



## **Envisioning a Sustainable Boston**

June 2, 2005

**Tellus Institute  
Boston, MA**

**Workshop Report**

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## INTRODUCTION

Many individuals and organizations in the Boston area, troubled by trends of rising social inequality and environmental degradation, are working to create a just and sustainable future. In this era of rapid globalization and increasing interconnectedness, these actors recognize that their local actions have global impacts just as global conditions have local consequences. Yet, even as activity proliferates, many lack a sense of how our work forms part of a common project. A shared vision of an alternative, appealing future could help overcome this fragmentation.

Tellus Institute, a 25-year-old non-profit dedicated to global sustainability and transformational change, has initiated a visioning process for the future of the Boston region based on the values of sustainability, pluralism, justice, and global responsibility. The goal of this process is to create an inspiring vision that will help motivate positive change toward such a desirable future.

On June 2, 2005, Tellus Institute convened a group of more than 25 participants engaged in a wide range of sustainability and justice issues in the Boston region. The focal point of the workshop was a set of preliminary narrative and quantitative scenarios that illustrate possible long-term futures for the Boston region. Participants in the workshop discussed such questions as:

- Would a shared vision of a just and sustainable Boston region help us move towards a desirable future?
- How can Tellus' preliminary scenarios be enriched?
- What is your vision of a desirable future of Boston, and how can we engage others to create such visions?
- How might we realize such a vision?

Feedback from workshop participants and others will be incorporated into further development of the scenarios. Once refined, the scenarios will be shared with the MetroFuture regional planning process ([www.metrofuture.org](http://www.metrofuture.org)), an ongoing effort coordinated by the Metropolitan Area Planning Council to plan for the long-term future of the 101 communities in the region. In addition, the scenarios are intended to serve as inspiration for continued activity and collaboration among participants in the workshop and the wider Boston community as we all work to create a just and sustainable future.

## **SUMMARY OF DISCUSSIONS**

The agenda for the workshop (Attachment 1) was structured in roughly three dialogues: (1) the role of scenarios; (2) images; and (3) pathways. In the first dialogue, participants discussed the purpose, usefulness, and limitations of scenarios. Second, participants commented on Tellus' preliminary scenarios and enriched them with their own visions for the future of the Boston region. In the afternoon sessions, participants discussed possible pathways for achieving desirable futures and next steps for this group.

### **Introductions**

The first session was devoted to an overview of the workshop and participant introductions. The breadth and depth of experience in the room was clear; participants included environmentalists, architects, planners, community organizers, social justice advocates, and academics (see Attachment 2 for a list of participants). A unifying thread among the introductions was a shared sense of urgency and desire for change, as well as recognition of the need to think long-term and build coalitions to overcome barriers. Other important themes mentioned included the distinction between incremental change and deep structural change, and the recognition that all of us are key actors in determining the future direction of the region.

### **Dialogue 1. Why are we here?**

Tellus presented the role and purpose of scenarios, as well as birds-eye sketches of three archetypal scenarios for the Boston region in 2050. Scenarios are a combination of an image or vision of the future and possible pathways to get there. They provide information about current trends and generate knowledge to conceive and evaluate alternative pathways. They can be useful for inspiring imagination and motivating action to create desirable futures (see Attachment 3 for a brief overview of scenarios).

Participants discussed the role that scenarios can play in creating change, drawing on experience from their own work. Themes that emerged were their usefulness in teaching, motivating reflection, and creating a shared language and common purpose among a group of people. Thinking long-term can reveal underlying shared values among people working toward disparate ends in the near term.

There was agreement that scenarios are limited unless they are tied to action. It is important to move between vision and action in a continuous cycle of reflection and motivation. In addition, several participants emphasized that scenarios are ineffective if they are developed exclusively by experts. Rather, to gain broad support and be effective, scenarios should be developed by engaging the grassroots in a participatory visioning process. In addition to the need for participation, the usefulness of creating scenarios depends on whether those involved feel empowered to effect change. Some suggested that the process of engaging in scenario development could itself be empowering.

