

3. Where Do We Want to Go?

Pondering the forecaster's question—where are we going?—has led us not to clear answers about the global future, but to disquieting uncertainties. The global trajectory, extrapolated into the future assuming the persistence of dominant trends and values, becomes contradictory and unstable. The curve of development splits into numerous possibilities, with some branches pointing toward barbarous social-scapes and ecological impoverishment. But humans are travelers, not lemmings, who can also ask the traveler's question—where do we want to go? Vision and intentionality is the freedom that draws us forward as surely as the past pushes us onward.

Goals for a Sustainable World

From the tumult of the twentieth century, four great human aspirations crystallized for global society—peace, freedom, material well-being and environmental health. In this century a great transition will need to achieve them.

Peace was to be assured after World War II, but amidst the nuclear arms race, it would be maintained globally but not locally through the long Cold War. The international fight for freedom also began in the late 1940s with the struggle to end imperialism and colonialism, to extend human rights and to combat totalitarian oppression. Then, came a wave of national independence and an international initiative to assist poor countries that aspired to the development standards of the wealthy nations. Lastly, the concern for the well-being of the earth itself emerged in the 1970s, initially focused on natural resources and the human environment, and later extended to the complex systems that support life on Earth.

Now in the early years of the twenty-first century issues of peace and freedom arise again, not only from the many ongoing armed conflicts, but also from acts of terror against non-combatants.

Grappling with these new threats jeopardizes democratic freedoms. The transition beyond war and conflict is part of the sustainability transition. Human rights—economic and social as well as political—need to become universal. Democratic rule, with minority autonomy and rights, needs to be maintained and extended. International conventions already codify many of these goals. For their promise to be fulfilled, they need worldwide ratification and means of enforcement.

The core challenge of development is to meet human needs for food, water and health, and provide opportunities for education, employment and participation. Economically productive and equitable societies can provide literacy, primary and secondary education, and widespread access to advanced education. The end of hunger and deprivation, and the universal right to a healthy and full life are achievable by 2050.

A resilient and productive environment is the precondition for sustaining peace, freedom and development. Preserving the essential health, services and beauties of the earth requires stabilizing the climate at safe levels, sustaining energy, materials and water resources, reducing toxic emissions and maintaining the world's ecosystems and habitats.

At the beginning of a new century, these grand goals for humanity have not been fulfilled, although there has been progress in pursuit of all. The challenge for the future is fashioning a planetary transition that realizes the dream of a more peaceful, free, just and ecologically conscious world.

Bending the Curve

Sustainability goals have been articulated in a long series of formal agreements on human rights, poverty and the environment. But noble sentiments have not been matched by sufficient policy commitments. The vision of sustainability has been a virtual reality superimposed on the real-world push for market globalization.

The broad goals express a powerful ethos for a sustainable world. This is the stirring but intangible music of sustainability. Also needed are the lyrics and the dance—specific targets to concretize

the goals and policy actions to achieve them. The *Policy Reform* scenario visualizes how this might occur. The essence of the scenario is the emergence of the political will for gradually bending the curve of development toward a comprehensive set of sustainability targets.

We examined the prospects for a *Policy Reform* future in detail in a previous study (Raskin et al., 1998). The scenario is constructed as a backcast. We begin with a vision of the world in 2025 and 2050 in which minimum sets of environment and social targets have been achieved. We then determine a feasible combination of incremental changes to the *Market Forces* trajectory for meeting these goals. A narrative sketch of a *Policy Reform* scenario is presented in the box below.

What targets are achievable in a *Policy Reform* context? Widely discussed social and environmental objectives provide useful guidance on the scope of the challenge. Naturally, any quantitative targets are provisional, and subject to revision as knowledge expands, events unfold and perspectives change. *Policy Reform* targets for each of the broad sustainability goals—peace, freedom, development and environment—are discussed below and shown graphically in Figure 6, where they are contrasted with patterns in the *Market Forces* scenario.

