



# ACCELERATED LEARNING PATHWAYS

## FOR SUSTAINABLE DEVELOPMENT WITHIN INTERNATIONAL CONTEXT

**THE WAY FORWARD** → GLOBAL CITIZENSHIP, GLOBAL CITIZEN MOVEMENT, CITIZEN POWER, RESPONSIBILITY, GLOBAL SUSTAINABILITY, GLOBALLY SUSTAINABLE LIFESTYLE, SYSTEMS THINKING, WATER, CLIMATE, ENERGY, FOOD SECURITY, BIODIVERSITY, DECISION WINDOW, CHAOS POINT, COMPLEX SYSTEMS, COMPLEXITY, HOLISTIC, GOOD GOVERNANCE, SMART PRODUCTION, SMART CONSUMPTION, REGENERATIVE TRADE, RESPONSIBLE INVESTING, CLEAN TECHNOLOGIES, EMERGING TECHNOLOGIES, SOCIAL TECHNOLOGIES, SCIENCE, SCIENCE OF THE WHOLE, CONSCIOUSNESS, CONSCIOUS GLOBAL EVOLUTION, SOCIAL CHANGE, COLLECTIVE INTELLIGENCE, PARTICIPATIVE CULTURE, PREDICTION MARKETS, PROFIT4LIFE, GAMES FOR SUSTAINABILITY, SIMULATIONS, ETHICAL MARKETING AND COMMUNICATIONS, WALKING THE TALK, TALKING THE WALK, ADS4CHANGE, CO-CREATION, CREATIVE COMMONS, NEW MEDIA, SOCIAL MEDIA, OPEN SOURCING, OPEN EDUCATIONAL RESOURCES, SERIOUS GAMES, GAMES4CHANGE, SUSTAINABILITY GAMES, MASSIVE MULTIPLAYER EDUCATIONAL GAMING, VIRTUAL REALITY, ALTERNATE REALITY, AVATARS, NEW LEARNING, INFORMAL LEARNING, ELEARNING, DISTANCE LEARNING, SOCIAL NETWORKING, NEW LITERACIES, MOBILE PHONES, USER-GENERATED VIDEOS, CULTURAL COMPETENCIES, COMPETENCY WEDGES, KNOWLEDGE SHARING, VISION SHARING, FUTURE SCENARIOS, STRATEGIC EXPLORATION, POSITIVE FUTURES, SHAPING THE FUTURE, ECOLOGICAL FOOTPRINT, RISK MANAGEMENT, ENVIRONMENTAL SECURITY, HUMAN SECURITY, ECONOMIC SECURITY, STORIES, FABLES, LORE, EPICS, MYTHS, ADVENTURES, CHALLENGES, SOLUTIONS, GREAT TRANSITION, TRANSFORMATION, LEADERSHIP, ETHICS, AUTHENTICITY, SELFLESS SERVANT LEADERSHIP, PRESENCING, INTENTION, POTENTIALITY, MEDIATION, YOGA, TRADITIONAL SCIENCES, PARENTING, YOUTH, KIDS, NATURE, NATURE DEFICIT DISORDER, NEW GOVERNANCE, E-GOVERNANCE, WISDOM OF THE CROWDS, FORESIGHT, EMERGENGING FUTURES .....

Steven Lovink

SEPTEMBER 2007



Published in 2007 by the Institute for Environmental Security, The Hague, The Netherlands.

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© September 2007  
ISBN 978-90-808184-5-3

Printed in The Netherlands/Belgium/USA on recycled paper



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Dutch Programme Learning for Sustainable Development

*“To function and be competitive within our fast changing world, people, organizations, and nations need to possess the collective foresight, awareness, wisdom, and know-how that enables them to visualize and then shape the future society of their choice”*

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## PREFACE

A series of participatory online and face-to-face participatory sessions were organized by the Planet2025 Network in cooperation with partners and advisers as part of an ongoing international learning initiative. Beginning in 2006 collaborative learning tools (referred throughout, as the Implications Wheel™ or I-Wheel®) were employed to perform strategic explorations of accelerating formal, non-formal and informal learning opportunities within the context of the UN Decade of Education for Sustainable Development (UNDESD).

At the request of the Dutch Programme Learning for Sustainable Development, the sponsors of this effort, we prepared this document, *Accelerated Learning Pathways for Sustainable Development within International Context*. It reviews and discusses:

- Key drivers and trends that will strongly influence UNDESD activities anywhere
- The initial results and experiences of a series of online and face-to-face international participatory I-Wheel® session, their relation to international aspects of progress in the area of education for sustainable development, and rationale for broad based implementation of the approach
- Reflections on time and place – time capsules of learning experiences from around the world
- Recommendations and ideas for the way forward

This report is structured as follows: An executive summary with key findings is provided by way of quick overview and for those with limited time. It is followed by *Pathways for Accelerating Learning* highlighting the main drivers and trends affecting learning for sustainable development – an enabling ecosystem of factors that facilitate co-creation of a sustainable future. *Strategic Exploration: the I-Wheel® Experience* provides a summary assessment of the tool, its benefits and use. Detailed background information on the I-Wheel® process is also contained in a series of downloadable resources and links in the back of this report. *Connecting the Dots* offers reflections on a series of learning experiences from around the world. *The Way Forward* offers a series of recommendations and ideas for integration into the Dutch Programme for the remainder of the UNDESD. Other national or international UNDESD inspired programs may wish to take note as well; we encourage this.

Please do not hesitate to email your feedback, comments and suggestions. They are most welcome and will increase shared knowledge for necessary change.

September 2007, Washington DC

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**Steven Lovink** is a social entrepreneur with international operating background in venture development and eco-finance. His passion is to create synergies between information technologies, education, life sciences, and sustainable development. Steven Lovink is founder and president of the Planet2025 Network, a non-profit organization with a mission to mobilize new and additional sources of sustained financing for long term investment in the globe's life-supporting ecosystems through outreach, education, cooperation with others, and a series of affiliated Profit4Life™ initiatives, including Planet2025 News, Planet2025 Learning, and Planet2025.tv. He co-founded the Institute for Environmental Security and is founder of TransGlobal Ventures, Inc.

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## ACKNOWLEDGEMENTS

Learning for sustainability accelerates when we build on and share knowledge. This report is no exception. Rather than reinventing the wheel, it has sought to summarize, reflect on, and link to wisdom and foresight contained in the excellent work of many sources and experts in the field. If possible, I recommend everyone go to the references source documents to capture their full richness. The modest contribution of this document may be that the subject matter is cast in a somewhat novel and thought-provoking context to accelerate learning for sustainable development.

I am grateful for the many colleagues and friends that have assisted on this journey of exploring accelerated learning pathways. Bill Palladino, Greg Kaiser, and Daniel Nelson from I4SE, and Joel A. Barker – futurist and developer of the Implications Wheel® tool – provided input and advice throughout the course of the project. Special thanks also go to more than 100 participants of our Implications Wheel® sessions, who contributed valuable time, effort and inspiring ideas. Enthusiastic support and guidance from Frits Hesselink, Douwe-Jan Joustra, Gottfried Leibbrandt, Roel van Raaij, Atem Ramsundersingh, Rietje van Dam, and Konrad von Ritter – members of our planning committee – has been invaluable. Many thanks to Paul Epstein, Jerome Glenn, Paul Raskin, Walter Reid, and Mathis Wackernagel, for their valuable comments and suggestions in connection with the Planet2025 Scenario Brief, which framed much of the process and made grateful use of the Shell Scenarios to 2025 and the World Business Council for Sustainable Development’s work on Pathways to 2050 as essential building blocks for imagining visions of the year 2025. Thank you to Linda Sobel Katz for editing the final draft, Dirk-Jan Lovink for volunteer website support since 2005, and my colleagues at the Institute for Environmental Security for their administrative and logistical support.

This report has been made possible by the generous financial support of the Dutch Programme Learning for Sustainable Development. Responsibility for any mistakes, omissions, or discrepancies in the final product, albeit unintended, is mine.

## EXECUTIVE SUMMARY

### KEY FINDINGS

Accelerated learning pathways for sustainable development within international context is about meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. It concerns living well within the reality of one planet through cooperation and creating capacity to do so through knowledge sharing.

It is also an invitation to being a part of organizations and systems of governance that are living systems in alignment with nature so all life will flourish. Fundamentally, it is about being responsible global citizens co-creating a positive, peaceful and sustainable future by choice.

### PATHWAYS TO THE FUTURE

A series of key trends and drivers are in evidence that will strongly influence UNDESSED activities around the globe:

- **The Great Learning Challenge** – The confluence of the needs to: (i) acquire the competencies that will accelerate learning for sustainable development; (ii) imagine and act on positive images of the future based on scenario work and simulations; and (iii) manage the risks to human, economic, and environmental security that are a very formidable educational challenge facing humanity today – education systems need to be transformed to be relevant.
- **Emerging technologies** – The next five years will see the maturing of a number of technologies ranging from social networks, and mobile phones to massive multiplayer educational gaming that will effectively wire the planet and enable people, organizations and nations to successfully tackle the transition to a sustainable future.
- **Participatory culture** demands a set of new literacies involving social skills, developed through collaboration and networking, as well as cultural competencies, to ensure life-long learners become full participants of society through a more systematic approach to media education.
- **Collective intelligence** approaches make it possible to organize groups and businesses in very new ways, conduct science, run governments, and help solve the problems we face as society and as a planet.
- **Serious games** for social purpose and change can provide truly immersive learning experiences with lasting effect on players. Games for sustainability have the potential of engaging players as responsible global citizens. Virtual reality games provide an environment to construct and play with new and positive models of societies, simulations, and possible solutions for the future.
- **Systems thinking** mainstreamed in all educational curricula will share knowledge and raise consciousness about all things connected and the small catalytic events that can cause large changes in complex systems. It explains a decision window and opportunity for a responsible global citizens movement to precipitate conscious global evolution when we see the world in new ways and learn from the future as it emerges. New social technologies can help bring this about.
- **Co-creation** of a peaceful and sustainable future will emerge from participatory culture, new (social) technologies, and collective (creative) intelligence. Access for all citizens from the local to the global to these media is an important condition for mutual success within and among nations.

