

Presentation
to
The Rome G8+5 Legislators Forum
on
Concerted Strategies to meet the Environmental,
Economic and Development Challenges of the 21st Century

Integrated Policies
for
Climate, Environment, Growth and Development
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An Overview of Background Papers 1 & 2

- The world is headed into a perfect storm of interconnected economic, environmental and development challenges. A forward assessment demonstrates that recovery to a business-as-usual growth path for the world economy is not a viable option. It would lead to irreversible climate, ecological, humanitarian, development and security problems.
- Evidence from across the world demands that radical measures must be taken urgently to avert the risks of runaway climate change and ecosystems collapse. The threats are imminent and profound: action cannot be delayed. Besides negotiating longer term targets, strategies and mechanisms must therefore be established to achieve early action.
- The needs and aspirations of a growing world population are putting added demands on resources and the environment which are already under great stress. Immediate efforts will be needed if the present trends in population increase and rising living standards are not to have devastating and irreversible impacts on the ecosystems and environment of the planet and on the poor and vulnerable.
- The underlying causes of the financial, economic, environmental and development crises are rooted in the concepts and strategies for economic growth which have driven the world economy for the past thirty years. These can and must change.
- A new path of economic and social progress must be adopted which is compatible with the environmental imperatives and limits of the planet. Respect for the conservation of the natural world, greater efficiency in the use of energy and resources, and a concern for fairness and inclusion of the most vulnerable are compatible with improved levels of wellbeing and security for rich and poor alike.
- Strategies to stabilise and reform financial and economic systems must be mutually reinforcing and consistent with strategies to respond to the fundamental threats to the future of humanity and the environment.
- The financial crisis and the consequent economic slowdown provide an exceptional opportunity to restructure economic and financial systems so as to achieve new patterns of environmentally sound and equitable progress.
- Humanity has the resources and capabilities needed to salvage the future, if international action can be agreed upon and taken in time. Effective leadership, new ideas and policies, reformed institutions and new values and behaviour must emerge if we are to assure a decent world for present and future generations.

Note: *The background papers and this overview are based on the interim results after one year of research and consultation in the programme on A New Path of World Development. They reflect the broad views of the Club of Rome but do not engage its individual Members.*

Background Paper1: Strategic Challenges and Critical Issues: identifying the Root Causes of the Environmental, Economic and Development Crises.

I. The Global Context: Strategic Challenges of the 21st century

1. The world community confronts three profound and interconnected crises: the worst financial and economic crisis since the 1930s, the accelerating threat of irreversible climate change and a crisis of poverty, hunger and underdevelopment. New approaches are needed: we have reached a turning point in world affairs where previously entrenched ideas and policies are no longer effective. The goal of policy cannot simply be to recover to the previous path of economic growth and globalisation as this has proved to be unstable, unfair and environmentally unsustainable.

2. The economic, environmental and development problems which threaten the future are profoundly interconnected. Strategies to stabilise and reform the international financial and economic systems must therefore be consistent and mutually reinforcing with strategies to respond to the challenges of climate, energy, ecosystems and water, all within a broad perspective of sustainable world development.

3. We face an array of interconnected challenges on an unprecedented scale: if the current path of world development continues on a business as usual basis, the ecological and environmental systems of the planet will break down under the impacts of human activity.

4. The economic and financial transformations now in progress provide a unique opportunity to reorient our economies onto a path which is less environmentally devastating, more inclusive and equitable and which can deliver real improvement in human welfare on a substantial scale. The world community must agree on a coherent strategy to manage these challenges successfully. As stated in the conclusions of the Westminster Dialogue of GLOBE Legislators with the Club of Rome in January 2009, “the political will for economic reforms, triggered by the financial crisis, represents a unique window for coordinated governmental action across the major economies; we may not get such an opportunity again.... We believe that climate, energy and ecosystems objectives are not only consistent with, but fundamental to, sustainable economic recovery.”

II. Critical Issues which will determine the Future

1. Environmental Challenges: Climate, Ecosystems, Energy, Oceans and Fresh Water.

5. **Climate change** is only one of the intensifying environmental challenges which threaten the future: we confront a broader, more complex systemic crisis in which issues in the fields of climate, ecosystems, energy and water are essentially connected: a crisis of the sustainability of human welfare and progress on a fragile planet.

6. Physical evidence and analysis from all over the world demonstrate that climate change is moving faster than anticipated: emissions continue to increase in spite of all efforts and negotiations to date. Policy makers must recognise that climate change will not be a gradual, linear process: sudden and dramatic changes are probable and have occurred in the past.

