The Jury is Still Out on Sustainability Plans

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ABSTRACT

As the notion of "sustainability" takes root in communities, the term is broadly used to encompass many aspects of local and regional planning. Unlike traditional comprehensive planning, where both state laws and decades of precedence offer clear guidelines for formulating and implementing a plan, there is no such guidance for sustainability planning. Consequently, there are no standards for what elements comprise a sustainability plan, and nor is there clear documentation of what makes a plan successful.

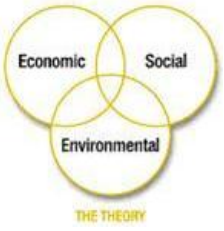
This paper discusses an analysis of over 50 sustainability plans from around the world, which provides new insight into what makes a plan effective. Although research concluded that plans lack any form of consistency—including topics covered, measurements, indicators, and implementation – categories throughout the plans as well as characteristics of their respective cities began to paint a picture about what works and what doesn't. Some of these themes that affect the depth and thoroughness of sustainability plans include the longevity of a community's commitment to sustainability, knowledgebase on key sustainability issues and location-specific factors, and the overall structure of plans.

So, is there a formula to produce an effective plan? Is a sustainability plan necessary or can independent efforts with little framework produce the same results? The jury may still be out. But this research has the potential to greatly benefit communities, providing framework to begin or advance sustainability efforts, locally, nationally and globally.

Introduction

Sustainability planning is a broadly used term that can encompass many aspects integrated in regional and municipal planning. The first widely known definition of sustainability came from the United Nations' Brundtland Commission in 1987, which wrote that "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (United Nations 1987). Today, the commonly accepted view of sustainability is one that incorporates three balanced dimensions: environmental, social and economic sustainability (Figure 1.)

Figure 1. Commonly Accepted Theory of Sustainability



Source: International Union for Conservation of Nature, "The Future of Sustainability," 2006

Communities of all sizes across the nation are defining sustainability and working to develop and adopt plans that outline a sustainable future for their respective communities. A 2009 survey by Living Cities showed that 20 of the country's 40 biggest cities were either in the process of developing a sustainability plan or had recently adopted one within the last year. Another 25 percent already had such plans in place. (ICLEI 2011; Living Cities 2009). Many mid-and smaller size communities have followed similar trends, some for years and others more recently spurred by federal funding from the Energy Efficiency and Conservation Block Grant program of the American Recovery and Reinvestment Act of 2009.

Beyond the use of buzz words, what are communities actually accomplishing? Unlike traditional comprehensive plans that generally follow standard planning protocol, there is no such clear guidance for sustainability plans. The absence of a standardized planning process may partially be the cause for such differences among sustainability plans across the United States.

This paper examines quantitative, objective differences in the planning scope, baseline measurement, subject content, and measurable goals and indicators with identifiable action steps across sustainability plans. Next we look at the qualitative, more subjective differences among the municipalities that "own" the plans—in particular, a community's experience or longevity of a commitment to sustainability, the depth of knowledge on the subject matters, political/financial pressures and attitude in embracing sustainability. Based on this analysis, we conclude with a potential framework for communities that aim to begin or advance their sustainability planning efforts—and whether that requires a sustainability plan or not.

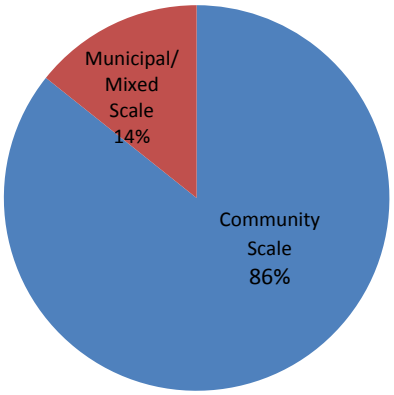
Anatomy of a Sustainability Plan: A Brief Scan of How Sustainability Plans are Comprised

Local government officials are well aware of several models for comprehensive plans, zoning ordinances, mobility plans and other framework policies and plans that can be used as a guide for communities undertaking new planning ventures. For sustainability plans, we found an array of different planning styles. Some communities like San Francisco, Portland, and Seattle have been planning for sustainability for several decades, but for many, the notion of sustainability has only surfaced within the last decade. In addition to a range of overall size of the plans, we found differences in scope, types of goals and indicators, and connectivity or ability to be codified with existing municipal plans, policies or practice.

