"The New Economics of Growth, Wealth and Real Values:
Towards a New Economics for a Global Society"

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One: Background

Economics and economic policy are the backbone of public policy decision-making. Economics is important as it helps establish the prices for goods and services in society; it is the cornerstone of our market economies; and it helps us establish priorities for investment and policy-making. Economic growth is the metric by which we measure the wealth of nations and the changes in such wealth are important components of international relations and negotiations.

The foundations for modern economics were built when the world was dramatically different from today. Current economic theory rests largely on assumptions that were made over 200 years ago but many are no longer valid for today’s world. Shifts in lifestyles, communications, production, and consumption patterns have been sufficiently large as to call into question the validity of current economic theory. It is based on a time when physical capital was scarce and natural capital abundant; when global population was a fraction of what it is today; when economies were agriculture based and services of little importance; when global public goods were unheard of; and when public policy was limited or non-existent.

These facts have been recognised by leading thinkers and economists and there is now a nascent movement to review the underpinning of economic theory as well as to begin using economics to measure many goods and services that have hitherto remained unmeasured, including natural resources.

Economics exists also in a wider spectrum of human societal activities: ecological, political and social and increasingly the lines between disciplines are blurred: witness, for example, the growth in ecological economics and the valuation of natural capital.

Economics has also become both more specialised and more inter-disciplinary. The simple micro and macro schism of the past no longer seems valid. The branches of economics have grown considerably: monetary, fiscal, growth, financial, market, development, sector (energy, industry, health, agriculture), climate (adaptation and mitigation), information and environmental to name a few well established streams; and others emerging that directly link psychology with economics such as the economics of happiness, social capital etc. Yet all appear to have one thing in common: a sense of unease that the economics of today is unfit for purpose. It neither appears to address the real issues of today’s world nor does it measure the things that really matter to people. Economics has lost its way. It may not yet be broken but it needs a serious overhaul.

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As economics grew more specialised it also lost much of its philosophical underpinnings. Ends gave way to means. Finding equilibrium between supply and demand dominated economics thinking while maximising human welfare or minimising human suffering was relegated. We lost sight of the real purpose of economics. Market outcomes that created surplus money were celebrated even if it resulted in lost jobs, lost homes and increased personal misery. It is time for economics to be re-engineered and made fit for purpose.

The need to rethink economics is gaining currency. A number of leading economists both within the Club of Rome and external to it have questioned the efficacy of our economics thinking. Forty years ago leading academists began to lay the groundwork for a discourse on the future of economics. “Limits to growth” was the first to postulate that, in the absence of remedial action, natural limits would begin to impose constraints on economic growth. Daly et al ² promoted the concepts of ecological economics and the need to balance economy with ecology. During the last twenty years environmental economists have attempted to measure real wealth; assess genuine savings³; ecologically adjusted growth rates; and place economic values on natural resources. More recently, the Stern Report on Climate Change⁴ focused on the concept of global public goods and global market failure. Others such as Joseph Stiglitz⁵ have focused on the role that asymmetric information plays in undermining the efficiency of markets as well as the broader propositions of reforming economics and Amartya Sen⁶ has focused on economics, ethics and inequality.

In sum, all intellectual branches of the “economics tree” are shaking with an increased level of unease. Economics is neither supporting real wealth creation in the 21st Century nor is it facilitating the creation of the kinds of markets, policies and instruments that will guide us towards long-term sustainability. It is timely to re-think and change our ways.

(Two): Key Issues

The range of issues associated with the miscalculation of economic parameters is extensive and well documented. Some of the key issues are summarized below:

The Economics of Growth and Wealth

The limitations of the classical measurements of national wealth have been well documented ever since the creation of national accounts and their use in determining relative wealth⁷. GDP has long

