

1

Understanding Sustainability: Steps Toward a Successful Project

This book is intended to be a guide to understanding sustainable projects. While crafted from the viewpoint of a practitioner involved predominantly in public development and the laws applicable to units of government, the discussion applies with equal force to both public and private entities, and to large groups and individual stakeholders.

The subsequent chapters of this book explore specific sustainable development techniques. This exploration is not done with a goal of expansively describing the engineering or legal aspects of such techniques, but rather in an attempt to identify and explain some of the many tools available for inclusion in the toolkit of someone hoping to employ sustainable development within their community or project. The book provides a description of the techniques utilized, phrased in such a fashion as to be understood without having an engineering degree. It also identifies some of the common pitfalls and explores methods of addressing those issues using the most readily available methods that either a developer, a public body, or a regulatory agency has available: laws and regulations, contracts, and design requirements.

To be able to build a collection of ideas that can be implemented within specific projects, the planners, lawyers, or public officials undertaking a sustainable project must understand what sustainability is, they must be able to identify the actual goals for the project, and they must be able to put together a team of individuals who understand both the project and the goals.

■ WHAT IS SUSTAINABILITY? ■

For at least the past 40 years, the United States has been increasingly direct about recognizing and discussing environmentalism as a social issue. It might come as a surprise to some, but it was not until 1969 that the US Environmental Protection Agency was created. The first Clean Water Act followed shortly thereafter in 1972 and, for the first time, nationwide legislation sought to improve the quality and safety of water, and the federal government began imposing additional environmental regulations in earnest.

Over time, the concept of environmental regulation became one that spawned many controversies—including numerous disputes over animal habitat, logging practices, use and disposal of hazardous material, and other areas where property rights and commercial interests seemed to be at odds with environmental policies. But with the passage of time, many units of local government, including schools, municipalities, counties, and others, have begun to embrace environmentalism at a micro level. Though there is no federal law requiring local buildings to be LEED (Leadership in Energy and Environmental Design) certified, public buildings are being designed and constructed to those standards at an increasing rate.

The changes in perception and the importance of environmental issues are not limited to governments; the social importance of these issues is growing at a rapid rate. Companies work to develop and market “green” products made from renewable resources and products

that lessen energy consumption, and then market these products to show how environmentally friendly they are. In its many forms, environmentalism and the concept of sustainability is increasingly important for commercial, social, and governmental interests.

What exactly is sustainability? Webster's defines sustainable as "1: capable of being sustained; 2a: of, relating to, or being a method of harvesting or using a resource so that the resource is not permanently depleted or permanently damaged <sustainable techniques> <sustainable agriculture>, b: of or relating to a lifestyle involving the use of sustainable methods <sustainable society>."¹ If sustainability was strictly defined in the absolute terms of the dictionary, much of what society has come to view as sustainable would not be. For example, hybrid cars that use gasoline engines supplemented by batteries and electric motors might be popularly viewed as sustainable, but they still use gasoline. They do not use fossil fuels in such a way that the resource is not permanently depleted; they simply deplete the resource at a slower rate.

Sustainability, then, has to be taken with a flexible definition. In popular culture, sustainability includes not only those techniques that prevent permanent depletion of resources, but also methods that reduce the rate of consumption of resources. Constructing a super-insulated building will not, by itself, eliminate the use of external energy to heat and/or cool the building, but it will (should) result in reduced energy use. Building a windmill will not eliminate fossil fuel consumption in a given area, but it should reduce the amount of fossil fuels otherwise needed to generate the energy produced and converted by the windmill. Both of these projects, by nearly any contemporary definition of the word, would be viewed as being sustainable.

1. Merriam Webster Online Dictionary, Sustainable. Accessed Apr. 16, 2010. <http://www.merriam-webster.com/dictionary/sustainable>.

Over the past few decades, sustainability has been invoked in defense of many things. Many believe that the continuing reliance of modern society on fossil fuels and industrial production contributes to global warming, acid rain, and the melting of the polar ice caps (among other environmental items in the contemporary parade of horrors). In response, sustainable techniques have been introduced and popularized as a means of hopefully slowing, halting, or even reversing some of the environmental damage that science tells us has occurred over the past century. In areas prone to flooding, sustainable engineering has been popularized as a means of providing storm water and flood water control that minimizes damage to natural or man-made environments. These sort of projects, aimed directly at mitigating or eliminating society's impact on nature, or at mitigating nature's impact on society, are the projects that are most often branded with the sustainability label. This form of sustainability can perhaps best be viewed as a response, whether proactive or reactive, to an environmental crisis.

