy and materials waste occurs in the production and distribution of goods, not in their use and disposal, and (4) consumption of goods is not necessarily the same as quality of life. This is to say, the greater responsibility for reducing greenhouse gas generation lies more with the rich than the poor, more with the developed nations than the developing nations, more with the producers of goods than the consumers, and more with enhancing the quality of life than on downsizing consumption.

1] There should be concerted implementation of the factors which are known to quickly bring population growth into balance. Important among these are: (1) the empowerment of, and creating opportunities for, women in all aspects of social and economic life, and (2) the guarantee of the basic necessities of life to all.

2] There should be limits placed on the accumulation of wealth so there can be control over gross over-consumption by wealthy elites. Placing limits on wealth accumulation will help reduce the carbon footprint of economically privileged individuals, whose lifestyle's impact on the climate, and on the planet, vastly exceeds that of people of lesser means.

3] Patterns of consumption by common people should be adjusted so as to prefer local products over imported products, useful products over superfluous products, energy efficient products over energy wasteful products, and green certified products over non-certified products.

4] So much as may be appropriate, consumer products should be rated in a way that allows consumers to make educated purchase decisions based on a product's comparative contribution of greenhouse gases that occurs in their manufacture and use. Should consumer education fail to effect conscious purchasing behaviors, then regulatory controls on production and on product performance should be strengthened.

5] Special attention needs to be given to reducing the waste of energy and resources that occurs in the extraction, manufacture and distribution of consumer goods. Studies of the

total waste in the life cycle of consumer products indicate that 97.5 percent of waste occurs prior to product use and disposal. Skilled application of the PROUT principle of maximum utilization of all physical resources could have particular value for reconfiguring product production and transport toward efficient energy and materials use.

6] There should be a significant reduction in ruminant meat consumption. Ruminant animals are responsible for about one-quarter of the human-related methane greenhouse gas creation in cultures where the eating of beef and veal is prevalent. Such a dietary shift would have other important health and environmental benefits as well. In the husbandry of dairy cows and wool producing sheep, there should be use of low methane producing feed and the proper handling of animal feces so as to reduce methane release.

A Choice of Futures

The actions of the present always create the conditions of the future. But never has humanity been in position to have such a profound impact on the life experience of future generations. Choices we make now will bring either praise or condemnation by our descendants. Wisdom and integrity are called for. However, the choices made by much of humanity may be constrained by deeply ingrained, individualistic cultural norms that may have compatible adjustment to a capitalist economy but that do not promote taking collective responsibility.

So, in seeking to adopt a new ethos of responsibility to the planet and to future generations, we may find that this requires adopting a new economic paradigm that gives better balance to individual and collective interests. Were we to take this path, we would not only become more empowered to restore climate stability but we may also come to enjoy a new found depth of human experience, one in which there is enriched experience of, and security within, nurturing community and human solidarity.