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The Coming Era of Sustainability

By Don Schjeldahl

DIRECTIVES FOR COMPETITIVE COMMUNITIES

Sustainability is on the cusp of becoming the new normal for successful business organizations and for economic developers. Economic developers can expect to see site selectors requiring that sustainability be part of the community value proposition with increasing frequency. To be competitive in the era of sustainability, economic developers will need to pursue highly collaborative, multi-disciplined, and multi-jurisdictional approaches to community readiness. This article outlines how corporate and community perspectives on sustainability are converging to create new measures for defining competitive communities.

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A new era is sometimes on us before we know it and when that happens, we scramble to catch-up. Once current we see our situation as the new normal. This phenomenon is nothing new for many. Rapid fire changes in technology that characterize modern life are often accompanied by behavior modification. Smart phones – need I say more? Unlike fleeting technological advances, sustainability is a slower moving long-wave cycle that is none-the-less on the cusp of demanding behavioral changes from businesses and communities globally.

Sustainability is destined to be the new normal for successful business organizations and for economic developers as well. This article is fair warning to economic development practitioners that change is afoot and time remaining to differentiate your community on sustainability is growing short.

In a 30-year career as a site selection consultant, I've walked side-by-side with the economic development profession, participating in the steady evolution of best practices that define competitive communities. The incremental advances that characterized this recent history are about to be superseded by a new broader view of community with sustainability at the center.

In this article, sustainability is first examined in its historic context and then by its modern use, including how business and community viewpoints have evolved. The article then explores how corporate and community perspectives on sustainability are converging to create new standards for defining competitive communities.

DEFINING SUSTAINABILITY

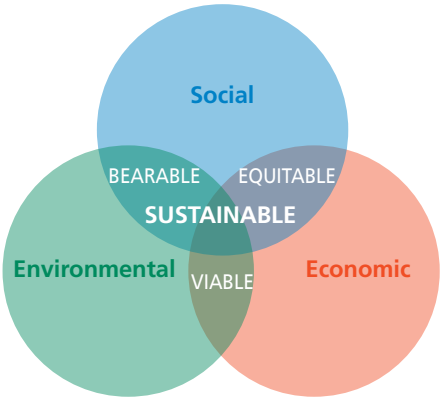
Growing public awareness that economic activities were having harmful outcomes in the natural environment culminated nearly five decades ago in giving birth to an era of environmental activism. The new era saw developed countries for the first time seriously debating if it was possible to reduce the environmental impacts of their growth. Epic changes in behavior resulted, including those dictated by the Clean Air Act of 1970, Clean Water Act of 1972, and other monumental achievements. At the same time, push-back from developing countries emerged. These countries were concerned with the notion of constraining activities to protect the environment as this could hinder their achievement of higher levels of economic growth. Rising from the debate was the realization that a new way of thinking was needed that would encompass environmental challenges intertwined with economic and social conditions.

After years of discussion, the United Nations Brundtland Commission in 1987 addressed the issue head-on by defining *sustainable development* as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[1]

Initially greeted as a domain of the environmental movement, sustainability has gradually been adopted as the next generation of best practices for business and government. Government and corporate organizations alike have increasingly aimed for long-term viability by adopting sustainability's triple bottom line – the three-legged stool of *society - environment - economy* (Figure 1).

Simply put, sustainable organizations optimize resource needs; reduce environmental, energy, and

FIGURE 1: SUSTAINABILITY'S TRIPLE BOTTOM LINE



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social impacts; and manage resources while not compromising their economic viability. The guiding principles of sustainability have emerged as an effective approach for organizations of all types to operate in an uncertain world.

It's important to restate that a turn toward balanced and holistic organizational behavior is not singly driven by a desire to do "good" for society and the environment. Rather, organizations are motivated by the necessity to adjust behavior in order to survive in the face of competition. Business consulting giant KPMG says of sustainability, "…the concept of sustainability goes far beyond corporate social responsibility. It has become the strategic lens through which they (corporations) view their businesses."[2]

Tom Friedman's seminal book, *The World Is Flat*,[3] outlines the competitive realities of the modern global economy and a large part of the push behind corporations adopting a sustainable philosophy. Friedman explains that we have largely achieved a level commercial playing field globally where all competitors have an equal opportunity.

