Living Green — an Introduction

Across North America — alone, in small groups and in large numbers — people are living in ways that are changing the world.[1] From Northern Québec to downtown Los Angeles, we have traveled to innovative sites where sustainability is integrated into everyday life. We met people who consciously and actively pursue environmental goals as a life's passion. They are building sustainable communities as architects, engineers, developers, contractors or simply as people committed to forging better ways to live their lives. We also met people for whom living green is an accident of address — who live in certified green buildings and find themselves integrating sustainable practices into their lives simply because of where they live.

Some argue that an enduring paradox of North American society is a steady rise in environmental awareness since the 1970s with little translation of this awareness into action.[2] People are concerned about global warming, resource use and general environmental degradation, yet these same people are not necessarily making personal changes or participating in social groups that do. As a society, we know and care more than ever before about environmental problems, but many of us are not acting on our concerns.

This book is about the exceptions — and their number is growing. The people we profile are translating ideas and beliefs about environmental

problems into concrete practices; they are living and working to enhance environmental sustainability in its broadest sense. They are not afraid to face what Al Gore has termed the "inconvenient truth" of global warming. The people and places we describe figure in a much larger tapestry of committed people doing extraordinary things to make our world a cleaner, healthier and more just place. We add their stories to the many who are enhancing environmentalism, social justice, human rights and democracy; who are resisting the steady march of globalization and the extraction of natural resources, and who are seeking to document and root out the effects of environmental contaminants of all kinds on the internal environment of people's bodies and health. As Paul Hawken asserts, collectively these efforts represent "the largest social movement no one saw coming." Like Hawken, we tell stories that challenge the notion that people are not acting on their professed concerns about environmentalism. The stories we tell show people living their beliefs. Their beliefs are not uniform, however, and this is part of the story we wish to tell. Living green is not something that can be prescribed or bought. It is a varied practice that is both old and new, that includes high-tech innovations and long held traditions; it happens out of necessity and is driven by various motivations.

Yet, there is some enduring truth to the paradox: it is hard for many of us to live according to our highest ideals and principles. What gets in the way? We began our research for this book with an assumption that one steep obstacle is the way that our communities are built and organized. As a result, we set out to explore the ways that communities can hinder or help residents' efforts to protect their environment. We were inspired by Bill McKibben's ideas that as a society, we need to shift from expecting *more* to wanting *better* lives. We asked what drives and supports people to seek better not more in their daily lives? We wondered about people's residential lives, the choices made at home. We asked: in what ways do buildings, the sites on which they stand and the social organizations and institutions that comprise them affect residents' well-being and happiness? Is there a connection among buildings, communities and better lives for ourselves, the environment and each other now and into the future?

It turns out that people and their unique connections with their built environments are a major catalyst for social and environmental change. It is in the mundane, everyday work of organizing and living our lives that inspiration for, and the possibility of, being good environmental stewards emerge. As we visited places where people are endeavoring to live with greater sensitivity to the environment and human needs, we found that there are multiple mechanisms built into the environment — both the soft and hard infrastructures of communities — which enable them to do so. In the chapters that follow, we highlight these findings from each of the sites we visited and conclude the book with a chapter devoted to the lessons we learned.

The Relationship between People and their Built Environments

The complex relationship between people's behaviors and their built environments has given rise to many schools of thought and a wide spectrum of theories. On one extreme, architectural determinism holds that if an environment is designed and built right, desired behaviors such as increased productivity or increased community will result. At the other end, the built environment is seen as merely a stage upon which the drama of human interaction unfolds.

Our own school of thought conceptualizes the built environment as a technology that shapes, organizes and structures human activity — and in turn, as a material (a symbolically meaningful) thing shaped by human lives.[3] Built environments are actors in shaping human life — for good, bad and everything in between.