## Dialogue 2. Visions: Where do we want to go?

In this session, participants discussed the three archetypal scenarios that Tellus has been developing (see brief descriptions in Attachment 3). Tellus described the Business-as-Usual (BAU), Policy Reform, and Deep Change scenarios with narrative text and a series of quantitative indicators related to transportation, land use, carbon emissions, poverty and inequality as illustrative examples of the wide range of indicators used in scenarios. Tellus asked participants for feedback. Do the three archetypes make sense? What indicators are missing? How can the scenarios be enriched?

### Three Archetypal Scenarios

- **Business-As-Usual (BAU):** Current trends continue; little change in production and consumption patterns; GHG emissions, ecological footprints and inequality continue to grow
- **Policy Reform:** Technological and policy measures are emphasized to moderate ecological destruction and social inequality
- **Deep Change:** Changes in values lead to changes in lifestyles and institutions (along with technological innovations) to achieve sustainability with global responsibility

The three scenario types made sense to participants, since they each reflect a certain current way of thinking. Some participants mentioned that it is important to pay attention to how the three scenarios interact, since there are no clear boundaries between each one. Besides looking at interactions between the scenarios, participants suggested delving deeper into the systemic complexity of each scenario, and being more transparent about how the model was constructed. Currently, the scenarios seem to reflect a linear model. How do the indicators interact? What are the drivers of the scenarios? Where are the boundaries? There was also interest in showing past trends. How do the changes in the three scenarios compare with past changes that have taken place? What successful changes can we look to as examples?

Participants suggested developing additional indicators and/or narrative to illustrate the following areas:

- Racial and gender differentials
- Global conditions that influence Boston (immigration, resources, etc.)
- Leadership
- The non-material realm (spirituality, culture, family)
- Education

Before lunch, participants engaged in an exercise designed to create a collective vision for Boston in the year 2050. First, participants reflected individually on what the region is like in this year. Then, participants engaged in three separate one-on-one conversations to share ideas and insights. Finally, participants shared the common

threads that they found in their various conversations with the full group. Themes that emerged from this dialogue were:

- Increased self-sufficiency in energy, water, food
- Passion for taking care of self and others
- Local political governance
- Slower pace of life
- Family/community cohesion
- Global exchange/communications
- New educational modalities
- Life-time healthcare and social security
- Concept of “enough” stuff (sufficiency)
- Sharing resources
- Cultural, intellectual, ethnic diversity
- Increased population density
- Mobility (public transportation, bike paths, walkability, car-free)
- Economic equity
- High quality of life
- Less need for material fixes
- Local sustainable economies
- Renaissance of human society
- Renewable energy sources
- Housing equity
- Rational regional planning
- Shared households
- Creativity
- Technology for social good
- Companies for social purpose
- Visionary mayors/leadership
- City farms

The result of the morning session was that participants felt a shared sense of “where we want to go.” There were still many questions about how scenarios can be effectively leveraged to create change, with doubts that simply constructing a perfect scenario would be useful. Clearly, the process of creating scenarios and how they are used is as important as the product. Participants agreed to return to these concerns in the afternoon session on “Pathways.”

### **Dialogue 3: Pathways: How do we get there?**

“Backcasting” is the process of identifying where you want to go, and then figuring out how to get there. In the morning session, participants worked toward a collective vision of a desirable future. There was general consensus that these images aligned with the “Deep Change” scenario developed by Tellus, since they included changes in values and culture as well as institutions and physical space. To initiate the conversation on pathways to realize this vision, Tellus presented some key questions. What are the main uncertainties? Who are the key actors? What are possible branch points and paradigm shifts that would help realize each scenario? Participants divided into four groups in order to explore the question of how a desirable future can be realized.

