



SSP:

# A Civil Defense Manual For Cultural Survival

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Richard R. Balfour & Eileen McAdam Keenan

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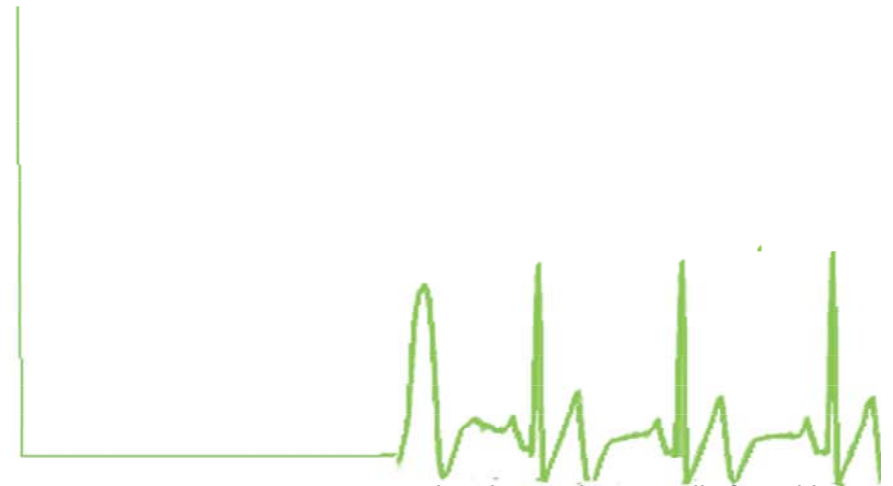
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Damascus must be a big city because all of a sudden everyone wants to go there!

We hope.

Eileen Keenan

**to Life**

## Acknowledgments

As the authors of this manual, we need to thank some very special people who helped inspire, coordinate, contribute and build upon what was a pair of ground breaking seminars for Vancouver. While limited in exposure at first, the draft reports of the SSP Committee of the Vancouver City Planning Commission did get wider distribution locally and then worldwide.

From the Commission itself, whose members at first were not sure but still supportive, we have to thank the Chairs of the Vancouver City Planning Commission in 2005 and 2006, Bob Williams and Marta Farevaag respectively, and the 2006 Vice Chair Marc Lee who built upon the SSP break through sustainability language to apply to the 2006 Housing Forum with Simon Fraser University.

Without the aid and support of the Post Carbon Institute with Julian Darley in 2005, the New City Institute's Directors Charles Dobson and Don Alexander in 2006, and the teamwork of Bryn Davidson MAIBC of Dynamic Cities project, the second seminar would not have happened. Architect Oberto Oberti was a gracious host for the first seminar, held at his home in West Vancouver. The earnest participation of seminar attendees is also appreciated because without their keen interest and willingness to test this seminar format, this also could not have yielded the "laboratory results" that flowed from the sessions. The participants came on short notice from the public at large but we also had a good mix of university students, professionals, politicians and business interests. It is recommended that future efforts by other communities, if they try this also attempt to get a broad representation of their community. The moral and research support of Metro Vancouver Planning Coalition members was also vital, particularly Steering Board Members and Architects Pat Bourque, Stuart Howard and Henning Wulff.

Dr. Bill Rees (**Ecological Footprint**) Director of the University of BC School of Community and Regional Planning was instrumental in both support and technical backup for the first session and in ongoing feedback to taking the Vancouver Experience to global exposure.

The effort to bring together the public planning bodies, the academic side and a wide cast of interests was deemed by Dr. Rees to be a success he hoped would move this debate forward to a wider audience. This manual is an attempt to do just that.

James Kuntsler (The Long Emergency) is to be thanked, as he addressed an open meeting of the Vancouver City Planning Commission in 2006 to inspire discussion of global impacts on local city sustainability. This was one of the better attended sessions of the Vancouver City Planning Commission. The Peak Moment team from California filmed that address and also the working 2006 session, They are to be thanked for filming and posting the video recording of the presentation on [www.peakmoment.org](http://www.peakmoment.org).

It is at the instigation of many of the participants, including Post Carbon Institute, New City Institute, Dynamic Cities and now many others that have been exposed to the follow up reports that this SSP: A Civil Defense Manual for Cultural Survival is going public in this presentation with the hope that, as others have said, we can build upon this in other communities. The aim is that we can learn from each other how to adapt quickly to coming global impacts on our culture and cities. A follow up study on other cities is to be hosted on the SSP web page at [www.postcarboninstitute.org](http://www.postcarboninstitute.org).

Lastly, to Editors Howard Jackson PhD, Bob Williams, Janaia Donaldson at Peak Moment, Bruce Frankard Pg.Eng. and many others who have helped review and bring the manual to this stage, a thank you. Ron Boyes and George Pahud are working on the edit for the updated, second edition as we rush to get to press, given world events. It is not a perfect nor a usual form of publication, hence, the manual title. In a way it is a working document, expected to change some in future editions if the users out there feel improvements can be made and at the last minute, Jayshree Chhatbar came to our rescue to make our communication clearer. And for this addition, catching all of the invisible to us errors, thanks to Karen Speirs.

While this manual is a warning, it is not meant to be depressing. It is intended to be a call to arms to correct our past mistakes while we can, to turn liabilities into assets. It might even create new industries built on cooperation, conservation and a greater social contentment. Again, we have little choice, the road we are on leads only to disaster. Grab the wheel and turn us all around. You have little choice and little time Be a hero.

Richard Balfour MAIBC & Eileen Keenan RIBA

Vancouver 2007

**Ecological Footprint: the impact of a city or area population upon the wider areas of the planet, the far flung ecological draw down of resources or degradation of the environment from the concentrated urban areas which often think their negative impacts are quite local.**

**In terms of planet consumption of resources, if all the earth's human population lived to the same standard of resource exploitation as North Americans, we would need 3 to 4 planets to keep going. Before the latest 21st century boom in India, the average Indian consumed one % of energy and resources compared to an average citizen of the US.**



Metro Vancouver: Urban Laboratory for SSP.

**SSP Partners: 2005/2006**

**In the Seminar Process**

**Vancouver City Planning Commission  
2005/06**

**Post Carbon Institute**

**New City Institute**

**Metro Vancouver Planning Coalition**

**Dynamic Cities Project**

**Sidebars: The Sidebar Anthology.**

**Definitions of SSP terms used on a page are one of the things that appear in the italicized side bars. They also appear in the Glossary. This book is also printed with major SSP terms from the Glossary also printed in the main text in blue.**

**References from other books are shown in each chapter to help reinforce points made in the body of the manual.**

**In this day of the Internet, we have used anonymous materials and pictures sent by others. We have tried to track down all sources to give credit where shown.**

**Definitions and places for you as the reader to make notes- spaces have been left in workshop chapters for you to add your own notes.**

**THESE SIGNIFICANT QUOTES AND SUMMARIES FROM KEY BOOKS ON THIS SUBJECT IN THIS MANUAL ARE NOT MEANT TO REPLACE READING THE BOOKS, BUT TO BE USED AS A SHORTHAND REFERENCE IN ONE MANUAL. GO AND READ THE LONG VERSIONS TOO.**

SSP A Civil Defense Manual for Cultural Survival  
The Strategic Sustainable Planning Manual  
Balfour & Keenan Vancouver 2006

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Book 2: Unsustainable City will deal with getting past the Greenwash movement to seek out Real Sustainability. This is not an image of any real sustainable urban community. To find our sustainable roots is survival.

#### Why you are reading this;

**“Only innovators, however-- by perceiving the need for new information, rules and goals, communicating about them, and trying them out-- can make the changes that transform the systems. This important point is expressed in a quote that is widely attributed to Margaret Mead,**

**“Never deny the power of a small group of committed individuals to change the world. Indeed that is the only thing that ever has.”**

**Limits to Growth: The 30 Year Update, Meadows, pg. 270 Randers & Meadows**

**“What if systematic self limitation goes against our biological hardwiring?”**

#### **Richard Dawkins. The Selfish Gene.) Action vs Hope**

**“The fact that you are reading these words suggest that you still hope there is a chance for converting to a sustainable civilization. And as long as we can entertain such a hope, there is still a chance.... when you give up hope you close the door on a sustainable transition.... WE have to organize ourselves and prepare for the day when we are nearly overrun by all the people who suddenly see the problem. And we have to have hope that this day will not arrive too late.”**

**Eating Fossil Fuels, pg. 79 Dale Allen Pfeiffer**

## Foreword

All too rarely one finds a new colleague who brings a feast of skills to the table; such a man is Rick Balfour. But what a joy when it happens!