When communities look to construct a LEED-certified building, or when industries spend research and development monies on developing sustainable technologies, quite frequently the underlying goal is not environmentalism, but rather capitalism. A municipality might be legitimately concerned about reducing energy consumption and might appreciate the public relations benefits of being able to discuss the environmental benefits of sustainable buildings. However, the practical discussion as to whether a given project should be designed and built with traditional construction or with sustainable construction often focuses on the reduced operating costs of the sustainable project in the long term. A community might like the fact that a naturalized area planted with prairie grass and flowers provides comparatively cheap opportunities for storm water infiltration, but they *love* not having to budget to mow such areas on a weekly basis. With increasing energy costs, sustainability can be viewed in many instances as a response to an economic crisis. Sustainability is coming at communi-

ties from all sides—from public concerns about water quality and land development, to public regulations restricting the disposal of computers, printers, and other technology.²

Another form of sustainability that has been advanced a great deal has been the concept of sustainability as a “simpler way of living.” The ability to live “off the grid” in a self-reliant fashion has been advanced as a response to the hustle and complexity of modern life. This form of sustainability is, quite simply, a reactionary social movement aimed at reducing the need to rely on outside resources and assistance.

Perhaps the most interesting form of sustainable development is that which is sustainable to be sustainable—or which is branded as sustainable to reap the benefits of being perceived as such. Companies and governments alike have shown an increasing willingness to undertake projects that they *describe* as being sustainable or environmentally friendly, for the purpose of obtaining the positive response, social benefits, and increased marketability associated with a “sustainable” project. The good news is that whatever the motivation for a sustainable project might be, if it truly is sustainable, then environmental benefits—in addition to the commercial benefits—should result. The bad news is that altogether too often, it appears as if companies engage in *greenwashing*, which is the taking of a nonsustainable product or project and marketing it as being sustainable for the purpose of obtaining some positive benefit.³

2. See, e.g., Illinois Public Act 095-0959, Electronic Products Recycling and Reuse Act, regulating the disposal of electronic devices such as computers, televisions, printers, and related items.

3. Greenwashing claims are actually one of the newer forms of litigation to arise out of the sustainability/environmentalism movement. Greenwashing claims effectively seek to prove, for example, that the manufacturer of a given product is misleading the public about how environmentally friendly that product actually is. For example, in *Paduano v. American Honda Motor Co., Inc.*, 88 Cal. Rptr.3d 90 (Cal. Ct. App. 2009), the owner of a hybrid car sued the

It is the desire to appear to be “green” or “eco-friendly” that has given rise to cars that are ostensibly “hybrid” cars, but that are hybrid only in the most technical of senses. For example, at the date of publication, Lexus offered the LS600h hybrid, starting at a base price of \$108,000. This vehicle is equipped with a 5.0L v-8 and a hybrid supplement; it is capable of going from 0 to 60 mph in 5.5 seconds. However, its EPA rated combined city/highway mileage is only 21 mpg—a figure that can be exceeded by some small sport utility vehicles and many cars, and that is scarcely better than the 19 mpg garnered by the nonhybrid version of that same car.⁴ There are those who argue that expensive implementations of hybrid automobile technology are the only ways to cover the costs of engineering and refining the technology to a point that it can be included in less expensive automobiles. Regardless of the truth or falsity of that defense, one of the premises of this book is that those who are truly interested in sustainable development are interested for the purpose of actually *being sustainable*, rather than just being able to put a green badge on an otherwise not sustainable project.

■ IDENTIFYING YOUR GOALS ■

Where the purpose of providing a “sustainable” product is solely, or even predominantly, to increase its marketability and sale rates (resulting in increased consumption of resources to manufacture and distrib-

manufacturer when the car failed to produce the mileage ratings the manufacturer had specified. In *Koh v. SC Johnson & Son, Inc.*, Case No. 5:2009cv00927 (N.D. Cal. 2009), a consumer filed suit against SC Johnson, claiming that their “greenlist” labeling of products was misleading. Tim Clayton, *Preventing Greenwashing Lawsuits*, OHIO GREEN BUILDING LAW (Jan. 17, 2010), <http://ohiogreenbuildinglaw.com/2010/01/17/preventing-greenwashing-lawsuits/>.

4. Lexus website, LS Hybrid 2012. http://www.lexus.com/models/LSh/detailed_specifications.html, accessed March 21, 2010.

ute the product), it is difficult to see how such efforts can reasonably be labeled as being sustainable. Certainly, if the product is replacing or supplementing another consumable that is significantly less environmentally sound, there might be an argument to be made. But one of the central theses to be advanced in this book is the notion that being “green” for the purpose of marketing one’s environmental sensitivity is often a misguided goal. Instead, those who wish to undertake a sustainable project should do so using a pragmatic approach. They should evaluate the *actual cost and benefit* of sustainable aspects of the project. Where the goal of a project is to get a certain green label, the outcome might not be as environmentally friendly as if the goal of the project is to complete it in a sustainable fashion.