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¹ Herman Daly, “A Steady-State Economy: A failed growth economy and a steady-state economy are not the same thing: they are the very different alternatives we face.” Sustainable Development Commission, UK (April 24, 2008).
³ Herman Daly, A Critical History of the Concept of “Genuine Savings”, Ecosystem Health, 2001;
⁶ Professor Joseph E. Stiglitz, Professor Amartya Sen, Professor Jean-Paul Fitouss, Report by the Commission on the Measurement of Economic Performance and Social Progress, Paris, 14 September 2000
⁸ Almost all textbooks on national income accounting include summaries of what is left out of national accounts, especially subsistence agriculture, housework, voluntary work etc.
been the most quoted and least understood metric of economics. It is a flow measure most often quoted as a stock. It excludes a great many factors that are of vital importance to the full functioning of society. In many cases, it manages to include as a positive contribution, factors that most of us would deem undesirable (crime, social unrest and war) and exclude factors that are perceived as highly desirable (the protection of natural habitats, forests). In particular, national wealth calculations ignore the effects of the depletion of natural capital, such that the destruction of forests and other natural capital are a net asset contribution to wealth. Finally, it ignores economic externalities such as the social costs of unemployment; the positive benefits of unpaid work; and the distributional effects of income. And yet for all of its flaws it remains stubbornly the most quoted metric of economic achievement and of measuring relative economic performance. The use of national income accounting metrics to assess wealth and social progress is more outdated today than ever before. And as we look to the future, with a rapidly changing global economic structure, a world where complexity is increasing, where services are rapidly replacing manufacturing, and in a world where many people are beginning to question the extent to which economic policy and markets has failed to bring about real, sustained and lasting welfare, it is timely to not only revisit our measurements of wealth but actually change them into something meaningful for the 21st Century.

Economic growth has been of concern to economists for many years both as a measure of how wealth was changing but also as a measure of economic and social progress. Growth was expected to be linear and non-binding: technology and human ingenuity would provide the buffer against any limits to growth. This was first questioned by the Club of Rome in its seminal report “The Limits to Growth,” which postulated that, in the absence of forward thinking policies, the world could go into unsustainable “overshoot” with dire consequences to growth and welfare. Remedial actions would be sufficiently costly to negatively affect economic growth. This view, contentious at the time, is looking increasingly valid with time. Climate change, depletion of the ozone layer and the loss of global fisheries stocks have all now moved into overshoot with large economic costs and, in some cases, potentially non-linear outcomes.

Ecological economics was, to a large extent, born out of this debate. The link between geo-physical assets and human welfare spawned concerns over the earth’s carrying capacity. Demographic projections and income requirements of the poor parts of the world re-enforced this view. The limits to growth, the sharing of our planet as a basis for a more equitable distribution of assets and income, and the carrying capacity of the planet remain central issues for discourse. Under present per capita economic growth scenarios, the planet could conservatively witness a non-linear shift from the current US$ 60 trillion GDP to something around US$ 150 trillion by 2050: a three-fold increase in infrastructure, food and other goods and services to meet the needs of a population likely to be around 9 billion. It is important not to lose sight of the issues of both limits to growth and the limits of growth in meeting the needs and aspirations of humanity. Indeed, an emerging body of

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8 While still the case in the popular press, economists such as Stiglitz and others are promoting change. See Stiglitz: op. cit.
10 Robert Costanza, John Cumberland, Herman Daly, Robert Goodland, Richard Norgaard, An Introduction to Ecological Economics, The encyclopedia of Earth, October 2, 2007
The issue of inequity lies at the heart of a fairer and more just world. The likelihood of moving towards an "over-stretched" world in terms of aggregate global GDP will be compounded by the current inequitable distribution of current income and assets. The poorest 40% of the world's population account for only 5% of global income. The global assets of the wealthy have multiplied exponentially, from $12 trillion in 1980 to almost $170 trillion in 2006. Development economists have been at the forefront of arguing both the moral and economic case for high growth and redistributive policies. In an increasingly connected world in which "overshoot" conditions arise, the issue of global production and consumption patterns have become an important element of economic discourse.

The Economics of Time

High discount rates together with political myopia have long produced a tendency to focus on the short term. High discount rates and short political terms of office have become the enemy of sustainability, marginalizing long term gains in sectors and activities that require long term planning and nurturing and encouraging markets to capture short term profitability and ignore long term financial sustainability. A sustainable world is one that is capable of managing assets over time, restoring them and nurturing them for future generations. Many have argued that high discount rates have had a negative effect on natural capital and long term management of global commons issues which require thinking in terms of generations. The debate on the issue of inter-generational equity exceeds the remit of this paper although it there is a persuasive moral argument for such considerations. The time dimension of economics remains an important issue.

The Economics of Natural Capital

When ecologists began working with economists an important alignment was formed: ecologists worried about the physical depletion of the natural resource base of our planet and economists worried that it was being accounted for as a positive contribution to wealth and growth. Theoretically, the depletion of natural resources has been well documented and case studies have been developed for several sectors. A literature exists on the value of biodiversity.