## STRATEGIC EXPLORATION: THE I-WHEEL® EXPERIENCE

The experience with a series of initial I-Wheel® sessions can be summarized as follows:

- **Social technology** – The I-Wheel® is an example of a social technology that (i) requires and develops the new literacy skills enabling participatory culture’ (ii) aggregates collective intelligence and wisdom; and (iii) facilitates the sharing of knowledge through face-to-face interaction or online collaboration.
- **Clear benefits** can be secured by many organizations from adoption of the tool. Its flexibility of use is highly relevant for exploring UNDESD directions, activities, and issues. Broad-based implementation would likely accelerate learning processes within national and international context.
- **Need for larger scale effort** – Use of the I-Wheel® has thus far provided somewhat inconclusive results due to a combination of factors that are mostly unrelated to the potential or claimed benefits of the tool. A larger scale effort with greater number of participants will pave the way for more conclusive directions and innovation opportunities.
- **Stimulates innovation** – The I-Wheel® experience has inspired (i) confidence for face-to-face and online sessions focusing on key sustainability issues; (ii) Planet2025.tv – a new video social networking about the challenges and solutions of a globally sustainable lifestyle; (iii) a partnership initiative to develop a sustainability simulation tool and game; and (iv) adoption of the tool for strategic exploration of Planet2025’s own activities.

## CONNECTING THE DOTS

A series of **reflections on time and place** illustrate a journey in search of ways to accelerate learning for a more sustainable society. These include positive images of the future, relevant education for the challenges at hand, timeliness, social technologies, authentic leadership, individual and organization transformation, increased consciousness through sharing knowledge, new governance approaches to engage people in participatory decision making, serious games for sustainability, and virtual reality of new societies that are models for the future.

## THE WAY FORWARD

*Embrace* the remainder of the UNDESD as a historic decision window for advancing accelerated learning for sustainable development and positive change.

- **Check** for missing meta tags (for example, participatory culture, collective intelligence) in program design.
- **Align** program activities with the realities and associated opportunities created by the key trends and drivers summarized herein.
- **Find** the future faster by using social technologies such as the I-Wheel®, Theory U, Town Meetings and others, perhaps in blended forms for complete learning experiences.
- **Develop** appropriate strategic action plans with measurable goals and objectives; *evaluate* how new social technologies used in program activities can lead to better and faster results; and, *incorporate* any insights obtained from “Connecting the Dots.”
- **Cooperate** with centers of expertise or partners as necessary in the focal areas of participatory culture, collective intelligence, and emerging technologies nationally and internationally.
- **Promote** access for *all* within and among nations, including by means of Open Educational Resources and the Creative Commons licensing framework promoting the sharing of creative content.

And finally, ***Walk the Talk, Talk the Walk, Switch on Citizen Power, and Seize the Moment.***

**PATHWAYS FOR ACCELERATING LEARNING**

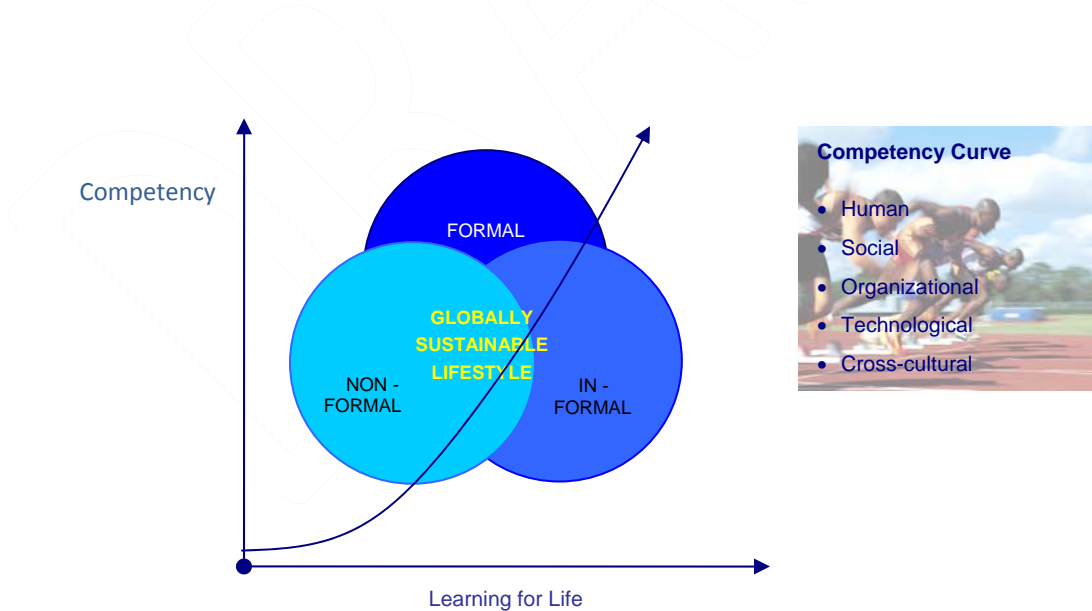
**ACCELERATED LEARNING: WHY?**

**LEARNING FOR LIFE**

In *Collapse: How Societies choose to Fail or Succeed* by Jared Diamond, we learn that the relative success of humanity’s quest for sustainability will most likely hinge on its ability to acquire the necessary wisdom and foresight fast enough to manage change and avoid possible collapse of human civilization and life as we know it (Diamond 2005). Meeting the sustainability challenge necessitates building the required capacity for rapidly emerging 21<sup>st</sup> Century human, social, organizational, technological and cross-cultural competencies. It is these competencies that need to strengthen humanity’s collective ability to cope with impending change; importantly, they must enable a successful transition to a sustainable future (Wheeler, Hesselink and Pretorius 2005).

Our mission is to accelerate learning processes of people, organizations, nations and the global community in pursuit of a globally sustainable lifestyle. It requires learning to speed up in a race against time (van Dam and Jansen 2006). The successful implementation of innovative lifelong learning solutions – *formal* (K1-12, university), *non formal* (on-the-job training and education), and in particular *informal* (TV, radio, phones, games, recreation, and edutainment), is at the core this endeavor. It is also a matter of focus. Consider for example that while we typically spend 80 percent of our educational budgets on formal and informal learning, informal ways of learning represent 80 percent of our learning experiences and at 20 percent of the total cost.

**Figure 1: Accelerated Learning for a Globally Sustainable Lifestyle**



**IMAGINING TOMORROW**

The challenges of building a sustainable future are many, but ever-increasing ingenuity and creativity will need to stock a growing knowledge pool of innovative and practical solutions to address them. By imagining what the future will be like in the decades ahead, we can ‘sense’ what actions may need to be taken today to realize our

goals and objectives. The Planet2025 Scenario Brief provided the basis for strategic explorations using the I-Wheel®, described our world in 2025, and built upon future scenarios work of a variety of sources (Lovink, Planet2025 Scenario Brief: Accelerated Learning for a Globally Sustainable Lifestyle - Connecting the Dots 2006). The year 2025 is when today's youth 12-18 years will be 32-38 and the median age of the world population will be 32.8 years. This generation will be assuming leadership positions in government, the private sector, NGOs, educational institutions, and elsewhere. Sustainability – for good and bad reasons – will be at the center of much of their careers. The year 2025 also provides us with a timeframe of almost 20 years to set into motion a successful transition to a sustainable future.

Indeed, the future is now, but are we ready? Are we doing relevant things to prepare new generations of global citizens everywhere for the challenges ahead? Are we creating rewarding opportunities along the way? Are we investing enough in accelerated learning for a sustainable future? If some or all of the answers are negative, what more should we be done or instead? By envisioning the future and exploring its strategic implications, it becomes possible to aggregate the necessary knowledge and wisdom to co-create a sustainable future of choice. *Learning for life* enables that choice.

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## MANAGING 21<sup>ST</sup> CENTURY RISKS

### ECOSCENARIOS OF THE FUTURE

The Ecological Footprint has become a widely accepted international standard for measuring and tracking sustainability. It successfully communicates complex issues in a straightforward manner to professionals as well as the public at large. The Ecological Footprint measures humanity's demand on the biosphere in terms of the area of biologically productive land and sea required to provide the resources we use and to absorb our waste. Humanity's Ecological Footprint first grew larger than global biocapacity in the 1980s and exceeded supply by about 23 percent in 2003 (Global Footprint Network 2006). For three decades we have now been drawing down the Earth's build up of ecological assets and increasing the amount of CO<sub>2</sub> in the air.

If we continue on our present trajectory, humanity will demand resources at double the rate at which the Earth can generate them. Mounting ecological debt is a proxy for risk to economic, environmental and human security. Ever larger portions of world GDP will have to be invested to offset such risks (Stern 2006). Humanity's ultimate challenge during the 21<sup>st</sup> Century will be to find the necessary solutions that will enable it to live peacefully within the reality of the regenerative capacity of one planet.

“Humanity is living off its ecological credit card and can only do this by liquidating the planet's ecological assets.”