The built environment is generally understood as encompassing all buildings, spaces and products that are created or modified by people. It includes parks and roads, electric wires, underground pipelines, homes and office buildings among very many other things. It also includes social issues, such as the impact of air pollution or the distribution of resources, goods and services. For sociologist Tom Gieryn, built environments are places where buildings and people are in constant interplay affecting each other at all times. Built environments have material consequences for people's lives. A building's structure, form and materials shape how we

move, where we go and make mobility easier or harder for bodies of different types and abilities. Buildings themselves are necessary to the development and modernization of countries, places and at a small scale, to aesthetics and use, for instance, of one's kitchen or bathroom. Buildings are also consequential for community — shaping how people can or cannot gather together, how much privacy people have, how isolated they may be. The less visible aspects of buildings — the glue, steel, nails, insulation and other materials that make up their substance, the systems that keep them warm and cool — are also consequential: they get under our skin, we breathe them in as particles in the air, we ingest them as dust. They shape how we feel in a space, our somatic experience of being.

For as long as humans have created shelters, buildings have carried symbolic value. From cave dwellings to condos, from pyramids to malls, buildings have been designed to evoke meaning. A building's shape, design, size, location, components and style influence the ways we make meaning, including the ways we think about ourselves in relation to our built environments. The history of religion shows us that people have always built sacred spaces as acts of faith and worship. In every era and place, people have built residential environments that include markings of class, caste or other symbolic ranking. Size, location and distinctive features of homes have indicated various characteristics (rank, occupation, social aspirations, aesthetic preferences) of the people who inhabit them. Frank Lloyd Wright understood this when he did away with basements and attics in his designs, seeing them as markers of social status. He preferred horizontal spaces which he believed were more democratic. Designers of modern skyscrapers understood that their buildings concretized the financial and political might of developed nations, projecting not only the capacity for steel production, but also the extent of power and progress. Viewed in this way the attack on New York City's Twin Towers in 2001 signaled an attack on US imperial and economic power; the attack on the Pentagon struck at the heart of US political and military dominance.

Meanings of Home

Residential built environments evoke particularly strong meanings. Home, however conceived, is the most intimate of built environments

with which we interact. As French author Gaston Bachelard wrote: "If I were asked to name the chief benefits of the house, I should say: the house shelters daydreaming, the house protects the dreamer, the house allows one to dream in peace."[4] In *A Room of One's Own,* Virginia Woolf also associated individual space with the ability to dream, to think and to create. Like many other thinkers, these writers valued home as a protected space not only for the body but also for the imagination. The idea that home is a haven is also highlighted by those instances where it is not. In his book *No Safe Place* for example, sociologist Phil Brown wrote about the particular affront that occurs when one's neighborhood is infiltrated by toxic pollution because of the way pollution breaches the symbolic border between the world of industry and the shelter of home.

Comfort, safety, shelter, independence and belonging are all common meanings and cultural ideals attached to *home*. The historian Kenneth T. Jackson traces these ideas to the separation of public and private spheres that accompanied the Industrial Revolution and the rise of the city.[5] At that time, the ideal of a single-family home, where one could take refuge from the big bad world, grew in importance. Home was also, increasingly, seen as a feminized space where white, middle-class women would keep house while their husbands worked in the outside world. Advertisements began marketing household appliances and products to women, making the home something that could be accessorized and improved and instilling the notion that it was women's job to do so.

If keeping a good home became seen as women's work, being a true man became associated with home ownership. As Walt Whitman said, "a man is not a whole and complete man unless he owns a house and the ground it stands on."[6] Of course, in the late 1800s, a scant number of men (of whom almost all were white) had access to this requisite of full manhood, and equally few woman were privileged enough to inhabit the idealized domestic role. It wasn't until the mid-20th century that social programs in the US and Canada began to seriously offer home ownership to more of the population — though, of course, still not all. Nevertheless, the idea that owning a single family home was fundamental to being fully Canadian or American — and fully a citizen — had become entrenched in popular consciousness.

According to Jackson, "Throughout history, the treatment and arrangement of shelter have revealed more about a people than have any other products of the creative arts."[7] Jackson focused his analysis on suburbia, which is now home to more people in the US than urban and rural areas combined. He argued that the penchant for low-density, automobile-dependent communities says something about a group of people who crave independence, individual space and private ownership. To be sure, North America encompasses all kinds of residential patterns: farms, small towns, reservations, big cities and the many types of intentional communities and other alternatives featured in this book, and each may be able to tell us something about the values and beliefs of those who live there.