Peace

The *Policy Reform* path would offer an historic opportunity to address the scourge of war. It seeks an inclusive form of global market development that sharply reduces human destitution, incorporates countries in common international regulatory and legal frameworks and strengthens global governance. The scenario would mitigate underlying drivers of socio-economic, environmental and nationalistic conflict, while adopting international mechanisms for fostering peace and negotiated settlements. In the last decade of the twentieth century, there was an average of 28 major armed conflicts—that is, conflicts that resulted in at least 1,000 battle-related deaths in any single year. The scenario goal is to reduce these to a mere handful by the year 2050.

Freedom

The right of all to participate fully in society without discrimination or bias is a basic right of democratic development. The gradual conferral of equality to women, ethnic groups and racial minorities is a notable achievement of recent decades. The process of eliminating gender and ethnic inequality would accelerate under sustainable development, and could be largely completed by 2050. Figure 6 illustrates this for gender equity as measured by the Gender-Related Development Index that compares life expectancy, educational attainment and income between men and women (UNDP, 2001).

Development

Poverty reduction is the key development goal of the scenario. The incidence of chronic hunger, which now afflicts over 800 million people, is a strong correlate of the poverty nexus. The World Food Summit's call to halve hunger by the year 2015 (FAO, 1996) may have been overly ambitious in light of slow recent progress. The scenario target is to halve hunger by 2025 and halve it again by 2050. Other measures of poverty, such as lack of access to freshwater and illiteracy, have similar patterns of reduction in the scenario. Another useful indicator is average lifespan, which correlates with general human health. With accelerated effort, longevity, which today averages about 60 years in developing countries, could reach 70 years in all countries by 2025, and approach 80 years by 2050.

Environment

Environmental sustainability means reducing human impacts to levels that do not impoverish nature and place future generations at risk. Indicators for climate change, ecosystem loss and freshwater stress are shown in Figure 6.

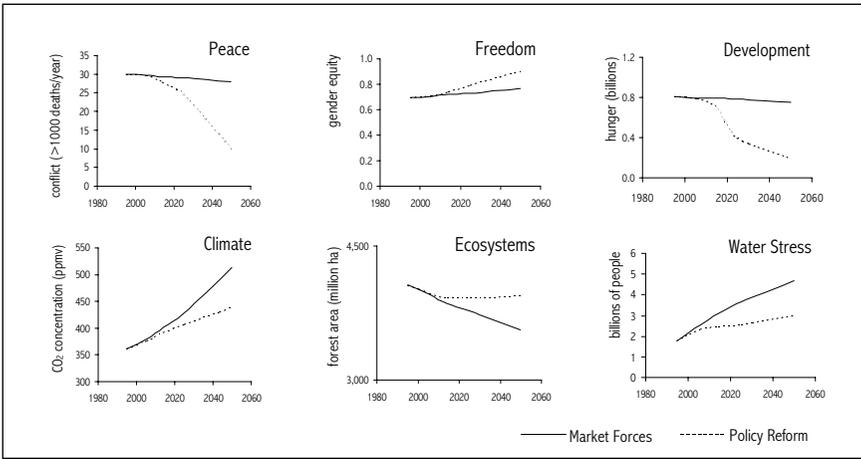
- The goal for climate change is to stabilize concentrations of greenhouse gases in the atmosphere at safe levels (UNFCCC, 1997). Atmospheric concentrations of carbon dioxide (CO₂), the most important greenhouse gas, have risen from pre-industrial levels of 280 parts per million by volume (ppmv) to about 360 ppmv today. Since the momentum of increasing

emissions is inexorable and CO₂ persists in the atmosphere for centuries, climate change cannot be avoided, but it can be moderated. A reasonable, although challenging, goal is to stabilize CO₂ at 450 ppmv by the year 2100. This would keep the cumulative increase in average global temperature below 2°C, a gradual enough change to allow most ecosystems and species to adapt (IPCC, 2001). This will require that greenhouse gas emissions in industrial countries be cut in half over the next 50 years to give “atmospheric space” for poor countries to slowly converge toward common low-emission global standards late in the twenty-first century.