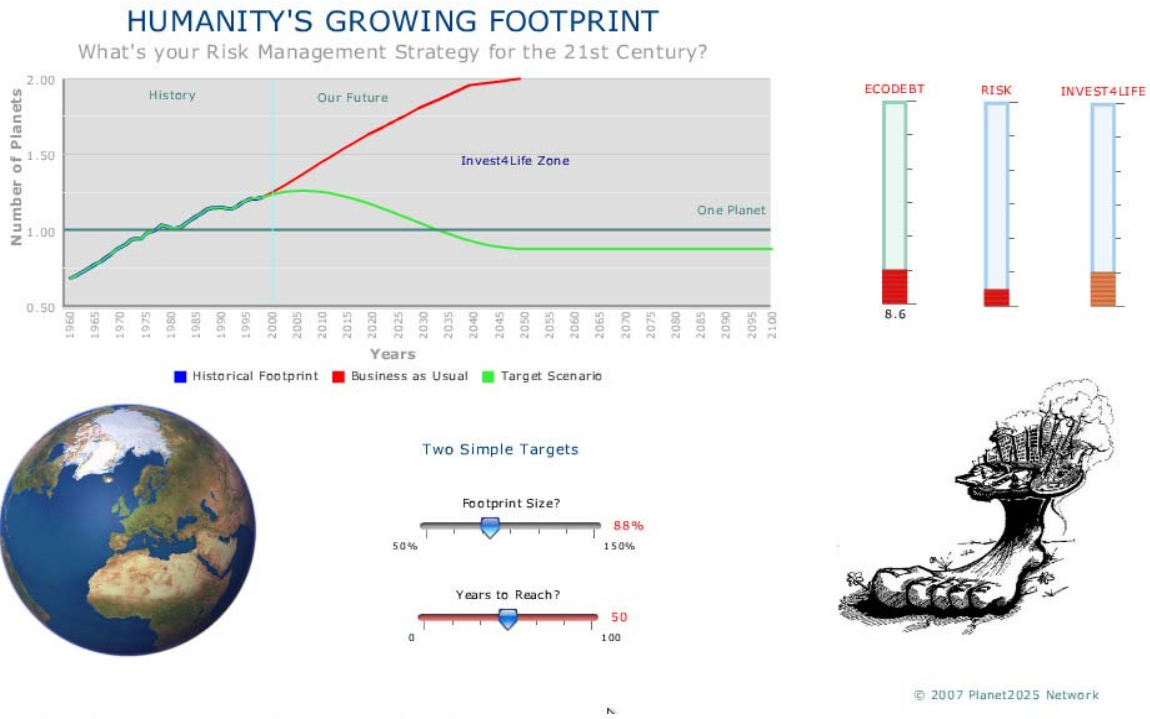
– Mathis Wackernagel

A practical approach is to set targets for a sustainable Ecological Footprint size and the number of years to reach them (Lovink, Goldfinger and Wackernagel, Eco-Insurance: Risk management for the 21st Century - Towards a Policy Framework for a Sustainable Future 2004). Based on these simple targets “ecoscenarios of the future” can be simulated, which indicate accumulated ecological debt, associated risk, required investment levels, and other indicators relevant for managing humanity's growing footprint as part of a whole system approach.

The graphic figure below depicts how ecoscenarios of the future change by setting different targets using the interactive sliding scales (click on figure to access interactive web version). A series of interventions or investment activities (the “Invest4Life Zone”) can be developed to evaluate and enable the realization of any set of chosen targets and implicit ecoscenarios of the future.

Within the context of accelerated learning for a globally sustainable lifestyle, we can think of investing in those life-long learning solutions that will permit humanity to quickly access the necessary, knowledge, wisdom and competencies to live well within the reality of one planet.

Figure 2 - Set your own targets (click on figure for interactive web version)



### COMPETENCY WEDGES AS INSURANCE FOR LIFE

In the above depicted framework, learning interventions (formal, non-formal or informal) in strategic competency areas (such as water for life, renewable energy, healthy living, sustainable agriculture, and diversity of life across human, social, organizational, technological and cross cultural domains) would have the purpose of driving stabilization wedges between a negative development path (the business as usual – BAU – scenario) and positive scenarios which lower the humanity’s Ecological Footprint. These stabilization wedges are similar to those proposed to be employed to cut predicted future carbon emissions in the next 50 years to avoid a doubling of atmospheric CO2 over pre-industrial levels (Pacala and Socolov 2004). As such, accelerated learning interventions can become the nutrient base for a rapidly evolving human-ecological system. These interventions can also help precipitate the emergence of a movement of responsible global citizens with unity of thought, feeling and action directed towards the realization of a positive image of a globally sustainable future which is based on empowering values and principles (Raskin 2006). Simply put, these interventions become critical competency wedges insuring our web of life.

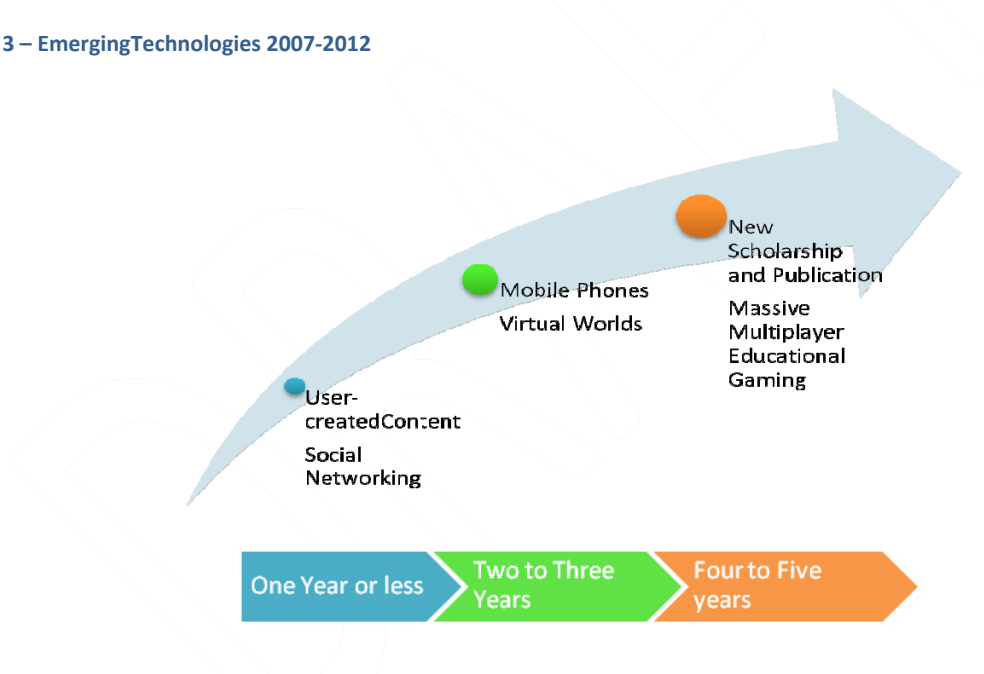
## SIX AREAS OF EMERGING TECHNOLOGIES

### DEVELOPMENTS TO WATCH

Technology will be one of the key enabling factors for accelerating learning for sustainable development. The recent *Horizon Report* features a short list of six technologies (from the more than 100 technologies originally considered) along three adoption horizons representing likely timeframes for their widespread adoption on university campuses (Horizon Report Edition 2007). These technologies will effectively ‘wire’ the globe for the future by 2012 and will require crucial literacy skills of life-long learners in developed and developing countries alike, especially youth. Together, they form a highly relevant set of drivers affecting the feasibility and pace of acceleration of life-long learning for sustainability. While it may be argued that a digital divide between developed and developing countries -- or the affluent, urban and poor anywhere -- will keep the promise of this wired world inaccessible and therefore perhaps less relevant or urgent, the next five years will put the infrastructure in place that will bring a large part of the “Base of the Pyramid” (BOP) within reach of new knowledge sharing and accelerated learning approaches to sustainable development.

The *Horizon Report’s* six areas of emerging technology trends are graphically depicted and summarized below.

Figure 3 – Emerging Technologies 2007-2012



#### 1. USER-CREATED CONTENT – ONE YEAR OR LESS

From classifying and tagging to creating and uploading, today’s “audience” is very much in control of the content we find online. This active audience is finding new ways to contribute, communicate, and collaborate, using a variety of small and easy tools that put the power to develop and catalog the Internet into the hands of the public. The largest and fastest-growing websites on the Internet are all making use of this approach, which is redefining how we think about the web and how it might be applied to learning. For example, these websites create collaborative student-authored resources, enable asynchronous public feedback on assignments, or give voice to communities and encourage the sharing of ideas.

## 2. SOCIAL NETWORKING – ONE YEAR OR LESS

The expectation that a website will remember the user is well established. Social networking takes this several steps further; the website knows who the user’s friends are, and may also know people that the user would like to meet or things the user would like to do. Even beyond that, social networking sites facilitate introduction and communication by providing a space for people to connect around a topic of common interest. These sites are fundamentally about community—communities of practice as well as social communities. They encourage community and self expression, offer immersion in a foreign-language environment, or extend the impact and lifespan of conferences and workshops.

## 3. MOBILE PHONES – TWO TO THREE YEARS

The convergence of ubiquitous broadband, portable devices and tiny computers has changed our concept of what a phone is meant to be. A pocket-sized connection to the digital world, the mobile phone keeps us in touch with our families, friends, and colleagues by more than just voice. Our phones are address books, file storage devices, cameras, video recorders, way finders, and hand-held portals to the Internet—and they don’t stop there. The ubiquity of mobile phones, combined with their many capabilities, makes them an ideal platform for education. Applications across disciplines include: self-paced audio and video tours, delivery of campus-based services, encouragement of creativity and media-making.

## 4. VIRTUAL WORLDS – TWO TO THREE YEARS

In the last year, interest in virtual worlds has grown considerably, fueled in part by the tremendous press coverage of examples like Second Life, a virtual reality website. Campuses and businesses have established locations in these worlds, much as they were creating websites a dozen years ago. In the same way that the number and sophistication of websites grew very quickly as more people began to browse, virtual locations will become more common and more mature as the trend continues. Virtual worlds offer flexible spaces for learning and exploration—educational use of these spaces is already underway and growing. They can expand understanding of cultural and societal experiences, stimulate experimentation with new art forms, stage theatrical productions, and promote learning through simulations and role-playing.