Growing up in the planning community of British Columbia, I experienced similar feelings when we began to save our agricultural lands in the '60's and 70's. (The Agricultural Land Commission was designed in my office.) I felt the same way when we stopped freeways and one-way couplets from slicing the city of Vancouver in half and potentially destroying neighbourhoods. Then again there was the joy when we stopped “urban renewal” in Chinatown.

A similar joy occurred when we saved Whistler/Blackcomb and created the new town of Whistler. But those were different times indeed.

Rick Balfour and Eileen Keenan bring the skills we desperately need to join the debate about the sustainability of cities in our time. Rick and Eileen began this work when I chaired the Vancouver City Planning Commission. During this period there was such a positive collegiality and relevance in our planning studies. Why could the new City Council not wait to fire most of the members?

In this work, the authors are challenging our old ways of city building during the beginning of Peak Oil impact. Using Professor Bill Rees' (UBC/SCARP) pioneering work on ecological footprints, the authors are re-thinking the nature of our cities, and Greater Vancouver in particular, as an example or laboratory setting for the world. What they are offering here is a sound handbook for others, in their own communities to use this material to re-think their own necessary changes and to find the new opportunities that this work suggests.

The freshness and creativity that we on the Planning Commission enjoyed with Rick and Eileen can now be shared with everyone in this area of important work.

Bob Williams. 2007.



## A Word from the Peak Moment Team

As we drove across the border from the United States and into the greater Vancouver area that summer day in 2006, I saw the city surrounding English Bay set against a backdrop of breathtaking mountains. My partner Robyn and I were traveling in the Pacific Northwest to videotape programs with people responding to peak oil and climate chaos through local community action. Seeing the silver skyline rimming the bay, I thought, how will Vancouver fare with rising sea levels due to global warming? How will peak oil / energy descent affect this region?

A few days later, we discovered how a group of Vancouverites are right on top of those questions, and creating gaming sessions for citizens to awaken and begin preparing for energy descent.

We had come to Vancouver to videotape “Peak Moment Conversations” with Julian Darley of Post Carbon Institute and others in the city who are models living more sustainably in a lower-energy future. When Julian mentioned he was speaking at “SSP2: Peak Oil Impact on Cities, Survival and Culture”, we immediately asked if we could videotape the workshop.

Little did we know how potent that day’s exercises would be. At its conclusion we suggested to the organizers that they make it available in a form that other communities could adapt for themselves. The book you are holding, and the DVD we produced from that workshop, are the first such forms.

The genius of the sessions is that the participants were immediately teleported to the year 2016. Peak oil had happened sometime in the prior decade. Bryn Davidson laid out four possible histories for the prior decade of energy descent: (1) Technomarkets, where society was proactive and post-peak was a shallow descent, and we could transition to renewables; (2) Lean Economy, where a proactive society prepared for sharp oil declines through conservation; (3) Burnout, slow energy descent and slow responses; (4) Collapse, caused by sharp oil declines and virtually no preparation.

Participants groups were formed around regions in the greater Vancouver area: the central city, ex-urbs, suburbs, agricultural, industrial and seacoast areas, etc. Participants drew and diagrammed on huge maps how the culture responded to each of these four scenarios for energy descent: inner city farms here, offshore wind turbines there.

Because energy supply intimately affects the economy, there were different resources available in the four scenarios. Reduced fuel supplies meant higher transport costs, jobs lost, taxes decreased. In the Collapse scenario, could we still afford to fix the roads?

Perhaps the most striking effect of these gaming sessions was the big realization amongst participants of how totally dependent upon petroleum our society is, and how woefully unprepared we are for its decline. We are with oil like fish in water.

The gaming exercises helped people identify the particular effects of energy descent on specific places, to recognize the reliance on outlying areas for food production, the costs of transportation, and the possible cultural and economic stresses that could unravel our society.

Every region, every community, would be wise to undertake these exercises. Use them to awaken policy-makers. Use them to work around policy-makers. Use them to mitigate potential effects. Use them so your locale can begin conserving, food-growing and building renewables while the resources are available. Use them to be better prepared for an energy-constrained future that is unfolding even now.

Janaia Donaldson

Peak Moment Television | September 2007

**‘Civilizations.... break down and go to pieces if and when a challenge confronts them which they fail to meet.’ --Arnold Toynbee.**

**Apres Nous, le deluge..... Louis XIV, le roi du France.**

**‘We cannot turn off our energy-intensive, fossil fuel powered civilization without crashing; we need the **Soft Landing** of a powered descent.’**

**....it would be unwise to rely on international agreement.... make decisions based on our national interest... in our small country we have to act now as if we were about to be attacked by a powerful enemy.**

**The Revenge of Gaia, pg. 13 James Lovelock (Lovelock speaks of Britain, but perhaps for Canada next to the US, this is not just a metaphor. -Editor).**

**‘We need to move from our human-centered to an earth centered norm of reality and value.’**

**The Great Work, pg 56 Thomas Berry**

**‘Our economics is based on our mechanistic exploitation of the Earth (ie non thinking) in all of its geobiological systems for survival. E.O. Wilson- “ in the end it will come down to the decision of ethics, how we value the natural world in which we have evolved and now-- increasingly-- how we regard our status as individuals.” The Great Work, pg 102 Thomas Berry**

**Crash Landing -this is the condition where due to neglect of our changing reality, society cannot adapt in time to new conditions and experiences a social and economic melt down. In these cases the crash means the recovery may be impossible or take a very long time.**

**The purpose of this manual is to help cities and regions assess their cultural landscape to find ways to adapt before it is too late, to avoid the crash scenario.**

## **The Fear of Flying An allegory of our time and our common lot**

To help get the message of this book home to the reader, an analogy is useful, so bear with this just for a moment. A return to the analogy will reoccur through the book just to put our urban predicament into clearer focus.

It is interesting that the real take-off in the use of petroleum products is coincident with the age of flight, but it is all of our activities using cheap oil that have contributed to our impending dilemma. As a culture we have been lulled into a comfortable sleep walking mode of operation, as if all the things we now take for granted cannot ever end. Just for moment think of modern North American cities as large aircraft that took off to fly around the planet continuously, with a full load of fuel that has lasted us so far. About 30 years ago, the **Club of Rome** came out with a book that said we better start looking for a landing place because we are soon going to run out of gas and other resources, and we will all crash.

Some cities, in an airplane metaphorical sense, have become bigger, faster and they will suffer fuel loss and a crash worst than others. In contrast, some Third World cities have barely got off the ground, and in fact if they have to putter around without flying, they will be just fine. In the 1950's a US geologist named Hubbert projected we had only half a tank of gas left for all these cities -cum- airplanes by about 1970.

The pilots of these planes have started to notice things going wrong but they are afraid to tell the passengers about it. Another group of people just behind the cockpit,- lets call them the Navigators (or futurists or planners. - have known about this for 30 to 50 years now). They have been telling the pilots, but only hinting to the passengers that we are almost out of gas, brace for an emergency landing.

The longer this emergency gets ignored, the worse the crash will be. The high flyers are in real trouble. The high flyers are also trying to scavenge fuel in flight from lesser models, meaning we all will crash sooner. If we continue to act in a selfish sleep walking mode, we will only live to regret it, and so will the rest of the world.

If you have any children, or plan to, how can you pass on to them a world that is in an environmental and social crisis? Some of the navigators have been saying we have an alternative to both **Crash Landing** or a hard landing;

1) We could land the plane immediately and use what fuel is left to build a lighter plane or no plane at all that would satisfy our needs to live. Nobody seems to want to do that.

2) Because few of the passengers will listen, and the current pilots at the wheel are now dizzyingly drunk in bewilderment, there is another option; while still in flight we build a lighter, smaller plane or even a balloon to allow some of us a chance to reach a [Soft Landing](#) spot.

When some planes are taken over by pilots with no sense of future planning, they feel it is okay to be selfish, to rob the other planes of their own fuel reserves so they can keep flying a little longer. Only a little longer.