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11 New Economics Foundation, Growth isn't possible, January 2010; Sustainable Development Commission, UK, Prosperity without Growth? – the transition to a sustainable economy; and see also a paper prepared by Herman Daly for the Sustainable Development Commission, A Steady State Economy.
12 Giarini, Jacobs and Slaus in "An Introductory paper for a Programme on the Wealth of Nations Revisited". They also note that income inequality continues to grow, frustrating the rising expectations of the world's poor, and increasing the propensity for social unrest, crime and violence.
13 Economic literature is replete with examples of economic discounting and its effects on cost benefit analysis. A more interesting debate is the extent to which a zero discount rate should be applied to natural capital stocks such as atmospheric change due to climate change; an issue of stock depletion and repletion. The argument has been made that if a country has an obligation over say a thirty year period to reduce its contribution to the stock of greenhouse gases it may be indifferent as to the precise timing of when it takes actions do so; at the extreme all in Year One or in Year 29 and hence there is an argument for applying a zero discount rate.
challenge has been to incorporate such values into public policy. Robust economics work in this domain has for too long sat on the shelves of academia, rarely made it into ministries of environment, and almost never into ministries of finance. And yet the consequences of using incorrect economic values of natural resources can be considerable: the under-pricing of water leading perhaps to the largest single global economic subsidy in the world today. The management of our water resources represent an interesting case of rising costs and increasing scarcity of capital. The long run marginal cost of water is rising rapidly and discontinuously in many countries. This represents a nuanced view of "limits" where the physical limit of fresh water is not reached but the massive and discontinuous costs impose a significant real bind on economic growth. More recently, natural resources, especially water, have been linked to human rights issues and a rights-based approach. Proponents often conflate this with the need to provide goods such as water as free goods.\(^{17}\)

The Economics of Pollution

An associated environmental issue relates to the negative costs associated with pollution, what environmentalists often refer to as the "brown agenda" to distinguish it from the erosion of natural capital. The health related incidence of pollution is now well understood and documented. In some countries it can have a significant impact on the calculations of real wealth. Indoor and outdoor air pollution in China was estimated to have increased morbidity rates and reduced real GDP growth by more than 3%.\(^{18}\) There is an increased awareness of the economic impacts of pollution. Policy measures to establish standards, punish those who pollute (through the polluter pays principle), and adopt preventive measures are now commonplace and can be traced to the impact of a better understanding of the analysis of the economic impact of pollution.

Climate change has been described as the largest market failure in our history. The Stern Review\(^{19}\) has documented the economic issues raised by our concerns with climate change which provide new dimensions to our tasks of applying economics to an environmental "bad" that is inter-generational, requires long-term investment, a global public good, and raises issues of generational and spatial equity. It also raises questions of equitable treatment of finance for both mitigation of, and adaptation to, climate change. Much of the literature has focused on the costs of addressing climate change. The counterfactual case is rarely made: that is what benefits to economic welfare does long-term and early action bring.

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\(^{16}\) See for example: David William Pearce, Dominic Moran, *The economic value of biodiversity*, Earthscan, 1994


Paulo Augusto Lourenço Dias Nunes Nunes, Jeroen C. J. M. van den Bergh, Peter Nijkamp, *The ecological economics of biodiversity: methods and applications*, 2003

\(^{17}\) Such debates can divert attention from the main issue of valuation. Understanding the real value of water is an essential requirement for economic efficiency, technical choice and optimum strategic use. The actual pricing of water and the decision to provide water free for social objectives (for example, through lifeline tariffs) is a separate decision.


Economics, labour markets and employment

Global unemployment is at an all time high with over 200 million estimated to be unemployed\(^{20}\) and countless more under-employed and earning less than a liveable wage\(^{21}\). It can be debated as to whether climate change or unemployment represent the most important “market failures” but both are central issues to be addressed if we are to move towards a sustainable world. Unemployment, of course, is more than an economic issue\(^{22}\). It lies at the heart of the problem of poverty; it fuels discontent, alienation and a sense of hopelessness; and this is often transformed into social unrest. To some, it remains a fundamental human right, a question not of whether economic growth can produce jobs but a re-fitting of economics to assure that everyone has the right to employment. Unemployment affects all countries to one degree or another. It is estimated that 27% of the worlds’ population is under the age of fifteen, a burgeoning work-force in the making. The recent global economic downturn has exacerbated unemployment levels although the issue is more structural and longer term than the temporary effects of recent economic history. It can be useful to distinguish employment conditions in the developed world where it relates mostly to formal paid employment and where social safety nets provide some degree of social protection. By contrast, the developing world has less formal sector employment, under-employment persists and there are few safety nets. However, borders are increasingly porous, mobility goes hand in hand with opportunity; and investment decisions made in one country can have a profound effect on employment in another country. Out-sourcing, increased cross-border mobility, concerns for the poor in the developing world, and the effects of dramatic global demographic changes mean that employment concerns are no longer the sole preserve of national governments: employment is firmly a global issue.