- Climate change is a threat to ecosystems and biodiversity, but not the only one. Land conversions, disruption of freshwater patterns and pollution all contribute. At the least, sustainability requires maintaining sufficient natural areas to ensure adequate protection of ecosystems and associated biodiversity (CBD, 2001; CCD, 2001). Currently, 25 percent of the earth’s land is degraded and more than one-fifth of the world’s tropical forests have been cleared since 1960 (Watson et al., 1998). A minimum sustainability goal is to halt the loss of ecosystems by 2025 and thereafter begin the process of restoration, a pattern reflected in the targets for forests. While this implies further loss, it is not feasible to completely reverse the tide of destruction in a growing global economy (Raskin et al., 1998).
- Freshwater policy is critical to meeting both environmental and social goals. Today, nearly a third of the world’s population is living under moderate or severe water stress (Raskin et al., 1998). As water demands grow, conflict increases in two broad ways—between users in shared river basins and between humanity and nature. The scenario seeks to meet human requirements—the basic needs of people, agriculture and the economy—while maintaining ecosystems. Current trends are not promising—in *Market Forces* the number of people living in water-scarce conditions more than doubles by 2025. A minimum sustainability goal is to moderate water stress through policies to promote water efficiency, waste water recycling and

source preservation. Figure 6 shows how water stress could begin to abate with the commitments to water-use efficiency and water resource protection of *Policy Reform*.

Figure 6. Policy Reform and Market Forces Compared: Selected Indicators for Peace, Freedom, Development and Environment



In a *Policy Reform* world, “growth with equity” becomes the prevailing philosophy of development strategies. A host of initiatives increase the incomes of the poor. Reinvigorated multi-national and bi-national livelihood programs build human and institutional capacity. The flow of investment toward the poorest communities and technological transfers accelerate. Market mechanisms for reducing global greenhouse gas emissions and other environmental goals provide additional revenue streams to developing countries, and contribute to the convergence of incomes between developing and industrialized regions. Also, population growth moderates as access to education and effective family planning programs expand.

Relative to unfavorable *Market Forces* trends, the scenario promotes two kinds of equity—between rich and poor countries and within each country. Actions taken to reduce poverty also reduce the immense disparities between the rich and the poor that cleave the current social landscape. Beyond poverty reduction, greater equity in the distribution of wealth between and within countries promotes

social cohesion and resilient basis for a peaceful global system. Today the average income in rich countries is nearly seven times that in the rest of the world (and 35 times that in the poorer countries). The scenario reduces this ratio to below 3 by 2050. National equity—defined by the ratio of the incomes of the poorest 20 percent to those of the richest 20 percent, for example—has been declining in many countries. In the *Policy Reform* scenario the drift toward greater inequality is reversed (Raskin et al., 1998).

The environmental goals require substantial decreases in the environmental impacts imposed by rich economies. Elsewhere, impacts increase and then moderate, as poor economies converge toward rich country patterns. On the demand side, the efficiency of energy, water and resource use rapidly increases. On the production side, the transition to renewable energy, ecological agricultural and eco-efficient industrial systems accelerates. *Policy Reform* shows how, with sufficient political commitment, a comprehensive set of policies could begin to redirect development towards sustainability.

These social and environmental initiatives are mutually reinforcing aspects of a unitary project for sustainability. When the poor have access to health care, education and economic security, population growth tends to fall. Poverty reduction helps protect environmental resources, since poverty is both a cause and an effect of environmental degradation. Environmental stability provides the material basis for economic welfare which, in turn, is a precondition for social and economic equity. Greater equity supports cohesion at community, national and global levels. Human solidarity and healthy environments reduce the threat of violence and conflict.

Policy Reform: A Narrative

With the long view of history, globalization stands out as the major theme of the last decades of the twentieth century. Like all turning points, the onset of the planetary phase of world development carries contradictory phenomena in its wake. Superficially, it seems that the dominant engine for change is the rapid advance of a global market system, catalyzed by distance-shrinking transportation and information technology. But a second powerful force, reacting to the predations of heedless global markets, also quietly gestates—the movement for an environmentally sustainable and humane form of development.