7. Concern is rising in the scientific and expert communities that we are approaching a tipping point beyond which the positive feedbacks set in motion by human-originated emissions will overwhelm our ability to prevent potentially catastrophic climate change. In the light of new evidence and improved understanding of the systems dynamics of climate change, scientific and expert opinion is increasingly convinced that the current target of international negotiations, to contain greenhouse gas concentrations in the atmosphere to 450 parts per million, is too high to assure that catastrophic climate change will be averted. And, we have less time to act than we have assumed.

8. Climate change is not a problem for the future alone: the impacts are being felt today across the world, especially by the poor and deprived who have not caused the problem but do suffer the consequences. The enormous humanitarian consequences of climate change have now been set out in the recent report by the World Humanitarian Forum. Besides mitigation, strengthened efforts in support of adaptation are vital, but these must be part of a wider effort to improve human security, to eradicate poverty and to accelerate sustainable development.

9. **Ecosystems:** Humanity is overusing the biological resources of the planet each year by around 35%, which is clearly unsustainable, and this excessive use is increasing. Ecological systems, both terrestrial and ocean, constitute vital carbon sinks, absorbing some 40% of human generated emissions. As these ecological systems, such as forests and the oceans, degrade through rising temperature and stress, they absorb less carbon, aggravating global warming. Also, the speed of temperature increase is of profound importance to the survival of ecosystems: a 0.1°C rise in one decade puts 15% of the established species at risk.

10. **Energy:** We are approaching the end of the era of cheap oil on which Western civilisation and economic activity are based: additional reserves are not being found at a rate sufficient to compensate for depletion. Projected growth in demand is unlikely to be matched by comparable growth in supply, for a variety of reasons - technical, geological and political. In addition, population growth and the rising aspirations of a growing world middle class are rapidly increasing demand for energy and other limited resources, raising profound issues of both energy security and national security as the competition for vital resources intensifies. The central challenge is to provide the energy essential to the lives and development of a growing world population while containing greenhouse gas concentrations at a level which will not trigger catastrophic climate change.

11. Policies to improve energy security may well be inconsistent with the energy policies which are essential to move towards low carbon economies. This has been demonstrated by the debates on biofuels and tar sands. Thus, energy security and climate change must be considered together.

12. **Oceans and Fresh Water:** The number of dead zones in the oceans has doubled every ten years since 1960 and sea temperatures have risen on average 0.5°C over the past 40 years while the acidity of oceans has risen 30% since the Industrial Revolution and is now reaching dangerous levels. And the capacity of the oceans to absorb man-made emissions is diminishing.

13. Fresh water is under stress all over the world and climate change will aggravate the problems in many ways. Global water consumption is doubling every 20 years, an unsustainable rate: IPCC expects by 2020 an increase of about 75-250 million people suffering from climate-induced water shortages in Africa alone, with a potential falloff in rain-fed agriculture of up to 50%. And rising water stress is also diminishing the capacity of terrestrial ecosystems to absorb man made emissions.

2. Development Challenges.

14. Humanity has made remarkable progress to achieve a better world and to improve living standards and opportunities for many. But we live in a world of contradictions and of rising inequality: over 1 billion people live on \$1 per day or less, the benchmark of absolute poverty; around 1.5-2 billion people live on an income of \$1-\$2 per day – in a \$66 Trillion (ppp) economy! And the economic and social progress which is unprecedented in human history has been achieved at enormous cost to the environment as outlined above.

15. The strategic dilemma facing humanity in the 21st Century can be indicated as follows: world population will rise by about an additional 2.3 billion people by 2050 and their needs, together with the unmet needs of around 2.4 billion poor people today, must be met. In addition, the living standards of hundreds of millions of people will improve as they join the world middle class.

16. To meet these needs and aspirations – which will be essential to achieve stability, progress and peace – will require massive flows of investment into the developing world and these can only be generated by a properly functioning world economy operating towards the goals of a new sustainable path for world development.

17. However, the environmental and ecological systems of the planet are already under intense stress and the present model of economic growth has failed to eradicate poverty. New models and strategies of economic growth in industrialised and developing countries are therefore essential if this dilemma is to be resolved.

18. These challenges are now compounded by the present and anticipated impacts of climate change. Governments are confronted by the need to achieve the proper integration of policies across three major fields so as to combine an effective response to climate change and ecosystems degradation with a stable, equitable and productive world economy and with an expanded effort to achieve equitable world development.

19. Climate change is already reducing the prospects for the attainment of the Millennium Development Goals and is reducing food security and human security and driving migration.. But although climate change is an issue of vital importance, it should not overwhelm or replace the other vital objectives of development. It is therefore urgent to assist the developing countries to integrate climate, environment and energy issues and risk management into their efforts to achieve the MDGs and into development strategies in general. Poverty alleviation is especially critical as poverty lies at the heart of environmental degradation in many developing countries.