Since homes are so saturated with meaning, it is perhaps not surprising that they have emerged as focal points for activism and social movement organizing. Whether on a very local level as a town rallies around the preservation of a beloved landmark or on a larger scale as communities organize against the building of an incinerator in their neighborhood, people's lived, built environments often provide the impetus for, or context within which, they take organized actions. Materials used in buildings are now understood as toxic or clean and as sustainable or unable to be replenished, and the building practices we use may exacerbate or ameliorate inequalities. Certain communities — often poor and communities of color — bear the brunt of environmental degradation as a result of the types of built environments established there.[8] Improving built environments, then, is part of environmentalism and social justice. More generally, buildings shape human rights and contribute (positively or negatively) to human health and well-being.

The Green Building Movement

Although built environments have long been implicated in various facets of environmental and social movements, what is new in recent decades is the growth of a green building movement at local, national and global levels. It is a passionate movement seeking to change the way buildings are designed so that they might better address the needs of the future. The movement reflects current realities: in the United States, buildings are

responsible for over 65% of energy consumption, over 30% of greenhouse emissions, 136 million tons of demolition waste and 12% of potable water use.[9] Many of these materials contribute to poor indoor air quality and jeopardize residents' health.[10] The burgeoning green building movement therefore seeks to find and incorporate building materials and design strategies that integrate healthy materials, increase clean air and are in harmony with sustainability principles.

For most of human history, construction practices have adhered to today's most basic green principles. Buildings have been small in size, well positioned to take advantage of sun and shade and located either close to the resources needed for daily living or the transportation needed to acquire them. These green practices persist in many parts of the non-industrialized world; they have also continued in a sprinkling of sustainable communities across North America and other industrialized areas. In the remarkable places we visited, communities are committed to localism and sustainable ways of life despite the pressures exerted by opposite trends. As a whole, however, North America has moved away from these principles. The US and Canada, once full of open space, is now defined by a built environment created around cars, freeways and the single family home. The success of the Toll Brothers in the US makes this clear as "living lightly on the land" can be replaced with 4,200- square-foot single-family housing for those who can afford it and are willing to commute long distances by car.

In response to this and other building trends, the professional green building movement came into its own with the formation of the United States Green Building Council (USGBC) in 1993. The USGBC was the brainchild of David Gottfried, Mike Italiano and Rick Fedrizzi. Gottfried was a successful developer who became concerned about the environmental impact of building practices and was increasingly convinced that there was a better way to build. Together with his friend, Mike Italiano (a lawyer with a specialty in environmental law), they began to explore how they could change things. Initially working with pre-existing groups to strengthen environmental standards on commercial buildings, they soon realized there weren't any existing groups that could do the job. In 1993 they met Rick Fedrizzi, an executive at the Carrier Corporation, and

cast him in the role of the first executive of the newly conceived US Green Building Council. They decided that what was needed was an industry-led coalition of businesses, organizations and others within the building industry who were committed to thinking about things differently.[11]

From a few hundred members in the first years, the USGBC grew to close to 16,000 member-organizations. Industry-led and consensus-driven, the USGBC is made up of a diverse, even eclectic, set of organizations. One of their strengths in changing local practices is the existence of chapters around the country who are steeped in the concerns and issues of their locality and tackle change from the ground up. Another is their rating system for green buildings called Leadership in Energy and Environmental Design (LEED). According to green building expert Jerry Yudelson, "LEED was the first rating system in the United States to hold commercial projects up to scrutiny for the full range of their effects on energy and water use, municipal infrastructures, transportation energy use, resource conservation, land use, and indoor environmental air quality."[12] LEED provides four award levels (Certified, Silver, Gold and Platinum) based on the number of environmentally related points achieved by a new building project in the following areas: Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources, Indoor Environmental Quality and Innovation & Design Process. Since 2000, additional LEED rating systems have been developed for existing buildings (as opposed to new construction), retail, residential, health care, schools and neighborhood development. As these have been developed, increasing awareness of social issues has made its way into LEED. But defining and learning how to address the social in building practices has remained a challenge for this group largely consisting of architects, engineers, manufacturers, developers and other building professionals. We discuss this challenge in more depth throughout the book.