Planning Scope

One of the first noticeable differences among plans was the scope—or for whom the plan, when implemented, would impact. Traditional planning documents are written and implemented from a community-scale perspective, and while this was the case for the majority of plans reviewed, 14% seemed to establish broader goals while only targeting strategies that affected internal municipal operations—such as energy efficiency improvements at city hall—with lesser defined strategies and indicators for the community at large. (Figure 2.) For example, a large city in the south augmented nearly all of its goals with clearly defined, measurable municipal strategies but left the community to fend for itself by offering vague ideas for investigating policies, providing educational information and encouraging volunteerism.

Figure 2. Planning Scope

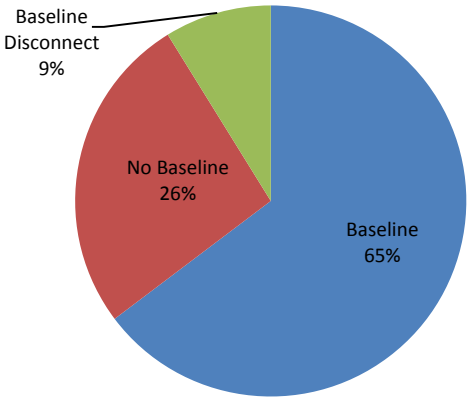


Center for Neighborhood Technology Sustainability Plan Review, 2011

Baseline

The next difference among plans reviewed were those that included a baseline assessment of existing conditions and those that did not. The presence of a baseline is a key component that allows one to measure "resulting change that is caused by or linked to some intervention that you have implemented." (Washington State Archives 2012). A baseline is a necessary element that provides a point from which to inventory what you have before you set out to improve it, and from there, aid in identifying and establishing strategies, and measuring the progress of them. Approximately ¾ of the plans had baseline analyses, however, among the plans with baselines included those with appropriate baseline measurements and corresponding strategies, and then other plans that cited the importance of reducing emissions, energy and fuel consumption, but then addressed the bulk of their community-wide strategies on waste/recycling or parks/open space. These other strategies, while still important, have much less impact and show the level of "baseline disconnect" that many communities experience. Basic education and guidance on sustainability measurements, indicators and impacts would go a long way. Just over a quarter of the plans had no baseline analysis.