III. Economic Challenges: Rethinking the Path of Human Progress

1. Root Causes of the Economic, Environmental and Development Crises

20. The massive and sudden financial crisis, now coupled with a deep economic recession, has destroyed confidence in long-established policies, power relationships and institutional arrangements. Different societies manage their economies in very different ways and the models of business management are also widely diverse. It is the “Anglo-Saxon” model of free market capitalism which lies at the heart of the present crises. This model has dominated global economic thinking for almost thirty years and has been disseminated throughout the world, in large part through the education of élites from emerging economies and by the strong pressures of the international financial institutions.

21. The underlying causes of the crises we face can be summarised as follows:

- (i) **Excessive belief in the “magic of the marketplace”.** This has led to an excessive focus on material consumption, over-reliance on market prices, and the dominance in policy making of economic and financial considerations.
- (ii) **Determination to cut back the role of government.** This has reduced the scope and effectiveness of government and of the framework of international cooperation on which international cooperation and action depend.
- (iii) **A damaging concept of economic growth.** The models and strategies on which growth has been based do not take proper account of “externalities” or of the value of public goods and natural capital, or of the interests of future generations. And they have failed to deliver fair and inclusive societies.
- (iv) **Counterproductive values and assumptions.** The values and assumptions on which consumption-based growth has been based will have to change if humanity is to surmount the risks and threats ahead: here, the role of education and of public information and participation is central.

2. Rethinking Globalisation and World Development.

22. The perception in large parts of society and public opinion that the benefits of globalization are not fairly shared drives a strong backlash in many countries. A further reason for deep concern about globalization is that, if the present consumer-driven patterns of economic growth continue unchanged and are further extended to vast numbers of additional consumers, the environmental, ecological and social consequences will be disastrous.

23. If the world is to achieve a path of development which is equitable, inclusive and environmentally sustainable, the underlying models and concepts of economic growth, of development and of globalisation will have to be re-thought.

3. Redefining Growth: New Models and Strategies for Sustainable Economic and Social Progress.

24. An integrated approach must be developed to the economic, environmental and development crises so as to achieve low-carbon, sustainable growth and employment within the wider purposes of equitable world development. We must move from a concept which equates growth with an exponential increase in material consumption to a concept of progress based on improving the quality of life and real welfare. And we must move from a concept which accepts that growth inevitably implies vast increases in the wealth of a few combined with exclusion and stagnation of the livelihoods of the many to a concept which promotes fairness and inclusion.

25. It is essential and urgent that the present strategies and policies for economic growth be radically changed and this has major implications far beyond the methodology of the calculus of GDP, although this must be substantially revised. The failures of the present models of growth must be corrected: the analysis of choices, risks and opportunities must take proper account of externalities; the real value of public goods must be integrated into policy analysis; the interests of future generations and the longer-term consequences of policies must be integrated into the consideration of policy options; and fairness in the distribution of costs and benefits, of income and opportunity must be reflected in the consideration and execution of policy.

26. The main themes of a new strategy for economic progress will include: restructuring of the economy onto a low-carbon, environmentally sustainable and socially inclusive basis; improved efficiency in the use of resources and energy; greater fairness and inclusion in the benefits of progress; a sustained focus on the generation of employment and on human resource development, education and capacity building; and the reduction or elimination of perverse subsidies.

27. The three major crises confronting humanity – the financial and economic crisis, the development crisis and the environmental and climate crisis – have common roots in the values and choices which drive economic growth. It follows that they cannot be resolved separately. They must be understood and managed together towards a motivating vision of a better world. This poses difficult challenges of policy integration at every stage from the definition of indicators and multidisciplinary analysis through consultation with civil society to coordinated implementation. The values, attitudes and concepts which are driving the present path of world development must also change so as to establish the foundations of a new coherent, integrated strategy to manage the systemic issues of the 21st Century.

Background Paper2: Developing an Integrated Approach for Action on the Environmental, Economic and Development Crises.

Part 1: Developing an Integrated Approach

28. From the analysis sketched in Background Paper 1, it is clear that humanity is at a turning point where an array of interconnected crises threatens the future. New integrated strategies and policies are needed to contain and manage such connected issues as the risks of catastrophic climate change, of ecosystems collapse, of the meltdown of the international financial system and of the deprivation, exclusion and desperation of a growing world population.

29. As the strong conventional wisdom of the past 30 years has collapsed, there is a remarkable opportunity to advance new ideas and approaches. Methods of analysis and policy-making must evolve gradually from the narrow, discipline and sector based approaches of today towards the more integrated systems approaches needed for tomorrow's world. This constitutes a major challenge to the research and policy formulation agencies of governments and to corporate planners, to sectoral ministries and specialised agencies and to educational institutions which must adapt their curricula and methodologies accordingly.