The employment dilemma lies at the heart of the essential debate about new economics:

- It raises a fundamental philosophical issue of economics. Should economics set as its primary goal the fulfilment of human aspiration by ensuring that every human on this earth of employable age should have a right to a job? Those in favour argue that economics needs to be re-engineered to drive such a policy goal. Thus neo-classical economists whose definition of full employment requires some level of unemployment remains fundamentally flawed.\(^{23}\)
- The porosity of borders and the mobility of labour suggest that we need to take into account the global nature of employment and the global social costs of unemployment.
- The mispricing of certain forms of capital may well distort labour capital ratios and provide a disincentive for employment-creating economic activities. Furthermore, the externalities associated with unemployment are not factored into relative input prices.
- Technological substitution may reduce employment opportunities, even where overall economic efficiency is improved. The shift towards service and information based sectors as well as increased mechanisation in historically labour intensive sectors such as agriculture has certainly affected employment opportunity. Finding the appropriate balance between


\(^{21}\) Variously defined as under $2 or $2.50 per day equivalent (cash or in-kind).

\(^{22}\) There is a large body of literature related to the gender dimensions of employment, human capital formation, and social consequences of unemployment.

technical and labour substitution remains a challenge that now needs to factor in the full range of economic costs and benefits.

- Green growth has been heralded as a “win-win” strategy by politicians and some economists. The hypothesis is that the new economy based on green growth and renewable energy is a win for the environment as well as a win for jobs. However, this has yet to be tested through serious research and enquiry. The link between growth, green or otherwise, and jobs is central to long run sustainability and poverty reduction.

An emerging theme for some economists is what happens if job security cannot be assured or at least contemplated. How will we function in society where unemployment or partial employment is the expected norm? The world has become sufficiently technologically developed that it could probably produce all the material goods required with a small fraction of the population. What social and institutional structures could support such outcomes in a manner that provides for sustainable societal benefits? Can we live in a world without jobs and if so with what distributional, poverty and social capital consequences?

**Economics, Markets and Market Creation**

Markets remain the cornerstone of neo-classical economics and are an essential aspect of our life. Our banking systems are based on the development of money markets now so large, complex, multinational and inter-woven that many observers believe that markets have become separated from economics and have begun to lead a life unto them-selves. Our economist forefathers believed in markets as being the most efficient means to match supply and demand for goods and services and to find a reasonable price between the two. Money, the currency of trade, was a means to the end of satisfying human needs in a fair and transparent manner. The de-regulation of markets in almost all economic fields provided a platform that moved markets, poorly regulated at best and un-regulated at worst, towards speculation and shortly thereafter into avarice. Risks and consequences have been disproportionately shared. Property markets originally designed to find housing for those in need of a home found their way into speculative bubbles, producing massive negative equity for millions of home owners. Massive bank bailouts using taxpayer funds have been accompanied by bankruptcies and foreclosures that have required government support and the payment of social safety nets: a double negative public dividend. Greed and extreme bonus payments have all added to a growing sense of anger, disillusionment and distrust. Markets shifted out of the real economy and into “illusory” wealth creation with disastrous results for all but a handful of lucky speculators. The market had become a casino: where few win and most lose. There is a need to reposition economics as an important driver of fair, equitable and efficient markets.

Four sets of questions need to be addressed:

- What form of national and international regulation and oversight can provide the correct balance between profitability and public good concerns? What levels of transparency protect

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24 See Anna Coote, Andrew Simms, Jane Franklin, *21 hours: Why a shorter working week can help us all to flourish in the 21st century*, New Economics Foundation, London, 13 February 2010; which makes the case that in the UK under any plausible scenario there will be insufficient jobs for all to work fulltime.

the common good yet provide the incentives for financial accumulation. What is good governance and how can it be rewarded?