## 5. NEW SCHOLARSHIP AND PUBLICATION – FOUR TO FIVE YEARS

The time-honored activities of academic research and scholarly activity have benefited from the explosion of access to research materials and the ability to collaborate at a distance. At the same time, the processes of research, review, publication, and tenure are challenged by the same trends. The proliferation of audience-generated content combined with open-access content models is changing the way we think about scholarship and publication – and the way these activities are conducted. New scholarship and emerging forms of publication educate across disciplines with new voices – using a variety of media, controlling costs and reaching wider audiences.

## 6. MASSIVELY MULTIPLAYER EDUCATIONAL GAMING – FOUR TO FIVE YEARS

The term “serious games” has been coined to describe games that have an educational purpose and non-entertainment goals. Educators are taking a hard look at one type of serious gaming, known as “massively multiplayer educational games”, and find strong potential for teaching and learning. These games are still time-

consuming and often expensive to produce, but practical examples can easily be found. Interest is high. A sampling of massively multiplayer educational gaming applications across disciplines includes: studying foreign-language and culture; developing leadership and management skills; and, practicing strategy and applying knowledge competitively or cooperatively.

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## PARTICIPATORY CULTURE, COLLECTIVE INTELLIGENCE, AND SERIOUS GAMES

### PARTICIPATORY CULTURE – NEW LITERACY SKILLS

Emerging participatory culture require a new set of literacy skills that will be significant for the acceleration of learning for sustainable development. Participatory culture has been described in a recent study by the MacArthur Foundation as “a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one’s creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices. A participatory culture is also one in which members believe their contributions matter, and feel some degree of social connection with one another (at the least they care what other people think about what they have created)” (Jenkins 2006).

“Forms of participatory culture include: *affiliations* (formal and informal memberships in online communities around various forms of media, such as Friendster, Facebook, message boards, metagaming, gameclans, or MySpace), *expressions* (producing new creative forms, such as digital sampling, skinning and modding, video making, mash-ups, zines, fan fiction writing), *collaborative problem-solving* (working together in teams, formal or informal, to complete tasks and develop new knowledge such as through Wikipedia, alternate reality gaming) and *circulations* (shaping the flow of media, such as podcasting and blogging).” More than one-half of all teens have created media content, and roughly one-third of teens who use the Internet have shared content they produced (Lenhardt 2005).

The MacArthur Foundation’s study acknowledging a growing body of scholarship suggests the potential benefits of participatory culture are many, but access to it is shaping which youth will succeed or be left behind at school or in the workplace. Concerns are: (i) unequal access to the opportunities, experiences and skills and knowledge that will prepare youth for full participation; (ii) the challenges of learning to see clearly the ways that media shape the perception of the world; and (iii) the breakdown of traditional forms of professional training and socialization that might prepare young people for their increasingly public roles as media makers and community participants. A set of new literacies involving social skills, developed through collaboration and networking as well as cultural competencies, is needed to ensure students become full participants of society through a more systematic approach to media education in the United States.

While the study focused on youth in the US, it appears safe to conclude that the new literacy skills (play, performance, simulation, appropriation, multitasking, distributed cognition, collective intelligence, judgment, transmedia navigation, networking and negotiation) will be needed by young people around the world. Youth anywhere – tomorrow’s leaders of the globe – will need these new literacy skills to share their vision of how to create a sustainable future. A vision here might be that serious games are integral to formal, informal and non-formal learning programs and initiatives. A games-based quest for a sustainable future can play a systemic role in fostering participatory cultures that hone the new literacy skills for community involvement.

## COLLECTIVE INTELLIGENCE – WE THINK THEREFORE WE ARE?

“We are passing from the Cartesian *cogito*”—I think, therefore I am—“to *cogitamus*”—we think, therefore we are, writes Jane McGonigal, quoting French Philosopher Pierre Levy, in a recent case study of *I Love Bees* (McGonigal 2007). The case study explores the design and deployment of *I Love Bees* as an experiment in constructing a game-based digital learning environment, in which players can experience firsthand in a low-risk setting the challenges and pleasures of becoming part of a massively collaborative knowledge network. Pierre Levy coined the term collective intelligence or *CI* in 1996 to describe the impact of Internet technologies on the cultural production and consumption of knowledge. Levy argued that because the Internet facilitates a rapid, open and global exchange of data and ideas, over time the network should “mobilize and coordinate the intelligence, experience, skills, wisdom, and imagination of humanity” in new and unexpected ways. There is now a growing number of real world examples of *CI* experiments proliferating, including Wikipedia, Yahoo Answers, Google Image Labeler, SFZero, Maphub, and prediction markets such as the Hollywood Exchange to the World Economic Forum’s Global Risks Prediction Markets permitting people to bet on the likelihood of future events unveiling ‘wisdom of the crowds’ with uncanny accuracy.

MIT’s Center for Collective Intelligence, launched in the fall of 2006, formalizes the beginnings of institutionalized interest in *CI*. “New technologies are now making it possible to organize groups in very new ways, in ways that have never been possible before in the history of humanity. Better ways to organize businesses, to conduct science, to run governments, and perhaps most importantly, to help solve the problems we face as society and as a planet,” says the Center’s director, Dr. Thomas Malone (McGonigal 2007).

The future will be exciting indeed. In *Rainbows End*, award-winning science fiction author Vernor Vinge gives us a tantalizing glimpse of the future of *CI*. Set in the year 2025, Vinge’s novel describes a world in which globally distributed, inter-generational teams of amateurs and experts collaborate by the thousands, the hundreds of thousands, and even the millions, to make political decisions, to solve mysteries, to create art, and to predict and forestall health pandemics, terrorist attacks, and economic crises.

It won’t be long before national and international program goals for improving collective intelligence, including with a focus on sustainable development’s challenges and solutions, can be adopted to improve individual capabilities as well as collective intelligence for political and economic advantage in an increasingly knowledge and creativity driven globalized economy (Glenn and Gordon 2007).

## SERIOUS GAMES – GAMING SUSTAINABILITY

‘Serious Games’ or ‘Games for Change’ emerged in 2002 as a growing movement composed of game developers, corporations, NGOs, foundations and others interested to harness commercial games development expertise, potential, creativity, wisdom, and technologies for social good. This fledgling industry, made up of a mosaic of public and private initiatives, is expected to experience very rapid growth over the next five years and beyond. This anticipated growth will largely be driven by technological trends and society’s need to meet its current and future challenges through participatory culture and models of governance informed by collective intelligence.

A focus on sustainability firmly links the field of serious games to our highly interconnected web of life in which all living things are interdependent functioning parts of a whole system. As such, serious games promoting sustainability would become participatory activities seeking to meet the needs of the present generation without compromising the ability of future generations to meet their own needs (Brundlandt). They could do so by developing capacity for creating organizations as living systems in alignment with nature so all life will flourish

forever. Sustainability is at the core of reaching the Millennium Development Goals and thus helping alleviate poverty and realizing binding objectives of the international community. Sustainability is also about engaging responsible world citizens, including through games.

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## SYSTEMS THINKING, THE CHAOS POINT, THE GREAT TRANSITION, AND THEORY U

### SYSTEMS THINKING

Systems thinking proposes to view systems in a holistic manner in contrast to Descartes' and others' reductionism and philosophical analysis. It is highly relevant for accelerating learning for sustainable development because it represents an approach to integration that is based on the belief that the component parts of a system will act differently when isolated from the system's environment or other parts of the system. Consistent with systems philosophy, systems' thinking concerns an understanding of the connections and interactions between the elements that comprise the entirety of the system.

Systems thinking attempts to illustrate that events are separated by distance and time and that small catalytic events can cause large changes in complex systems. Acknowledging that an improvement in one area of a system can adversely affect another area of the system, it promotes organizational communication at all levels in order to avoid the silo effect. Systems thinking techniques may be used to study any kind of system — natural, scientific, engineered, human, or conceptual.

### THE CHAOS POINT AND THE GREAT TRANSITION

Ervin Lazlo, founder of systems philosophy, general evolution theory, and the Club of Budapest<sup>1</sup> explains in *The Chaos Point* that we are at a critical juncture in history, a “decision window” where we face the danger of global collapse – or the opportunity for global renewal. Until about 2012, humanity has the opportunity to head off trends that would lead to a tipping point. Beyond this “chaos point,” we either evolve to a safer, more sustainable world, or the social, economic and ecological systems that support our life become overstressed, reach a phase of irreversibility, and launch society on a trajectory towards break down (Laslo 2006).

The development path that global society takes through different possible futures will largely depend on the ways human agents exercise their capacity to understand, imagine, choose, and act. While the world will be more connected, it will not necessarily be more peaceful, just, or sustainable. For this to happen, a new global culture of global citizenship needs to emerge that internalizes planetary connectedness, human solidarity, human fulfillment and ecological sustainability – the vision of the Great Transition Initiative (Raskin 2006).

In the Great Transition's image of the future, the level and quality of awareness, mobilization and political maturity of the world's citizens, broadly referred to as a “global citizen's movement” (GCM), is considered to be key to shaping the future. The degree of development of a new culture of global citizenship correlates with the prospects for a transition to a stable and desirable future for it would:

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<sup>1</sup> The Club of Budapest is an informal association of globally, as well as locally active opinion leaders in various fields of art, science, religion, and culture, dedicated to the evolution of our values, ethics, and consciousness in the interest of averting a global crisis and creating a peaceful and sustainable civilization.