Figure 3. Presence and Quality of Baseline Analyses



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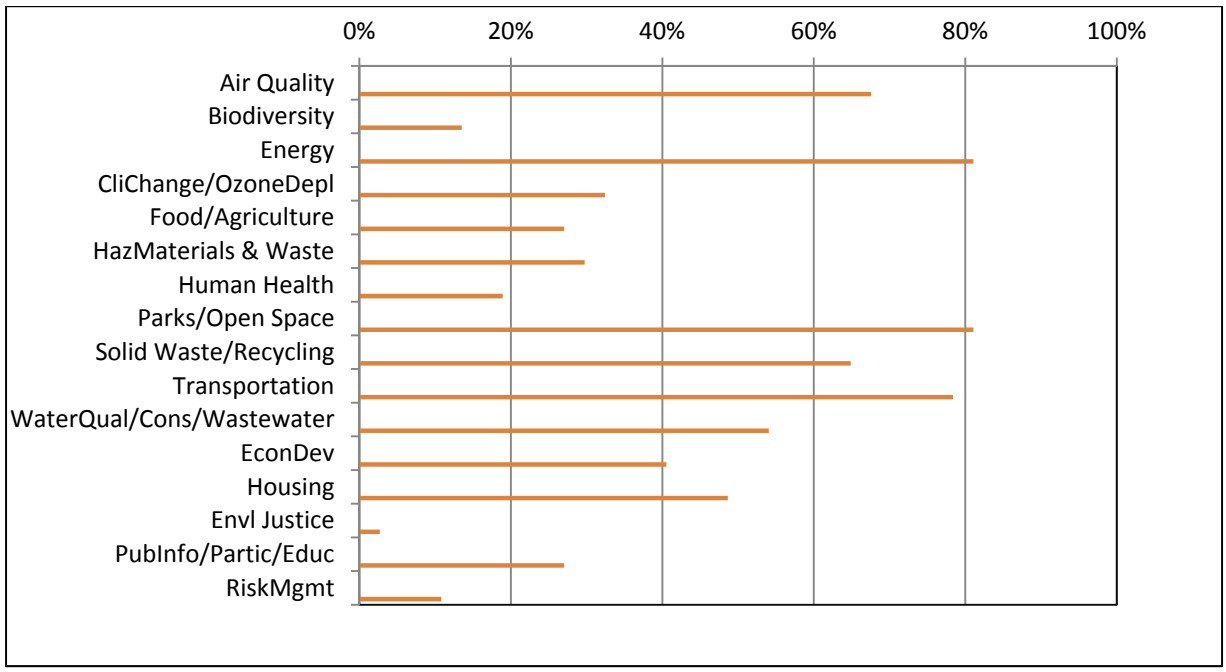
Specificity and Measurability of Goals

The most frequently addressed components in sustainability plans are energy, transportation, parks and open space, solid waste and recycling, water, climate change or ozone depletion, and air quality. However, some plans go beyond the typical subject matter and delve into additional subjects including biodiversity, food systems or agriculture, human health, economic development, housing, environmental justice, municipal actions, public information and participation, and risk management. Figure 4 below depicts the frequency of sustainability plan components found in the study. Most common themes included energy, parks and open space, and transportation.

Figure 4. Typical Sustainability Plan Components/Chapters in Study



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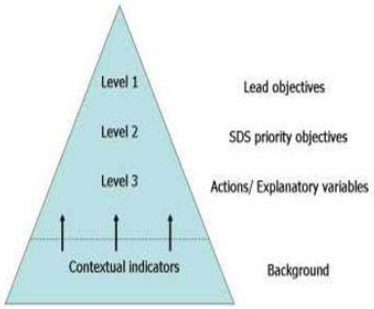
In general, sustainability plans established a set of goals upfront, but the real differences among plans became more apparent in how communities actually addressed the subjects, moreover, if stated goals were measurable. For example, below are energy goals from two different sustainability plans:

- *"Reduce greenhouse gas emissions and increase energy efficiency."* (Mid-size city, Midwest)
- *"Use less water and energy. Reduce per capita non-renewable energy use to 20% below 2007 baseline by 2015. Reduce water consumption 1.5 million gallons per day. Reduce government electricity use by 20% from 2007 to 2014…"* (Large city, Southeast)

The differences noted here coincide with levels of indicators described by the European Union. (Figure 5.) Level one indicators establish a basic goal aimed at high level policy making and the general public, referred to as "headline indicators." Some plans never move beyond this

level of indicators. Level two indicators go deeper and provide a measurement to essentially "monitor the progress in achieving headline policy objectives." Finally, level three indicators are more specific to actions, policy analysis and "understanding the trends and complexities of the issues" and are not necessarily intended for review (or understanding) by the general public. (Adelle and Pallemaerts 2009).

Figure 5. Levels of Indicators



Source: Sustainable Development Indicators, European Union, 2009

Of course, having a baseline in place lends to the likelihood of measurable and realistic goalsetting. There are several possible reasons why a community may only embrace "level one" goals which we will discuss in the following section entitled "What Makes Good Plans Work: Qualitative Attributes of Sustainability Plans."