30. There is a dangerous disjunction between the ability of the scientific and expert communities to perceive the dangers ahead and the recognition by governments, institutions and societies of the urgent need to take corrective action. This is particularly true of the most recent scientific understanding of the accelerating threats of climate change and ecosystems collapse which is not yet recognised in policy. For this reason, particular attention is paid in the Club of Rome programme on A New Path for World Development to the interfaces between research and analysis and policy, and between policy and effective action. And, in this perspective, the role of legislators is of central importance.

I. Climate and Economy: Restructuring Economic Systems to Achieve Low-Carbon, Sustainable Growth.

31. The critical issues in the fields of environment, development and globalisation which will determine the future are caused, in large part, by the values, concepts, models and strategies which drive the current path of economic growth. These must be reconceived to manage the connected challenges of the 21st Century.

32. At every level of decision making, issues of climate, ecosystems and environment or of inequality, poverty and exclusion must not be left aside to be treated after growth has occurred, or as a disconnected set of issues in parallel. This "trickle down" approach has proved unsuccessful. New models and strategies for economic progress must ensure that economic, environmental and poverty issues are integrated at every stage, from the formulation of the issues, through analysis and decision making to implementation, monitoring and evaluation.

33. The scale and complexity of the issues confronting the world today, and even more, the scale and complexity of the problems which will confront the world in the near future are such that that they will not be successfully managed by partial, incremental change. It will not be sufficient to add some green components to fiscal stimulus packages or to invest some additional resources in new and renewable energy sources. Such policies will make an important contribution and are necessary but they are not sufficient.

- The threats of climate change can only be mastered by an explicit restructuring of economies in the industrialised countries and by new models and paths of development to raise living standards in the developing countries while conserving and restoring the natural systems on which human life depends.

- As energy lies at the heart of modern societies, clearly a central component of economic restructuring will focus on breaking the link between economic progress and the use of energy wherever practically possible.
- Another key component of economic restructuring must be the protection and restoration of ecosystems. The impacts of humanity on forests, oceans and other natural systems will have to be contained and reversed. One major opportunity is to engage in a global programme of afforestation and recovery of degraded lands. If properly conceived, this would achieve multiple objectives.
- The vast potentials of knowledge, science and technology must also be mobilised. Major improvements will come from the rapid dissemination of existing technologies but new breakthrough technologies are essential to find solutions on the scale required.
- The financial system which will emerge from the crisis must be conceived to stimulate and sustain new economic activities and to channel resources into areas of critical importance to restructuring economies for low-carbon, sustainable growth. New financial architecture and policies must not only improve the stability and performance of the world economy but also stimulate the restructuring of industrialised and developing economies onto a sustainable and inclusive path.

34. As stated by OECD: “The crisis demands tough decisions now, but it must not turn our attention away from other serious structural challenges.” This need to balance short term and longer term objectives is not only clear in relation to the financial crisis but also to the other emerging crises. There are many opportunities for urgent and immediate action while more substantial and longer-term strategies and measures are prepared to achieve the radical restructuring of the economies which is required.

35. International agreement on a post-Kyoto Treaty in Copenhagen in December 2009 is clearly of the highest importance. But the over-riding purpose must be to achieve early and effective action to contain accelerating climate change. The foundations must be laid for early ratification, for strong public support, for the provision of the essential financial resources and for effective implementation. In this perspective, the role of legislators is central as they will ratify the treaty, vote the necessary funds, approve the budgets for its implementation and promote public understanding and support.

II. Climate and Development: Combining an Effective response to Climate Change with Equitable World Development.

36. As summarised in the Final Statement of the GLOBE-Club of Rome Dialogue in Westminster in January, four minimum criteria for success in Copenhagen were identified:

- Commitments by industrialised countries to binding emissions reductions of 25 to 40 per cent from 1990 levels by 2020, within the context of a long-term goal of stabilising atmospheric concentrations
- Nationally appropriate plans to limit emissions by developing countries, supported by finance and technology from the industrialised world
- Clarity on large-scale, stable, predictable sources of financing to allow developing countries to engage in mitigation efforts and to address adaptation
- An agreed governance structure to manage and deploy this financial and technology support that gives developed and developing countries equal status

37. Developing countries are in effect challenged to resolve massive and growing problems with resources for investment and trade finance which are now declining. To find a solution to this contradiction must be central to the restructuring of the world economy and to the re-thinking of models and strategies for economic growth. The concept of “climate justice” must be a fundamental component of any agreement if it is to gain acceptance in the developing countries which did not cause the problem but which are already paying a high human cost.

38. If the massive challenges of environment and development are not mastered, the impact will first of all be disastrous for the peoples of the developing countries. But in an interdependent world, the security and prospects of the industrialised countries will also be compromised. The social and humanitarian consequences of climate change will be enormous, as will be the implications for migration, particularly of environmental refugees. This migration, coupled with intensifying competition for scarce but vital resources will create unrest and the potential for violence and conflict. New, more broadly-based concepts of security will be needed to take account of these more diffuse threats.