The momentum for *Policy Reform* is traced through a series of UN initiatives—the 1972 Stockholm Conference on the Human Environment, the 1987 World Commission on Environment and Development and the 1992 Rio Earth Summit. While these had little immediate effect, in the fullness of time it is clear that they are essential precursors to the remarkable changes of the first decades of the twenty-first century. But it did not seem that way at the time.

Indeed, at the end of the twentieth century, the international momentum for a sustainable future seems squandered. The calls at global conferences for a cohesive agenda for sparing the environment and bringing development to the poor regions of the world appears rarely to go beyond rhetoric to effective action. Special interests squabble, powerful nations resist aligning their development with global environmental goals, and a fragmented system of global governance holds an unending series of topical conferences that offer inspiring but toothless edicts.

But after 2002 history has begun to swing toward sustainable development. A number of factors combine to tilt the balance. The World Summit on Sustainable Development, held in Johannesburg in that year, is a hinge event. The political space for the reform agenda comes in part from the end of market euphoria, so triumphant in the 1990s. At the turn of the new century, a global recession is a reminder that the golden goose of the new prosperity is mortal and that e-commerce has not abolished economic uncertainties. Then the terrorist attacks of 9/11 rip the affluent world from its complacent slumber, at once kindling insecurity, anger and a sense that global development is not working.

Forged in the crucible of a war on terrorism, a new globalism offers an unprecedented opportunity for proactive and cooperative global engagement. The dose of reality persuades government that the internationalization of market opportunities and institutional modernization must proceed on an accelerated basis. The vision at first is confined to delivering on the promise of globalization to assimilate the disaffected and excluded of the earth in the nexus of Western modernism. Free trade institutions are expanded, global governance for the economy is strengthened and international assistance supports a new generation of business and political leaders. At first the vision of an inclusive market-driven world has a salutary effect on the global economy and international security. But the response is insufficient. *(continued)*

Policy Reform: A Narrative

The environment continues to degrade. The scientific case strengthens that human activity is imperiling global environmental stability. The public grows increasingly impatient, seeing its own evidence in abrupt climate events and mounting reports of species loss. The global economy sputters, and a sense of crisis is amplified by ecological uncertainty and social polarization. In poorer regions, people bitter about the continued failure of globalization to reduce poverty and feeling the bite of climate change demand a new global deal. A combined social, economic and environmental crisis is brewing.

The search begins for a more inclusive, democratic and secure form of development. The world-wide coalition, which began in the fight against global terrorism, extends its mandate to include multilateral action on the environment, arms reduction, international justice and poverty reduction. The goals of international security and sustainable development become interlaced. The media responds and amplifies the mounting environmental and social concerns. NGOs acting through international networks expand their influence. The Internet fuels the global clamor for action. A growing segment of the multinational business community, alarmed at the uncertainties and threats to global stability, become advocates of global policies that reduce risks and provide a level playing field for business.

New political leaders committed to concerted action eventually heed these rising voices. A global consensus emerges on the urgent need for policies to secure environmental resilience and to sharply reduce poverty. The *Policy Reform* response seeks to balance the agendas of those who want no change—*Market Forces* advocates—and those seeking a more fundamental shift in development values—*Great Transition* advocates. The market remains the basic engine for economic growth, supported by trade liberalization, privatization and the global convergence toward the model of development of the rich countries. But globally negotiated targets for environment sustainability and poverty reduction are the basis for constraining and tempering the market. The United Nations is reorganized and its mission refocused on the *Policy Reform* agenda.

The allocation of regional and national responsibilities takes account of the need for rich countries to radically reduce their environmental footprint while assisting poor countries to reduce poverty, to build human capacity and to leapfrog to resource-sparing and environmentally sound technology. The mix of policy instruments for achieving goals—economic reform, regulation, voluntary action, social programs and technology development—varies among regions and nations. Progress toward the global targets is monitored carefully and adjusted periodically. Gradually, global environmental degradation moderates and extreme poverty declines.

