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2004-01-01

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Ruth Kelly
Dublin Institute of Technology, ruth.kelly@dit.ie

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Recommended Citation
Kelly, R. (2004) :The future of sustainable development:a European perspective. *Futures Academy*, Dublin Institute of Technology. 2004.

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The Future of Sustainable Development – A European Perspective

Abstract

We are living in times of turbulence and complex changes without precedent in history. It is becoming increasingly evident that humans are an intrinsic component of nature in that their actions affect both the biotic and abiotic environments, and are in turn affected by everything that shapes those environments. In evolutionary terms, population growth, societal restructuring, exhaustion of natural resources and technological advancements have usually been so slow as to be indiscernible during an individual lifetime. However, in the past two centuries the global economy has shown exponential growth, transforming the character of the planet and especially of human life (Mebratu, 1998). If this rate of transformation is sustained without strategic planning for the future, the consequences for the long-term well being of humanity are frightening. Anticipation of and preparation for the future is essential to achieving sustainable development. However, the potential for linking 'futures thinking' to debates about sustainable development is very undeveloped at global level. This paper examines the future of sustainable development in Europe with specific reference to the application of the growing field of futures thinking as a vehicle to achieve it.

The Context

The World Commission on Environment and Development (WCED) report, *Our Common Future*, is credited with having popularised the concept of sustainable development (Bruntland Commission, 1987). The report identifies three leading interconnected principles briefly summarised as follows: environmental efficiency, inter and intragenerational social justice and participation in decision-making

(Jansen, 2003). It emphasised that environmental problems cannot be considered in isolation from others, such as poverty and social disintegration. However, the concept itself has a longer lineage. In Stockholm, 1972, the UN held the first ever Conference on the Human Environment, which attracted worldwide attention to the dangers of *inter alia*, pollution, exhaustion of natural resources and desertification (Rist, 1997). The publication of the Club of Rome report *Limits to Growth* in 1972 highlighted the consequences of exceeding the carrying capacity of the natural environment (Meadows, 1972). The report allowed the emphasis to change from local pollution to the use (and misuse) of resources in a global context (Blutstein, 2003) and also redirected attention towards possible global futures.

In the years following the 1972 Stockholm Conference, the scientific consensus on the occurrence of ecological imbalances has become more focused, coming to the conclusion that the damage inflicted by human activities on the environment render these activities unsustainable (Ekins and Jacobs, 1995). This subsequently created the need for a new world view to serve as a basis for global consensus, which eventually led to the sustainable development concept. Over the past decade the concept has expanded to include the simultaneous consideration of economic growth, environmental protection and social equity in planning and decision making (Schmidheiney, 1992). Policy integration, particularly in relation to the integration of environmental issues into other areas of policy, has been a key area of interest at the European level for some time (Geerlings and Stead, 2003). Indeed, the publication of the *European Union Sustainable Development Strategy* in 2001 represented a distinct movement towards more integrated, participatory and holistic strategies. This is discussed in further detail later in the paper.

In 1997, there were over three hundred published definitions of sustainable development, the products of diverse worldviews and competing vested interests (EEA, 1997). No doubt this number has since increased. There is no commonly accepted single definition of the concept (Haughton and Hunter, 1994) and in the third decade since the publication of *Our Common Future*, sustainable development remains a concept intuitively understood by many but still very difficult to express in tangible or operational terms (Lele, 1991).

Fundamentally, sustainable development represents a transformation in both the way society approaches growth and the attendant stress that growth places on the environment. However, sustainable development is considered an oxymoron by some: the idea of 'development' implies continued economic growth, while 'sustainable' implies that constraints must be applied. Similarly, distinct development trajectories in different countries suggest that no single strategy, however sustainable, will apply equally in all countries (Alberti and Susskind, 1996). Couch and Dennemann (2000) argue that there is an ambivalent attitude to sustainable development and a constant attempt to reinterpret and compromise the concept to support the aims of economic development. Patterns of resource use are influenced by each nation's society, environment and economy. This has resulted in different paradigms that are based on 'weak' and 'strong' sustainability principles. With strong sustainability there is little if any consideration of the financial costs of attaining this state of development. It is coterminous with what some call ecological sustainability and the focus is primarily on the environment (Bell and Morse, 1999). The strong paradigm is also associated with a robust approach to community and social issues including equity and active participation (Pearce, 1993). Weak sustainability considers the costs of achieving sustainable development (financial or

otherwise) and is typically based on Cost Benefit Analysis (CBA), which inevitably involves trade-offs between environmental, social and economic development. Essentially, the main difference between weak and strong sustainability is the degree to which substitutability between different forms of capital is considered (Figge and Hahn, 2004).