Veteran site selection professionals can cite evidence of steady movement over time to economic globalization. The obvious examples are large multi-national corporations where decision makers continually weigh "off-shore" and "right-shore" strategies. The sun never sets on more corporations than one would imagine.

But more telling of the global-age are the multitude of businesses large and small of all jurisdictions who are influenced by events around the corner and around the globe. It would be difficult today to find a town or city in North America that didn't have a local business that wasn't tied in some fashion to international markets. Friedman and others argue that where historical and geographical divisions once protected local business interests, companies now must be globally aware and nimble to remain competitive.

SUSTAINABILITY AS A BEST PRACTICE FOR BUSINESS

Sustainability is the latest in a series of long-wave socio-economic cycles that have steered societies in the industrial age. These cycles arise from "the bunching of innovations that launch revolutionary change that reshapes the economic landscape."[4] It is easy to see how long-wave cycles around energy (water power to steam, steam to electricity), transportation (animal to automobile), and information (analog to digital) dramatically altered how and where we live.

With incremental change, the things that drive location decisions change incrementally. With dramatic change, the drivers of location change dramatically. Sustainability is that dramatic game changer.

A group of corporate managers and government officials tours Danny's Dumpsters, a regional food waste composting facility in Asheville, NC. The pilot project takes food waste from schools and other institutional settings and produces high quality mulch through a control decomposition process. Sustainable companies eye the program as a way of generating revenue from what has been a cost item.

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In the most recent long-wave cycle now largely ended, location strategy focused on minimizing cost. In the new era, risk management will prevail. The former is clearly evident in the location selection assignments completed by The Austin Company between 1950 and 1984.[5] Essentially a documentation of the "rust-belt's" emergence are the over 500 client location studies performed by Austin that guided the relocation of manufacturing plants from the northeast U.S., where operating costs were high, to the south and southeast where costs were much lower.

Deregulation beginning in the 1970s including energy, communications and transportation sectors, combined with productivity gains to effectively level the economic playing field across much of the U.S. for many industries. Regions once known for dramatically lower operating costs largely vanished. Simultaneously, global commerce flourished, injecting into the mix new strategies including off-shore alternatives. Not surprising then, of the approximately 300 domestic location studies Austin performed from 1984 to 2011, non-cost factors took equal footing, if not overtaking cost, in most location selection projects.,

The reason for this shift is obvious. There is hardly a corporation operating today that does not deal on a day-to-day basis with changing and ever more complex arrangements of product and production technologies, competitor actions, regulation, supply chain efficiency and reliability, customer actions, strategic partnerships, labor and facility flexibility and, oh yes, cost. Successful companies are those adept at managing change across the spectrum. These companies realize greater utilization of resources over a longer period of time and are more likely to defer the impulse to downsize or relocate production facilities. Longevity is a central tenet of sustainability.

Sustainable communities recognize environmental and economic benefits of a zero waste society. Communities that embrace recycling often are home to Material Recovery Facilities (MRF). In this photo from an Asheville, NC "clean MRF" operated by American Recycling, a skid-steer readies recycled paper for baling before transport to a nearby paper mill.

CORPORATE SUSTAINABILITY

Within the context of economic development, traditional views of sustainability have occupied two domains: corporate and community. The coming era of sustainability is built on the convergence of the two domains.

From the corporate perspective, there are two sides to sustainability: externally and internally focused. The external "giving back to the community" has long been associated with a corporate sustainability mission. The Business Civic Leadership Center (BCLC), an affiliate of the U.S. Chamber of Commerce, addresses corporate community giving in *Report on Corporate Citizens Building Sustainable Communities*.[6] The report features businesses that are committed to corporate citizenship, including programs focused on community revitalization, environment protection, support for education, and other worthwhile causes.

While external engagement remains an important aspect of responsible corporate behavior, it is only indirectly related to the theme of this article. The new era of sustainability has corporate investment guided by internally focused strategies of the kind outlined in the survey *Corporate Sustainability – A Progress Report* by KPMG. "The corporate world is already taking great strides towards shaping the global approach to sustainability."[7] The report indicates that two thirds of surveyed companies have a sustainability strategy.