• How can markets be developed that provide the goods and services that are commensurate with the need for a sustainable planet? How do we lengthen the financing horizon to ensure that long-term sustainable investments in forests or in climate change can be realized? How do we develop markets for global and national public goods in which fair economic returns can be provided to the public good and fair financial returns to the private sector? Where do the most promising markets for sustainability lie (carbon, forestry, ecological services, jobs, social outcomes)?

• What is the correct role for the public sector in a world where public and private returns will be co-mingled? What is enlightened public policy and what role should it play in creating markets for future goods and services with a high public good content?

• Is there an ethical base that accompanies the economics of markets? Does the corporate and private sector have a moral duty to serve beyond the “bottom-line.” And if so, how?

The Economics of Social and other forms of Capital

The pioneers of economics largely considered a single form of capital, man-made. Labour-capital ratios would find the correct optimum between the cost of physical capital and the price of labour. Our world is now significantly more complex and other forms of capital are beginning to be recognized as potentially binding and important to our understanding of economics. Natural capital has been discussed previously and has led the way in terms of a more informed understanding of its potential binding constraints on economic development and growth.26

Social capital has been largely untreated by economists and yet it may provide a better understanding both of the purpose of economics as well as a more practical understanding of how economies work. Social capital may be described as the range of social interactions that can add value to our contentment, happiness, and feelings of self worth. It has to do with how secure we feel within our families, our communities and our cities, and how safe we feel for our children and their future. The depletion of social capital can extract a very high economic cost as social disruption, violence, destruction of physical assets, crime and vandalism increase. Given our presumption that economics should be about maximising human well-being it is remarkable that social capital has taken a back-seat. Economics that leads to incorrect market signals, increased unemployment, dramatic shifts in distributional outcomes, displacement through poor decisions on the value of natural capital, and massive wealth gains amongst the very few, can all lead to high social capital costs which, in turn, lead to high and negative economic impacts. On the positive ledger, research is being undertaken on the economics of happiness: the bridging of economics and psychology. To some, happiness appears to be a rather esoteric concept for economists to grapple with. However, surely everyone on earth aspires to a happier and more contented life: a life of strong social capital where welfare is maximised and security assured. The economics of happiness is non-trivial.

Economics needs not only to reflect on natural and social capital but also explore whether other forms of separable capital exist. Cultural capital, human capital, technological capital and knowledge

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26 See Donella H. Meadows, Dennis L. Meadows, Jorgen Randers and William W. Behrens III, Limits to Growth, Universe Books, New York, 1972; which first postulated that natural capital constraints would need to be factored into the pace at which economic growth could continue.
are deserving of attention. How the various forms of capital relate to each other and how they drive us towards real wealth creation remain an area for further consideration.

The Economics of the Unknown

In an uncertain world where non-linear events are possible, where booms and busts are commonplace, where civil strife and economic asset destruction can occur at any time, the role of risk and uncertainty becomes an important parameter for financial and economic decision-making. Recently climate change has focused our attention increasingly on probability theory and the management of non-linear events. Yet economics has, to a very large degree, remained deterministic in nature. We need to upgrade our economics thinking to embrace risk and uncertainty in a more rigorous and sophisticated manner. Least risk may need to replace least cost planning. Options theory may need to replace deterministic planning. It is an area where economics has been historically weak and, as we move into increasing uncertainty, never more important.27

Risk management also has its practical aspects when applied to infrastructure investment. The scope for new and additional investment in climate-adapted infrastructure may simultaneously provide additional employment, lower social and natural capital risks while also providing opportunities for new insurance protection (for homes). Integrating social and environmental standards into public investment decision-making lowers implementation risk, improves the quality of the built environment and may reduce other environmental risks. Such standards now need to be explicitly recognized in a risk management framework and, where societal risks are lowered, rewarded. How to link economic risk more formally with social and environmental quality improvements remains an open question. In addition, the issue of how systems of public-good risk, time-dependent risk (especially inter-generational), and private risk co-exist needs attention.

(Three): Economics and the Art of the Possible

The foregoing assessment of the state of economics is primarily of a methodological and theoretical nature. Gaining deeper insights into economics, better understanding the values of goods and services considered heretofore as ephemeral, and calculating the real value of natural capital and social dislocation is vitally important to better designing public policy, practical market-based instruments, robust investments, and identifying practical activities that support sustainable development.

