

Accelerating Natural Capitalism in Sarasota County

April 2007



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by Michael Kinsley, Principal, Rocky Mountain Institute

The initiatives described in Section A of this report were developed by several subgroups during the Natural Capitalism workshop. RMI would like to thank the following Sarasota residents who further developed the subgroups' ideas for this report.

- Drew Smith, President, Two Trails Green Consulting
- Ed Rosenthal, President and CEO, Florikan E.S.A Corporation
- Laura Morton, RC&D Coordinator, Florida West Coast Resource Conservation and Development Council
- Demetra J. McBride, Manager, Sarasota County Urban Forestry Program
- Nan Summers, Chief Design Strategist, ReNew-Ability Partners

Designed by Susan Hazel Rich, Communications Fellow, Rocky Mountain Institute

Edited by Cameron M. Burns, Staff Editor, Rocky Mountain Institute

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A note from the Economic Development Corporation of Sarasota County:

Sarasota County is fortunate to have many accomplished and knowledgeable individuals and businesses and organizations working in the various social, economic, and environmental fields of sustainability. Below is a list of entities that Rocky Mountain Institute's staff met with on their two visits to the community and the names of the attendees from the Natural Capitalism meeting that was held on February 23, 2007. It is acknowledged that the list is not a complete list of knowledgeable community resources. The EDC invites others to participate in the community's and especially the economic sector's transition to becoming a more sustainable community. You may contact Diane Andrews at www.edcsarasotacounty.com for information about the Life and Environmental Sciences Cluster Work Group and how you can become involved.

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Accelerating Natural Capitalism in Sarasota County

Natural Capitalism is the essence of the emerging economy. At a time of seemingly daunting economic and environmental challenges, it offers innovative opportunities to smart communities: ways to create business, jobs, income, and savings that have come to light only relatively recently. Examples include using far less energy and materials, developing new revenue streams by harvesting waste as a resource, employing green technologies locally, and restoring damaged ecosystems. Natural Capitalism offers abundance by design—exciting and encouraging solutions developed by and for both businesses and communities. For a more thorough description of Natural Capitalism, see Appendix I.

National standouts in local environmental policy, Sarasota leaders quickly grasped the significance of these emerging opportunities. In February 2006, the Economic Development Corporation (EDC) of Sarasota County presented a workshop to the community during which Rocky Mountain Institute (RMI) introduced the concepts of Natural Capitalism to a full house.

But EDC was not satisfied with interesting ideas. Its leaders wanted to take the concept of Natural Capitalism a step further. They wanted to identify specific ways in which the community could strengthen its economy through its environmental initiatives—ways to do well by doing good.

So, on February 23, 2007, EDC convened another workshop conducted by RMI. This session demonstrated the power of Natural Capitalism in at least two ways. First, it resulted in the specific, practical, and actionable initiatives described in this

report. Second, the idea for this workshop originated not with RMI but with local leaders—in particular Laura Morton of Florida West Coast RC&D and Diane Andrews of the EDC. Having fully understood the value of Natural Capitalism, they derived a practical means to apply it in their community. Section IV of this report returns to the theme of local capacity regarding innovative policy, programs, and projects.

One additional introductory point: the excitement regarding sustainable and green technologies leads many people to think only in terms of building or manufacturing them locally. One might reasonably think that if wind energy is such a good idea, why not build turbines right here. It's a good instinct to have because if you care about your local economy, you in turn think about attracting new business to the community.

Though such an idea is valid and important, in order to capture the full value of sustainability it must be expanded. Natural Capitalism is not only about innovative *technology*; it's also about innovative *thinking*. Beyond business attraction, it offers opportunities to create new jobs from the expansion of existing businesses and provide monetary savings to families and businesses as a result of resource efficiency. As an example, Sacramento's energy-efficiency program, which cost the electric utility \$59 million, saved customers nearly that amount while creating 880 new jobs and increasing regional income by \$124 million. Therefore, as Sarasota expands its Natural Capitalism efforts, it is important to ensure that innovative *thinking* is a central component of the effort. For a brief description of whole-system thinking and integrative design, see Appendix II.