- Buy time by strengthening the political base for implementing corrective policies that would delay the onset and severity of global crises
- Be a key strategic factor influencing the form of post-crisis recovery, adaptation, and evolution through the cultivation of new values, culture and politics

While individuals will be animated by different emphases, the energy of a new movement will have to flow from unity of thought, feeling and action. Conscious global evolution, enabling humanity to be sculptor and sculpture of positive change, is recommended to bring this about.

## THEORY U – PRESENCING

Unity of thought, feeling and action, as well as conscious global evolution becomes possible when we see the world in new ways and learn from the future as it emerges. Otto Scharmer's *Theory U*, which is grounded in real life experience and shared practices. It explores a new territory of scientific research, institutional change, and transformational leadership practice, demonstrating that learning to become aware of our blind spots is critical for creating the profound systemic changes so needed in business and society today (Scharmer 2007). In moving through the "U" process, we connect to our authentic self in the deep realm of "presencing" (combining presence + sensing), when we experience a profound opening of our minds, our hearts, and our wills. This results in a shift of awareness that enables us to connect to our best future potential and to realize it by operating from a deeper source of knowing.

Scharmer notes a small cultural revolution integrating science, consciousness, and profound social change on a global scale is necessary to illuminate the blind spots in our current educational system, which probably invests 100 percent of its educational resources on just two (lecturing and training) out of nine learning environments during the most formative years of young people's development. He recommends we reinvent our schools and institutions of higher education around the interplay of all nine knowledge and learning environments, reconnecting the learning agenda with the real world outside, as well as with the deeper inward journey of discovering our authentic sources of creativity and knowing. We thus need to learn to act from our heart in a more intentional, conscious and collective way, and to act from the power of our emerging authentic self.

A 'Global Transformation Living Lab,' The Presencing Institute, has now started to link a global network of places and communities that will co-inspire and serve a worldwide movement of change makers. It forms part of an exciting vision that seeks to integrate science, consciousness, and profound change.

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## CO-CREATION OF SUSTAINABLE FUTURES?

Emerging technologies, including social technologies, are wiring the future for the implementation of many experiments, small to massive, that will:

- *Advance* participatory culture and literacy skills
- *Use* collective wisdom and intelligence to inform policy making about society's thorniest challenges and problems
- *Create* environments which permit participants to learn by doing by means of



authentic experiences ranging from experimentation to real-world problem solving.

Within five years, a tipping point may be reached where people anywhere will effectively be enabled to co-create the future of their choice.

Potential benefits of this new world wired for the future are many, but access to them (or the lack of it) is shaping which of the world's citizens will succeed or be left behind, whether at school, or in the workplace. Placed within the context of sustainability, its associated notions of connectedness and interdependence of all people and all living things, as well as interdependent linkages to realization of the Millennium Development Goals and poverty alleviation goals, it is evident that equal access is a necessary condition for shaping participation, especially for these world citizens in developing countries.

## STRATEGIC EXPLORATION: THE I-WHEEL® EXPERIENCE

### FINDING THE FUTURE FASTER

Planet2025's Learning Initiative was inspired by the observation that humanity has entered a historic transition period. To ensure a sustainable future, decisive policies and actions are required in response to the challenges and opportunities of living within the reality of one planet. To function and be competitive within this fast-changing world, people, organizations, and nations need to possess the foresight, awareness, wisdom, and know-how that enables them to visualize and then shape the future society they choose to build. Accelerating environmental changes and associated risks remind our global village – continuously and ever more convincingly – that time is of the essence.

To find the future faster, a small-scale international participative process was initiated to examine the next frontiers of practical *formal* (K1-12, University), *non-formal* (on-the-job training and education), and *informal* (TV, radio, phones, games, recreation, and edutainment), i.e. accelerated learning solutions that are to prepare humanity for a successful transition to a globally sustainable lifestyle. State-of-the-art collaborative strategic exploration tools (the I-Wheel®) developed by futurist Joel Barker were used to guide the process.

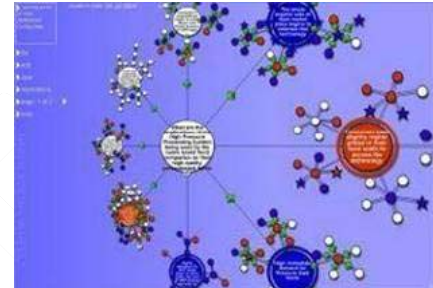
An initial group of 60 participants from around the globe engaged in online preparatory strategic explorations in 2006. Future scenarios of the world served as overall framework for this collaborative process, its program, objectives and outputs (Lovink, Planet2025 Scenario Brief: Accelerated Learning for a Globally Sustainable Lifestyle - Connecting the Dots 2006). The preliminary outputs are now being integrated in a series of face-to-face and online international workshops. Key objectives are to aggregate the collective wisdom from experts in business, government, civil society, academia and youth around core thematic tracks and over time to establish an international issue network of practitioners of accelerated learning solutions to provide input and advice to decision makers and policymakers.

### THE I-WHEEL® PROCESS

Organizations often spend the majority of their strategy development time in *planning mode* only to produce plans that are ambiguous, have little accountability and produce only moderate results in execution. When the future is uncertain, the predictable planning response is to hedge bets, assign limited accountability and “play it safe.” While this is a natural response to the threat of unknown, unseen *unintended consequences*, it is hardly a formula

for success in a fast-moving economy. Unintended consequences are the predictable result of failing to adequately anticipate the future. Negative unintended consequences are costly in terms of lost productivity, missed opportunities, and perhaps most importantly, the resulting loss of confidence among critical stakeholders. Strategic exploration is the process of *exploring the future consequences of decisions and actions before committing to a particular course of action*. Armed with strategic exploration insights, decisions and plans are made with added confidence, clarity, specificity and accountability.

Strategic exploration is usually the most underutilized part of the strategic development process. The Implications Wheel™ quickly maps the cascade or spill-out of consequences of any decision, action, innovation, or event – before they happen. Literally thousands of first, second, third and even fourth and fifth order implications can be mapped in a matter of just a couple hours; providing a virtual blueprint of the future. I-Wheel® session can be conducted in small groups (at least five teams of five participants each) and large (up to five hundred) in face-to-face meetings or online.



## HOW ORGANIZATIONS BENEFIT

In his book *Wisdom of Crowds*, James Surowiecki addresses why the many are smarter than the few and how collective wisdom shapes business, economies, societies, and nations (Surowiecki 2004). The I-Wheel® is a good example of a new set of emerging tools that aggregate collective wisdom or collective intelligence, and that inform based on collaborative, team-based approaches. Other benefits are that this inherently social technology:

- Uncovers implications of any change
  - Draws on wisdom of diverse groups or teams
  - Setting can be face-to-face and/or online; synchronous or not
  - Increases stakeholder involvement, commitment and satisfaction
  - Improves organizational communications
  - Increases support for organizational change efforts
- Explores a wide variety of topics
  - Emerging trends
  - Innovations – your own or someone else’s
  - Policy changes – external or internal
  - New laws and regulations
  - Strategic objectives and goals
  - Significant events
- Is efficient, fast, and cost effective
  - The I-Wheel® process is speedy and practical
  - Enables effective and faster decision-making and action planning
  - Reduced costs and data collection
- Yields concrete outputs
  - Maps connections and collective wisdom of the group

- Surveys larger landscape and longer time horizon
- Provides historical record of input into decisions
- Enables better understanding of possible future outcomes
- Reduces risks and negative unintended consequences
- Offers multiple queries and views of database
- Bridges barriers and time frames
- Results can be made available quickly, both online and in PDF format

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## RELEVANCE FOR THE UNDESD WITHIN INTERNATIONAL CONTEXT

The goal of the United Nations Decade of Education for Sustainable Development (UNDESD) (2006-2015) and for which UNESCO is the lead agency, is to integrate the principles, values, and practices of sustainable development into all aspects of education and learning. This educational effort is to encourage changes in behavior that will create a more sustainable future in terms of environmental integrity, economic viability, and a just society for present and future generations.

Within the spirit of UNDESD, the decision to use the I-Wheel® process was largely motivated by its apparent potentiality to accelerate learning for sustainable development in a number of important areas:

- A future-oriented approach might identify pathways of formal, non-formal, informal learning with relative high returns on investment of national and international educational dollars
- A fast, efficient and cost-effective process can compress the necessary time and realization of practical solutions and strategies to speed up learning
- People, organizations, and nations around the globe are coming to grips with the challenges of humanity's quest for a sustainable future; a shared repository of collective wisdom of solutions can avoid unnecessary duplication of effort and wasted resources while accelerating replication of success stories
- Knowledge gained in strategic explorations is cumulative and can lead to insights into the "hidden connections" that can lead to "innovations on the verge"
- The ability to participate in strategic explorations and learn by doing without the need to be physically present in the same space makes the process inherently sustainable; it reduces travel time and costs<sup>2</sup>
- Dedicated and sustained explorations of formal, non-formal and informal learning approaches can uncover strategic learning gaps in national, international and organizational educational systems, including unintended consequences of international processes that are inherently slow and often dated.

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<sup>2</sup> Consider how much more resilient human – ecological system would be if new media literacy skills permit online collaboration across time and space, how collective intelligence could be gathered in the face of a global pandemic, terrorist attacks, natural disasters, or war make when international travel would be highly risky and undesirable.

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## RATIONALE FOR BROAD-BASED IMPLEMENTATION

The goal of the Planet2025's Learning Initiative has been to create an international issue network of practitioners of accelerated learning solutions to provide regular input and advice to decision makers and policymakers.