The most frequently cited definition of the concept is that which emerged from *Our Common Future*: sustainable development is *"development which meets the needs of the present without compromising the ability of future generations to meet their own needs"* (Bruntland Commission, 1987). This definition is based on an ethical imperative of equity within and between generations and implies sustaining the natural life-support systems on the planet, while extending to all the opportunity to improve quality of life (Hediger, 2000). Although the definition is powerful and appeals strongly to the responsibility of the present generation, it is not obvious how sustainable development might be achieved (Vollenbroek, 2002). At its core, sustainable development addresses three major concerns:

a) the need to arrest environmental degradation and ecological imbalance;
b) the need to avoid impoverishment of future generations; and
c) the need for equity in the quality of life among present-day populations (Redclift, 1987).

In other words, sustainable development encompasses not only environmental protection, but also economic development, social cohesion and quality of life. The paradigm of sustainable development inherently but not explicitly embraces futures thinking. Almost all published definitions of the concept, whether based on weak or strong sustainability principles, refer to both present and future generations and are generally motivated by a real concern for the long-term well being of humanity (Kelly

et al, 2004). However, the potential to apply futures thinking in order to move towards a more sustainable society is yet to be elaborated and advanced at global level. The following sections describe current efforts at European level to translate sustainable development rhetoric into strategic planning, and also examine the possible benefits of utilising futures thinking to achieve sustainable development for present and future generations.

Sustainable Development in Europe

The immediate outcome of *Our Common Future* was the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in 1992. This conference represented the culmination of negotiations to bring about a coherent framework for the global application of sustainable development (McClaren and Bosworth, 1994). Participating countries endorsed Agenda 21, a blueprint which was intended to set out an international programme of action for achieving sustainable development into the 21st century. Chapter 28 of Agenda 21 (Local Agenda 21) emphasised the role of local authorities and called upon them to develop local strategies for sustainable development (Dooris, 1999). Local Agenda 21 involves community-based conceptualisation and implementation of sustainable development. It has precipitated extensive action for sustainable development at the level of the municipality (Selman, 1998) mainly because it encourages a more proactive role, and requires stakeholders to explore wider implications of their lifestyles while promoting collective responsibility for actions (Mehta, 1996). The Charter of European Cities and Towns *Towards Sustainability* (Åalborg Charter), is regarded as the European version of Local Agenda 21 (Mega, 2000). By signing the Charter, local authorities commit themselves to the development and implementation of

comprehensive, long-term strategic action plans for sustainable development, notably through Local Agenda 21 processes (Payne and Löffler, 1999).

The Treaty for European Union (Maastricht Treaty) came into force in 1993, the same year as the Fifth Environmental Action Programme. The Programme focused on the central theme of sustainable development and demanded the development of meaningful CBA methodologies in respect to policy measures which impinge on natural stock (Bräuer, 2003). It was a definite illustration of the move towards integration, calling for priority to be given to, *inter alia*: sustainable management of natural resources, integrated pollution control and prevention of waste, reduction in the consumption of non-renewable energy and improved public health and safety (Ziegler, 1996). Another milestone in the advancement of sustainable development at EU level was the Sustainable Cities Project launched by the Urban Environment Expert Group and the European Commission in 1993, which identified mechanisms needed to pursue sustainable development, not only in cities, but at all levels of the urban settlement hierarchy (Directorate General Environment, Nuclear Safety and Civil Protection, 1996). This developments was significant given that the development of Europe's cities and towns and the relations among them constitute one of the most important driving forces for the future of Europe (Rotmans *et al*, 2000).