In 2003, the Canadian Green Building Council (CaGBC) was born. Kevin Hydes, a professional engineer who had long been active in the green building movement and was at that time a board member of the USGBC, Peter Busby an internationally renowned green architect and Joe Van Bellegham a unique green developer who had recently led the design and construction of the first LEED gold project on Canada's west

coast joined forces with the Royal Architectural Institute of Canada (RAIC) to form the CaGBC. The RIAC incubated the Canadian Green Building Council by providing funding, staff support and infrastructure as Kevin, Peter and Joe built bridges with the USGBC as well as addressed issues unique to Canada. As Kevin said to us, "We needed a national voice to bring together the various groups that existed in Canada in order to bring about effective market transformation. At that point the USGBC was ten years old and had already proven that it was a success performer." And so they imported the model, but for a uniquely Canadian context: they adapted LEED for use in Canada and mirrored the establishment of local chapters across the country.

Alongside the efforts of the USGBC and CaGBC, other specific rating systems have been developed to work on small scale and residential projects or to address the particular needs of an area or region. Various organizations have implemented *principles* of green building design (e.g. Greenpoint, The Hanover Principle, One Planet Living's Ten Principles, Deep Ecology Principles). Today there are over 100 rating systems to measure green construction practices, many of which spring out of regional green building non-profit organizations and networks. For example, in California the Greenpoint rating system, a checklist for existing and new single family homes (a multifamily list is in development), emerged out of Build It Green, a professional non-profit membership organization. It was developed for the purposes of increasing green home standards and, similar to LEED, provides an objective, third-party verification system that allocates points for green building or energy conservation efforts including energy, indoor air quality, resources and water, as well as other green measures.[13]

As a result of all of these efforts, green building innovations have begun to saturate many spheres of what might be termed mainstream residential buildings. Green building innovations are now found in single family dwellings, New Urbanism, the rebuilding of towns and communities destroyed by natural disasters, and the redevelopment of neighborhoods long blighted by economic downturns. In addition, people are gradually integrating an ever-expanding offering of green products, materials and practices into their daily lives. From solar panels, to LED lightbulbs, to

energy-star appliances to conserving water and electricity, people are interacting with their built environments in ways that explicitly address environmental concerns. The net effect is a groundswell of living green and green building practices.

Linking Communities and Built Environments

A key aspect of building green homes, one that is gaining in importance, is paying close and careful attention to the building site. Increasingly, the emphasis is on building green neighborhoods, not just green buildings. New Urbanism has been a force within urban planning and architecture to bring the components of a *village* — walkability, mixed-use, neighborliness — back into North American planning.[14] The group BioRegional has begun developing One Planet Communities within North America (they already have several in Europe — London's BedZed being the most famous) where ten guiding principles ensure the community adheres to strict ethical, social and environmental standards.[15] The green building movement itself has begun to follow internal leaders like Joe Van Bellegham in taking the community, rather than individual buildings, as the unit of analysis. The LEED rating system recently expanded to include a category for neighborhoods; its 2007 annual conference GreenBuild was titled "Communities." All of this recent interest is for good reason: creating sustainable communities is important to not only the environment, but to people's well-being and even survival.

Douglas Farr eloquently illuminated the connections between communities and human health and well-being in his book, *Sustainable Urbanism.*[16] He described the vast numbers of North Americans living in neighborhoods which encourage automobile dependence and discourage walking or spending any time outside. Housing has developed to reinforce sedentary life styles, spent mostly indoors and in isolation from one another. At the center of sustainable urbanism is an intention to reverse these trends: to, among other things, create, support or revitalize neighborhoods where the requirements for achieving a high quality life can all be met without ever getting into a car. When sustainable communities happen, they not only improve environmental conditions, but they get people exercising, experiencing nature and breathing clean air both

indoors and out. As creatures of the planet, it shouldn't come as a surprise that what's good for the planet's health is also good for ours.