Ernst & Young, like KPMG and other business consulting competitors, has structured services to guide clients along the sustainability path involving larger questions of corporate goals and objectives. Among E&Y's services are programs to support energy efficiency capital expenditures for buildings and manufacturing equipment, support for producing energy-efficient and advanced energy and clean-tech products, and support for reducing greenhouse gas emissions.[8]

But of greater interest to the economic development profession is the manner in which corporate sustainability manifests itself in location decisions. KPMG reports that "What propels [sustainable] organizations – and a host of others like them – past their competitors is the recognition that sustainability goals must be tied to operational strategy and measured in the same way as other investments." Connecting sustainability with "operational strategy" is a key concept because it recognizes a corporate sustainability has to play out day-to-day in the facilities they operate.

Corporations define sustainability for themselves in the absence of standards, and it may be years before widely accepted metrics emerge. However, there are established programs for helping companies large and small to become sustainable certified. One such program is Green Plus, a third-party business improvement certification program for "improving the bottom line by focusing on sustainability's three-leg stool – Performance, Planet, and People."[9] The Green Plus website offers a list of variables used to measure corporate sustainability. The list is much too long for this venue but is well worth reviewing as it hits many aspects of business operations that would benefit from economic developer engagement.

SUSTAINABLE COMMUNITIES

Society's long tradition for seeking ways to improve urban design and performance adopted sustainability over the last few decades, opening new areas for debate. The debate has quickly moved from government centric planning to the integration of community with corporate investment strategy. Illustrating this progression are the selected examples below.

"Economic Development and Smart Growth," IEDC's 2006 publication, set a sustainable cities tone with a focus on case studies that connect smart growth with jobs, wealth, and quality of life.[10] The publication highlights successful redevelopment projects built on sustainable neighborhood concepts including integration of transportation, work, culture, entertainment, and housing.

Communities that are home to a healthy downtown district get immediate points from sustainable companies. This is particularly true for communities that brought Main Street back after years of decline. Success requires exceptional vision and execution, attributes that create a good environment for forward thinking companies. Building on the success of a Main Street turnaround, Hendersonville, NC has gone forward to address other community needs.

A core component of corporate sustainability is to build flexibility and adaptability into location choices. Economic development practitioners need to understand that community alignment with a corporate sustainability platform requires a new approach to community preparedness. Successful economic development requires expansion of duties that are multi-disciplined and multi-jurisdictional. Communities and companies are both learning what this new dimension to economic development means.

Advancing a formal platform for sustainable concepts is the Partnership for Sustainable Communities program developed by the U.S. Department of Housing and Urban Development (HUD), U.S. Department of Transportation (DOT), and the U.S. Environmental Protection Agency (EPA). The consortium joined together in 2009 to "improve access to affordable housing, increase transportation options, and lower transportation costs while protecting the environment."[11]

Among the program objectives is to coordinate federal housing, transportation, water, and other infrastructure investments to make neighborhoods more prosperous, allow people to live closer to jobs, save people time and money, and reduce pollution. The program does this by advancing what are termed "Livability Principles" that include transportation choices, affordable housing, and economic competitiveness. The legacy of Partnership for Sustainable Communities lives on through hundreds of grants and regional sustainability initiatives in nearly 90 urban areas.

CONVERGENCE OF COMMUNITY AND CORPORATE SUSTAINABILITY

Earlier in this article the idea was advanced that fast paced change drives continual readjustment of the criteria that guide corporate investment decisions. As corporate investment strategies change so change location decisions. A core component of corporate sustainability is to build flexibility and adaptability into location choices. Economic development practitioners need to understand that community alignment with a corporate sustainability platform requires a new approach to community preparedness. Successful economic development requires expansion of duties that are multi-disciplined and multi-jurisdictional. Communities and companies are both learning what this new dimension to economic development means.