At EU level, two significant developments following the publication of Agenda 21 included the UN World Conference on Social Development (The Social Summit) held in Copenhagen, 1995 and Habitat II (The City Summit) held in Istanbul, 1996. Both conferences addressed many contemporary problems including: homelessness, crime, unemployment, poverty, waste disposal, traffic congestion and underfunded services. Habitat II adopted a worldwide plan of action, the *Programme for Habitat*, and a statement on human settlements by the heads of state and government known as the

Istanbul Declaration (Bindé, 1997). More recently, the Economic Commission for Europe regional ministerial meeting for the World Summit on Sustainable Development in Johannesburg, South Africa in 2002, recognised that the EU has a major role to play in global efforts to achieve sustainable development. In pursuit of Europe's commitment to sustainable development, there are ongoing efforts at the regional, subregional and transregional levels, including, *inter alia*, the Environment for Europe process; the fifth Economic Commission for Europe ministerial conference, held in Kiev in May 2003 and work of the Organisation for Economic Cooperation and Development on sustainable development (United Nations, 2002). In 1999 the Helsinki European Council invited the European Commission to *"prepare a proposal for a long-term strategy dovetailing policies for economically, socially and ecologically sustainable development"* in time for the Gothenburg European Council in June 2001. The *European Union Sustainable Development Strategy* was adopted by the Commission on the 15th May 2001. The sixth Environmental Action Programme *Environment 2010: Our Future, Our Choice* (2002) may be seen as the environmental component on which the EU sustainable development strategy is based and, in addition, the strategy requires that social, economic, as well as environmental considerations are integrated into policy making (Feldmann *et al*, 2001).

However, in spite of these developments sustainable development remains an ambiguous and intangible concept, compounded by the lack of a global consensus as to how this level of development might be achieved, or indeed what it is. One of the most problematic aspects of sustainable development is its breadth, combined with the abstract nature of the concept. Various 'in house' approaches to advance the realisation of sustainable development adopted by industry, organisations and governments alike include for example: development of Environmental Management

Systems (EMS); 'green housekeeping' measures or environmental and social charters or mission statements. Efforts to 'externalise' sustainable development include *inter alia*; development of Corporate Social Responsibility (CSR) strategies; development of sustainability indicators and establishment of effective participatory and consultative networks with representatives from local government, interest groups and the general public.

The issues of stewardship and the sustainability of natural resources, enhanced social cohesion and economic development cannot be neglected if we want to preserve and enhance the well-being and quality of life of future generations (Wright and Lund, 2000). However, the application of futures thinking as a means to move towards sustainable development is still in its infancy at European level, although it is becoming increasingly recognised as a valuable tool to contribute to our understanding of the driving forces which propel change in a dynamic, complex and uncertain environment. Indeed, the nebulous nature of the sustainable development paradigm attaches new sources of conflict and uncertainty to strategically planning for the future. Sustainable development operates over the long run, into a future whose details are incapable of prediction (Rotmans *et al*, 2000). The multiplicity of driving forces that shape the future, their heterogeneity and interactions, and consequently their outcomes, are quite unforeseeable (Enserink, 2000). Although the future cannot be predicted, it can be anticipated. Therefore, the need to develop new mechanisms to envision and prepare for the future is gaining greater impetus (Puglisi and Marvin, 2002). Consequently, the growing field of 'futures thinking' is evolving as a means to help governments, policy-makers, industry and businesses alike to think, talk, plan and act cognitively and imaginatively in pursuit of a more sustainable society.

Futures Thinking for Sustainable Development

This section does not attempt to make a comprehensive review of the literature that deals with futures thinking. The more limited objective is to review the generic futures field and its potential to advance sustainable development in Europe.

According to Bell (2001) the publication of *The Limits to Growth* marked a period of accomplishment not just in highlighting the dangers of exceeding the carrying capacity of natural ecosystems but also in the futures field. *Limits*, for example, encouraged long-term thinking, focused on holistic approaches and integrated strategies, showed how to develop quantitative scenarios of possible futures, showed how current choices and policy decisions could affect the future and influenced millions of people worldwide to think about the well-being of future generations. However, futures thinking has a much longer ancestry. According to Malaska (2001) 'futures thinking' can be traced back over 2 million years ago to our ancestors who invented tool manufacture and learned how to satisfy their present needs as well as developing an awareness of the possibilities of these new technologies for their future. Since then awareness of the future, as well as the past and present, has been central to the evolution of human mind pattern involved in everyday thinking and life experience.