Each breakout group reported to the larger group the key points that emerged in discussion. “Crisis as opportunity” was named as a potential pathway. How could a critical externality such as the end of oil lead to a transition to a desirable future? Participants also identified necessary cultural shifts, such as redefining norms of success, consumption, well-being and sufficiency. Below is a list of near- and long-term strategies that participants suggested would help realize the Deep Change scenario:

- Choose appropriate metrics for development (not GDP)
- Reinvigorate leadership
- Return decision-making to the grassroots
- Reform campaign finance
- Use public health as a unifying theme
- Align diverse stakeholders
- Leverage media
- Connect to where people are hurting (i.e. safety, health, economy)
- Highlight positive examples
- Develop a toolkit of resources to help people create change
- Use the MetroFuture process as a vehicle to move forward

#### **Dialogue 4. Next Steps**

In the last session of the workshop, participants expressed a desire to continue to work together, noting the value of the multiple perspectives and collective experience of the group. Reflecting on this discussion, Tellus has identified possible directions for future collaboration, described briefly below.

**Reconvene** – At future meetings, participants could map out a more detailed vision of a just and sustainable Boston, which could serve as a unifying framework for disparate streams of activity. One participant noted that the group could serve as a “human toolkit” for each other. A web site could facilitate electronic dialogue between meetings.

**Alignment** – The group could work to align disparate institutions, communities and activities to move toward a shared vision of sustainability, justice, and global responsibility. This could be advanced by engaging the communities of each of the workshop participants. There was also a desire to connect with initiatives that reach beyond the Boston region.

**Engage others** – Noting the potential for scenarios to bring disempowered people into the decision-making process, participants wished to use them as a tool to engage others in creating change. Youth were specifically mentioned as a target group. Participants also noted the importance of attracting decision-makers such as regional government to this work.

*“We are the number one factor in realizing a scenario.... What do we have to change in order to achieve our preferred vision?”*

*- Workshop participant*

## Attachment 1



### WORKSHOP: ENVISIONING A SUSTAINABLE BOSTON

Thursday, June 2, 2005  
8:30 a.m. – 3:30 p.m.  
Tellus Institute  
11 Arlington Street  
Boston, MA 02116

#### AGENDA

- 8:30 Breakfast
- 9:00 Welcome and Introductions
- 9:45 Why are we here?  
*Tellus will present the purpose of scenarios, the role of critical actors, and the background to our Boston-area project. Participants will respond to birds-eye sketches of three archetypal scenarios.*
- 10:30 Break
- 10:45 Visions: Where do we want to go?  
*We will explore Tellus' preliminary narratives and indicators for the Business-as-Usual, Policy Reform, and Deep Change visions. How can we enrich these visions?*
- 12:30 Lunch
- 1:15 Pathways: How do we get there?  
*The realization of each scenario is dependent on uncertainties, branch points, and critical actors. What are they? What would steer us toward a desirable future?*
- 2:30 Discussion: Next Steps
- 3:30 Adjourn

## Attachment 2



### WORKSHOP: ENVISIONING A SUSTAINABLE BOSTON

Thursday, June 2, 2005  
8:30 a.m. – 3:30 p.m.  
Tellus Institute  
11 Arlington Street  
Boston, MA 02116

### PARTICIPANTS

| Name            | Title  | Affiliation*                              |
|-----------------|--|---|
| Julian Agyeman  | Assistant Professor of Urban Policy and Planning | Tufts University                          |
| Barbara Brandt  | Author; community activist                       | Whole Life Economics                      |
| Marc Breslow    | Director   | Massachusetts Climate Action Network      |
| Richard Clapp   | Professor of Environmental Health                | Boston University School of Public Health |
| Curtis Davis    | Project Director                                 | Metropolitan Area Planning Council        |
| David DelPorto  | Co-Founder                                       | Green Decade Coalition, Newton            |
| Kristina Egan   | Director   | Massachusetts Smart Growth Alliance       |
| James Goldstein | Director, Sustainable Communities Program        | Tellus Institute                          |
| Sarah James     | Planner/Consultant                               | Sarah James & Associates                  |
| Charlotte Kahn  | Director, Boston Community Building Network      | The Boston Foundation                     |
| Orion Kriegman  | Organizer, Great Transition Initiative           | Tellus Institute                          |
| Ken Kruckemeyer | Researcher, Urban Planning/Transportation        | Massachusetts Institute of Technology     |
| Eloise Lawrence | Staff Attorney                                   | Conservation Law Foundation               |
| Penn Loh        | Executive Director                               | Alternatives for Community & Environment  |
| Charlie Lord    | Executive Director                               | Urban Ecology Institute                   |
| Meizhu Lui      | Executive Director                               | United for a Fair Economy                 |