Aside from products that are greenwashed without actually being sustainable, what all of these different takes on sustainability *should* have in common is that they all *should* provide positive environmental benefits, and they all *should* reduce the use of nonrenewable resources. There is an inherent conflict, however, in the method by which sustainable projects are evaluated after completion. LEED building standards are an easy target to explore this conflict because they have defined standards and because they are reasonably well known and accepted as being “sustainable.”

Assume for a moment that a town is undertaking construction of a new public building in a relatively rural area. At the outset of the project, an enthusiastic architect convinces the town government that LEED construction is environmentally, economically, and socially responsible, and the long-term benefits of the construction outweigh any additional short-term increases in design or construction costs. While the LEED system will be explored in greater detail in subsequent chapters, a great (and perhaps even unfair) simplification of the process is that a building is given points for having various sustainable techniques incorporated into its design. Depending upon the total number of points accumulated in the design and construction of the building, it might not be eligible for certification at all, or

it might be eligible for one of the various different levels of LEED certification. Among the construction techniques rewarded with points under the LEED program is the recycling of construction debris.

At the time of constructing the project, the town has two choices. One choice is to haul the debris to a landfill that is ten miles away. The other choice is to haul the debris to a recycling center in the nearest large urban center, which is 200 miles away. Under this circumstance, if the goal is LEED accreditation, the only answer might be to haul the debris 20 times as far and to expend 20 times as much fossil fuel, create 20 times as much exhaust from the trucks being utilized, and so forth. That may or may not be the outcome that is actually more environmentally sensitive and more sustainable. But what if the goal is more simply defined? What if the goal is to construct a sustainable building? If the town is not constrained by meeting a certain defined standard, it might evaluate this decision differently and might determine that under these circumstances it makes more sense to dispose of the materials instead of recycling them. The town might determine that it makes more sense to spend the money on tangible improvements to the building rather than on hauling recyclable materials several hundred miles. Those improvements might actually reduce energy consumption and maintenance need over the building's lifetime.

The point of this thought exercise is not to set up a LEED straw man and then knock it down; the LEED program is a great one and is one that sets up a tangible system that rewards environmental stewardship and encourages building owners to incorporate sustainable design into their projects. Rather, the point of this exercise is to suggest that when a "sustainable" project is undertaken, the parties responsible for its planning and implementation should define their goals clearly. If the goal is to obtain LEED certification, for any of the numerous reasons one might want to obtain such certification, then their conduct, their contracts, and their focus should be on obtaining that goal. If, on the other hand, the goal is to complete a sustain-

able project, while LEED certification might be one way of measuring success, they should evaluate and make decisions throughout the building process keeping in mind *the goal of being sustainable* rather than working toward accumulating points or obtaining positive public relations.

Moreover, if the goal is to be sustainable, then when the parties planning the project get to the point of making a project decision, they should evaluate that decision from the proper perspective and based on the unique characteristics of the project. Does spending money on permeable pavement make good sense to address a given project's storm water needs? Permeable pavement might require extra maintenance, special snow removal equipment, or other future expenditures. Depending on the nature of the local soils and the material used, the pores in the material that make it permeable might become plugged and render it less effective or ineffective as a permeable area. On a small site, permeable pavement might nonetheless make sense, both from an economic and environmental perspective. But if there is a large site and a community or developer can construct other forms of sustainable storm water management (such as bioswales, aquifer recharge, and infiltration basins), then there might be more effective and less expensive means of meeting the goal of being sustainable. There is no "one size fits all" solution to all sustainability issues.

It is likely a reality that any justification for undertaking a sustainable project is better than not undertaking a sustainable project at all. If the outcome is good, the ends might justify the means. But this is a time of rising energy costs and of an increasing consensus regarding the impact that communities have on the environment (and the likely long-term social costs associated with that impact). Anyone who wishes to undertake a project of this nature—whether it be called sustainable, green, environmentally friendly, or otherwise—should not have to look very far to find both a justification for the green bent to the project or to identify worthwhile goals to be achieved through the completion of the project.

If a group wishes to have a successful project, the compass that guides its project from start to finish must be a clearly defined and expressly identified goal. If the goal is to complete the project in a sustainable fashion, then let sustainability be the guide.

■ ASSEMBLING A TEAM ■

Extending the metaphor from the last paragraph even further, if the goal serves as the compass that guides the project, then the project team is the group that crews the ship and enables the project to set sail toward completion. When undertaking a sustainable project, in all likelihood the project owner will need to retain some consultants who have specific experience with projects of that nature—and will need to integrate them with the balance of a team who might not have specific experience in developing sustainable projects.