A. Sarasota Natural Capitalism Initiatives

February workshop participants developed five important initiatives during the afternoon session. Local residents (listed at the end of each initiative's description) composed the following descriptions of the initiatives, with help from RMI

1. Strategies Analysis and Consultation Engine ("SACE")

Objective

SACE will be a nonprofit organization providing Natural Capitalism consulting. Specifically, SACE will research and analyze full-market and benefits-capture of sustainability projects, programs, and policies (collectively referred to as "sustainability strategies").

Frequently, organizations, institutions, companies, and government entities account for only the launch, construction, or implementation costs of a sustainability strategy. This "snap-shot" approach prevents them from estimating the full cost of implementation, management, and maintenance of a strategy over its anticipated life. It stands in sharp contrast to the SACE approach, which is a concurrent "full-benefits capture" appraisal (all social, environmental, and economic benefits, including avoided costs and opportunities values, translated to a quantified value) over the same period.

In addition, SACE would produce a business plan, cash-flow schedule, and statement of projected net profit or loss. Together, these pieces of information can be used to generate a full-market assessment of a strategy. Ultimately, the feasibility of a strategy relies on its economic sustainability, which is the goal of the organization recommended here.

Community-wide issues

Based on local values, conditions, and factors, SACE would assess the compatibility, productivity and feasibility of sustainability strategies and, more importantly, their full-market value.¹

SACE would assess a strategy's economic sustainability by determining its "triple bottom-line," for example:

- Increased or decreased construction or implementation costs.²
- The cycle, detail, and quantification of all social, economic, and environmental benefits or efficiencies to be realized.
- If applicable, the break-even point compared to the costs of existing strategies (the status quo).

- The ultimate net profit and loss occurring over the reasonably anticipated life of the program, project, or policy.
- Life-cycle cost—that is, full accounting of all short- and long-term capital and operating costs.

SACE would apply this analysis for governmental, institutional, individual, and industrial clients in order to predict trends and provide the basis for business, strategic, and management plans in addition to diversification ventures,³ new economic development, and operational models.⁴ Operations could be capitalized through the licensing of intellectual property, service fees and charges, and alternative funding sources such as grants, and state, regional, or federal funds.

Business and economic benefits

- Cost savings through resource efficiency and waste reductions that could facilitate business expansion or diversification.
- Establish Sarasota as a regional center for innovative private, public, infrastructure, and environmental development.

Environmental or community benefits

- SACE will help meet organizational needs with the smallest impact on resources and by increasing awareness in the community of innovative processes.
- It will motivate and foster innovation.

Ownership

SACE could be a think-tank of relevant professionals operating as a nonprofit entity and governed by a board of directors that could include representatives from the EDC, local government, private industry, and academia.

Next step

Develop a working-model proposal in collaboration with Sustainable Sarasota, local government leadership, and the EDC's Life and Environmental Services Cluster Work Group. The proposal could build on the existing Green Business Program. Also, RMI suggests that this idea be explored with the Florida House Institute, which may be able to offer related capabilities.

Resources needed

Approximately \$35,000 in funding may be required from the EDC's Life and Environmental Services Cluster Work Group for plan development and marketing. It's also important for EDC to act as a liaison with the business community.

¹This is a critical distinction that avoids the simple application or adoption of values-determined models in other communities. ²Sustainability does not necessarily imply increased launch costs, regardless of whether subsequent operating and maintenance costs are also reduced. Prudent sustainability strategies can be profitable from the outset or become more profitable as they mature. ³Programs contemplated by existing entities with which they can diversify their business or service and for which a sustainability appraisal is being sought. ⁴Potential operational strategies, for which a feasibility and efficiency analysis is being sought.

Resources available

Talent and expertise of local professionals (e.g., retired professionals, academics, consultants, experts from local research institutions, etc.).

Barriers and important questions

Awareness and recognition of the program's inherent value.

Solutions and answers

- Get local governmental to be a “guinea pig” user of the service and use that success to demonstrate the value of the service.
- Frame the need by noting practical solutions to such current and impending challenges as water and energy.
- Make it sexy, cool, avant-garde, and lucrative.

Indicators of progress

- Number of businesses and organizations served.
- Audit values versus strategic plan outcomes.
- Client testimonials.
- Economic development and diversification generated locally.

Champion

Demetra J. McBride
(who also developed the footnotes in this section).