This analogy is quite realistic; in both cases, a great number of passengers are not going to survive, and it only gets worse the longer we take to wake up to the reality. It can only be hoped that a landing can be soft enough to salvage major chunks of the plane to create shelter. If the plane's computer is a symbol of our culture. Can we rescue that black box?

The World Urban Forum, as the one in Vancouver in 2006, is a conference of "crew members" and armchair pilots from all the planes that represent the cities of the world. We have a problem because we are just tinkering with planes that cannot keep flying. Few passengers are listening, and the pilots are afraid to listen or to act, as most are on Automatic Pilot now as they deal with other diversions from the real cause of our predicament.

Many of the pilots have parachutes, but, the passengers have none in our current context. The time for tinkering and automatic pilots is over. For those that wish to survive, the plane must be totally reconfigured while still in flight, and put into a shallow glide path for a [Soft Landing](#). Without saying any more about such action, taking this analogy to heart, how fast

can you learn to work together to reconfigure your own plane or build a substitute vehicle from within your own compartment? Where do you hope your own piece of your "plane" can land, or do you even think about this at all?

Every man for himself will not work here either, so the real issue is, just how fast can you learn to cooperate as a community of passengers?

Richard Balfour 2003

**"One of the hardest tasks I have faced is deciding whom to trust. Many of those who have written about climate change have economic interests in the outcome. ....trust no one who has something to sell.... I have developed a hierarchy of credibility." Heat, pg. xvii George Monbiot**

**Our use of fossil fuels is a Faustian pact. Heat, pg. 3 George Monbiot**

**The shortfall between current expectation of oil supply and actual availability will be such that neither gas, nor renewables, nor liquids from gas and coal, nor nuclear- nor any combination thereof- will be able to plug the gap in time to head off economic trauma as a result of the oil tipping point.... there really aren't any good energy solutions for bridges, to buy some time... the only alternative is to shrink our economies. (John McGaughey, World Energy Review.**

**The Distant Early Warning Line: (DEW Line, a cold war analogy).**

**One has to revert to story telling and analogies when the terrain you are about to enter is so new. In the same way the success of an "early warning system" is proven by the risk or event not ever happening, the success of this manual and others like it, is really proven by the failure of the risk appearing. But it is not that the risk is false, but that the warning is enough for you and others to take action to make sure the risk is reduced.**

**As illogical as that might sound at first, it has happened before. A cry of alarm cannot be ignored. This is not one of those "boy who cries wolf!" scenarios, there are too many experts knowing we are in trouble. That a few naysayers or denialists (de-nialists) can have so much air time and make the advantaged class or nation delay necessary action should be a signal of its own, we are at risk if we let procrastinators prevail. We are not playing a lotto ticket in this debate, but the future of the planet. Even if the DEW Line should prove to have been false, there is no risk, we will only gain just a little more time to adjust to a reality of diminished resources. What small minds would ignore this cumulative call to correct human crime against a planet, our own planet. What species that prides itself as the brains of the universe would pursue a course of collective suicide for one generation of gluttony? Editors.**

## Civil Defense Planning for Dealing with Rapid Social Change

Preparation for large scale social change is usually not done at the civilian level. With the exception of some marginal disaster planning for floods and earthquakes (or for nuclear war in the last half of the 20th century), this work has traditionally been undertaken by the Military and, to a lesser extent, the police. These entities have always had a tendency to be focused on controlling or mitigating the results of the change rather than proactive action to lessen its impact. At this forward end of the spectrum, urban planners and policy makers, working in tandem with local municipalities have a unique opportunity and responsibility to put in place patterns to encourage a robust society that can better address future uncertainty. The problem is that much current urban planning and municipal process is based on the 20th century assumptions of cheap energy, the nuclear family and single family housing as an ideal. Cars are an essential means to connect the now widely dispersed activities that we are urged to participate in as active members of society. The designs for the over consumption of land for this kind of lifestyle consume many times our fair share of energy and result in tremendous land waste. The land waste assumptions are now built into both city planning and city engineering design standards, which has created totally unsustainable cities. The suburbs, as popularized in “**Death of Suburbia**”, (James Kunstler), are even worse off. European cities are 30 times more efficient than North American ones, yet our profligate lifestyle has been exported to the Third World too. It is time we learned from more traditional societies before it is too late.

The war game/think tank session objectives were to look at the pattern of community to see what was created from the oil and car era and what could be salvaged in a move, by planned design or under duress, to a sustainable post-oil society.

Building upon the work from these seminars, which were a coming together of citizens, students, academics and professionals, the authors will set out to provide a more comprehensive approach for communities of various sizes and complexity to try this discourse out on their own and hopefully provide feedback to us so others can learn from their experiences.

To do this, we have set out three separate areas of information: background data, the Vancouver Laboratory Experience, and extrapolation to other world cities.

This manual is a primer for any interested individuals, but it is also intended to help new Task Forces or local planning groups try out a form of civilian self help disaster planning for themselves. While it may seem alarmist, such civilian planning may turn out to be all that stands between us and a much worse scenario involving government heavy handed intervention if things do not go through **Soft Landing** or peaceful adjustments. This should be a reason in itself to get anyone moving. We consider this exercise to be widely applicable to many areas, so translations into other languages is encouraged by the authors.

# Section A: Background

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## 1 . Chapter

### **-Why is this Manual Needed?**

- The Original SSP Workshop
- The Manual as a Tool for an Ongoing SSP Process.
- How to Use this Process and Why.
- Peak Oil Concept/World View Introduction
- Civil Defense planning/ Dealing with Rapid Social Change.
- Cities and Suburbs after Peak Oil
- Forward Planning for Real Sustainability

**Some graphs indicate complex relationships, often in science or social science terms, which show numerical absolute relationships which can be traced to values on the graph axis. However, due to the complex interrelationship of other trends and related impacts, we have introduced a more interdisciplinary approach. There is a need to graphically indicate layers of information not usually put together. One example is in the reference to Mark Lyna's book Six Degrees, for instance, where we have tried to bring many ideas into focus by layering information to show complex relationships graphically.**

**The best example of the need to do this is in the Hubbert curve extended to show not just the loss of cheap oil but the also obvious price escalation of some kind at one level, and the multiple implications this creates in terms of impact on city, culture, planning and survival.**

## **An Abrupt Climate Change Scenario and Its Implications for US National Security**

**October 2003**

### **Executive Summary**

**There is substantial evidence to indicate that significant global warming will occur during the 21st century. Because changes have been gradual so far, and are projected to be similarly gradual in the future, the effects of global warming have the potential to be manageable for most nations. Recent research, however, suggests that there is a possibility that this gradual global warming could lead to a relatively abrupt slowing of the ocean's thermohaline conveyor, which could lead to harsher winter weather conditions, sharply reduced soil moisture, and more intense winds in certain regions that currently provide a significant fraction of the world's food production. With inadequate preparation, the result could be a significant drop in the human carrying capacity of the Earth's environment.**

## Why is this Manual Needed?

### The Origins of this Manual

The Vancouver City Planning Commission has traditionally pursued a broad and varied range of investigation and research into many topics felt by its members to be salient and relevant to the future of the City of Vancouver and the surrounding Metro Vancouver area (former Greater Vancouver Regional District plus other Regional Districts of the ecological basin). In 2005 and 2006 these topics included the issue of strategic planning -i.e. long range planning for the region that takes into account impending global issues such as climate change and the predicted increased scarcity of fossil fuels.

During this time the Strategic and Sustainable Planning Committee (SSP) of the Vancouver City Planning Commission organized two key annual think tank events. These attempted to bring together a variety of academics, practitioners and engaged members of the public to engage in a 'war games' type exploration of potential future realities as a means to understand how current policy might address or mitigate the future crises that many increasingly think to be inevitable. These events became known as SSP1 (2005) and SSP2 (2006). As the Chair and Vice Chair of the SSP at that time, the authors were asked by participants and outside observers to put the experience and methodology into a book form for other communities to use. Given the huge amount of effort required to organize this form of workshop or seminar, it was thought worthwhile by observers to publish this material in such a way that others could build upon this experience.

SSP1 in 2005 took place high up on a mountainside in West Vancouver at Architect Oberto Oberti's house overlooking the greater city below. Professor William Rees from UBC School of Community and Regional Planning provided major technical backup for that session.