## Attachment 2

|                  |   |   |
|------------------|---|---|
| Erica Mintzer    | Research Analyst                          | Tellus Institute                                |
| Dumisani Nyoni   | Coordinator                               | Pioneers of Change                              |
| Bhupesh Patel    | Architect/urban planner/designer          | DesignTank                                      |
| Martin Pillsbury | Manager of Regional Planning Services     | Metropolitan Area Planning Council              |
| Jason Pramas     | Networking Director                       | Massachusetts Global Action                     |
| Chella Rajan     | Fellow                                    | Tellus Institute                                |
| Bonnie Rovics    | Director                                  | Activist Youth Alliance                         |
| Peter Smith      | Architect                                 | Global Urban Solutions                          |
| Jill Stein       | President                                 | Massachusetts Coalition for Healthy Communities |
| Eric Strauss     | Director of Environmental Studies Program | Boston College                                  |
| David Stroh      | Principal/Facilitator                     | Bridgeway Partners                              |
| Philip Vergragt  | Visiting Senior Fellow                    | Tellus Institute                                |
| Greg Watson      | Vice President, Sustainable Development   | Massachusetts Technology Collaborative          |

\* Affiliation is for identification purposes only

## A Brief Introduction to Scenarios

### What Are Scenarios?

Scenarios draw from science and the imagination to provide a plausible account of alternative futures. In essence, scenarios are credible stories about how the future might unfold from existing patterns, new factors and alternative human choices. These stories are told in the language of both words and numbers. The narrative gives voice to important qualitative factors shaping development such as values, behaviors and institutions, providing a broader perspective than is possible from mathematical modeling alone, while quantification offers structure, discipline and rigor. Scenario analysis is a means to illuminate the vast range of possibilities in a structured way.

Scenarios have been used by businesses, governments, and advisory bodies for about 50 years. Some examples of how Scenarios have been used follow:

#### *Georgia Basin Futures Project*

The Georgia Basin region around Vancouver, British Columbia is using scenarios as a means to engage citizens in designing alternative futures for the Georgia Basin and exploring the environmental, social and economic consequences of these alternatives. The effort considers many dimensions of social change, including policy objectives and instruments, institutional reform, as well as public acceptance and feasibility. Workshops with project partners, other organizations, and citizens in the region are the primary forum for exploring these strategies. Through use of interactive modeling software participants evaluate the trade-offs and consequences involved in various policy and behavioural choices ( e.g., related to transportation, housing, lifestyle, land use, government, industry) that can be made over the 40-year time horizon of the scenarios. In so doing they have the opportunity to change their preferences about those options, and see the consequences of such changes. For more information see: <http://www.basinfutures.net>.

#### *South Africa's Mont Fleur Scenarios*

In 1990, Nelson Mandela was freed from prison, and the ban on the African National Congress (ANC) and the other black and left-wing political parties was lifted. The Mont Fleur project took place during a complex period when many negotiations about how to make the transition from apartheid were taking place. There was a series of official constitutional negotiations and also hundreds of different "forums" where multi-stakeholder groups worked on issues of health, transport, education, economics, etc. The team came up with three scenarios: Ostrich, Lame Duck, Icarus, and Flight of the Flamingoes. For more information, go to [http://www.arlingtoninstitute.org/future/Mont\\_Fleur.pdf](http://www.arlingtoninstitute.org/future/Mont_Fleur.pdf).