Back in 1995 I was part of a team from The Austin Company that called on a food company in Salem, Oregon (a hearth of the sustainability movement). We were there to discuss the company's plans to establish an eastern U.S. production facility. Despite the client's stated "green" objectives and obvious clues from their facility, our sales team failed miserably to recognize these and orient our services appropriately. Needless to say we did not get the project. I vowed then to understand what it takes to serve green companies. This quickly led me to recognize that it's not just about green, it's about understanding sustainable business practices and aligning these with communities that can best support them.

Early efforts at evaluating communities through a lens of corporate sustainability were marginally effective at best. There was little agreement on what to measure and how to report it. But as the number of corporate engagements on sustainability has grown, methodologies and metrics have become more refined.

In a recent location selection project for a large beverage company, a client with a particularly strong focus on sustainability, more than 40 communities in seven states were evaluated and assigned a sustainability index based on 28 variables. Variables covered industrial waste stream recycling, smart grid adoption, community health and fitness programs, buy local culture, arts and music scene, green building codes, and more.[12]

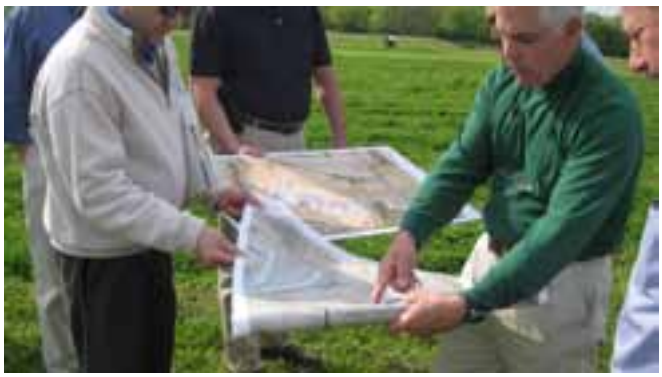
Not certain of just how to define some factors, the site selection team chose surrogates for detecting broader community engagement. For example, in asking candidate communities to address categories like those listed in Figure 2, the project RFP asked generalized questions like, "Do you have an industrial recycling program in your community and if so please provide information." We asked all responses to be sent electronically.

FIGURE 2: SELECTED MEASURES OF COMMUNITY SUSTAINABILITY FROM A RECENT MANUFACTURING PLANT LOCATION STUDY

Variable	Metric	Points
Recycling	Residential AND industrial recycling	2
	Residential OR industrial recycling	1
	No landfill diversion	0
Renewable Energy	Local programs promote renewable energy	2
	Renewable energy systems present locally	1
	No programs, no local installations	0
Green Friendly Building Code	Sustainable building codes in place	2
	Sustainable building codes in development	1
	No programs or green codes	0
Public Transit	Public transportation offered 7 days per week	2
	Public transportation offered 5 days per week	1
	Public transportation not offered	0

The site selection team was overwhelmed by a deluge of materials, several thousand pages and most of it well off target. One community reported having an industrial waste stream recycling program. On investigation, we determined industrial recycling consisted of local citizens being asked to bring cardboard to the local landfill the last Saturday of the month.

In many cases, we determined our measures to be overly simplistic and in hindsight not the best judge of a community's value proposition on each category. None-



A touring site selection team looks on as civil engineer Chris Soros outlines the features of an industrial site in Blount County, TN. Blount Partnership, the county's economic development organization, led a multi-year effort that readied the site for development. The certified site made the client's shortlist.

the-less, field investigation of high scoring communities confirmed the inklings provided by the scoring regime; the more a community had to say about sustainability, the more attractive it looked to sustainability oriented companies.

The economic development profession is beginning to recognize the need to orient communities to the coming era of sustainability. Tennessee Valley Authority's (TVA) Sustainable Communities Program launched in 2012 is an effort to link sustainability certification to economic development.[13] The program assists communities in identifying and cataloging sustainable assets and increasing local commitments to sustainability. The focus is to increase the community's competitiveness for companies considering new facilities or expansion of existing operations. The program balances the "triple bottom line to ensure a healthy environment, a thriving community, and economic prosperity."

An early TVA success story is Roane County, Tennessee. Leslie Henderson, president and CEO of The Roane Alliance, reports that, "Roane County has already made a significant commitment to sustainability. This new program provides us with the opportunity to document, further develop and be recognized for our sustainable initiatives, which will help differentiate us in the tough competition for new investment and job creation."[14] According to Ms. Henderson, the county has in recent years launched a variety of green initiatives, including recycling and energy efficiency programs.