SSP2 in 2006 was held in Vancouver and in partnership with Post Carbon Institute and New City Institute. Supporting partnering and participating member input in SSP2 was provided by the Dynamic Cities Project (Bryn Davidson MAIBC) and the Metro Vancouver Planning Coalition. At that session, California Post Carbon/Peak Moment Media video-taped the workshop. It is posted on [globalpublicmedia.org](http://globalpublicmedia.org).

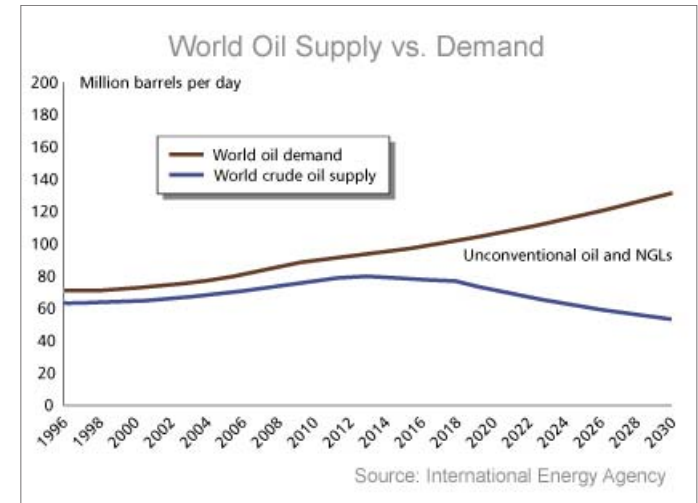
Before the 2006 conference, the author James Kunstler gave a presentation and discussion with the Vancouver City Planning Commission. Mr. Kunstler has become known for his hard hitting books addressing climate change/ resource depletion issues such as "The Long Emergency" and "The Geography of Nowhere". A 40-minute video of that session is also posted on [globalpublicmedia.org](http://globalpublicmedia.org).

## SSP: A Note on Language and Terminology

Macro or global scale impacts on local city and cultural survival required the assembly and development of new terminology as a shorthand and description for new ways of thinking. Given that everything we now take for granted was developed under a planning and engineering regime that had little room for the environment, a new way of working will require new terminology at times and modifications to old philosophies to stress environment and cooperation.

Since we are going to be dealing with emergency planning in an ongoing and civilian context, some new terms may at first sound alarmist, some of a military context and some of usual use. The aim of this whole approach is to avoid emergency conditions, urgency is needed. The Glossary set out in the back of this manual is to help those who might find this approach both new and challenging. Where possible new terms will be set out in sidebars.

This is not an academic book but involves academics. It is aimed at community participation, at a level of planning usually left to professionals and politicians. It is all too important to leave it to those folks anymore, as it is necessary for the grassroots to understand where we are going if we do not change our attitudes and ways of working. The advent of civil planning for global impacts on city and culture builds upon interdisciplinary bodies of professionals, with different terminologies. As the communication improves, terms are adopted from each other, but also a new language evolves. For anyone new to the topic there are some words or phrases that might need explaining. Many of these appear in the green sidebars when they first occur. They then appear in italics in the rest of the book. The main terms can be found in the Glossary at the back of the book, just ahead of the Appendices.



**“ the availability of fuel leads to a population that depends on it and will suffer if it is taken away. Had our ancestors run out of coal, Nature would have taken over and limited their population... instead our ancestors discovered another ‘bank account’ they could tap, another reservoir of ancient sunlight; the plant material which hundreds of millions of years ago had sunk to the floor of the oceans, and had been trapped there below ground and compressed into what we refer to as oil..... it turned out people could use oil for far more than fuel, so as we moved into this last century, we began spending more of our saved up sunlight.” The Last Hours of Ancient Sunlight, pg. 16 Thom Hartmann (Given storage of the energy helped cool the earth over millennia, how can one not see the immediate release of millions of years of stored solar energy would not heat up the planet???) -Editor)**

**“Imagine: 10 billion people alive in 2050, but fuel for only 3 billion. This would leave 7 billion people- more than the entire population of the world in 2007- living on the edge of famine. Then again, other experts suggest the oil industry estimate of 45 years is wildly inflated, meaning the situation is even worse than just described.**

**“Better visions”**

**“In Thomas Jefferson’s world, constructive debates raged about future civilization. We need something similar. What principles are right for the 21st Century? Society needs visions for a better future.” The Meaning of the 21st Century, pg. 13 James Martin**

**taking control or else.**

**“This is the century when we learn to control what we are doing.... Some aspects may be triggered by a catastrophe or by a sudden change by a government that realizes that desperate action is needed. What started with the Industrial Revolution now needs another revolution.... Can we escape from the vested interests and obsolete ideas of the 20th century?... If we get it wrong, we may be at the start of a new type of Dark Age.” The Meaning of the 21st Century, pg. 20 James Martin**

## The Manual as a Tool for an Ongoing Strategic Sustainable Planning Process

This is a document created for grassroots involvement in Strategic Planning for your society. This is an unusual time in history where human population is at its peak and the impact of our numbers is having dramatic consequences for the very continuation of life on the planet.

Dire statements usually elicit cries of Doomsday and “what can anyone do about it?”

But we also have a growing consciousness that we really have no choice but to get involved, get educated and start to make decisions to protect the planet and our families.

Several generations of the growth of wealth in some areas, of population everywhere but horrendous piling up of pollution and global warming trends now growing into shock waves means we cannot pretend any longer that we can sit back and do nothing. We have to wake up and take corrective action to even survive. Even the most uninformed can now see that to do nothing or ignore what we have created with our excesses will only lead to disaster.

This manual and the whole grassroots involvement in [Strategic Sustainable Planning](#) is intended to help us all achieve a [Soft Landing](#), instead of a crash of our society and the destruction of our cities and culture. Given the frail existence culture maintains in the face of disasters, how truly thin the veneer of civilization really is, this is a self defence manual for the masses.

Politicians, of course are responsible to the electorate, at least in democracies and they are updated on the trends and possible ways things can go wrong. However, given that they are elected for short terms compared to the long-range strategic sustainable

planning decisions that have to be made, nobody is taking the responsibility seriously due to the very real possibility that the hard decisions that have to be made will be unlikely to result in re-election. The academic community is on the leading edge but has a voice without power. Even there, the pressure is softly applied to not rock the boat, to not appear alarmist even as our environment crumbles around us.

Here we have to introduce a corporate cultural mentality that feeds upon this cheap energy system and which does not have a long enough time perspective to move into a sustainable alternative. Corporations have think tanks that deal with these matters. However their priority is not the concern of the masses but looking at how to exploit the breakdown of society to make more money. We cannot expect any real solutions to sustainability in a timely fashion from that quarter at all. We have allowed the creation of these entities, but they do not serve us, but their own limited objectives.

In Vancouver, there came together a meeting of minds from planning professionals, academics, students, public bodies, and Non Government Organizations to hold a war game/think tank on one area of focus in the modern breakdown of systems. Our objectives were to look at our current pattern of community in order to see what the oil and car era has created and what can be salvaged in a move, by planned design or under duress, to a sustainable post-oil society. In 2005, the first workshop/ seminar covered discussions on peak oil and social changes from the perspective of the branches of sustainability; environment, social/cultural and economic. Another group looked at the issues of change and community as role players in our society under stress from missing the chance to adapt to change earlier.

In the 2006 session, the Game Plan advanced to an on-the-ground assessment of community sustainability. Teams were given parts of the

Metropolitan Vancouver area, from central city to suburb and farm to exurbia. On top of the line of investigative questioning from the first workshop, teams were put into the near future scenario set in 2010 to 2016, in the anticipated new energy shortage and runaway energy price escalation. From this new context of new time and new economy, each team had to “govern” and seek remedies to keep the social order while adapting to new realities. How sustainable is each portion of your city or cultural landscape, what was designed and built for cheap energy and the car, and what can be sustained for the future? What parts of your city are now candidates for urban triage or re-ruralization? That outcome formed the reports of the SSP2 session illustrated in part in Chapter 8 as a start of examples for other cities worldwide to build upon after the Vancouver Laboratory Experience.