But there's another way that sustainable communities improve human health and well-being: they increase *social capital*. By getting people walking in their neighborhoods, by encouraging participation in local economies, people become more tightly woven into their communities. Social capital refers to the ways that we are connected to one another through trusting networks and is often thought of as the glue that holds communities together. The influential writer and urbanist Jane Jacobs was the first to bring the concept of social capital to bear upon on understanding of what makes a city safe and organized versus unsafe and disorganized. Cities that are designed to maximize informal contact among neighbors are better in almost every way.[17]

According to many social scientists, social capital is increasingly scarce. In 2000 Robert Putnam published *Bowling Alone* to much acclaim and attention. His book described the unraveling of civic involvement in the last three decades of the 20th century as tens of thousands of community groups dissolved, voter turnout diminished, charitable donations decreased and myriad other indicators revealed a United States of increasingly isolated individuals. Putnam documented the toll that this disintegration of social capital has taken on everything from health to crime to educational achievement. In our research, we found that social capital is an important element in living green; it operates as a mechanism to support long-term green living. Having social connections and meaningful bonds facilitates environmental sustainability at both an individual and a community level. As Putnam noted, "social capital allows citizens to resolve collective problems more easily."[18] We certainly found this to be the case for the collective problem of environmental degradation. On an individual level, I can more easily recycle, compost, not drive my car (or even not own one) and generally consume less if I have a network of neighbors, friends and like-minded comrades to help. In his book *Deep Economy,* Bill McKibben presented the convincing argument that hyper-individualism has taken its toll on planetary health. Acting on something as abstract as the environment is more difficult in a society which encourages us in every conceivable way to look out for Number

One. When we have strong social connections or social networks, we're more likely to think beyond our own personal needs to something larger. To see how we are connected to others and they to us is to understand that our actions impact others.

But, instead of encouraging connections, our communities and built environments have increasingly done the opposite. McKibben argued convincingly that the solution to the damage inflicted by hyper-individualism is a shift to economies that are more local in scale. By engaging in local economies, McKibben said, we are exploiting fewer resources and taking less of an environmental toll. But, perhaps even more importantly, this engagement "requires that [we] reorient [our] personal compass a little bit. Requires that [we] shed a little of [our] hyper-individualism and replace it with a certain amount of neighborliness."[19] And such engagements in neighborliness can begin a cycle that initiates and perpetuates the change it is seeking.

The hyper-individualism discussed by McKibben is part of the social, political and economic change that has taken place largely since World War II. Within the social sciences, a definition of the very term *community* is no longer taken for granted. Often used to describe and constitute a seemingly culturally distinct group, geographically bounded area or close-knit group such as a family or a town, a community is today understood as far more complex. People belong to multiple communities at any given moment; whether by self-acclamation, by socially assigned label or by engagement in social networks we move across borders by choice and necessity; we align ourselves politically with and against many engagements; we interact with, move away from and form bonds with a far larger network of virtual and real friends. Community presently is an evolving set of ideas and practices.

Dr. Vandana Shiva, world renowned environmental leader and recipient of the 1993 Alternative Peace Prize (The Right Livelihood Award), understands community in terms of citizenship; she illuminates the connections among knowledge, power, environmental and human equity. The increasing and cumulative ownership of the natural world — seeds, water, soil, oil and other resources — is the starting place for her ecological activism. "Environmental sustainability takes place when people have

a stake and a share in the rewards of the conserved resource. If people have the ability to drink water from a well and look after that well, and will suffer the consequences of contamination, they will not contaminate that well. People who pollute a well or a river are the ones who don't have to drink from it."[20] The challenge is to make these connections more visible in our daily lives, to speak truth to power and to shed light on the many actions that are taking place to resist environmental and social degradation.

The relationship between sustainability and communities is interdependent. The survival of the planet is not just about plants, animals and natural resources but also about people and resources. As environments become degraded, animals and plants become endangered, but so too do the cultures, languages and societies interwoven into the physical landscapes. In this context, the vividness of human culture and society as part of the very fabric of planet Earth becomes clear.