- Initial face-to-face meetings and training would equip such an emerging network with the literacy skills and collaborative tools to explore the implications of a wide variety of sustainability issues and challenges as part of regularly held online working sessions.
- The issues network would aggregate and share the collective wisdom from experts in business, government, civil society, academia and youth around core thematic tracks with high potential to accelerate learning for sustainable development.
- Collective intelligence of the network would be the sum of a mosaic of knowledge nodes at the local, national, regional and global level; it would share its emerging vision in order to shape the future.

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## ASSESSMENT OF RESULTS TO DATE

The I-Wheel® experience has provided somewhat inconclusive results due to a combination of factors which are mostly unrelated to the potential or claimed benefits of the tool. A larger scale effort with greater number of participants will lead to more conclusive directions and innovation opportunities. Detailed information on online and face-to-face I-Wheel® sessions are contained in [Resources and Links](#).

- A small number of I-Wheel® sessions have occurred online or face-to-face. The experience, at least within the context of exploring accelerated learning for a globally sustainable lifestyle, is therefore somewhat limited in terms of number of participants and associated output. The I-Wheel® has successfully been used by numerous private sector and public sector organizations, including universities, for topics of pertinent interest to these organizations.
- Online sessions with 60 participants from throughout the world demonstrated the possibility of mounting an initiative that permits people and organizations to collaborate in teams on strategic issues, their implications, and possible solutions, and to aggregate and communicate the results. The experience of collaborating globally with others on common concerns was perceived to be a valuable and promotes personal change.
- Scheduling issues, limited availability of volunteer expert time, and sometimes limited computer literacy skills proved to be challenging within the online context from an organizational point of view and resulted in refocusing initial efforts on subsequent face-to-face I-Wheel® sessions. Solid technical support is essential for successful online sessions. Participants need to be willing to acquire the pre-requisite competencies to participate online.
- The experiences with face-to-face I-Wheel® sessions have generally been positive with most participants deeply engaged and enthusiastic about the process. One participant reported a life-changing experience. Organizing such sessions in terms of time and dollars spent is relatively high.
- Participants need to be invested to benefit from the I-Wheel® experience; participation in most I-Wheel® sessions was organized on a volunteer basis. Direction from the top as part of an organizational initiative,

sponsored participation, or other clear incentives (such as collective intelligence sharing among peers) tends to build commitment.

- Modest and mostly private sponsoring of a new and unfamiliar process needs to be supported with substantial public educational funds from governments, foundations, and international development organizations, especially when the process is new, concerns the future of learning, and involves good governance of the global commons.

Importantly, the I-Wheel® process stimulates innovation and played a decisive role in providing key insights which precipitated investments in the development of three accelerated learning initiatives with broad international scope, as well as the adoption of the I-Wheel®'s use for strategic exploration of Planet2025 activities.

The I-Wheel® experience to date has inspired:

- Ongoing Planet2025 Learning activities featuring face-to-face and online strategic exploration sessions focused on key sustainability challenges and their potential solutions.
- Planet2025.tv – a video social networking about the challenges and solutions of a globally sustainable lifestyle promoting participatory culture, collective intelligence, content/vision sharing, responsible advertising, and a “Profit4Life” business model (see: [www.planet2025.tv](http://www.planet2025.tv)).
- A joint initiative with the Millennium Institute and the Global Footprint Network to develop “Invest4Life,” a sustainability simulation tool and game focused on living well within the reality of one planet.

Public and private sector funding is sought to support these aforementioned initiatives as part of a public-private partnership approach to accelerating learning for sustainable development.

## CONNECTING THE DOTS

The following short stories provide a series of reflections on time and place. They may be valuable as small time capsules of experiences which illustrate a journey in search of ways to accelerate learning for a more sustainable society.

### THE HAGUE CONFERENCE 2004 – PEACE PALACE, THE NETHERLANDS

In May 2004, the Institute for Environmental Security (IES) held its first major conference in the Peace Palace on the topic of Environment, Security, and Sustainable Development. The conference convened some 150 experts and decision makers from around the globe. As one of the co-founders of IES, I had been involved in the conference's organization of tracks on finance and education. These tracks represented two of the five focal areas of IES; the others being science, diplomacy, and international law. The conference provided an opportunity to present a paper which took attendees on a future-oriented audiovisual trip, featuring the Planet Pulse Annual Stakeholder Report and a back-casting exercise from the year 2025 to the present (Lovink, *Fast Forward to 2025: Three Decisions Our Children will Thank Us For* 2004). It told the story of how people, organizations and nations had arrived at pro-actively managing 21<sup>st</sup> century risks to human, economic and environmental security by taking three simple decisions for “insuring” the transition to a sustainable future. The three decisions involved setting targets for humanity's Ecological Footprint, the year to reach that target, and the amount of investment to be committed

to ensure the target would be met. The approach was based on earlier work on risk management approaches to 21<sup>st</sup> century challenges (Lovink, *Eco-Insurance for a Sustainable Future - A Contribution to the Johannesburg Plan of Implementation 2003*) (Lovink, Goldfinger and Wackernagel, *Eco-Insurance: Risk management for the 21st Century - Towards a Policy Framework for a Sustainable Future 2004*). The positive vision of the future described in *Fast Forward to 2025* continues to inspire and led to the founding and formation of the Planet2025 Network in the fall of 2005 with a proud list of sustainability leaders as its founding board members.

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#### ENVIRONMENTAL FUTURES – CALTECH, PASADENA, CALIFORNIA

If we can price the future in today's currency, as should be done with our ecological assets, markets would provide better signals and smarter incentives for managing the planet's resources. This is the notion that started a search for possible financial innovations. *Prediction Markets* appeared to provide a possible answer. Applied to the forecasting of important environmental outcomes, prediction markets could help deepen public awareness of the problems and possible solutions. They can cut through the fog of ambiguous scientific discourse, identify the more trustworthy experts, and evaluate the sustainability and risks associated with alternative scenarios of growth. They inform policy-makers, enhance decision making, accountability and transparency in policy development, and allow businesses, communities and individuals to hedge risks. Experts gathered to discuss prediction markets at Caltech in September 2004, including key features and benefits of three possible implementations for environmental futures: a general public game, a trading think-tank, and a hedging market (Servan-Schreiber and Lovink 2004). Prediction markets have now gained public acceptance and practical credibility as forecasting tools. The earlier mentioned World Economic Forum's Global Risks Prediction Markets launched in 2006 were powered by NewsFutures.com, a leading company in this field and advisor of Planet2025. Prediction markets are an example of how collective intelligence through a market-based approach can make the future more relevant today. They have the potential of correcting for market failures that now continue discounting the price of ecological assets until they are depleted and cease to exist. Prediction markets can also be set up as engaging games where players get to decide how to invest their winnings for social good.

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#### DESD SPECIAL EVENT – HEERLEN, THE NETHERLANDS

The EADTU (European Association of Distance Teaching Universities) Annual Conference in October 2004 hosted a special event on the Decade of Education for Sustainable Development. IES was invited to co-organize this event for a small gathering of those conference attendees interested in sustainable development. It featured contributions from Dr. Hans van Ginkel, Rector of the United Nations University, and Dr. Agni Vlavianos from Biopolitics International, and Andrea Deri from LEAD. My presentation raised the question whether we are ready for a transition to sustainability and suggested "the future is now" in terms of mainstreaming knowledge that is *relevant* for addressing the challenges and solutions into the curricula for all ages (Lovink, *Key Knowledge for the DESD - The Future is Now 2004*). It was the beginning of the Decade of Education for Sustainable Development; it was also apparent from the discussion that much needs to be done to mainstream sustainability issues into formal, non-formal, and informal learning. The situation was reminiscent of the early days of e-learning and the long road ahead for widespread use of a new educational approach. "The Future Is Now" and "Are We Ready?" became the battle cries for what later evolved into Planet2025's Learning Initiative.

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#### WORLD CONSERVATION CONGRESS 2004 – BANGKOK, THAILAND

Every four years, the IUCN (International Union for the Conservation of Nature) organizes its World Conservation Congress, convening its vast international network of members (a sort of United Nations for life) in one place – a

great opportunity to meet, mingle and participate in dialogue with sustainability leaders and peers from around the world about the major challenges facing humanity concerning nature and sustainable development. The Congress theme: “People and Nature – Only One World” framed the WCC process. Listening to many excellent presentations and speeches, I began growing increasingly impatient and frustrated with the overall realization that things did not add up; the timing of everything was off. Leadership around the globe needed to be much more bold, ambitious and quick in meeting the challenges at hand. A major global shift in consciousness would be necessary to accumulate the wisdom that could enable a more sustainable society. But how does that work, how do we do that? A bright spot was IUCN CEC’s exciting plans for a World Conservation Learning Network (WCLN); a white paper presented during the WCLN’s launch described a vision for ‘New Learning for Sustainable Solutions’ (Wheeler, Hesselink and Pretorius 2005). It was in the aftermath of the WCC in Bangkok that my work started to increasingly focus on ways to accelerate learning as condition for a successful transition to a sustainable future.

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## WORLD FUTURE 2005 – CHICAGO, USA

*Foresight, Innovation and Strategy: Towards a Wiser Future* was the theme for World Future 2005, the annual conference of the World Future Society, convening some 1,000 futurists. It was also the title of a published collection of essays, which included my own contribution (Lovink, Life Insurance for the Globe 2005). During this interesting conference, 100-150 people participated in a 2-hour side event. We explored the future using a collaborative learning tool, the I-Wheel®. Inspired by a key note address of its creator, futurist and author Joel Barker, I signed up. Impressed by the tools’ ability to deliver very concrete results in a matter of hours with a diverse group of people seated at round tables in teams of five, I approached Joel and questioned him on applicability of the tool for a potential conference we were contemplating to organize within the context of the UNDESD. Could the I-Wheel® tool help explore accelerated learning for sustainability and deliver tangible results and better value to our prospective conference attendees? The answer was yes. After further review, it was decided to try this innovative approach. The first online I-Wheel® sessions took place in the spring of 2006 followed by a number of face-to-face sessions to find a balance between technological efficiency and socialization through personal contact.