Building upon the work of these seminars, the authors will try to set out a more comprehensive approach for communities of various sizes and complexities to try this discourse out on their own and hopefully provide feedback to us so others can learn from their experiences. A small body of documentation has been made public, which we hope to provide as a manual for other communities to use to become involved and aware of current macro trends and how we can plan to adjust to them. This manual in short form or outline will be on the Post Carbon Web Site with links from other web pages. A team of facilitators and expeditors will help new communities start this exercise and train others to expand the public discussion.

It is intended that the information will be packaged in a way that can be applied to a range of groups, size of community, levels of expertise and allow a shift in focus for the interpretation of the problem, all the while trying to avoid simplicity which makes the exercise foolish, or complexity which makes it unmanageable.

To do this, we have set out three separate areas of information. They are: background materials, the Vancouver experiment and the Global Cities Watch.

This manual is a primer for any interested individuals, but it is also intended to help new task forces or local planning groups try out a form of civilian self-help disaster planning for themselves. While it may seem alarmist, such civilian planning may turn out to be all that stands between us and a much worse scenario involving government heavy-handed intervention if things do not go through soft landing or peaceful adjustments.

This first edition will set out the framework, background information for setting up these War Games or Public Seminars on Social Survival. Subsequent editions will expand to deal with group organization and options for further discussion. An ongoing open exchange of information will allow for this all to evolve as others learn from the process and feedback into the original team effort.

A complementary exercise mapping global cities exercise is also being undertaken (see Chapter 8), It is intended that this will be hosted on the [www.postcarbon.org](http://www.postcarbon.org) web site/SSP pages.

*We have had our last chance. If we do not devise some greater and more equitable system., Armageddon will be at our door.*  
--Douglas MacArthur (1880-1954), 2 September 1945.

*In the 24 hours since this time yesterday, over 200,000 acres of rain forest have been destroyed in our world. Fully 13 million tons of toxic chemicals have been released into our environment. Over 45,000 people have died of starvation, 38 000 of them children. And more than 130 plant and animal species have been driven to extinction by the actions of humans. And all of this was just yesterday.” The Last Hours of Ancient Sunlight,pg. 1 Thom Hartmann*

*We’re Running Out of Ancient Sunlight*

*“ Where our energy came from, how we’re living beyond our means,” and what will happen to our children when we run out.....*

*It all starts with sunlight. Sunlight pours energy upon the earth, and the energy gets converted from one form to another, in an endless cycle of life, death and renewal. Some of the sunlight gets stored underground, which has provided us with a tremendous ‘savings account’ of energy upon which we can draw. Our civilization has developed a vast thirst for this energy , as we’ve built billions and billions of machines large and small that all depend on fuel and electricity. ...but our savings are running low, which will most likely make for some very hard times.” The Last Hours of Ancient Sunlight, pg. 7Thom Hartmann*

**Where we really missed the chance of a lifetime, of the life a civilization in the universe:**

The 1972 Club of Romereport was an early warning on the Limits of Growth delivered by Economists. It was ignored and disputed for 30 years and the Denial Industry was spawned. In hindsight the report was off by some years but not in trends or in major impacts we now see on our horizon but could not be sure of in 1972.

The sad part is we have lost a generation of resources and burned out a generation of responsible scientists and professionals who tried to warn the rest of society that we were heading down the wrong track. Between 1972 and 2006; we polished off the 3rd quarter of the Earths oil reserves along with an equivalent consumption of most other raw resources.

The planning capability of Humans has been vastly over rated. In 'The Olduvai Theory', Richard Duncan sums up our lack of foresight by pointing out that at our current level of consumption, the Earth can only sustain one significant high energy civilization for one century and, by his reckoning, we are near the end of it.

Optimists and pessimists differ by a few decades in the timing of its production peak..... Most of the energy is used in the Industrialized World.... the average North American uses nine times as much as the average Indian." Limits to Growth: The 30 Year Update, Meadows, Randers & Meadows

## SSP Process and Manual

### How to Use this Process and Why

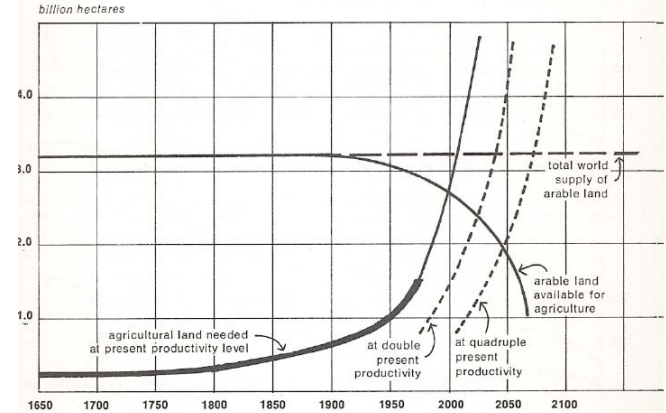
Many professionals from the architecture and planning fields that have been in practice since the 1970s are beyond frustration, and completely disgusted with how much we have achieved in all the wrong directions. Obviously, the 1960s were not a radical enough period to really enact change.

Below are some curves and projections into our current era, pointing out what we should have done to correct human population, consumption of resources and by implication, our pattern of community. The only real pointed failure of the Limits to Growth book in forecasting was the 10- year delay in oil prices realized in part by reaction to their warning. This is the kind of failure we can all celebrate, having the alarm have effect, proving the alarmist wrong. We can only hope the SSP manual has that kind of success.

### Figures from Club of Rome 1972. 35 years later?

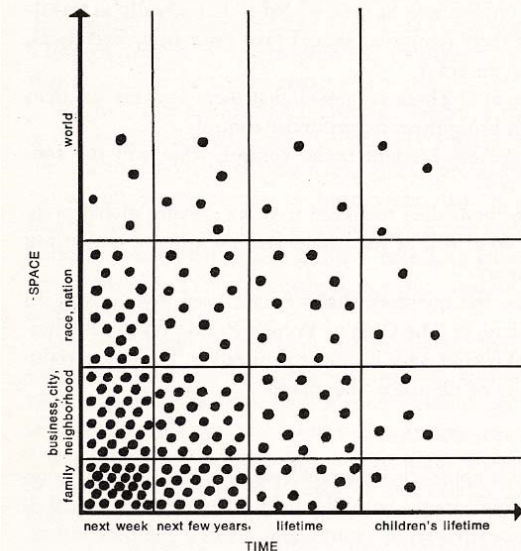
However the multiple paths the Club of Rome projected for our planet and species has, by the delay they anticipated in better decision making, left us only one of their paths to play out, and it is not a very good one. It is based on a still growing though slowing population growth, with a steep decline in resources and food production. We have focussed on oil in combination with global warming as these are each by themselves enough to trigger economic dislocation and social collapse, and in turn, more environmental disaster from human overload in new ways and places.

Figure 10 ARABLE LAND



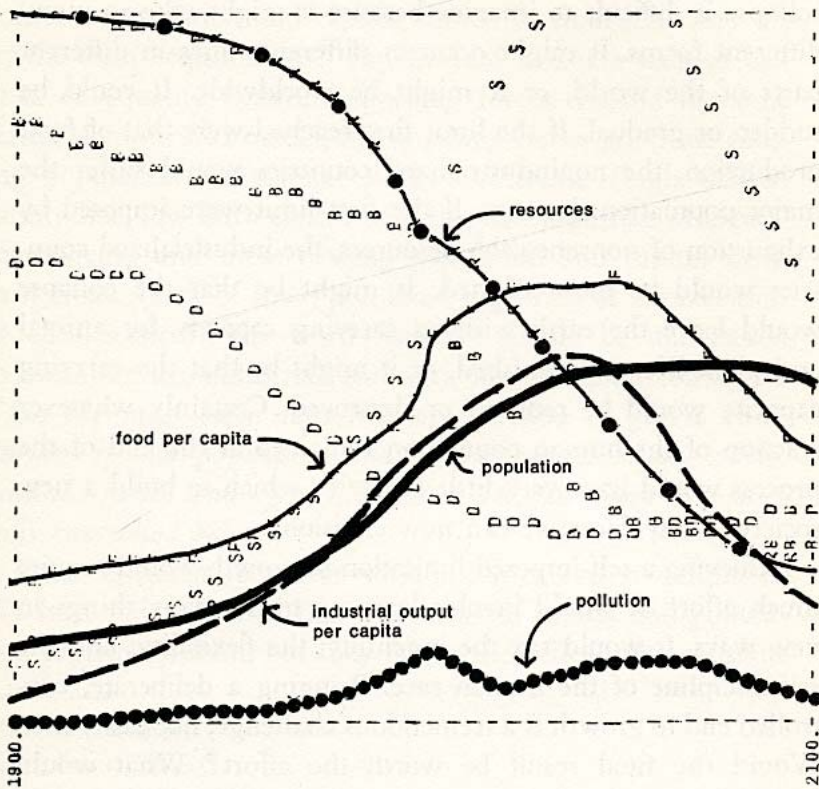
Total world supply of arable land is about 3.2 billion hectares. About 0.4 hectares per person of arable land are needed at present productivity. The curve of land needed thus reflects the population growth curve. The light line after 1970 shows the projected need for land, assuming that world population continues to grow at its present rate. Arable land available decreases because arable land is removed for urban-industrial use as population grows. The dotted curves show land needed if present productivity is doubled or quadrupled.