Implementation: Timeline and Measuring Progress

The goals cited above highlight differences in specificity. Plans that don't offer measurable, clearly defined goals typically end with level one goals, with little or no definition of how they will move forward or how they will determine success. In-depth plans that include implementation or action plans, timelines or specific ways by which they will track and measure performance will most likely see results—in part because they've established the parameter by which they can actually measure results, but also because they've provided a roadmap for doing so. Again, in the next section we address several possible reasons why some communities do not take their plans to this level of planning.

The goal from the large Southeast city referenced above not only is measurable and rooted in a baseline measurement, but also provides a clear timeline for when the goal should be met. For this particular plan and others like it, a more detailed set of strategies or initiatives are crafted that feed into the overall goal.

The more thorough plans embrace a number of key components for implementation that move strategies into action and define success by measuring progress. These key components are discussed below:

Defining lead/partner roles. Clearly defined roles for the municipality, partners, and stakeholders in implementing the plan helps create buy-in for the plan, and assuming their involvement in the planning process, eliminates unexpected situations later.

Costs (funded and unfunded). Municipalities are struggling in today's economy so addressing costs is especially important, although it should never really be left out. Directly stating upfront what the potential costs are, and what could possibly be integrated into existing services helps decision makers and implementation partners understand the full scope of the initiative/strategy.

Other potential funding sources. Identifying existing or potential funding sources, whether from federal, state or local grants, special service fees or another source, adds important information to understanding the costs of an initiative/strategy and highlights opportunities for establishing new partnerships in implementation.

Legislative action. Some ideas presented in sustainability plans require legislative action. This has important political ramifications that should be mentioned and understood by decision makers and implementation partners.

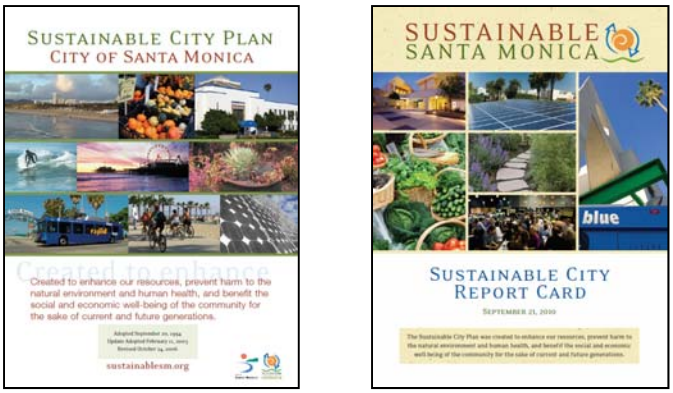
Milestones. Milestones are the building blocks for implementing a strategy. They essentially form action steps and a timeframe by which the municipality and partners implementing the plan can follow. These are particularly important for long-range plans.

Impact. Most initiatives and strategies "mean well," but what is the actual impact? Are they direct or indirect? The potential for measurable impacts should be acknowledged, and may be a decision factor if limited budgets make it difficult to implement all strategies.

Performance indicators/targets. In addition to establishing milestones, performance indicators provide the ultimate measurements that prove whether or not the particular strategy is successful.

Some communities monitor their progress regularly and publicly share that information. Santa Monica initially adopted a sustainability plan in 1994 that was revised in 2003 and 2006. Since then, "sustainability report cards" annually provide an accounting for how well the city is faring by an analysis of the overall goal and target indicators. (City of Santa Monica 2006; 2010).