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## AUTHENTIC LEADERSHIP – SCHLOSSGUT GROSS SCHWANSEE, GERMANY

Mentoring emphasizes being and the reflection about one’s life. Wolfgang Bischoff is an international consultant and mentor of leading executives in industry and commerce. A psychologist and psychotherapist, he has also been trained by the Masters of the Himalayas in their traditional methods and founded the Himalaya Institute Deutschland and the Human Culture Akademie. Wolfgang Bischoff’s current focus is on guiding executives in their personal transformation to help them realize their own destinies. Through self-exploration sessions (inner awareness, inner determination and commitment, personal exercises), a custom Mentor Program transforms the thinking of executives so that creativity and intuition become their potentials for actions that spur future-oriented, innovative and efficient performance. My days at Schlossgut Gross Schwansee were transformational, making it apparent that true change has everything to do with conquering one’s self. Access to the skills, training, discipline, and know-how to become the change one is destined to be should be integral to the University of Life. Big change flows from lots of small changes within individuals.

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## EXPLORING DEEP CHANGE – GLAND, SWITZERLAND

Foundation for our Future directors Keith Wheeler, Steve Hulbert and Brand Smith, along with FFOF network members Andy Alm, Cheryl Charles, Ulrich Goluke, Frits Hesselink, Jean Perras, and Chuck Phillips led a global

discussion on what processes are needed to stimulate the deep change necessary to transform societies into sustainable ones. A meeting about *Exploring Deep Change Processes: Learning from around the World* was held at IUCN headquarters, Gland, Switzerland November 9-11, 2006. The findings are being used for the IUCN's Commission on Education and Communications (CEC) to do strategic planning for the 2007-2012 period. Stories and dialogue shared by the almost 30 fellow participants affirmed that the necessary transformation to build capacity for sustainable solutions will only come from deep change within individuals and organizations. It reminded me of my inspiring days at Schlossgut Gross Schwansee and a wonderful little book, *Our Iceberg is Melting*, given and recommended by a colleague (Kotter and Rathgeber 2006).

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#### BEYOND CONCEPTS AND MINDS – RISHIKESH, INDIA

Invited by the [Foundation China-Europe Dialogue and Exchange for Sustainable Development](#) to participate, the aim of *Beyond Concepts and Minds* was to search for the mutual links between the ancient scriptures, philosophies and modern sciences, through the following themes: Medical and Health Sciences, Living in Harmony with the Physical World, Knowledge, Learning and Educational Systems, Good Governance and the Role of Leaders. In February 2007, an international dialogue about “Life Beyond Knowledge and Time” celebrated 60 years of teachings of Swami Veda Bharati, poet, scholar, teacher, humanitarian and international speaker. He has spiritually guided thousands worldwide in the purest and most ancient path of the Himalayan tradition of yoga and meditation. Yoga and other ancient sciences can influence things in our daily lives and shape our future lives by taking us beyond concepts and minds, beyond the material world, and showing us the images of a non-material world characterized by 'fullness' or 'completeness.' A few minutes of meditation a day practiced widely at the beginning of meetings, classes, or at home, can help create personal and collective mind fields of positive change. Shaping tomorrow is closely linked to the family unit right from birth (or even before), as are learning from good (parental) role models and the power of stories, fairy tales and fables. Powerful insights on “Education and Parenting for Peace” should be taken to heart by leaders, educators and parents around the globe (Bharati 2004). The word "consciousness" derives from the Latin *conscientia*; in the literal sense, "conscientia" means knowledge-with, that is, shared knowledge. Consciousness, or being aware (or awake) is heightened when we share knowledge. Newly emerging (social) technologies enable the sharing of knowledge on a very large scale. Consciousness also fosters global ethics, the emergence of the development of secular ethics not linked to a specific religion, and the notion of planetary citizenship. The Earth Charter Initiative is a good example of such an approach.

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#### BEHIND THE SCENES – CHICAGO, USA

New governance mechanisms will increasingly be engaging citizens in national and even international decision-making. Invited by [AmericaSpeaks](#) to a “behind the scenes” look at new democratic governance at work, I attended a 21st Century Town Meeting® in May 2007 on the subject of childhood obesity. Its purpose was to bring together Chicago residents to discuss the urgent public health crises of youth obesity. It enabled more than 500 people – including almost 150 young people – to develop strategies and action items to address this health issue nationally and locally. The process uses a highly participative team-based approach to brief people on issues, facilitate dialogue, and then to aggregate the collective wisdom of the group by means of instant electronic voting. Shaping America's Youth will use the suggestions generated from this meeting along with previously gathered data to develop a National Action Plan. Locally, the Consortium to Lower Obesity in Chicago Children (CLOCC) and the City of Chicago's Inter Departmental Task Force, including the four city agencies charged with overseeing youth activities (Public Health; Public Schools; Children, Youth and Family Services; and Parks and Recreation) will utilize the Chicago-specific input to alter and finalize their plans to improve health outcomes for all Chicago children. The

21<sup>st</sup> Century Town Meeting approach has already been used by the World Economic Forum and the Clinton Initiative. Plans are underway to organize and fund a series of such meetings on climate change issues. CNN recently hosted a first political debate featuring a selection of questions submitted to the 2008 democratic candidates via YouTube.<sup>3</sup> Future elections and decision making anywhere are likely to undergo fundamental changes as a result of these newly emerging governance mechanisms which (re)engage citizens in the democratic process.

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DIGITAL GAMES FOR SOCIAL CHANGE – NEW YORK, USA

The Games4Change Festival at the Parsons The New School of Design, New York, June 11-12, 2007, convened a gifted, engaged, and creative group committed to advancing social change using digital games media for social issues. The [Games for Change](#) (G4C) organization provides support, visibility, and shared resources to organizations and individuals using digital games for social change. It is the primary community of practice for those interested in making digital games about the most pressing issues of our day, including poverty, race, and the environment. G4C is the social change/social issues branch of the [Serious Games Initiative](#). My particular interest was to learn more about the opportunities for creating a game or a series of games that would somehow communicate the concept of sustainability to large groups of players to promote social change. Gaming for sustainability had been on interest to the Planet2025 Learning – we has started working on our own sustainability game – and the World Bank Institute had recently commissioned a pre-feasibility study on a serious gaming approach for sustainability (Lovink, A Sustainable Futures Games Initiative? 2007)

There are now a number of recent games and simulation dealing with sustainability issues, including the following:




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A VIRTUAL WORLDSTAGE?

*Fostering Hope and Vision for the 21<sup>st</sup> Century* was 2007's theme of the World Future Society's annual conference. The sessions on education, learning and the future made frequent reference to the implications of the emerging trends Horizon Report, echoing in many ways by the HELIOS Report prepared for the European Distance Education Network (EDEN).<sup>4</sup> Many were fascinated by the Second Life phenomenon, as was also evident at the G4C Festival in New York. Interestingly, the largest number



<sup>3</sup> See for example: <http://www.cnn.com/2007/POLITICS/07/20/debate.preps/index.html>

<sup>4</sup> See: EDEN's publications at <http://www.eden-online.org/eden.php?menuId=81>

of Second Lifers resides in North America and the Netherlands. It is a virtual world where people buy, sell, trade and construct pieces or whole virtual societies from scratch. Importantly, it is an environment where new societal models can be modeled and tested. On June 22, MacArthur Foundation President Jonathan Fanton and Linden Lab CEO Philip Rosedale (a.k.a. Philip Linden) had a historic conversation about how virtual worlds could revolutionize philanthropy. At the event, Fanton also announced that the Foundation would begin a year-long investigation into virtual worlds, including making some in-world grants through the USC Annenberg Center on Public Diplomacy. More than 200 avatars congregated in an auditorium designed specifically for the event. 25 percent of the additional 383 audio channel listeners were from outside the United States. News coverage included the New York Times (philanthropy reporter), Future Tense (five minute radio blurb) Chronicle of Philanthropy, and Chronicle of Higher Education.

## THE WAY FORWARD

### WHAT ARE YOUR PROGRAM META TAGS?

Critical meta tags for program activities through 2015, when the UN Decade of Education for Sustainable Development expires, should include:

**THE WAY FORWARD** → GLOBAL CITIZENSHIP, GLOBAL CITIZEN MOVEMENT, CITIZEN POWER, RESPONSIBILITY, GLOBAL SUSTAINABILITY, GLOBALLY SUSTAINABLE LIFESTYLE, SYSTEMS THINKING, WATER, CLIMATE, ENERGY, FOOD SECURITY, BIODIVERSITY, DECISION WINDOW, CHAOS POINT, COMPLEX SYSTEMS, COMPLEXITY, HOLISTIC, GOOD GOVERNANCE, SMART PRODUCTION, SMART CONSUMPTION, REGENERATIVE TRADE, RESPONSIBLE INVESTING, CLEAN TECHNOLOGIES, EMERGING TECHNOLOGIES, SOCIAL TECHNOLOGIES, SCIENCE, SCIENCE OF THE WHOLE, CONSCIOUSNESS, CONSCIOUS GLOBAL EVOLUTION, SOCIAL CHANGE, COLLECTIVE INTELLIGENCE, PARTICIPATIVE CULTURE, PREDICTION MARKETS, PROFIT4LIFE, GAMES FOR SUSTAINABILITY, SIMULATIONS, RESPONSIBLE MARKETING AND PR, ADS4CHANGE, CO-CREATION, CREATIVE COMMONS, NEW MEDIA, SOCIAL MEDIA, OPEN SOURCING, OPEN EDUCATIONAL RESOURCES, SERIOUS GAMES, GAMES4CHANGE, SUSTAINABILITY GAMES, MASSIVE MULTIPLAYER EDUCATIONAL GAMING, VIRTUAL REALITY, ALTERNATE REALITY, AVATARS, NEW LEARNING, INFORMAL LEARNING, ELEARNING, DISTANCE LEARNING, SOCIAL NETWORKING, NEW LITERACIES, MOBILE PHONES, USER-GENERATED VIDEOS, CULTURAL COMPETENCIES, COMPETENCY WEDGES, KNOWLEDGE SHARING, VISION SHARING, FUTURE SCENARIOS, STRATEGIC EXPLORATION, POSITIVE FUTURES, SHAPING THE FUTURE, ECOLOGICAL FOOTPRINT, RISK MANAGEMENT, ENVIRONMENTAL SECURITY, HUMAN SECURITY, ECONOMIC SECURITY, STORIES, FABLES, LORE, EPICS, MYTHS, ADVENTURES, CHALLENGES, SOLUTIONS, GREAT TRANSITION, TRANSFORMATION, LEADERSHIP, ETHICS, AUTHENTICITY, SELFLESS SERVANT LEADERSHIP, PRESENCING, INTENTION, POTENTIALITY, MEDIATION, YOGA, TRADITIONAL SCIENCES, PARENTING, KIDS AND NATURE, NATURE DEFICIT DISORDER, WALKING THE TALK, TALKING THE WALK, NEW GOVERNANCE, E-GOVERNANCE, WISDOM OF THE CROWDS, FORESIGHT, EMERGING FUTURES .....

While the above list is not exhaustive, chances are that unless these meta tags are internalized in program design and budgets have been allocated one should pause and ask why. A valuable window of opportunity may well be missed to accelerate learning for sustainable development.

### OPPORTUNITIES FOR COOPERATION, SYNERGIES, AND LINKS WITH OTHERS

**Embrace** the remainder of the UNDESD as a historic decision window for advancing accelerated learning for sustainable development and positive change.

- **Check** for missing meta tags (participatory culture, collective intelligence, for examples) in program design.
- **Align** program activities as necessary with the realities and associated opportunities created by the key trends and drivers summarized above.
- **Find** the future faster by using social technologies such as the I-Wheel®, Theory U, Town Meetings and others, perhaps in combination for maximum effect.
- **Develop** appropriate strategic action plans with measurable goals and objectives, *evaluate* how new social technologies used in program activities can lead to better results faster, *incorporating* any insights obtained from “Connecting the Dots.”
- **Cooperate** with centers of expertise or partners in the focal areas of participatory culture, collective intelligence, and emerging technologies nationally and internationally.
- **Promote** access for *all* within and among nations, including by means of Open Educational Resources and the Creative Commons licensing framework promoting the sharing of knowledge and creative content.

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## BE THE CHANGE

### TALK THE TALK, WALK THE TALK, TALK THE WALK

Talk is cheap when real change is required. Reputation has been called the “risk of risks” and its management has become a top priority for businesses the world over. CEOs often are personally involved in their companies’ communications strategies and media relations, when bad news or ethical issues hit the wires. Mitigating such reputational risks, protecting corporate brands, and building brands that do not just pay lip service (“Talk the Talk”) to issues of corporate social responsibility (CSR), principles of responsible investing (PRI), socially responsible investing (SRI), or sustainability, but actually raise the bar by leading through example (“Walk the Talk”) are achieving a momentum of their own. Government and their leaders are in similar positions. They too are under increasing pressure to Walk the Talk in order to protect their brands. This explains why we now have the Global Compact, the Global Reporting Initiative, the Equator Principles, for instance. Invariably, raising the bar involves marketing, advertising and public relations. They represent the disciplines that make us “Talk the Walk” (United Nations Environment Program, UN Global Compact and Utopies 2005).

A tremendous accelerated learning opportunity will unfold if the marketing, advertising, and public relations professionals and organizations become transformational leaders in support of a globally sustainable lifestyle. Ethical or responsible marketing, advertising and communications to uplift the human spirit,<sup>5</sup> “soul branding,”<sup>6</sup> “Ads4Change,”<sup>7</sup> and similar approaches advancing sustainable lifestyles, support and inspire the marketing, advertising and public relations industry to stimulate the creation of commercial messaging. This communicates values, principles, ethics and character for the benefit of all, while strengthening the foundation of well-

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<sup>5</sup> The Ethics Mark<sup>SM</sup> Initiative seeks to help realize this potential to uplift the human spirit by showcasing and rewarding the most uplifting, educational and ethical marketing, advertising and public relations – per conversations with Hazel Henderson, founder Ethical Markets LLC, author and futurist.

<sup>6</sup> *SoulBrands*<sup>SM</sup> reflect the higher-, human values of enlightened, high performance companies – per conversation with Elie Maio, President of Maio & Co.

<sup>7</sup> Ads4Change™ by Planet2025 Network and affiliates promotes responsible marketing, advertising and public relations geared to providing authentic solutions for a globally sustainable lifestyle.

functioning markets and democracies . A new generation of marketing, advertising, and PR professionals educated and trained to help society “Talk the Walk” would also precipitate higher standards in news, public affairs, and on the radio, television and the Internet.

## SWITCH ON CITIZEN POWER

A recent report by AccountAbility and Consumers International advocates a pathway of synergistic voluntary and mandatory action which succeeds in ratcheting up our response to climate change (AccountAbility and Consumers International June 2007). The approach seeks to create the conditions for synergies and collaboration, but without slowing down the process of innovation and engagement. For the private sector, key challenges are: developing rigorous and transparent standards, connecting with consumers, helping consumers make cuts that count, reassuring consumers that their actions matter. The key policy elements from the national government’s side are: enabling individual actions (by providing clear political leadership through policies that drive appropriate lifestyle choices), fostering national and sectoral commitment (by setting clear targets and supporting solutions to achieve them), and promoting and helping to create a framework for one planet governance of the atmospheric commons.

Any new or upgraded international agency taking on this task should be accountable to impacted citizens. Participatory culture, collective intelligence approaches, and emerging technologies will create the emergent solutions to govern our ecological assets in a global, systemic, equitable, efficient, and democratic way.

## OF SWARMS, TRIBALIZATION AND GLOBAL NETWORKS OF CHANGE

Swarming describes a pattern of self-organization in real time which seems to arise out of nowhere (or to be emergent). However, it may be the result of the two fundamental factors, which explain consistency of self-organized behavior. *First*, there is the existence of a shared horizon, vision, or frame of reference (‘shared world’) among members of a group even when they are dispersed and mobile; *second*, the capacity of temporal coordination at a distance facilitated by a continuous exchange of information and constantly reinterpreted clues about how to act in this shared interconnected world. In other words, swarms appear to lead from the future as it emerges.

Tribalization of organizations is said to occur when informal networks emerge in response to the failure of hierarchical and authoritarian forms of organization. Transitioning to a globally sustainable way of life is a good example of a formidable challenge, which is ineffectively addressed by prevailing systems of governance and organization. Complex and highly adaptive ecosystems of swarms or tribes connected through, for example, mobile phones, the internet, and social network strategies, may well become the self-organizing global networks of change for a common future around a shared world view, thereby accelerating learning for sustainable development in innovative ways. It is encouraging to see how a few emerging global networks of change (communities of best practice) are seizing an important moment in history to research and experiment with these concepts.

## RESOURCES & LINKS

The following PDF documents and links provide more detailed information on the I-Wheel® experience:

- Planet2025 Scenario Brief: Accelerated Learning for a Globally Sustainable Lifestyle – Connecting the Dots | by Steven Lovink, Feb '06, Updated Aug '06 | [Download PDF](#)
- Implications Wheel Report I: Accelerated Learning for a Globally Sustainable Lifestyle – Connecting the Dots | Initial Findings March – June 2006 | by Bill Palladino, Aug '06 | [Download PDF](#) | [Online Viewer](#)
- Accelerated Learning for a Clean Energy Transition | Preparatory Materials | Implications Wheel Sessions | World Innovation Forum | October 3, 2006 | Eindhoven, The Netherlands | by Steven Lovink | [[Download PDF](#)] | [Online Viewer](#)

The above documents and information about Planet2025 Network's ongoing learning and related activities can also be accessed via <http://www.planet2025.net> under the menu heading *Planet2025 Learning*.

Further information on the I-Wheel® may be accessed via <http://www.strategicexploration.com/i-wheel/index.htm>

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## VISION AND VALUES

Planet2025 Network was established in 2006 as a non-profit social venture with a vision and mission to mobilize new and additional funding for sustainable development. Planet2025 Network aims at creating sources of sustained financing for long term investment in the globe's life-supporting ecosystems through education, outreach, and its program activities. Sustainability, precaution, equity, efficiency, and choice are guiding principles for Planet2025 initiatives and activities, including active cooperation with others.



## TOWARDS A GLOBALLY SUSTAINABLE LIFESTYLE

Planet2025 Network promotes healthy and sustainable lifestyle choices which enable people, organizations, and nations to become invested in a successful transition to a sustainable future. Decisive policies, citizen action, and political will are required to adequately respond to the challenges and opportunities of living within the reality of one planet. A unique set of integrated and mutually reinforcing Profits4Life™ initiatives, informed by a concrete policy framework, seeks to realize our vision and values.

### Challenges



## ENTREPRENEURIAL DNA

Planet2025 Network emerged from activities of the Eco-Insurance Initiative, a public private partnership project initiated in 2002 by **TransGlobal Ventures, Inc.** — an eco-finance and venture development company based in Washington DC, USA, in cooperation with the **Institute for Environmental Security** — a non-profit organization based in The Hague, the Netherlands.



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### Solutions