Limits of the Reform Path

The *Market Forces* scenario, we have argued, would undermine its own stability by compromising ecological resilience and social coherence. The *Policy Reform* scenario seeks sustainability by constraining market globalization within politically imposed social and environmental targets. But is it enough?

Policy Reform brings both good news and bad news. The good news is that great strides toward a sustainability transition are possible without positing either a social revolution or the *deus ex machina* of a technological miracle. The scenario shows that deep environmental degradation is not a necessary outcome of development. It can be mitigated by new choices for technology, resources and production processes. The cumulative effects of a comprehensive family of feasible incremental adjustments can make a substantial difference. Similarly, poverty and extreme inequity are not inevitable, but result from social policy choices. The long battle against human misery can gradually be won by major actions to promote sustainable livelihoods and greater international and social equity.

The bad news comes in two categories. The first concerns the immense technical challenges of countering conventional development with a reform program. Recall that the *Policy Reform* scenario assumes that the underlying values, lifestyles and economic structures of *Market Forces* endure. *Policy Reform* shows that wise policies on resource efficiency, renewable resources, environmental protection and poverty reduction can, in principle, provide a counter balance. But the required pace and scale of technological and social change is daunting. The reform path to sustainability is like climbing up a down escalator.

The second category of bad news is even more discouraging. The scenario's plausibility rests on a strong postulate—the hypothesis of sufficient political will. For the reform path to succeed, an unprecedented and unyielding governmental commitment to achieving sustainability goals must arise. That commitment must be expressed through effective and comprehensive economic, social and institutional initiatives. But the necessary political will for a reform route to sustainability is today nowhere in sight.

To gain ascendancy, the *Policy Reform* vision must overcome the resistance of special interests, the myopia of narrow outlooks and the inertia of complacency. But the logic of sustainability and the logic of the global market are in tension. The correlation between the accumulation of wealth and the concentration of power erodes the political basis for a transition. The values of consumerism and individualism undermine support for a politics that prioritizes long-range environmental and social well-being. If the dominant interests of popular constituencies and influential power brokers are short-term, politicians will remain focused on the next election, rather than the next generation. It seems that overcoming the dissonance between rhetoric and action will take fundamental changes in popular values, lifestyles and political priorities that transcend *Conventional Worlds* assumptions.