While the TVA program is a great advancement in laying out a roadmap for communities on sustainability, there is work yet to be done before communities and business are appropriately aligned. The U.S. Green Building Council's (USGBC) LEED certification program provides metrics that advance convergence of business and community sustainability.[15] LEED NC (new construction) and LEED CS (core and shell, i.e. existing building) have scoring criteria that nicely encapsulate aspects of community organization and physical assets that feed the needs of sustainable business organizations.

The article "Buildings for the Next Billion" in the 2008 IEDC Journal stated as much.[16] The article extolls the virtue of LEED for addressing urban ills like congestion, neighborhood decline, and environmental degradation. The authors also state from the corporate perspective LEED buildings bring a multitude of benefits including reduced operating costs and healthier and more productive employees.

Marriott Corporation has an aggressive program for building LEED hotels and reports that more environmentally-sensitive buildings can expect to reduce total energy and water consumption by 20 percent to 30 percent. This in turn reduces net operating expenses for the life of the building, increasing the net operating income for the hotel. This new class of building is having a positive impact on employees, guests, and their communities.[17]

LEED brings prestige and affirmation of achievement to Marriott and hundreds of companies who have been awarded certification. Many companies go through the sometimes arduous LEED process with that in mind. Many more companies implicitly follow LEED principles without actually seeking certification as LEED addresses many aspects of business practices that companies seek for competitive advantage.

In LEED NC v3 2009, the latest version of the program which was started in 1998, there are six scoring categories encompassing 65 variables, 110 possible points, and four certification levels (Figure 3).

FIGURE 3: LEED NC v3 2009 SCORING CATEGORIES AND CERTIFICATION LEVELS

Category	LEED NC 2009 Possible Points
Sites	26
Water Efficiency	10
Energy and Atmosphere	35
Materials and Resources	14
Indoor Environmental Quality	15
Innovation and Design	6
Regional Priority	4
Total	110

LEED Certification Levels

40–49 points: LEED Certificate

50–59 points: Silver Certificate

60–79 points: Gold Certificate

80–110 points: Platinum Certificate

Approximately 30 of the 65 variables are connected to owner design decisions that are largely unlinked to community. The remaining 35 are either directly or indirectly supported by organizational and physical assets of the community. The variables presented in Figure 4 are selected from the 35 variables that if supported through a sustainable community strategy would benefit corporations embracing the LEED program and sustainability. Communities ready to support these and other aspects of LEED are immediately more attractive to sustainable companies.

FIGURE 4: LEED NC (NEW CONSTRUCTION) CERTIFICATION: SELECTED CATEGORIES THAT BENEFIT FROM A SUSTAINABLE ECONOMIC DEVELOPMENT STRATEGY