2. Holistic Landscaping

Background

The goal of this project is to change the landscaping industry (both professional and consumer) from being one in which large inputs of fertilizers and pesticides are used to being one in which sustainability's best practices are used. By reducing the amount of chemical products used, the costs to consumers—and the corresponding negative effects on the environment—are reduced. For background, see “Best Management Practices for Protection of Water Resources in Florida at <http://hort.ufl.edu/bmp/turfBMP.pdf>. Also, last year the Florida Department of Environmental Protection launched a green landscaping website at www.floridayards.org.

Objective

This organization will foster the proper and efficient use of fertilizers and pesticides, which will, in turn, reduce business and residential costs without compromising the quality of landscaping. The conventional approach is to apply set amounts of fertilizers and pesticides at set times, regardless of plants' actual needs. This organization may be part of County government, a nonprofit organization, or a newly established business.

Business and economic benefits

- Reduction of business and residential landscaping costs.
- Jobs created to provide this service, including jobs related to scientific testing.
- Community and County support of local entrepreneurs who manufacture or distribute sustainable landscaping products.
- Pesticides are expensive and are not manufactured locally. Therefore, reducing their use plugs a local economic “leak.”
- Support for local manufacturing of reduced-input nutrients: for example, Florikan products, which have been manufactured in Sarasota County for 25 years. Florikan employs 100 people.

Environmental benefits

Many residents suggested that the use of excessive amounts of pesticides means they end up in, and are harmful to, local water bodies. They indicated that scientists (whose work is peer-reviewed and published) have demonstrated that the reduction of total nutrient load (from, for example, landscaping) reduces the number and size of harmful algae blooms both in watercourses and the ocean.

Additional important participants

Two locally owned progressive landscaping companies are Grant's Gardens and Designscapes. Other important participants include Stuart DeCew of the Sarasota Sierra Club, Healthy Gulf Coalition, START, and Sustainable Sarasota.

Barriers and important questions

- Some local residents have suggested that the landscaping industry is controlled by large chemical companies that resist change.
- Many consumers don't understand the financial and environmental implications of alternative fertilizers and pesticides, and proper application methods.

Steps toward implementation, which include methods to overcome the barriers:

- Conduct a collaborative process with local landscapers, fertilizer and pesticide providers, and other stakeholders, which would:
 - o Develop deep understanding among local residents and officials of the comparative costs and benefits—financial and environmental—of landscaping maintenance methods, conventional and holistic.
 - o Design a technical evaluation of the comparative costs and benefits—including an examination of practical requirements—for holistic landscaping methods. The evaluation should include soil testing and analysis.
 - o Consider developing County regulations requiring:

- The use of best landscaping practices, the purpose of which would be to require local landscaping companies to take a holistic approach to landscaping maintenance rather than continuing to use a conventional approach to landscaping. For guidelines, see “Guidelines for Model Ordinance Language for Protection of Water Quality and Quantity Using Florida Friendly Lawns and Landscapes” (www.dep.state.fl.us/water/nonpoint/docs/nonpoint/gimdlord.pdf).
- The certification of individuals who apply fertilizers and pesticides to landscaping within Sarasota County.
- Companies who supply and apply landscaping nutrients to keep records of how much and how often they apply them.
- Institute County procurement guidelines for environmentally preferred landscaping fertilizers, pesticides, and other inputs.
- Consider County incentives for soil testing and assessment of landscaping and runoff during the early stages of implementation of the regulations.
- EDC members consider adopting holistic landscaping.

Resources needed

- An organization that will agree to champion this initiative.
- Personnel to drive the collaborative community process described above.
- An evaluation of the comparative costs and benefits—financial and environmental—of landscaping maintenance methods, conventional and holistic.
- An analytical lab employing soil scientists and entomologists to provide data.

Indicators of progress

- Long term: Sarasota Bay water quality and clarity. Number of red tide events.
- Short term: The amount of nutrients running off the land and into the bay.

Possible project champions

EDC Life and Environmental Services Cluster Work Group, Sustainable Sarasota

Interim leader of initiative

Ed Rosenthal

3. Dual-Purpose Septic Tanks

Background

With the increasing use of sewer systems, demand for septic tanks is decreasing. At the same time, demand for cisterns is increasing.