Figure 6. City of Santa Monica Sustainable City Plan and Annual Report Card

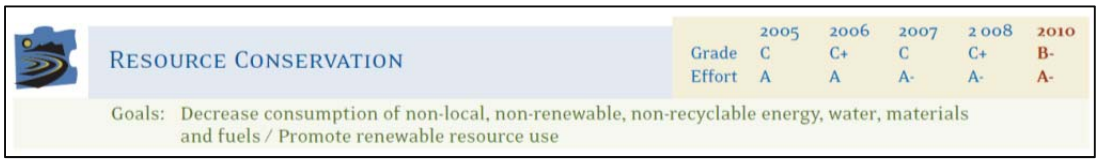


Source: City of Santa Monica, California

For example, in the "resource conservation" goal area (Figure 7), the city provides a snapshot with an overall "grade," and then summarizes the information pertaining to its original target indicators by which that grade was achieved. In this particular summary, the city

highlights that recycling has exceeded the target goal and water demand has dropped every month for three years, and while energy use has decreased slightly, "if the community can sustain this lower level of resource use as the economy recovers, this decrease will represent a significant accomplishment." (City of Santa Monica 2010.) Using indicators to measure progress also force a "reality check" of sorts. Not all of the grades earned paint a pretty picture.

Figure 7. City of Santa Monica 2010 Sustainable City Report Card, Grade for Resource Conservation



Source: City of Santa Monica, California

What Makes Good Plans Work: Qualitative Attributes of Sustainability Plans

At the beginning of this paper the interlocking circles diagram of sustainability was noted as a popular view validated by communities across the world. It is interesting to note, however, that nearly all communities leave out the complete diagram (Figure 8) that was presented by the IUCN in its 2006 report on *"The Future of Sustainability,"* which depicts not just the theory of interlocking circles, but also "the reality and the change needed to balance the model" (International Union for Conservation of Nature 2006). Operating under the assumption that sustainability is already a balance between economic progress, social equity, and environmental responsibility, rather than acknowledging the level of commitment needed achieve this balance may prove to be a clue in why some planning efforts lead to ambiguous results.

Figure 8. Sustainability Theory of Interlocking Circles, Now and the Change Needed

Source: International Union for Conservation of Nature "The Future of Sustainability," 2006

This limited understanding between theory, reality and what's needed to bridge the gap seems to be exacerbated by a lack of experience and knowledge, and is impacted by internal political and financial pressures and sheer attitude and approach to addressing sustainability. In this section we examine the more subjective differences among municipalities that "own" the plans—in particular, a community's experience or longevity of a commitment to sustainability, the depth of knowledge on the subject matters, political/financial pressures and attitude in embracing sustainability.

Experience

The communities with the most thorough plans are generally those that have been actively working with sustainability goals for the longest time. Cities such as San Francisco and Portland have been honing their efforts for over 20 years and have had public support behind them. This has allowed them to be more creative and ambitious with their goals without forfeiting reality. With this experience, they tend to be at the forefront of knowing which indicators are effective in achieving those goals. Moving beyond the main components of sustainability – energy use, water use and quality, air quality, waste management, and transportation – they are able to focus on seemingly secondary concerns such as the health of its citizens and local ecosystems. In essence, they have moved on to the point where the sustainability plans that they follow are more comprehensive than others. They have been able to work with a holistic vision while being able to focus specifically on small subsets of goals.

Meanwhile, the rest of the world is left to play catch-up and often emulate those efforts but can lose sight of the varying degrees of specificity when it comes to being able to measure their own actions. That being said, cities with longstanding sustainability efforts tend to have well-documented approaches that serve as lessons learned for other communities. Best practices in stakeholder engagement, visioning and goal-setting, and even specific strategies may offer insight to communities who are just beginning to consider these ideas.

Knowledge

Many of the communities who are new to the sustainability arena are developing goals and strategies, with or without target indicators that show a lack of understanding or maturity in the subject matter. We reviewed numerous plans that seemingly spit back a goal related to greenhouse gas emissions and the Kyoto Protocol or a rather large reduction in energy or transportation, and but paired it with only a set of strategies to reduce municipal operations and fleet, or failed to include a community baseline altogether. In most circumstances, a full community baseline would allow local government officials to see that consumption from municipal operations is actually a very small percentage of a community's total consumption. Planners have dealt with transportation data for decades, and in many communities, have grappled with water quality, availability and stormwater issues for many years as well.