Category*		Intent of Credit	Community Support for Attaining Credit
Sustainable Sites (SS)			
P2	Environmental Site Assessment	Ensure site is assessed for environmental contamination and if contaminated the site has been remediated	Complete environmental studies on properties (sites and buildings) within the community's property inventory
C1	Site Selection	Avoid development of inappropriate sites and reduce environmental impacts	Direct development away from prime farmland, flood prone areas, wetlands, wildlife habitat, water bodies, parkland
C2	Development Density and Community Connectivity	Channel development to urban areas with existing infrastructure, protect greenfields and natural resources	Identify and designate for development properties in areas of high population density and close to services
C3	Brownfield Development	Rehabilitate damaged and contaminated property to reduce pressure on undeveloped land	Identify, remediate and promote for development brownfield properties (sites and buildings)
C4.1	Alternative Transportation-Public Transportation Access	Reduce pollution and land development impacts from automobile use	Promote properties <1/2 mile (walking distance) of a train station or <1/4 mile of bus stop for two or more bus lines
C10	Joint Use of Facilities**	Make schools an integrated part of the community by enabling buildings, playing fields to be used for non-school events	Promote multi purpose use of public facilities as demonstration of efficient use of resources and promotion of sustainable community engagement
Water Efficiency (WE)			
C1	Water Efficient Landscaping	Limit or eliminate the use of potable water or natural surface or subsurface water for irrigation	Identify & promote best practices: plant species, irrigation efficiency, captured rainwater & recycled wastewater
C3	Water Use Reduction	Increase water efficiency within buildings to reduce the burden on municipal systems	Identify and promote best practices in water use reduction including water conserving fixtures, recycled gray water, and water efficient appliances
Energy and Atmosphere (EA)			
C2	On-Site Renewable Energy	Develop on-site renewable energy to reduce environmental and economic impacts associated with fossil fuel energy use	Promote local installation of photovoltaic, wind, solar thermal, bio-fuel, geothermal, low impact hydro systems
C6	Green Power	Encourage development and use of grid-source, renewable energy technologies on a net zero pollution basis	Support local and regional development of renewable energy production and brokerage and set an example by utilizing these resources
Materials and Resources (MR)			
P1	Storage and Collection of Recyclable Materials	Facilitate the reduction of waste generated by building occupants that is disposed of in landfills	Develop and implement a comprehensive plan for recycling of residential and commercial waste
C2	Construction Waste Management	Divert construction and demolition debris from landfills and incineration and redirect recoverable resources back to manufacturing and appropriate sites	Support development of markets for recycled construction materials and engage local construction industry to support LEED projects
C5	Regional Materials	Increase demand for building materials extracted and manufactured within the region thereby supporting indigenous resources and reducing transportation	Identify and promote regional (within 500 miles) manufacturers and suppliers of building materials
Regional Priority Credits			
C1	Regional Priority	Achievement of credits that address geographically specific environmental priorities	Identify regional priorities specific to your area, support achievement of these credits on LEED projects

* 'P' categories are prerequisites and earn no points

** SS Credit 10 applies to Schools New Construction and Renovation and not general New Construction projects. However, communities that actively promote widespread utlization of public facilities are regarded as on a sustainability path indirectly providing benefits to business organizations.

Discussion of LEED in this context is cursory. LEED commands careful study to fully understand requirements and to see opportunities to score in multiple categories with a single asset. On this latter point, under the Sustainable Sites category C1 - Site Selection, C2 - Development Density and Community Connectivity, and C4.1 - Alternative Transportation, all are inter-related. By simply selecting a property for development, a company could earn immediate points on each variable. As economic developers select, prepare, and promote property for development, the process should run through the LEED filter.

Similarly under Materials and Resources if the community has tackled the recycling challenge, they will be prepared to support the prerequisite P1 - Storage and Collection of Recyclable Materials (i.e. after operations begin, on-going collection and recycling of waste is expected). With this capability in place then, C2 - Construction Waste Management is more likely to be achievable.

Larger industrial cities are generally rife with recycling opportunities and meeting requirements for both MR-P1 and MR-C2 are more easily met. Meeting LEED recycling requirements becomes more difficult in smaller cities as the volume of materials may not be sufficient to support local markets and the nearest market may be too distant to be economically viable. Economic developers need to engage on the wide spectrum of waste stream materials, particularly for industry targets, and make certain viable alternatives exist.

CREATING A COMPETITIVE SUSTAINABLE COMMUNITY

Economic developers can expect to see site selectors asking that sustainability be part of the community value proposition with increasing frequency. The good news for many economic developers is a portfolio of supporting programs are already in place or at least understood by the profession. Existing community assets including a targeted industry strategy based on an honest appraisal of community assets, a portfolio of certified sites, ongoing support for workforce training including programs geared to targeted industries, an effective business retention program, and modern well maintained infrastructure are among the attributes sustainable companies expect.

In this 2011 photo, workers put finishing touches on the South Dakota State University Davis Dairy Plant located on the Brookings, SD campus. The state-of-the-art facility delivers industry leading teaching and research programs that ensure ongoing strength of the region's dairy industry. Sustainability takes serious collaboration, in this instance the support of dairy producers, processors, allied industry, alumni and friends to bring the facility to fruition.