Highlighting the Social in the Three Es of Sustainability

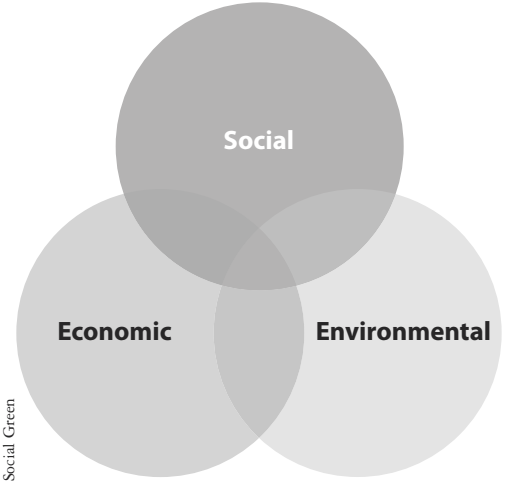
When we founded Social Green, a non-profit research and educational organization devoted to *social* sustainability, we wanted to underscore the ways that the social is already part of built environments. This book is one way to demonstrate the many ways people are already integrating social, economic and environmental sustainability into their daily residential lives. The sites described in this book showcase ways that sustainable developments repair and protect the Earth in all of its tangled complexity.[21] They bring together human experience — with its attendant cultures, symbolic systems and politics — with the natural world. Everything is connected and interdependent. Paul Hawken equates sustainability to an infinite game. We play finite games to win, he says, but we play infinite games to keep on playing. "Sustainability — ensuring the future of life on earth — is an infinite game, the endless expression of generosity on behalf of all." As an infinite game, sustainability necessarily involves any and all projects aimed at preserving life or promoting justice on planet Earth. Hawken goes on to say, "Any action that threatens sustainability can end the game, which is why groups dedicated to keeping the game going assiduously address any harmful policy, law, or

endeavor."[22] In this way, Hawken declared the fundamental interconnectedness of all sustainability endeavors.

Social and environmental sustainability have long been linked. In North America, the connection between the natural world and the human community is a foundational principle of cultures in both the United States and Canada. From 19th-century indigenous communalism and religious communities to 20th-century bioregional, ecological and commune movements, people have been creating various ways to integrate and, at times, separate from the distancing effects of mainstream society.

Concepts like the triple bottom line (economic, environmental, and social sustainability) and the *Three Es* (economics, environment and equity) prompt us to stay focused on not just one but multiple axes by which injustices occur.[23] As Figure 1 illustrates, these three axes are already irrevocably combined. When building technologies or materials increase energy efficiency, for example, the economic result is lower utility bills and increased affordability for residents with the associated social result of being able to stay in one's home in the event of retirement, loss of a job or other financial hardship.

Fig. I.1: *The Three E's of Sustainability: Environmental Protection, Economic Development and Social Equity.*



Social Green

Like other writers on sustainable development, we draw distinctions among the economic, environmental and social, but we do so to point to their oneness. In the everyday real world, evidence of the tight links among them is abundant. And while we will demonstrate these links, as sociologists our goal is to document our observations and insights into the third circle — the social — by offering our findings and sociological lessons learned as we traveled through cities, neighborhoods and communities.

For this book, we traveled across the US and Canada: from the boreal forest to urban centers, from rural outposts to coastal cities and Pacific islands. In these places we conducted research at selected communes, cohouses and lands that resist classification, urban ecovillages, social housing developments, condominiums and single-family suburban homes.[24] We offer stories of these places: accounts of the

extraordinary people who are getting them built and stories of the everyday practices of living in them. These emerged from our interviews with residents, observations of their daily residential social life and research into their development.[25] We tell these stories alongside photos of the people and communities we met and saw. Visuals are increasingly part of the telling of one's stories — from family photo albums to websites and blogs, people use pictures to communicate, organize and make sense of their lives. We do the same here.

What all of the sites we visited have in common is a vision of how it is possible to live differently on our planet. Each in its own way offers a beacon of hope in a world increasingly overrun by images of what is going wrong. We found a complex set of ideas underpinning people's decisions to live green: at times these are to be good stewards for the Earth and at other times it is to struggle against injustice and inequity. Often these motivations intertwine. Multiple paths lead to the common principle and practices of sustainability we witnessed. We believe that these practices can be incorporated into all of our lives, regardless of where and how we live. In so doing, each of us can help bring about many of the individual, social and environmental benefits that living green has to offer.