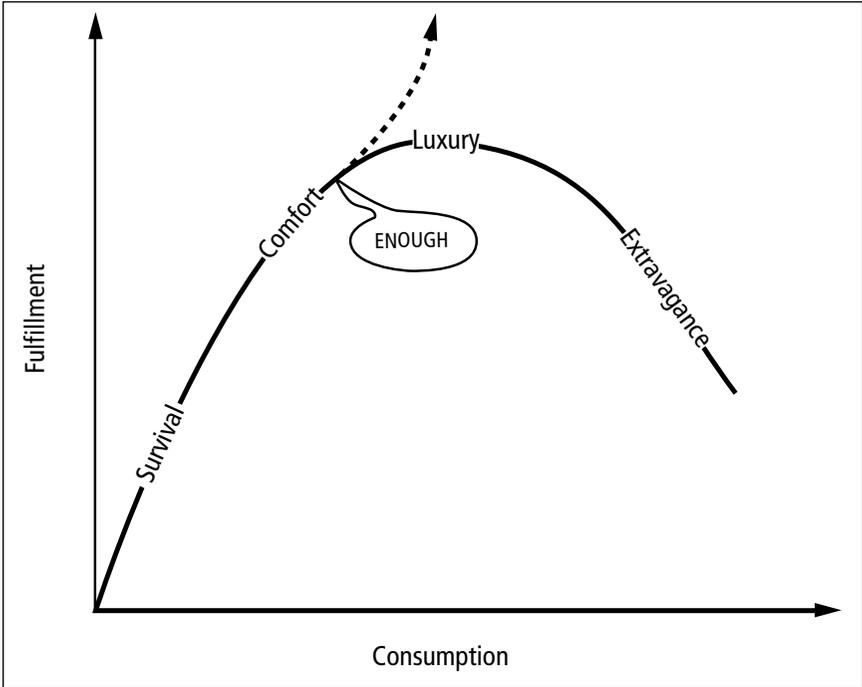
From Sustainability to Desirability

So, *Policy Reform* may not be enough. Taming the juggernaut of conventional globalization with sustainability reforms faces significant technical and political challenges. To these pragmatic concerns about the feasibility of the reform path may be added a normative critique: is it desirable? It envisions a more crowded and engineered global emporium, albeit one where the environment continues to function and fewer people starve. But would it be a place of contentment, choice, and individual and social exploration? It might be a sustainable but undesirable world.

Policy Reform is the realm of necessity—it seeks to minimize environmental and social disruption, while the quality of life remains unexamined. The new sustainability paradigm transcends reform to ask anew the question that Socrates posed long ago: how shall we live? This is the *Great Transitions* path, the realm of desirability.

The new paradigm would revise the concept of progress. Much of human history was dominated by the struggle for survival under harsh and meager conditions. Only in the long journey from tool making to modern technology did human want gradually give way to plenty. Progress meant solving the economic problem of scarcity. Now that problem has been—or rather, could be—solved. The precondition for a new paradigm is the historic possibility of a post-scarcity world

Figure 7. Fulfillment Curve



Based on Dominguez and Robin (1992).

where all enjoy a decent standard of living. On that foundation, the quest for material things can abate. The vision of a better life can turn to non-material dimensions of fulfillment—the quality of life, the quality of human solidarity and the quality of the earth. With Keynes (1972), we can dream of a time when “we shall once more value ends above means and prefer the good to the useful.”

The compulsion for ever-greater material consumption is the essence of the growth paradigm of conventional worlds. But acquisition as an end in itself can be a substitute for contentment, a hunger that knows no food. The “fulfillment curve” illustrates the erroneous identification of the level of consumption and the quality of life (Figure 7). Past a certain point (“enough”), increased consumption fails to increase fulfillment. Additional costs exceed the marginal satisfaction of additional luxuries as we work to pay for them, learn to use them, maintain and repair them, dispose of them and perhaps feel

guilty about having them when others have so little. Profligate consumption sacrifices the cultivation of other aspects of a good life—relationships, creativity, community, nature and spirituality—that can increase fulfillment (the dotted branch in the figure).

A *Great Transition* is galvanized by the search for a deeper basis for human happiness and fulfillment. This has been expressed through diverse cultural traditions. In the new sustainability paradigm, it becomes a central theme of human development. Sustainability is the imperative that pushes the new agenda. Desire for a rich quality of life, strong human ties and a resonant connection to nature is the lure that pulls it toward the future.

Is such a vision possible? It does not seem promising judging by the global scene today, so full of antagonism, inequity and the degradation of nature and the human spirit. Yet, the cunning of history is sure to bring surprises. Some may not be welcome. But favorable possibilities are also plausible.

Later we offer a “history of the future,” a hypothetical account of the initial stages of a *Great Transition*. It is written from the perspective of the year 2068 as the transition continues to unfold. What lies beyond this process of change? More change, no doubt. Though an ideal planetary society can never be reached, we can imagine good ones. Distant visions guide the journey. One possibility is sketched in the following box.

A Distant Vision

Here is a civilization of unprecedented freedom, tolerance and decency. The pursuit of meaningful and fulfilling lives is a universal right, the bonds of human solidarity have never been stronger and an ecological sensibility infuses human values. Of course, this is not paradise. Real people live here. Conflict, discontent, mean-spiritedness and tragedy have not been abolished. But during the course of the twenty-first century the historic possibility was seized to redirected development toward a far more sustainable and liberatory world.

The fabric of global society is woven with diverse communities. Some are abuzz with cultural experimentation, political intensity and technical innovation. Others are slow-paced bastions of traditional culture, direct democracy and small-is-beautiful technology. A few combine reflection, craft skill and high esthetics into a kind of "sophisticated simplicity," reminiscent of the Zen art of antiquity. Most are admixtures of countless subcultures. The plurality of ways is deeply cherished for the choice it offers individuals and the richness it offers social life.