Figure 1 HUMAN PERSPECTIVES



Although the perspectives of the world's people vary in space and in time, every human concern falls somewhere on the space-time graph. The majority of the world's people are concerned with matters that affect only family or friends over a short period of time. Others look farther ahead in time or over a larger area—a city or a nation. Only a very few people have a global perspective that extends far into the future.

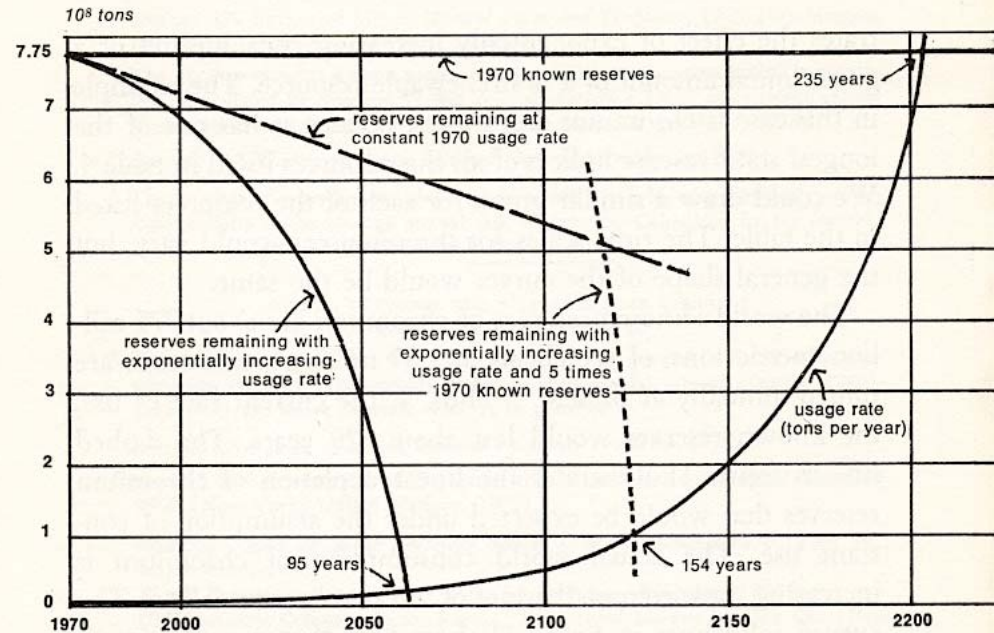
**Figure 48 WORLD MODEL WITH STABILIZING POLICIES INTRODUCED IN THE YEAR 2000**



If all the policies instituted in 1975 in the previous figure are delayed until the year 2000, the equilibrium state is no longer sustainable. Population and industrial capital reach levels high enough to create food and resource shortages before the year 2100.

The Sole Path Left Us from the 1972 Club of Rome options

**Figure 11 CHROMIUM RESERVES**



The lifetime of known chromium reserves depends on the future usage rate of chromium. If usage remains constant, reserves will be depleted linearly (dashed line) and will last 420 years. If usage increases exponentially at its present growth rate of 2.6 percent per year, reserves will be depleted in just 95 years. If actual reserves are five times present proven reserves, chromium ore will be available for 154 years (dotted line), assuming exponential growth in usage. Even if all chromium is perfectly recycled, starting in 1970, exponentially growing demand will exceed the supply after 235 years (horizontal line).

One Example: one resource, current use and depletion.

The 1972 Early Warning that was ignored by "The Realists".

The consumption-land-use matrix for the average Canadian (1991 data)

Cell entries = ecologically productive land in [ha/capita]

	A	B	C	D	E	F	Total
	Energy	Urban	Garden	Crop	Pasture	Forest	
1 Food	0.33	0.02	0.60	0.33	0.02	1.30	
11 fruit, vegetables, grain	0.14		0.02	0.18		0.01?	0.35
12 animal products	0.19			0.42	0.33	0.01?	0.95
2 Housing	0.41	0.08	0.002?			0.40	0.89
21 constrn./maint.	0.06					0.35	
22 operation	0.35					0.05	
3 Transportation	0.79	0.10					0.89
31 motorized private	0.60						
32 motorized public	0.07						
33 transp'n of goods	0.12						
4 Consumer goods	0.52	0.01		0.06	0.13	0.17	0.89
40 packaging	0.10					0.04	
41 clothing	0.11			0.02	0.13		
42 furniture & appli.	0.06					0.03?	
43 books/magazines	0.06					0.10	
44 tobacco & alcohol	0.06			0.04			
45 personal care	0.03						
46 recreation equip.	0.10						
47 other goods	0.00						
5 Services	0.29	0.01					0.30
51 gov't (+ military)	0.06						
52 education	0.08						
53 health care	0.08						
54 social services	0.00						
55 tourism	0.01						
56 entertainment	0.01						
57 bank/insurance	0.00						
58 other services	0.05						
Total	2.34	0.20	0.02	0.66	0.46	0.59	4.27

Source: Revised from Wackernagel and Rees (1995).

(0.00 = less than 0.005 [ha] or 50 [m<sup>2</sup>]; blank = probably insignificant; ? = lacking data)

(a) ENERGY = fossil energy consumed expressed in the land area necessary to sequester the corresponding CO<sub>2</sub> emissions.

(b) URBAN = built-up environment and degraded land.

(c) GARDEN = gardens for vegetable and fruit production.

(d) CROP = cropland.

(e) PASTURE = pastures for dairy, meat, and wool production.

(f) FOREST = prime forest area. An average roundwood harvest of 163 [m<sup>3</sup>/ha] every 70 years is assumed.

We missed a huge opportunity to correct our flight path in the 1970's but nobody wanted to listen. This is certainly your last chance to protect your descendents from the excesses of the oil age.

What is needed now is not more baby steps by planners and cautious politicians - this is getting us only deeper into trouble as we continue our race into a cul de sac of no resources left for future generations: an end of culture.

We need instead radical and immediate shifts in lifestyle and demands on the planet, starting with our sacred rights to land wasteful housing and transportation, the largest area of consumption of the earth. This is illustrated in the table to left, by Rees and Wackernagel: note the huge quantities of energy consumed in the area of housing and transportation. If we compare this to historical pre-oil patterns or Third World standards, we know we can, and have to reduce our use.

Why is this also NOT a plea for action, nor a case of wishful thinking but an urgent warning: you will be doing so in ways you do not like if you do not do so by choice now. It is much like the option in the 1970's but now you and your children have many fewer options because we delayed taking appropriate actions. The cross-over of the diminishing supply and just starting to accelerate energy and materials prices is approaching. We operate in a global economy now at such a scale that we cannot now adjust fast enough to avoid some form of chaos. In the manual foreword section on Fear of Flying, we try to illustrate the point of the manual is to help us still avoid a crash and to find a soft landing for all of us. This is not likely either but if you are reading this you are already ahead of the curve, in the cockpit, and ready to take control even if you never thought of flying before.