#### *UNEP: Global Environmental Outlook 3 (GEO-3)*

The scenarios developed for GEO-3 have an environmental focus but recognize that the environment cannot be discussed without also considering what may be happening

### Attachment 3

in the social and economic spheres. The scenarios therefore span eventualities in many overlapping areas, including population, economics, technology and governance. Moreover, though many issues are of global concern, some take on special relevance or sharper focus when viewed at a regional or smaller scale. The role of policy choices in shaping the future is highlighted in the scenarios wherever possible, although this influence can be hard to judge because other policies and independent developments may cloud the effects of any single policy. Four scenarios were developed: Markets First; Policy First; Security First; and Sustainability First. For more information, see <http://www.unep.org/geo/geo3/>

#### *Global Scenarios Group*

The Stockholm Environment Institute convened the Global Scenario Group in 1995, as an independent, international and interdisciplinary body to engage in a process of scenario development. GSG developed three different global scenario types: Conventional Worlds; Barbarization; and Great Transitions. These were further broken down into the types shown below.

#### **Conventional Worlds**

Continuity of institutions and values, rapid economic growth, convergence toward industrialized country norms

##### *Market Forces*

Mid-range population and development projections, typical technological change assumptions

##### *Policy Reform*

Strong, comprehensive and coordinated government action to achieve greater social equity and environmental protection

#### **Barbarization**

Social, economic and moral underpinnings of civilization deteriorate, as emerging problems overwhelm the coping capacity of both markets and policy reforms

##### *Breakdown*

Unbridled conflict, institutional disintegration, and economic collapse

##### *Fortress World*

Elites control an impoverished majority and manage critical natural resources, while outside the "fortress" there is repression, environmental destruction, and misery

#### **Great Transitions**

Visionary solutions to the sustainability challenge, including new socio-economic arrangements and fundamental changes in values

##### *Eco-communalism*

Bio-regionalism, localism, face-to-face democracy, small technology, and economic self-sufficiency

##### *New Sustainability Paradigm*

Seeks to change the character of urban, industrial civilization and to build a more just and sustainable world

## Attachment 4

### DRAFT SCENARIO NARRATIVES

#### Boston Sustainability Project

Tellus Institute

May 2005

The following are brief narratives that describe the three main scenarios we are developing for our EPA-sponsored Boston Sustainability Project. Note that these are **not** predictions or forecasts of the future, but are rather freely developed images of three different views of the Boston region in the year 2050. The written narratives have quantitative counterparts that were developed using PolesStar, an adaptable computer-based accounting system for keeping tracking different social and environmental drivers and indicators. The study area for all three scenarios comprises the 101 communities in the Boston region served by the Metropolitan Area Planning Council (MAPC). The visions presented are assumed to describe the area in the year 2050.

#### **Business-As-Usual or Reference Scenario**

In the Business-As-Usual (BAU) scenario we assume that current conditions and recent trends in the Boston region continue, with no major policy changes, surprises or discontinuities. The dominant values and forces shaping the region — primacy of markets, increasing land conversions for development, reliance on fossil fuels and auto-dependency — remain intact. The “good life” and the American Dream are still defined by levels of consumption and acquisition of property, vehicles, and other things. Promotion of economic growth is the unquestioned driving force underlying a range of policies on housing and commercial development, taxes, energy and transportation. GDP per capita increases, while inequalities in income, as well as access to health care, education, and housing, continue to grow. The region’s population is increasingly diverse, but racial and ethnic tensions persist.

The region’s population grows modestly, primarily in the outer suburbs, while persons per household continue to decline and average size of dwellings increases. Poverty persists and is increasingly concentrated in certain sections of the urban core. Average commuting distances and times continue to increase. While regional planning continues to take place, largely in an advisory mode, land-use decision-making remains at the local level with minimal inter-municipal/regional cooperation.

The Boston region becomes ever more dependent on distant sources for food, lumber and other natural resources, increasing environmental pressures outside the region. Though there are efficiency gains, overall consumption of energy, water and other resources continue to grow. Despite the region’s apparent commitment to the goals of the MA Climate Protection Plan, overall CO<sub>2</sub> emissions continue to rise and no major new policy initiatives to address climate change are implemented.