However, understanding greenhouse gas emissions and energy data are particularly complex topics for many communities new to sustainability planning and often require some level of training and re-tooling to address them at the community level. For example, some plans expressed their energy goals solely with targets for increasing renewable energy use. While renewable energy can play an important role in reducing emissions, the goal does little to address the overwhelming majority of buildings that rely on fossil fuel consumption. Some plans focus on municipal energy and transportation, because acquiring that data is an in-house process, while acquiring community-scale data can be an enormous task in which many planners and other officials don't know where to begin. (McGraw 2012). Other plans exemplify "baseline disconnect" by focusing on more easily attainable goals often with much less impact, while offering limited solutions for areas with the most potential for achieving community-wide impacts.

Handling political and financial pressures

As mentioned earlier, there are a number of cities who have been progressing towards their goals since at least the early 1990's, while most of the other major cities established sustainability plans or offices in the last ten years. This may seem like a relatively small difference but it equates to generations in the political arena. Having had the popular support for their efforts has given them a head start over the others. While they have already laid down the groundwork and established deeper, well-thought out level 1 and level 2 goals and indicators, the rest of the cities are trying to catch up and often leapfrogging the basic level 1 indicators. This could seem insignificant but it shows how the occasional misguided attempts occur. The top tier cities also simply have an advantage as they have a head start over the other cities. They have already gone through the rigors of establishing and growing public support for their plans. With heavy public participation, and at times of economic stability and growth as opposed to the current climate, they can aim for greater measurable changes without significant opposition. For new sustainability efforts, political pressures that range from budgetary concerns to debating climate change are realities that many communities contend with as they navigate and develop a new paradigm.

Sustainability expert Annemarie van Zeiji-Rozema suggests that developing sustainability indicators is actually a normative issue just as much as it is a scientific, knowledge-based one. "Although science clearly is needed to develop understanding of the underlying systems…the role of scientists in selecting policy-relevant indicators is less clear…the field of sustainability science generally recognizes that scientists and policy makers are part of a heterogeneous network that has to manage different kinds of knowledge. The different styles of knowledge creation in these domains must be integrated to bridge the gaps among science, policy and practice" (Zeiji-Rozema van 2011).

Interestingly, financial surplus provided by the federal government through the American Recovery and Reinvestment Act (ARRA) may have inadvertently added more political and financial pressures at the local level, on top of the challenges presented by the current economy and walking the tightrope between technical and political quandary. Thousands of communities received ARRA funding through the Energy Efficiency and Conservation Block Grant and were spurred to act quickly. Unfortunately, funding required fast and furious deadlines for paperwork and plan submittals, which did not grant communities much time to embrace what was a steep learning curve for many. "In everyone's haste to get the dollars on the street, many communities are overlooking this rare opportunity to leverage these federal funds and build self-sustaining initiatives. 'But that requires time to plan,' our local colleagues tell us — a luxury most federal and state stimulus processes do not encourage." (Millman, Schilling, and McCarty 2009.) So instead of taking time to investigate community-based strategies with potential for large, ongoing sustainable impacts, it was far easier and less stressful to develop municipal-based strategies that could be easily measured without having to reach too far to acquire data, while having the ability to relieve municipal budgets that were just beginning to feel the brunt of a crippled economy.

Attitude

In addition to successfully addressing these elements, there is a boldness among the communities with the most successful plans. Their approach to sustainability planning looks much different than the traditional planning process. Traditional planning is methodical and long

range. Successful sustainability planning works best when it employs a long term view that is linked to shorter term goals in order to allow for ongoing performance monitoring. Sustainability planning also involves venturing out in to topics not traditionally addressed by planners. Successful communities take risks in addressing these new concepts, and aren't hesitant to address improvements during phases of performance monitoring.