III. Finance and Development: Reforming the Financial System for Low-Carbon Sustainable Growth and Equitable World Development.

39. The financial system must be reformed not only to support recovery from the current financial and economic crises, but also to stimulate the restructuring of economies on to a low-carbon, sustainable path and to accelerate equitable world development. In this perspective, the financial system can be seen not as an end in itself but as an instrument to achieve other goals.

40. Finance lies at the heart of strategies and negotiations to establish a sound framework for action on climate change and, as always, for strategies to eradicate poverty and accelerate development. Very substantial resources are required, but in comparison with the many trillions of Dollars which have been generated in a few months to stabilize the financial system and counter the recession, the amounts required are modest. A reformed financial system must therefore be designed to meet the goals of a restructured world economy, of a safe and sustainable environment, and of equitable and inclusive world development. In this perspective it is clear that, not only do the three crises have common roots, but also that an integrated approach to the economic, environmental and development crises is both feasible and essential if we are to salvage the future.

Part 2: Lines of Action.

IV. Policies and measures for the Effective Implementation of a Post-Kyoto Strategy.

A time of opportunity for change

41. Public consciousness and concern about the future is rising across the world and this creates the opportunity for leadership and for the mobilisation of public support for new policies. It is widely understood also that the economic models, priorities and strategies which have dominated policy in many countries and in the international system have failed, and that they are inadequate to meet the new challenges of the 21st Century: there is thus an opportunity to advance the new ideas which are essential if the crises are to be overcome. And, as powerful new actors such as China, India and Brazil play an increasingly important role, a more diverse range of views is emerging, reflecting the views of different cultures, histories and interests. The days of the domination of Western thinking in international affairs are coming to an end. Also, with the election of President Obama, a new political constellation is developing in the world community.

42. There is in effect, an intellectual, political and practical opportunity to transform the policies, relationships and institutional structures of the world community to achieve a new path for world development. Incremental change will not resolve the deep and complex problems we face. Radical change is required in the values and behaviour, the models and strategies, and the policies and structures which drive social and economic progress. The time available to change course is limited. We must rapidly move from an age of specialisation to an age of integration.

43. A coherent and positive vision of the future which integrates economic, environmental and development goals is badly needed to provide a framework for action. Such a vision could rally the energies and aspirations of the nations and peoples of the world in a common effort to build a better future of prosperity and peace. In comparison with this need for a change of course and for an integrated approach to the systemic and interconnected environmental, economic and development challenges of the 21st Century, the focus of current international discussion is on disconnected responses to an array of separate crises.

44. The definition of a coherent “win-win” strategy to achieve the multiple goals of a stable climate, a safe environment, new “clean and green” growth and employment, a reduction in poverty and exclusion and improved national security opens up the possibility of building a broadly-based coalition to support the change required. This would constitute a more solid base for action than to build support for one individual issue, such as climate change, however important.

45. The scale and depth of the challenges confronting the world community are such that business-as-usual or a return to “normal” are not viable options. A serious effort must be made to redirect policy into new directions in many fields. And it is urgent to achieve practical results rapidly and on a substantial scale. In this perspective, the critical negotiations in Copenhagen on a post-Kyoto Treaty must be framed in a broader context, properly related to the present and future challenges of world development and the environment, and integrated with new strategies for economic restructuring, financial system reform and globalisation.

46. While high level negotiations continue, there are many productive opportunities for action in parallel to move towards low-carbon, equitable and sustainable development. Innovative programmes are already under way in communities, cities, states and nations across the world and a great deal of practical experience has been accumulated. In all the areas sketched below, there are opportunities for immediate action and for the wide dissemination of knowledge, technology, lessons-learned and best practice which could rapidly make an impact on a significant scale.

V. Defining a Framework for Action.

1. Understanding the issues and defining new models and strategies.

47. The analysis of Background Paper 1 demonstrates that the economic and financial crises, the climate and environmental crises and the crises of poverty and development have common roots in the values, models and strategies which drive the present path of consumption-based economic growth and globalisation. It is therefore evident that, to address these crises, fundamental changes in the models and strategies of economic growth and globalisation are essential.

48. Substantial policy and institutional reforms will be needed and public support must be generated if governments are to manage rapidly-changing, interconnected issues more successfully, to reconcile the demands of global interdependence with the demands of individual and local identity, and to anticipate the major changes which will occur within and beyond the nation-state at this time of massive transformation.

49. Within the framework of a clear vision and an integrated forward-looking strategy, sectoral ministries, specialised agencies and local authorities can efficiently undertake their targeted activities which can become coherent and mutually reinforcing. The intellectual and institutional challenge is to combine sectoral actions and actions at different levels within a coherent overall purpose.