However, translating real values into real economic prices must also be accompanied by real actions to make a difference. There are a number of ways in which this might be accomplished:

- Establishing shadow prices reflecting the real resource and social cost of inputs can become required metrics for approving public and private investments.
- Establishing voluntary and, where needed, mandatory standards that embrace sustainability criteria can level the playing field for all, while protecting the common good and providing the appropriate risk reward ratios.

27 Those in the insurance and re-insurance industry as well as in the financial economics sector would undoubtedly disagree. However, application in other economics domains such as the economics of sustainability and natural resource policy is weak.
• Market regulation, that serves to enhance the common good, promote responsible investment and ensure financial metrics, is geared to financial sustainability and not simply to short run profitability can be designed and implemented.

• Governments and global institutions can facilitate the creation of markets that embrace global public goods which, in the absence of public policy, could not exist. Carbon markets are an excellent example of such markets but require nurturing and maturing if they are to operate at a scale commensurate to the nature of the problem.

• Governments and the private sector can design effective co-mingled markets with public and private returns. The public policy role may be to provide patient capital lengthening market terms or funding the public good component.

• Corporate responsibility can be rewarded through increased shareholder value.

While the literature is replete with methodological transgressions and theoretical digressions less attention has been paid to how to move agendas towards a more sustainable and people centred economy. And yet implementation matters. This is never more true than in the case of natural capital for which there exists a large and growing literature on how to measure its value but rarely is any thought given to how to design policy and market instruments as well as governance systems that actually ensure that those values are embedded in economic policy and decision-making.

(Four): Towards a Club of Rome Work Programme

A large number of Club members have indicated their interest in and commitment to thinking through the dimensions of a “new economics” agenda. A number of members have considerable expertise in this field and are able to make a major contribution to the debate. The Club of Rome can, in many regards, be seen as the pioneer of thinking about economic growth and the limits imposed by the current models of economic thinking. Over the years since Limits to Growth was published the Club has prepared and debated many of the issues included in this note.28

The Club has a strong brand, a powerful reputation as both an innovative collective thinker but also as a group that can bring issues to the forefront of public and corporate policy agendas. Given the significant shifts in the world over the past few decades it is timely to visit once more the economics’ issues we have identified in this report. At heart, of course, lie two significant intellectual issues. The first is one of “connecting the dots” between disciplines and between the various strands of economics and providing an integrated view of the whole: an ambitious but worthwhile endeavour but one, with its long-standing tradition of systems analysis and the ability to assess “underlying causes”, that is central to the Club’s interests. The second relates to a more philosophical view of the

purpose of economics and its central role in providing an ethical basis for maximising global welfare and sustainability.  

The Club of Rome already has members with world class experience, knowledge and a number of publications in the domains outlined in this report. Initial discussions with several members confirm an enthusiasm and commitment to taking the ideas contained in this note and expand on them further. The Club supports an expanded programme on new economics and the creation of real wealth.

The Club of Rome has an unparalleled network of policy leaders, academics, business leaders and thought leaders. It has approximately 1800 individuals committed to the Club operating in over thirty countries and in all disciplines and all walks of life. These individuals, in turn, have affiliations nationally and internationally that can leverage policy discourse.

A work programme is under development that, inter alia, includes:

- Methodological and theoretical development of economics.
- Identification of promising policy and institutional reform that would allow new economics to become mainstreamed.
- Identification of new market instruments and the accompanying public policy and institutional frameworks to support them.
- Public information outreach and communications campaigns to promote the findings.

Next Steps

A special workshop-meeting was convened during the Annual General Meeting in Winterthur (on October 29th 2010) to discuss the issues of “The New Economics of Growth, Wealth and Real Values”. This paper provided a background to that discussion. A follow up Club of Rome meeting took place in November (in Berne and in association with Swiss Development Cooperation) which focused on demography and employment. The Club is at an initial stage in developing the details of a work programme and further substantive work is required to prepare final design and identify potential partner organizations (although a number have already indicated their interest in working together).

The Club is planning in 2011 to convene a high level world class expert one day retreat (which would include Club members and others) to finalize an approach paper and proposal.

Ian Johnson, Club of Rome

Winterthur, November 2010

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29 See David Korten, Agenda for a new Economy: From a Phantom wealth to real wealth, 2nd Edition, Beret Koehler Publishers, 2010; which makes the case that we need a fundamentally new ethical and moral base.

30 Currently there are 69 members drawn from academia, business, government and non-government sectors and covering the disciplines of natural sciences, social sciences, business management, and ecology. There are 32 national associations.