More difficult are the tasks less well understood and that often go well outside the profession's traditional collaborators. Economic developers need to understand that community alignment with sustainability principles demands changes in the profession. Creating a competitive sustainable community requires a highly collaborative, multi-disciplined, and multi-jurisdictional approach to management.

Public and private groups who cooperate and share responsibilities of preparing the community to compete in this new era of sustainable investment are integral to success. Land use planning, environmental protection, parks and recreation, public transportation, recycling, arts and entertainment, building codes and zoning, and education and training are just some of the often contentious issues that require high levels of cooperation and compromise in order to tackle. Anything less than a well-organized approach to sustainability is likely to eat up resources and fall short of the desired results.

More difficult are the tasks less well understood and that often go well outside the profession's traditional collaborators. Economic developers need to understand that community alignment with sustainability principles demands changes in the profession. Creating a competitive sustainable community requires a highly collaborative, multi-disciplined, and multi-jurisdictional approach to management.

ENDNOTES

1 "Report of the World Commission on Environment and Development: Our Common Future," United Nations - Report of the World Commission on Environment and Development, August 4, 1987.

2 "Corporate sustainability: A progress report," KPMG, 2011.

3 *The World Is Flat: A Brief History of the Twenty-First Century*, Thomas L. Friedman, April 2006.

4 Long-wave socio-economic cycles have been debated by economists for nearly a century. The ample treatment of the subject is nicely summarized by Wikipedia's "Kondratiev wave."

5 At the time of The Austin Company's corporate office relocation in 2000 old files were purged, including nearly 1,000 location study reports. I took that opportunity to review and catalog the reports.

6 "Report on Corporate Citizens Building Sustainable Communities," Business Civic Leadership Center (BCLC) at U.S. Chamber of Commerce, 2010.

7 "Corporate sustainability: A progress report," KPMG, 2011.

8 "Opportunities to lower costs and generate revenue in the low-carbon economy," Ernst & Young, March 2012.

9 Green Plus is part of the Institute for Sustainable Development housed at the Durham Regional Chamber of Commerce in Durham, North Carolina. Green Plus has backing from Duke University, University of North Carolina Chapel Hill, North Carolina State University, and others.

10 "Economic Development and Smart Growth: 8 Case Studies on the Connections Between Smart Growth Development and Jobs, Wealth, and Quality of Life in Communities," Editors: Alex Iams and Pearl Kaplan, August 2006, International Economic Development Council.

11 Partnership for Sustainable Communities, a collaboration of U.S. Department of Housing and Urban Development (HUD), U.S. Department of Transportation (DOT), and the U.S. Environmental Protection Agency (EPA), 2009.

12 Below is a more complete list of categories used to evaluate location alternatives for the beverage location study:

- Community Culture: Architecture and Preservation, Music Scene, Outdoor Culture, Buy Local Culture, Distance to University / College
- Urban Center Characteristics: Distance to Commercial Air Service, Flights to Delta and United Hubs, Local City Size, Distance to MSA Urban Center
- Labor (30 mile radius): Local Union Presence, Local Union Activity, Union Threat – Area Competitors, Historic Unemployment Rate, Training Resources
- Competitors: Proximity to Minor Competitors, Proximity to Major Competitors
- State Financial Status: State Budget Deficit as % of Budget
- Tourist Attractiveness: Scenic Value, Tourist Attractions
- Industrial Culture Local: Manufacturing Culture, Local Food Processing Culture
- Quality of Life Index: Crime

13 Valley Sustainable Communities Program was developed by Tennessee Valley Authority. The program assists communities in identifying and cataloging their sustainable assets and increasing their sustainability commitments.

14 "Roane County Takes Green to a New Level," press-release by Leslie Henderson, The Roane Alliance, August 22, 2013.

15 For overview of program see U.S. Green Building Council LEED website. There are also a large number of online LEED education services providers. Time spent reviewing programs is useful in understanding LEED.

16 "Buildings for the Next Billion," Dennis Creech and Nancy Musselwhite, The IEDC Economic Development Journal, volume 7, no. 2, Spring 2008.

17 "Marriott LEEDs the Way to Green Hotels," newsletter of the U.S. Chamber of Commerce Foundation – Business Civic Leadership Center, August 8, 2013.