#### **Policy Reform Scenario**

In the Policy Reform Scenario, residents and policymakers recognize many of the negative consequences of current trends and policies concerning resource use, the environment, economic activity, and social conditions. While most of the dominant values shaping the region remain unchallenged, concerted government efforts are focused on addressing affordable housing needs,

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improving access to health care, reducing sprawl and congestion, promoting adoption of new technologies, and improving environmental performance/conditions including achieving the greenhouse gas reductions called for in the MA Climate Protection Plan. For example, revised land use and transport policies and practices are implemented consistent with the principles of mixed-use and transit oriented development in order to encourage a mix of residences, offices and commercial activities within walkable/bikeable distances from each other and from transit stations. To the extent that technological development, tax policies, and new government investments are able to address some of the problems in the Boston region, efforts are successful in improving social and environmental conditions. For instance, access to health care and poverty reduction through job creation in the social sector, and significant reductions in greenhouse gas emissions through improved technology in the environment sector are important outcomes in this scenario.

However, the overall trends toward sprawling development and global resource depletion persist and the reductions in greenhouse gas emissions, while significant, are not sufficient to meet long-term climate stabilization targets. Similarly, despite some reductions in inequality, there are few improvements in social relations across class and ethnic groups, and little or no change in the quality of life.

### **Deep Change Scenario**

The Deep Change Scenario posits transformational change in the Boston region. Importantly, through widespread education and organizing efforts led by civil society, residents, governments and NGOs in the region recognize their global connections and responsibilities. This new awareness about the imperatives and possibilities of transformative change towards sustainability with global responsibility contributes to a fundamental shift in values and a redefinition of priorities from economic growth and consumption to quality of life and well-being. A vision of a sustainable region in a sustainable world with a strong sense of community and human solidarity is broadly adopted. As such, there is a recognition that current lifestyles and consumption patterns are not contributing to the well-being of residents in the region and must be altered drastically to reduce resource consumption and the burning of fossil fuels by 75% or more. Equally, there is a growing recognition that a far better quality of life could be achieved by working and consuming less, living in more compact and integrated communities, and yet feeling and acting in ways that are more connected to the world beyond.

A broad commitment to social equality and environmental quality drives many of the changes in this scenario, so that disparities in income and access to health and education are addressed early on. The Boston metropolitan region becomes a leading cultural and economic capital, widely recognized for its environmental leadership. Regional governance structures with real decision-making powers for land use and watershed management are established. Zoning laws throughout the region are updated to encourage appropriate density levels and mixed-use development, as well as smaller housing units. Motivated by citizen demands and changing lifestyles, these initiatives foster rebuilding of infrastructure, decreased car use, increased public transit and other alternative modes of transportation, and an increased number of citizens living close to work, school, and recreation.

Green building practices are institutionalized throughout the region through modified building codes and other measures. Moreover, the links between development in the core and preservation of open

## Attachment 4

space have been widely recognized and there are strong incentives in place to build and renovate buildings in already developed areas, and disincentives for greenfield development.

The long-term goals of the MA Climate Protection Plan are aggressively pursued, reducing GHG emissions in the region from transportation and other sources by nearly 80% relative to levels in 2000. Major shifts in investment from roadways to public transit result in extended subway, commuter rail and/or bus service throughout the region and enhanced convenience. Alternative energy sources — solar, wind, geothermal — supply the vast majority of the region’s energy needs, either directly or through the production of hydrogen. In addition, significant investments are made in carbon sequestration projects within the region and outside it to reduce net greenhouse gas emissions considerably.

Recognizing the enormous land, water and other resources required for meat production and the impacts this has in other locations, residents of the region significantly reduce meat consumption. Moreover, in order to enhance local food production, thereby minimizing transportation costs and emissions and improving freshness/quality, much of the green space opened up due to increased density and transit-oriented development is used for community gardens, greenhouses and farms. Crops are selected according to heirloom varieties that have traditionally fared well in New England soil and climate conditions, minimizing the need for chemical inputs. An emphasis is placed on “closing loops” by composting food and agricultural waste and returning it to the soil.

Note that many of the changes contemplated in the Deep Change Scenario would likely require broader changes on the state or national level, while others the Boston region could pursue on its own.