The umbrella term futures thinking embraces futures study, futures research and prospective study. Another term that has recently evolved is 'futurology', which may be regarded as the scientifically disciplined mode of 'futures thinking' (Masini, 1998). Given the restricted nature of the text, all that is possible here is a brief note on each. In general, futures studies may simply mean an exploration of what might happen and what we might want to become. The statement that futures studies is a 'field' or a 'discipline' is made as an assertion, often with the undocumented addition that it is a

‘growing field’ (Marien, 2002). Futures studies focus on the world 15 to 50 years from now, focus on the degree of change, describe alternative, possible and preferable futures rather than single predictions and utilise both qualitative and quantitative methodologies. In the last few decades futures studies has made important progress in theory, methodology and applications, but according to Aligica (2003), it is yet to make a convincing case to gain epistemological legitimacy outside its own field. However, there is substantial evidence that futures studies today is an identifiable collective, intellectual activity, with its own distinctive features. Such evidence ranges from futures organisations, peer reviewed journals and periodicals, international conferences, university futures courses, and futures consulting groups (Bell, 2002). Although futures studies is increasingly being incorporated into University based programmes, Glenn and Gordon (1999) believe that public education or social marketing for public awareness of the need for futures thinking is crucial. Indeed, the aim of incorporating futures thinking into general education is not mere futurist chauvinism, but comes from the belief that futures studies has important contributions to make to long-term human well-being (Cole and Masini, 2001). Similarly, education, community involvement, consultation and participation are essential to the advancement of sustainable development. The importance of education can be traced back to the 1980 *World Conservation Strategy*, published by the World Conservation Union (IUCN) which “*first redirected the goals of environmental education towards what it referred to as education for sustainable development*” (Tilbury, 1995).

Futures research, in contrast, means the use of techniques to identify systematically the consequences of policy options and to identify alternative futures with policy implications for decision makers. Futures research investigates trends in order to help anticipate and influence possible outcomes in the years ahead. Changes in complex

and uncertain environments require futures research approaches that combine knowledge of many different fields, both quantitative and qualitative (Fontela, 2003). The prospective process through scenario development essentially entails the development of scenarios of desirable future states, as a foundation for strategic action (Dreborg, 1996). Scenarios are hypothetical sequences of events, through which possible future developments are made visible (Gausemeier *et al*, 1998). Developed by Herman Kahn in co-operation with Anthony J. Wiener, scenarios have the potential of being a less rigorous and more open method of exploring the future. They are according to Wegener (1993) "*perhaps the only method to identify 'corridors' of relevant and feasible futures within a universe of possible ones"*. Systematic development of future scenarios involves identifying key driving forces of change and their different possible interactions, then selecting combinations of driver issues and trends on which to build scenarios. In practice, the driving forces of change are identified by: continuous monitoring through horizon or environmental scanning; in depth interviews with acknowledged experts; targeted questionnaire surveys (Delphi surveys, for example); and brainstorming workshops at the start of the prospective process. Driving forces are typically characterised under the 'Six Sector Approach' and include: Economy, Society, Environment, Governance, Technology and Demography. Since the identification of driving forces in a large-scale scenario exercise may lead to the surfacing of hundreds of ideas, the next step is to cluster issues and trends and determining relatedness, in order to bring manageability without reduction and elimination (Cairns *et al*, 2002). In identifying key drivers of change MacKay and McKiernan (2003) warn, there is a tendency to rely excessively on hindsight when analysing past trends and issues. Consequently, the driving forces from the past that have been identified to shape change in the future

may be overestimated and mis-clarified. This can dilute foresight ability and the plausibility and desirability of future scenarios.

According to List (2003) an assumption inherent in most scenario planning has been that "we" have a shared present, which arises from "our" shared past. From this present, the futures and visions outlined in the various scenarios branch out (See Figure 1).