50. A holistic, systems-oriented approach is needed which can recognise the important connections between issues and can establish a conceptual framework within which the contributions of different disciplines and sectors can combine in the formulation, the implementation and the evaluation of policy. New approaches to education and training will be fundamental to generate the values, attitudes, openness and skills needed to understand and resolve the complex, interconnected issues of the modern world. As new strategies are developed to restructure economies to low-carbon, sustainable development, the education and training of the human resources required in every field should be the focus of explicit policies, in developed and particularly in developing countries.

2. Areas of Concentration

(i) Finance

51. The task ahead is no less than to define a new, sustainable and equitable global economy for the 21st Century. The reformed financial system should, in this perspective, be designed to achieve four major related goals:

- to stabilize and support the global economy and to correct major imbalances and vulnerabilities so as to create a sound basis for future sustainable growth.
- to stimulate and support the restructuring of economies and societies on to a low-carbon, environmentally sustainable path;
- to stimulate the substantial flows of essential investment required to accelerate the progress of the developing countries so that they can meet the needs and aspirations of their growing populations.
- to assist developing countries both to adapt to the impacts of climate change and also to undertake programmes for mitigation.

52. As economies are transformed onto an energy and resource efficient, low-carbon basis, this will entail high costs but also create major opportunities. The innovative direction of financial resources into key areas of concentration can accelerate this transformation, principally by:

- ensuring that natural capital, ecosystems services, resources and public goods are properly valued and become an integral component of policy formulation;
- enabling the rapid development of new technological solutions and productive activities and ensuring the most effective use of scarce resources. Investments should not lock-in existing inefficiencies: they should promote energy efficient and cleaner “green” solutions around which new economic activities and employment can be generated.
- guiding economic activities towards agreed goals through incentives, disincentives, regulations and targets;
- developing new methods to generate both public and private finance, for example through taxes on emissions, systems of “cap and trade” and public-private partnerships.

53. Substantial flows of finance will be needed to support the move towards a path of equitable and sustainable world development. These flows must be guided by analysis and policies which correctly evaluate risk and reflect real costs, including environmental, social and human costs, and the real costs of energy and resources. They must cease to pass on the costs to future generations.

54. In this perspective, the clear need to reform the financial and economic systems is a remarkable opportunity to establish the foundations of a new world economy: it would be tragic if this opportunity should again be lost under the pressures of special interests to revert to the previous system which has so badly failed.

(ii) Science and Technology.

55. The major driver in the growth of a modern economy is technological progress, brought about by the advance of science and technology and the increasing knowledge and skills of the work force. Technological progress itself is driven by values and social choices: it can therefore be directed towards the goals of society. The explicit and considered direction of science, technology and innovation will be critical in four broad areas:

- The application and wide dissemination of existing technologies.
- The adaptation of technologies to meet defined needs and objectives.
- Radical new solutions from basic research.
- Focusing R&D on the needs of developing countries and the poor.

(iii) Human Resource Development

56. The successful implementation of all the programmes needed to reorient national economies onto a low-carbon, sustainable path depends in large part on the knowledge, skills and commitment of the men and women concerned in every area of society. A related, long-standing issue which has never been resolved is that of the “brain drain” of talent from the poor world to the rich world. This constitutes a massive flow of invested resources from South to North. It must be resolved if the skilled talent, educated in the developing countries, is to be retained where it is so desperately needed.

(iv) Information and Communications

57. Humanity is confronted with major threats and problems, but it has enormous capabilities to surmount them. A targeted international programme to mobilise the potentials of ICT for sustainable development in both industrialised and in developing countries could bring enormous and rapid benefits.

(v) Capacity Building

58. The fundamental changes required can only come about through the efforts and behaviour of communities and individuals at the local level. But, in many regions of the world, the underlying capacities to build new sustainable societies and economies are critically weak or non-existent. Explicit policies and international support must be directed to capacity building in every area so that less-developed societies can use the potentials of knowledge to conserve resources, to protect the environment and to achieve low-carbon, equitable development.

VI. Opportunities for Early Action

59. In all the five areas of concentration sketched above – finance, science and technology, human resource development, information and communications and capacity building – activities could be strengthened or initiated immediately, without awaiting a global, international agreement. Building on activities in progress across the world, and on the experience of successful solutions already acquired, it would be possible to make a major impact rapidly to reduce the threats to the future and to accelerate the restructuring of economies and societies onto a path of low-carbon, sustainable development.

60. In all these areas, the role of the private sector is of central importance. New strategies imply the need for new partnerships and cooperation between the public and private sectors and civil society in a concerted effort to define, agree and act on the critical issues of the modern world.