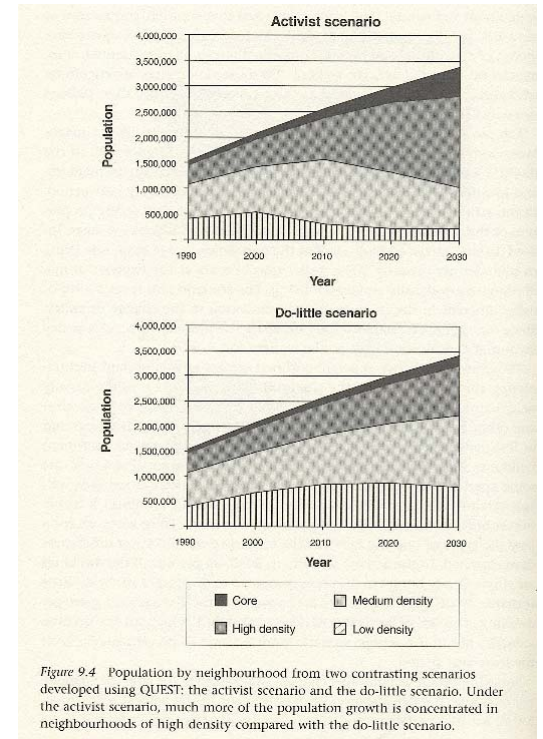
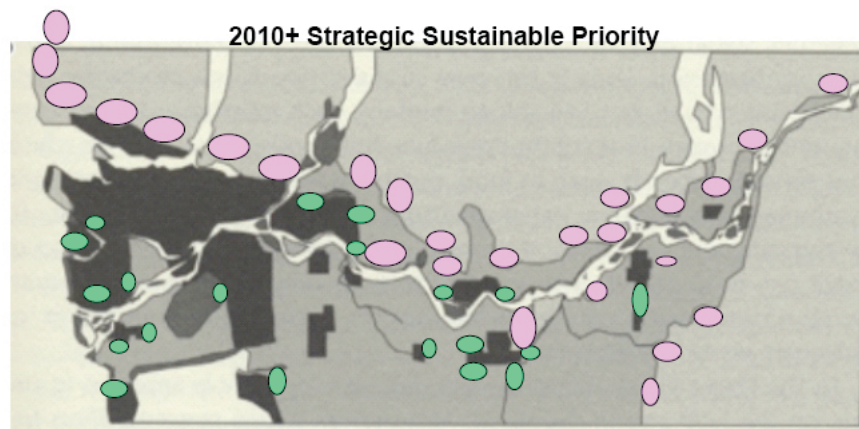
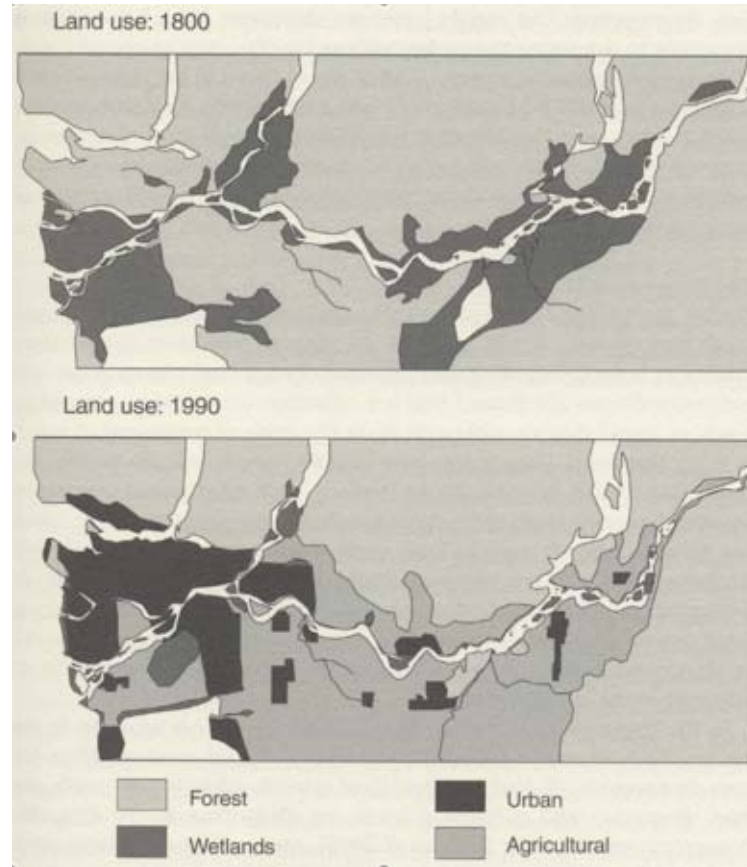


Figure 9.4 Population by neighbourhood from two contrasting scenarios developed using QUEST: the activist scenario and the do-little scenario. Under the activist scenario, much more of the population growth is concentrated in neighbourhoods of high density compared with the do-little scenario.

The no-end-of-growth planners. Even with good planning tools like the Agricultural Land Reserve, the linear thinkers sell the notion that rampant land consumption cannot be stopped.

The SSP Vancouver Laboratory Examples challenges that notion. We have already surpassed the carrying capacity of this land, and diverting tactics are absolutely necessary, from no more growth to diverting growth into sustainable patterns, clawing back lost agricultural lands, moving any new towns to the hills which make up 20 times the area of farmlands in BC.

Vancouver as the SSP First Urban Laboratory



Green sites to reclaim or under threat & needing vigilant protection. ALR clawback sites in some cases.

Urban New Location Sites: BC Hilltowns off the floodplain & farmlands, also based on new Rail orientation.

Learning from Alternate Histories, can we recover, redirect growth off farmlands, reduce industry to an efficient land use, cut transportation to a sustainable range, and still have society and economy.?

Well yes, in fact a better society and an economy are not based on a hundred year existence and burn out.

### Urban Triage

- refers to parts of the city that will out of necessity, allowed to decline or decay. Part of the **Soft Landing** planning scenario is based upon minimizing **Urban Triage** and planning for community cooperative efforts to make the new patterns work.

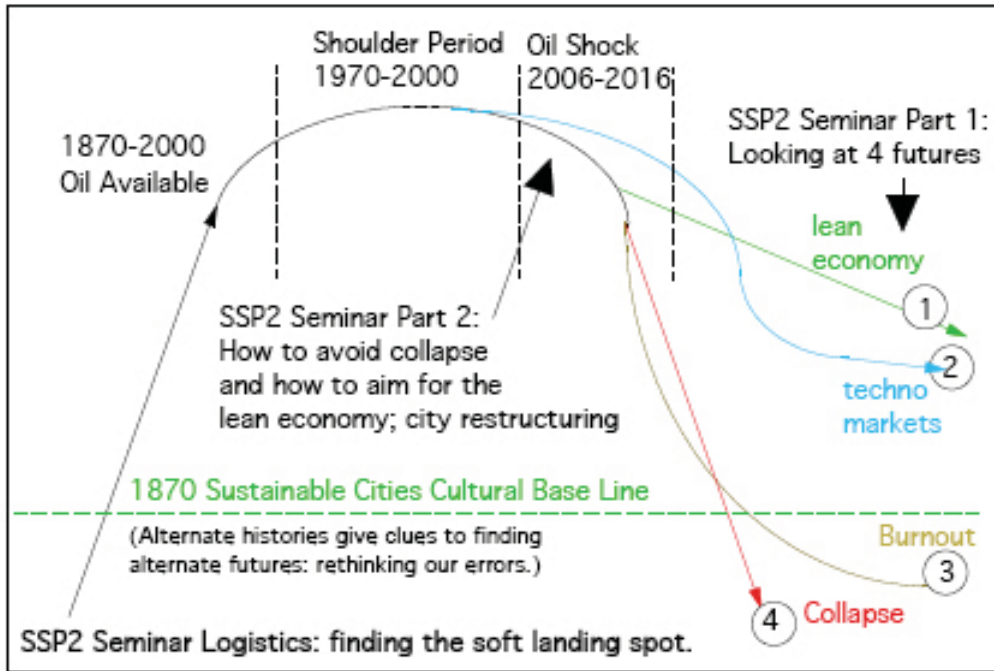
..in a hospital, not enough beds for everyone... determining that some may die and reducing care for the already doomed... in the corridors of power, there is growing belief that triage will happen, perhaps it is fair to assume that triage is not a deliberate policy... aspects of it have been happening for decades (Darfur, Eritrea?)