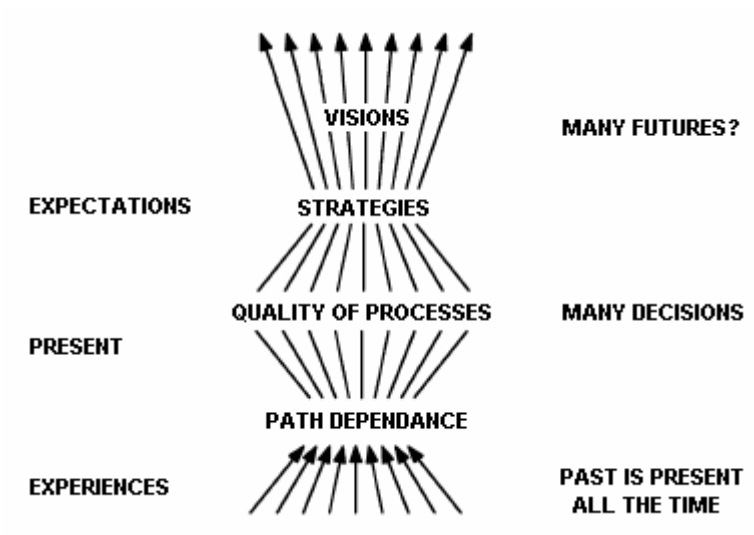

Figure 1 Decision-making and many futures (Kaivo-oja *et al*, 2004)

Scenarios generally come in two forms: exploratory and normative. Exploratory scenarios depict self-consistent future worlds that would emerge from the present through credible, cause, effect and feedback developments and reach an end-point that seems plausible. Normative scenarios, on the other hand, represent desirable future worlds (Ratcliffe, 2003). Effective scenario planning functions as a collective thinking exercise. Consequently, 'brainstorming', participation and consultation are essential to the scenario development process. Scenarios have the potential to translate expert knowledge and opinion into a format accessible also to non-experts and ordinary members of the public and so have the potential to stimulate debate between the expert community and the public.

Prospective (or "*la prospective*") through scenarios is not only an exploratory approach, but also a normative one in that it concludes by describing a single preferred future. Prospective emphasises the importance of long-range and alternative thinking in strategic decision-making processes (Godet, 2000). The 'prospective' approach is becoming more popularly applied across Europe in a variety of strategic settings. In the francophone context, from whence it originates, the prospective refers to a much wider exploration and much longer time horizon than conventional strategic planning. It comprises, moreover, not only the study of the future, and an evaluation of alternative outcomes against given policy decisions, but also the will to influence the future and shape it according to an organisation's or society's wishes. Prospective through scenarios offers an opportunity to think 'preactively' (understanding) and 'proactively' (influencing) to develop more innovative and creative strategies towards sustainable development.

Towards the Future: Recent Developments at EU Level

The notion that Europe at the start of the third millennium is facing many complex and uncertain environmental and socio-economic changes is gaining widespread acknowledgement. In 1997 the Forward Studies Unit of the European Commission launched a project *Scenarios Europe 2010*, with the objective of producing a set of coherent and thought provoking visions of the future of Europe. Through a process of participation, consultation and structured 'brainstorming', the background knowledge and emerging ideas of the participants were drawn together into a global project. The project which took two years to complete was aimed at fostering a 'futures' ethos inside the Commission. The resulting scenarios, which were essentially qualitative in

nature, present a range of plausible, internally coherent scenarios of the future of Europe to which no probability is attached (Forward Studies Unit, 1999).

Europe has generally had a strong foundation in the world of futures thinking, concepts and methods. Yet, in much of Europe, futures research is too weak, funding too short, and the next generation of futurists is in danger of disappearing. Responding to this challenge, the European Economic Interest Group (EEIG) euroProspective was formally established in 2001 by the futures studies research centre proGective (France) and the Jules Destre´e Institute (Wallonia, Belgium). The EEIG brings together two public members (Futures Studies Centre, Budapest University of Economic Sciences, Hungary, and the Futures Academy, Dublin Institute of Technology, Ireland, and five private members: Z-punkt GmbH, Germany, Periscopi, Spain, Scenarios + Vision, France, the Jules Destre´e Institute, Wallonia and proGective, France. The main activities of euroProspective include (Goux Baudiment, 2004):

a) the exchange of information about futures thinking and research, especially through the management and co-ordination of a multilingual website;
b) promotion of existing high-quality foresight and prospective practices, both for the human values they carry and for the rigour of their methods; and
c) organisation of a strong and permanent network between European and non-European futurists (academics and professionals).

A key focus point of euroProspective is the implementation of futures-oriented projects in the areas of sustainable development, modernisation of the public and private organisations, public policies, geopolitical stakes, Non-Governmental Organisations (NGOs) management and innovations (Goux Baudiment, 2004).

The creation of The Futures Academy at Dublin Institute of Technology, Ireland, for the first time in Ireland furnishes Irish public and private sectors with expertise and networks within which to develop and instigate future-proofing in their own disciplines and industries towards sustainable development. Application of futures thinking to move towards sustainable development is a focal point of research carried out at the Academy.