Talking with other professionals involved in a sustainable development project at the outset and at regular intervals during the course of the project is invaluable in enabling each member of the team to understand his or her role. Accordingly, once the project owner understands its own goals, assembling a team approach to sustainable projects is one of the best ways to implement techniques necessary to achieve those goals.

For example, continue to assume that a town is working on the sustainable building project discussed above. One component of the construction process will be the design of sustainable systems by engineers and architects. One component will be the drafting of contracts that provide the requirements for the performance of all obligations relating to the construction (and the prerequisites to payment for those services). One component will be the selection and hiring of contractors to perform those services. One component will be the selection and purchase of materials necessary for the construction. Finally, one component will be having staff and officials review and

approve the foregoing. Ideally, all of these components mesh together neatly and produce a sustainable project that comes in on time and on budget. For that to happen, everyone involved in the project needs to understand (1) the master goals of the project; (2) the nature of the project; (3) their role in the project; and, (4) the impact the goals for and nature of the project will have upon their work.

The attorney working on the project customarily prepares contracts and other similar agreements for use in the construction process. If those contracts are to be for a standard building, traditional Architects Institute of America (AIA) contracts might be used, albeit with modifications. But if the attorney understands the goal to be building either a sustainable building, or a sustainable building that obtains LEED certification, that dramatically changes the approach to be taken and the documents to be used. Even if AIA contracts are used, they must be modified in fundamental ways. A single, seemingly minor error by a contractor during the course of the project can result in the failure of the entire building to obtain LEED certification. And that can cause hundreds of thousands or even millions of dollars of losses over the lifetime of the project.

But simply telling the attorney that the goal is a LEED-certified building is not enough. The attorney, engineer, architect, LEED commissioning agent, construction manager, and others involved in the project need to meet before bids are let so that they ensure the bid specifications adequately identify and mandate compliance with the LEED regulations. The public works department or maintenance crew needs to be involved so that they can indicate what sort of maintenance training they will need and so that they can understand what warranties are being provided. Each member of the team needs to understand the role of the others. Will the construction manager be responsible for ensuring contractors use the right materials and the appropriate, environmentally sensitive construction techniques, or does that fall to the commissioning agent? What happens if a given sustainable design element is not practical to actually construct? When does risk of loss

transfer to the owner for expensive items like the chillers and HVAC equipment? What happens if the building is constructed and does not ultimately perform to design specifications?

The list of potential questions and issues is lengthy. Ultimately, no building owner will be able to predict and prevent every issue that could ever arise during the construction and occupancy of the building. But in the course of working on projects such as this, a surprising thing happens when the building owner convenes a pre-bid, preconstruction meeting of the consultants and staffers involved in the project and provides an express, stated set of goals for the project: everyone works to achieve those goals. The approach that each party takes to a project is different if the project is to “construct a new building,” compared to if the project is to “construct a sustainable building that endeavors to be LEED certified, but that favors sustainability over strict point accumulation.”

Convening the team is essential to the process. As the team grows with the addition of contractors and subcontractors, additional team meetings must be called. In the vast majority of completed construction projects, the only time that the attorneys responsible for the project meet contractors and subcontractors (other than the general contractor and a few prime contract holders) is when there is litigation following the project. If a project owner wants to get its contractors’ and subcontractors’ attention, it should have a preconstruction “team” meeting with them where the project attorney explains the liquidated damages and other consequences that would be imposed for even a minor deviation from the sustainability specifications for the project.

It is impossible to control every action taken by every person involved in the workings of a construction site. But if a project owner approaches the whole process with the idea of informing the team of a set of stated objectives, it should be able to avoid a situation where someone later claims not to have known that what he did was not permitted.

Throughout the course of this book, there will be examples of the best-case and worst-case scenarios. These examples are developed both out of imagining the best and worst that can happen, and also out of real events and cases. Does it seem implausible that one would have to choose between disposing of building materials within ten miles or recycling building materials 200 miles away? That example is taken from an actual LEED-certified building project in the mid-western United States. Does it seem unlikely that a single, apparent mistake by a building contractor could both be irreparable *and* generate hundreds of thousands of dollars of losses? Ask the contractor who tried to collect \$50,000 in unpaid construction costs and who was hit with a countersuit for \$1.3 million in damages (a majority of which related to the failure to achieve LEED accreditation, allegedly caused by a minor contractor mistake).

Public entities and those who work with public entities are accustomed to addressing adversity and controlling behavior with regulations and restrictions, and permits and processes. They instinctively understand that there are some groups subject to their control and some entities that have a superior governmental mandate and can potentially regulate them. But there are some areas where all persons, regardless of their association or lawful entitlements, are placed on common ground—subject to the same requirements. The laws of nature apply to us all.