61. In spite of all the negotiations and efforts made to date, the rate of increase of anthropogenic emissions into the atmosphere has not diminished. And, whatever Treaty may be agreed at the Copenhagen Climate Conference in December 2009, there will then be a substantial lead time before effective results are achieved in terms of reduced emissions. It is therefore of great importance to seize every opportunity for early action in order to make impacts at the earliest time. The Club of Rome programme is therefore focusing on complementary efforts, principally to:

- develop the elements of an integrated strategic approach to addressing the underlying drivers of climate change within the context of environmental, economic and development challenges;
- identify and promote opportunities for early action;
- suggest measures to facilitate and build support for the processes of ratification, financing and concerted implementation of a post Kyoto climate treaty, beyond the Copenhagen Climate Conference.

62. Some of the important opportunities for early action are:

1. Limiting the Concentration of Greenhouse Gases in the Atmosphere.

This issue is the centerpiece of the international negotiations and there is a wide variety of views as to what the strategic targets should be and how they can be achieved. The Dialogue between G8 + 5 Legislators and the Club of Rome in Westminster in January emphasised the importance of “climate justice” to the successful support and implementation of a post-Kyoto Treaty.

In parallel with the international negotiation of long term targets, explicit programmes should be launched and strengthened to identify and exploit the enormous opportunities which exist now: to increase energy efficiency and conservation, for example in the construction of new housing stock; to accelerate the development of new economic activities and solutions; to disseminate and apply existing solutions on a more substantial scale; and to intensify the exchange of best practice, knowledge, successful innovation and experience wherever possible. Such simple and direct measures can make a rapid impact on a substantial scale.

2. Preservation and Recuperation of the Ecosystems of the Planet.

Human life depends entirely on the services provided by nature. It must therefore become a central focus of policy to avert the collapse of ecosystems in the oceans and on land, just as it is essential to avert the risks of catastrophic climate change. In either case, the existence of modern civilisation is at stake. Fortunately, win-win policies can be conceived which address both climate and ecosystems and promote development.

One immediate opportunity would be to launch a major programme, combining international and national efforts, to reduce de-forestation and to promote re-forestation and the recovery of degraded lands on a massive scale. This would achieve multiple objectives: sequestering carbon from the atmosphere; strengthening ecosystems and biodiversity; expanding the production of food and basic energy; and providing employment, principally to the poor and to indigenous peoples.

3. Energy.

Energy lies at the heart of climate change. Modern civilisation is based on cheap energy and this era is coming to an end as we approach the period of peak oil. Forward projections of energy demand to meet the needs of a growing world population, even under optimistic assumptions of improvements in energy efficiency, imply a doubling of energy demand by 2050. However, to contain the threat of irreversible climate change, emissions must be cut by around 80%. This constitutes a massive challenge which can only be resolved by radical changes in policy and behaviour, by implementing new models and strategies for social and economic progress and by breakthroughs in science and technology to find radical new solutions.

In addition, growing demand will intensify competition for vital energy resources: the secure supply and transportation of energy is now a central focus of national security strategies in many countries. And, in particular, special arrangements will be needed to assure the supply of energy to the least developed countries which is vital if they are to sustain the process of development to attain the Millennium Development Goals.

For all these reasons, the conservation and efficient use of energy and the development of new and renewable sources must be priorities for action. This is clearly necessary and hopeful, but it will not be sufficient to meet the scale of the challenges ahead. In addition, strategies for the restructuring of economies should not only aim to improve efficiency and conservation. They must also be designed to eliminate the need for energy use at its source, through for example, the redesign of products, production processes and supply chains, of transportation systems and urban plans.

Besides its central role in driving climate change, energy has also contributed to the financial crisis. Energy prices are also a key factor contributing to the food crisis which afflicts the poor in many developing countries. Here again, the connections between climate, energy, environment, finance and development are of immense significance.

4. Fresh Water.

The fresh water resources of the planet are under immense stress today and this stress will dramatically increase as populations grow and the impacts of global warming become more severe. Competition for water, a truly vital resource, is intensifying, threatening violence and conflict and driving migration. The availability of water is also vital to the survival of the terrestrial ecosystems which act as carbon sinks, absorbing man-made emissions. Thus, the conservation and availability of water must be a focus of immediate action.

5. Oceans.

The state of the oceans is disastrous today and worsening. Oceans, which contain 90% of life on this planet, are vital to the climate and to human life. Increasing acidification and rising temperature are reducing their effectiveness as carbon sinks, accelerating the progress of global warming. As part of any long-term strategy to address climate change, concerted and targeted action on a substantial scale is urgently needed to reverse the decline in the state of the oceans.