The main aims and objectives of the Futures Academy include:

a) building a network of people from diverse backgrounds who have a commitment towards futures;
b) testing policies directed towards evolving a sustainable future;
c) making a significant contribution to advancing sustainable development; and
d) identifying 'key predictors of change' that might impact on the sustainable development of the environment.

The Academy is currently involved in a European project to contribute to sustainable urban development in large urban distressed areas (LUDA). The LUDA project aimed at improving the quality of life in such areas tackles problems such as:

a) uneconomic use of resources and narrow options for development;
b) high level of political pressure to make rapid improvements to the quality of life;
c) lack of the knowledge about the phenomenon of large urban distressed areas; and
d) large urban areas suffering environmental, economical and social distress.

The project brings together six cities as well as non-governmental organisations from eight different European countries (including an accession state) in an interdisciplinary way. Furthermore, it provides a platform for a broader discussion with other cities, research institutions and civic organisations in working towards a more sustainable future in distressed urban areas.

A significant milestone in the application of futures thinking to advance sustainable development is the upcoming conference *Towards Sustainable Futures: Tools and Strategies* to be held in Tampere, Finland, June 2004. The conference organised by the Turku School of Economics and Business Administration, Finland Futures Research Centre with Finland Futures Academy, is aimed at both researchers and corporate representatives. The aim of the multidisciplinary conference is to bring together those interested in sustainable development and futures oriented research. New perspectives and methods for measuring sustainable development and creating strategies will be examined and the conference will also cast a look into how sustainability aspects are actually taken into consideration in corporations (Internet reference 1).

Conclusion

At the beginning of the third millennium, we find ourselves overwhelmed by complexities and uncertainties unprecedented in human history. As Senge (1990) states *"Today, mankind has the capacity to produce far more information than anyone can absorb, to foster far greater interdependency than anyone can manage, and to accelerate change far faster than anyone's ability to keep pace"* (Senge, 1990). The concept of sustainable development evolved as a means of tackling these unprecedented changes in environmental quality, economic development and social structure in order to meet the needs of both present and future generations.

However, it is becoming increasingly evident that a clear blue-print for achieving sustainable development cannot be given and certainly not one that applies equally in all countries. The only major point of general agreement is that sustainable development means different things to different people (Gustavson *et al*, 1999). What is considered sustainable is to a great extent subject to personal and societal

preferences with respect to economic development, environmental quality, assessment of (future) technological possibilities and the attitude towards risks and uncertainty (Dellink *et al*, 1999). It has been suggested that if sustainability work does nothing more than challenge assumptions and presumptions it may be that it is doing enough, for "*people use their ideas about the future to direct their actions in the present*" (Internet reference 2). A common element inherent in almost all definitions of sustainable development is concern for the well-being of future generations. However, the potential to link futures thinking to advance sustainability is constantly evolving. Futures thinking represents an innovative, imaginative and creative vehicle for attempting to deal with the multifaceted nature of the concept. If we are to robustly address sustainable development, scenarios of the future must encompass long-term time horizons including the development of strategic contingency planning to cope with what the future might be. We must also acknowledge that there will be surprises or scenario-spoiling 'wild cards' of low possibility futures and that the passing of time may knock probabilities off course (Saunders, 2002). As Boyle *et al* (2000) point out we should be thinking about sustainable futures in four principal ways:

a) their psychological and experiential aspects;
b) their cultural, symbolic and ideological aspects;
c) their objective physical, behavioural and material (including biological) aspects; and
d) their socio-political, ecological, and economic aspects.

In an age of anxiety and a period of transition when institutions and industries of all kinds crave an insight into the future, we must learn from social, technological, environmental, economic and political changes of the past and present, but be

disrespectful enough to adapt and consciously design the future before us as best we can.

At European level, the advancement of futures thinking has made rapid progress in recent years, in particular given the establishment of a Forward Studies Unit at the European Commission, the establishment of EEIG euroProspective and the development of a range of futures scenarios for Europe. Despite these developments, there is still a need to explicitly address and integrate futures thinking into strategic planning for sustainable development. Although not the only means available to us to strategically progress sustainable development, futures thinking has the potential to contribute to improving overall socio-economic well-being of present and future generations in Europe, and in maintaining the integrity of the ecological systems on which all life and production depends.

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