In the triage scenario, not all of humanity would make it through the canyon... humankind will blunder into Triage rather than planning it." *The Meaning of the 21st Century*, pg. 295 James Martin

The difficulty we confront is too great... twice the population facing the future with half the resources." *The Great Work*, pg 115 Thomas Berry

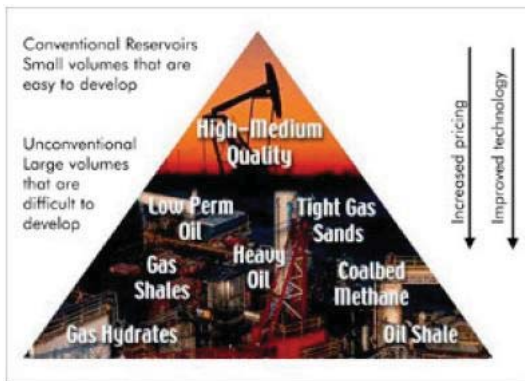
Gaia, the living Earth, is old and not as strong as she was two billion years ago. she struggles to keep the Earth cool enough for her myriad forms of life against the ineluctable increase of the sun's heat. But to add to her difficulties, one of those life forms, humans, disputatious tribal animals with dreams of conquest even of other planets, has tried to rule the earth for their own benefit alone. With breathtaking insolence they have taken the stores of carbon that Gaia buried to keep oxygen at its proper level and burnt them. In so doing they have usurped Gaia's authority and thwarted her obligation to keep the planet fit for life; they thought only of their own comfort and convenience. *The Revenge of Gaia*, PG 146 James Lovelock

(And only for those living, not for those who come after. Editor note.)



This is not an academic manual although non-academics might think so at first. Academics will decry the manual approach for the total population, but this is aimed at planning at the grass-roots by raising consciousness and triggering protective action by families and communities. It also has a prime objective to get people to work together in a proactive manner to help each other in peaceful ways rather than have circumstance unleash social breakdown and violent street level competition.

The manual is designed to pretty well start from any place and move back and forth. This means some repetition happens, but is necessary in a nonlinear book.



The next steps in an action plan under SSP are less talk and more action. The risk is we will make some mistakes but not as many as if we just do more dithering. The baby steps in planning, the linear approach of what we have next is just more of the present is too laughable if it were not so tragic. We need to address radical restructuring of our cities and ecobasins. Think tanks need to be replaced by reconstruction teams, globalization by relocalization. Conservation on a massive scale has to replace and reclaim the resources lost in a system of cast away parts and machinery.

“Schools of Urban Triage and city reconstruction need to replace the Talkitecture and other schools programming the destruction of the planet. And these schools are not just for professionals, but places for all to learn new ways of reconfiguring our society physically, economically and socially. Or suffer the horrible consequences. We have passed the options for slow change by dithering. The objective of the SSP process is not to create more armchair generals but foot soldiers on the ground, making change.” (Authors, from a work in progress.)

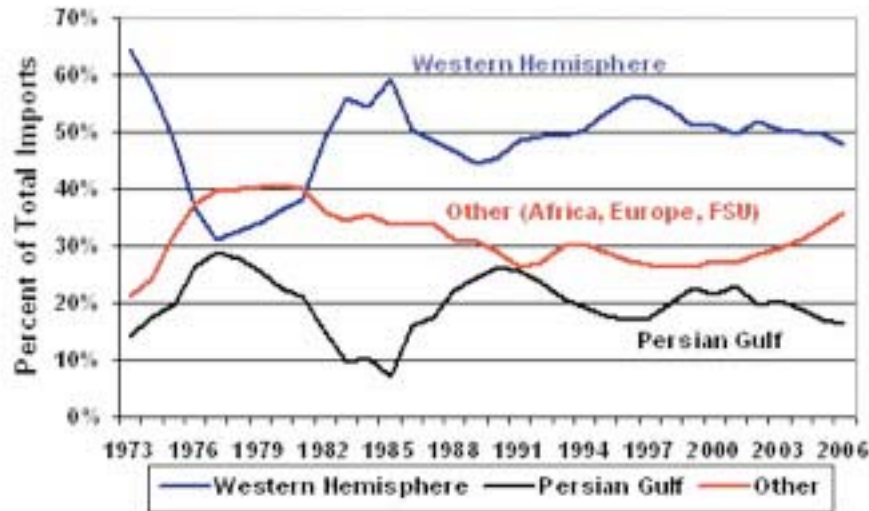
The escalation from local community use of the manual can be followed by interaction between global cities. This stage is outlined in a new section D: a preliminary attempt to show other cities how to take a look at their cultural environment to see what is worth salvaging, what has to go, what lands can be reclaimed for local food production, and where influx of population can be permitted without more negative impacts locally.

Make no apologies for attempting to look into this future. We have timidly discussed these options before and did not act because others said forecasting was not reliable. What the nay sayers really mean is that they want to live by their own wishful thinking of a comfortable no end to growth. We have all paid a huge price for listening to this biased approach, usually from vested interests. There are other forces out there who have no qualms about making projections for disasters so they can clean out the resources they want to seize from others with the help of the IMF and the World Bank. (Naomi Klein, the Shock Doctrine.)

This manual is an antidote to that approach. We hope to avoid disasters that would allow that exploitation and misery, and protect societies, to work for common protection while we adjust to change.

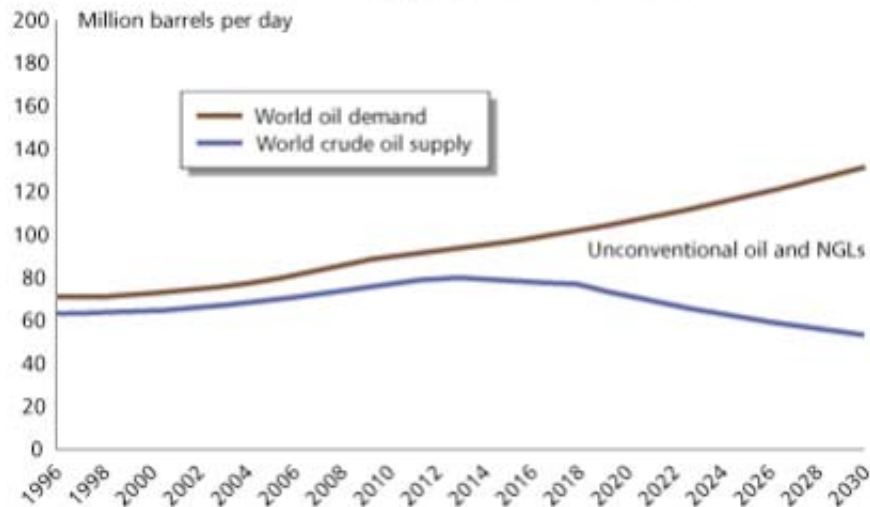
This is an outlook and approach unprecedented because the conditions we are in are unique, a Spaceship Earth now overcrowded, with supplies running out, and the folks in first class trying to shove more people out the rear exit without supplies of any kind. How can you sit by and let this happen? It is time to take control for your own survival, and in short time at that.

### U.S. Gross Oil Imports by Source



Source: EIA, Petroleum Supply Annual

### World Oil Supply vs. Demand



Source: International Energy Agency

It is difficult to avoid the conclusion that the world is indeed facing a discontinuity of historic proportions. The Stone Age did not end because we ran out of stone but because bronze and iron proved to be better substitutes. Firewood gave way to coal; and coal to oil and gas, not because they ran out or went into short supply but because the substitutes were cheaper and more efficient. But now, oil production does reach a peak without sight of a preferred substitute.

The remarkable prosperity of the past century, which was largely built on an abundant supply of cheap oil-based energy, may therefore be coming to an end. It is stressed that we are not about to run out of oil, having about as much left as we have used already, but production is about to peak. The perception of this peak may have consequences that far exceed the growing physical constraints to supply, which will not bite in earnest for twenty or thirty years.

The world's population grew six-fold during the first half of the oil age. Already fertility rates are falling in many countries, so that peak population may come not long after peak oil. Meanwhile there are growing pressures for emigration as the carrying capacity of the more stressed areas is exceeded.

Hydrocarbon Man, now virtually the sole surviving human subspecies, will certainly be extinct by the end of this century, meaning that the very future of mankind is therefore at stake. This perhaps explains why oil depletion is such a sensitive subject, which many people, especially those in government, prefer not to know about. But there are many solutions, especially in finding effective ways to use less, provided governments take effective action in time. It is too serious a subject to be left to the whims of an open market built on outdated economic principles.

Oil Depletion - Updated Through 2001 by C.J.Campbell