6. Adaptation.

However successful international action may be in ultimately reducing emissions, the impacts of climate change will inevitably increase across the world for decades to come and it is the poor and deprived who will pay the highest price: and they are already paying a high price today. International assistance of every kind must be increased and targeted in a spirit of solidarity to assist the developing countries to adapt to and to avert the worst physical, economic, social and humanitarian consequences of climate change, as an integral component of national development strategies.

7. Economic Restructuring.

The crises in the fields of finance and the economy, climate and the environment and international development have common roots in the models and strategies which drive exponential growth in consumption, pollution and waste. The restructuring of economies onto a low-carbon, resource efficient and environmentally sustainable path must therefore become the focus of explicit strategy at the national and international levels: it will not simply come about by ad hoc, incremental change, within the limited time available. The scale and urgency of the needed transition are such that incremental change or adjustments brought about by market forces will not achieve the results required. A new coherent strategy must integrate objectives in many critical fields, particularly policies for the supply, utilisation, conservation and security of energy, for environmental protection and the conservation, production and recycling of resources, for agriculture and employment, science and technology and education.

63. As has been emphasised by José Manuel Barroso, President of the European Commission, the opportunities which will arise from the process of “creative destruction” leading to low carbon, resource efficient economies will be enormous. A new economy will emerge, creating employment and opportunity based on efficiency in the use of resources and on conservation and recuperation of the environment. Many national, urban and local examples have already demonstrated what can be achieved. With vision and leadership, the world economy can move from an age of consumption and inequality to an age of inclusion and sustainable development but this will require deep institutional reform.

VII. Creating a Framework of Effective and Legitimate Institutions.

64. As it becomes clear that the threats of climate change and ecosystems collapse are real and imminent and that an inequitable and polarised world of rich and poor is morally unacceptable and presents major dangers of conflict, then it will be evident that the connected challenges of the 21st Century will only be contained and resolved through a radical redesign and reform of the architecture of global governance.

65. This new institutional architecture must become more balanced, more participatory and more democratic if it is to recognise the realities of interdependence and the tectonic shifts which are occurring in the distribution of power and influence in the world community. It must mobilise international cooperation and support for a coherent strategy which integrates economic, environmental and development goals into a programme to achieve a new path for world development. Issue- and sector-oriented programmes and action at different levels can then be made consistent and mutually-reinforcing within this integrating framework.

66. The complex, systemic challenges of the 21st century cannot be managed with the ideas and the institutional tools of the 20th Century. To address the underlying drivers of climate change, institutional mechanisms must be introduced or adapted to implement new policies in the key areas of concentration sketched: finance; science and technology; human resource development; information and communications; and capacity building.

67. Humanity has enormous capabilities and resources to resolve the challenges which threaten the future. The question is whether we have the will, the imagination and the organisational capacities to do this. Issues of international governance and institutional architecture will be critical to the effective implementation of a post-Kyoto Treaty. They are a focus of analysis and consultation in the programme of the Club of Rome on a New Path for World Development.

VIII. Generating Political and Public support.

68. While international leadership, cooperation and institutional innovation are needed to reach agreement on a post-Kyoto Treaty, wide political and public support will be essential to ensure its rapid ratification, to generate the financial resources required and to ensure its effective implementation.

69. All the expert analysis, intensive negotiations and international agreements to date have failed to reduce the increase of the concentration of greenhouse gases in the atmosphere which are rising at the rate of 3 ppm per year. We are effectively on the business-as-usual path which IPCC has shown will lead to a disastrous level of temperature rise. Agreement on a post-Kyoto treaty is essential.

70. But agreement on a constructive post-Kyoto Treaty is only the first step towards effective action. The Treaty must be rapidly ratified and implemented and this requires strong and broadly-based political support in legislatures and the understanding and support of the general public. In this respect, the role of GLOBE International and of legislators in general is of critical importance. Each legislator can help to build support in his or her constituency for the painful measures needed to restructure economies onto a new path.

71. History has shown that civilisations have collapsed not because they failed to identify emerging threats, but predominantly, because they found it impossible to act in time to avert disaster. They failed to act because public concern and the demand for change were not sufficient to overcome the obstruction of entrenched and powerful pressure groups with their interests vested in the established system. In this perspective, the understanding and support of civil society and the general public are vital conditions to initiate and sustain the painful measures which must be implemented to avert the risks of catastrophic climate change and to build the foundations of a sustainable and inclusive economy.

72. We cannot wait until the impacts of climate change and ecosystems breakdown or of poverty and alienation are so severe and obvious that they force a change in public attitudes: by then, it will be too late. Explicit programmes of public information and mobilisation will be essential to build the support on which policies must rest and to encourage individual efforts and behavioural change. Here again, the role of legislators is key in two respects: to explain the nature and urgency of the risks and consequences of climate change, interpreting the understandings of science and analysis to the general public; and to build coalitions and guide public engagement and support during the major social and economic transformations ahead.