The old polarizing dualities—cosmopolitanism versus parochialism, globalism versus nationalism and top-down versus bottom-up—have been transcended. Instead, people enjoy multiple levels of affiliation and loyalty—family, community, region and planetary society. Global communication networks connect the four corners of the world, and translation devices ease language barriers. A global culture of peace and mutual respect anchors social harmony.

The World Union (née the United Nations) unifies regions in a global federation for co-operation, security and sustainability. Governance is conducted through a decentralized web of government, civil society and business nodes, often acting in partnership. Social and environmental goals at each scale define the "boundary conditions" for those nested within it. Subject to these constraints, the freedom to fashion local solutions is considerable—but conditional. Human rights and the rights of other governance units must be respected. While sophisticated conflict resolution processes limit conflict, the World Union's peace force is called on occasion to quell aggression and human rights abuse.

Preferred lifestyles combine material sufficiency and qualitative fulfillment. Conspicuous consumption and glitter are viewed as a vulgar throwback to an earlier era. The pursuit of the well-lived life turns to the quality of existence—creativity, ideas, culture, human relationships and a harmonious relationship with nature. Family life evolves into new extended relationships as population ages and the number of children decreases. People are enriched by voluntary activities that are socially useful and personally rewarding. The distribution of income is maintained within rather narrow bounds. Typically, the income of the wealthiest 20 percent is about two or three times the income of the poorest 20 percent. A minimum guaranteed income provides a comfortable but very basic standard of living. Community spirit is reinforced by heavy reliance on locally produced products, indigenous natural resources and environmental pride. *(continued)*

A Distant Vision

The economy is understood as the means to these ends, rather than an end in itself. Competitive markets promote production and allocation efficiency. But they are highly fettered markets tamed to conform to non-market goals. The polluter pay principle is applied universally, expressed through eco-taxes, tradable permits, standards and subsidies. Sustainable business practices are the norm, monitored and enforced by a vigilant public. Investment decisions weigh carefully the costs of indirect and long-term ecological impacts. Technology innovation is stimulated by price signals, public preferences, incentives and the creative impulse. The industrial ecology of the new economy is virtually a closed loop of recycled and re-used material, rather than the old throw-away society.

Some "zero growth" communities opt to maximize time for non-market activities. Others have growing economies, but with throughputs limited by sustainability criteria. In the formal economy, robotic production systems liberate people from repetitive, non-creative work. Most everywhere a labor-intensive craft economy rises alongside the high technology base. For the producer, it offers an outlet for creative expression; for the consumer, a breathtaking array of esthetic and useful goods; for all, a rich and diverse world.

Long commutes are a thing of the past. Integrated settlements place home, work, shops and leisure activity in convenient proximity. The town-within-the-city balances human scale community with cosmopolitan cultural intensity. Rural life offers a more serene and bucolic alternative, with digital links maintaining an immediate sense of connectedness to wider communities. Private automobiles are compact and pollution free. They are used in niche situations where walking, biking and public transport options are not available. Larger vehicles are leased for special occasions and touring. Advanced mass transportation systems link communities to local hubs, and those hubs to one another and to large cities.

The transition to a solar economy is complete. Solar cells, wind, modern biomass and flowing water generate power and heat buildings. Solar energy is converted to hydrogen, and used, along with direct electricity, for transportation. Advanced bio-technology is used cautiously for raw materials, agriculture and medicine. Clean production practices have eliminated toxic pollution. Ecological farming makes use of high inputs of knowledge, and low inputs of chemicals to keep yields high and sustainable. Population stabilization, low-meat diets and compact settlements reduce the human footprint, sparing land for nature. Global warming is abating as greenhouse gas emissions return to pre-industrial levels. Ecosystems are restored and endangered species are returning, although scars remain as reminders of past heedlessness.

This is not the end of history. In some sense, it is the beginning. For at last, people live with a deep awareness of their connection to one another, future generations and the web of life.