Sustainability: To Plan or Not to Plan, that is the Question

Evidence shows that there are a wide range of sustainability plans that result in different impacts and as a result, end up serving different purposes. Some lay out policy and programmatic framework that guide decision-making and directions for a period of time, while others lack specificity and merely act as an endorsement of sustainability topics, having no real "teeth" to them. With such variety, one might question their validity overall.

However, the best plans, like those in Santa Monica show that good sustainability planning is worth doing. Beginning with a strong baseline analysis, the planning process that pairs a shared community vision and long term sustainability goals along with concise, action-oriented strategies for implementation, is one that provides the best chance at achieving "triple bottom line" success in the environmental, economic and social realms.

So what can we learn from good plans? It would be short-sighted to think that the answer lies in developing a sustainability plan template—such a model would be void of the local characteristics needed to integrate a plan with the stakeholder buy-in needed for implementation. But there are key concepts that can be extracted from them that help comprise a good plan. Having a baseline measurement allows you to measure progress over time. Similarly, measurable goals and indicators will help you figure out what's working and what's not. Integrated implementation and broad-level community involvement help identify stakeholders beyond the municipality that will help keep a plan in action. Important, too, is the notion that sustainability planning is a very different kind of planning process than many communities are not familiar with, and in many cases requires developing a new knowledgebase. Be bold! Don't be afraid to take risks with new subjects.

Again, a simple template will not likely facilitate the level of learning that is needed; however, there are other ideas that may provide examples for the educational guidance needed to help bring communities up to speed. For example, the British Columbia Ministry of the Environment developed its web-based Climate Action Toolkit for all municipalities in its region that provides municipalities with "the latest news, best practices and practical advice to help them reduce greenhouse gas emissions and implement their Climate Action Charter commitments" (British Columbia Ministry of the Environment 2012). A similar effort stateside was recently unveiled in the San Joaquin Valley region of California to educate communities and assist them in implementing the smart growth principles of the regional blueprint plan (San Joaquin Valley.) Another locally-based knowledge sharing effort at a regional level was the regional plan commission in Philadelphia that developed baseline energy and emissions inventories for every municipality in the nine-county region. (Delaware Regional Valley Planning Commission 2009). At the national scale, there is potential replicability in developing something similar. The European Union list of indicators is appropriate for different goals and measures (Adelle and Pallemaerts 2009). As an educational piece, these could be indexed and described in such a way that a community can determine which indicators are right for them.

Lastly, communities can engage in all of these concepts without the presence of an actual plan and still arrive at the successful implementation of specific sustainability goals and strategies. A city may opt to develop a multi-pronged strategy to implement energy efficiency improvements and do it successfully. However, successful implementation still requires much of the same characteristics of a more comprehensive sustainability plan, including the establishment of a baseline, establishing measurable goals and targets, thoughtful, integrated implementation and ongoing performance monitoring in order to make modifications to the program when necessary. Related to this, some communities are beginning to integrate sustainability planning within the context of traditional planning—meaning that the outcome is less about establishing a separate sustainability plan, but rather, ensuring that the triple bottom line of the environment, economy and social equity becomes the natural progression of how we live and do business. The recently adopted (draft) Portland Plan (City of Portland, Oregon, 2012) melds a comprehensive plan with a sustainability vision, and similar efforts are occurring nationwide.

Conclusion

Clearly, the notion of sustainability represents different levels of capabilities that communities have in creating a vision and then successfully implementing the vision. A simple vision statement with ambiguous goals will amount to little being acted upon or impacted. Conversely, a strategic approach to ongoing measurement, broad-based implementation, and a willingness to adopt a new planning paradigm that combines long term vision with short term actions, has the greatest potential to engage multiple stakeholders and achieve lasting results—by way of sustainability plan or one strategy at a time.

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