Objective

Existing manufacturers and installers of septic tanks will adapt their tanks, through minor modifications, to serve as cisterns, which will allow them access to the growing market for cisterns. Additionally, they can plumb the cisterns to supply water for toilets. Also, installed septic tanks that are being taken out of service may be reconditioned to serve as cisterns.

Business and economic benefits

- Existing manufacturers and installers of septic tanks, who face declining demand, can access an expanding market.
- Increased profits for current septic tank manufacturers.
- Satisfies increasing demand for cisterns.
- Cost savings to consumers through water savings.
- Increased jobs modifying tanks for use as cisterns, installing cisterns, and reconditioning existing unused septic tanks for use as cisterns.

Environmental or community benefits

Reduced demand for potable water as new and existing tanks are used for storing rainwater that will be used for landscaping irrigation and toilet flushing.

Ownership

One or more existing local septic-tank manufacturers. For example, Miller Bros. Contractors, Inc. and Nokomis Septic Tank, Inc. Also, existing installation companies would be involved.

Resources needed

Support from the County and area cities to:

- Allow the use of cistern water for toilet flushing and landscaping irrigation.
- Encourage the use of abandoned septic tanks as cisterns.

Resources available

Florida Green Building Standards and LEED rating system standards support the reduced use of potable water. Both rating systems award points for reduced demand as well as for reducing the amount of wastewater produced. They also support the use of graywater for such uses as toilet flushing and irrigation.

Indicator of progress

- Number of converted septic tanks sold as cisterns.
- Permits issued for converted tanks and the amount of graywater used in toilets.

Barriers and important questions

- Regulatory barriers to the use of graywater for irrigation and in toilets.
- Future shortage of concrete for the construction of tanks.
- Cost of tank conversion.
- Can tanks that have served septic purposes be safely reconditioned to serve as cisterns?

Solutions and answers

- Change local regulations so that the use of graywater for irrigation and in toilets is allowed.
- The use of such materials as recycled plastic or fiberglass to build cisterns.
- Educate local government leaders and consumers through advertising and seminars, possibly seminars given by Florida House Institute and Cooperative Extension.

Who will do what next

Drew Smith will help EDC develop interest among manufacturers and professional organizations or associations.

Champion:

Drew Smith

4. Local Food Production for Local Consumption

Background

In 2004, Sarasota County assessed its ecological footprint and determined that 22.8 acres were required to support each county resident. Of this total, 22 percent was required for food—most of which is attributable to the cost of transporting food. Though a more sustainable approach to food production is to grow locally that which is consumed locally, the amount of available crop and grazing land within the county is insufficient to meet local demand.

Objective

To begin making the local food economy more sustainable, a group of local volunteers, supported by the Florida West Coast RC&D Council, has kicked off an effort to identify a suitable piece of land for agricultural production within the county. This community farm will serve as a model and incubation site for a more sustainable, though not necessarily organic, community food system. It will:

- Use locally produced fertilizer and materials.
- Demonstrate:
 - Integrated water-resource management (IWRM). IWRM includes things like the use of high-tech automation of irrigation and the use of alternative water sources such as rainwater and reclaimed water.
 - Energy efficiency and the use of renewable energy sources.
 - Best management practices and advanced methods of sustainable agriculture.
 - Comprehensive nutrient management (CNM) and integrated pest management (IPM) to reduce expenses and negative environmental effects.
- Include nutritional seminars and other social events that connect the community to growing food.
- Be a resource for the community as a living demonstration of sustainability—socially, environmentally, and economically.

Properly established in terms of business structure and community support, the farm will become financially sustainable in approximately two years. To be socially and economically viable, this project must be created and driven from the bottom up. That is, a neighborhood or community group in the vicinity of the farm must become one of its principal advocates. The Florida West Coast RC&D Council will provide technical assistance to the volunteer group that takes on this role.

Business and economic benefits

- Creation of local jobs in such areas as irrigation, farming, and food distribution.
- Properly piloted and marketed, the farm will function as a model that can stimulate the establishment of additional farms in other neighborhoods, each one of which will be an independent business.
- Money spent on locally produced food is retained in the community, plugging economic leaks.

Environmental or community benefits

- Carbon sequestration.
- Local use of organic waste products.
- Efficient water use and many other standard sustainable agriculture practices.
- Reduction of the area's ecological footprint and "food-miles."
- Connecting people to the production of their food stimulates an appreciation of the foundation of sustainability—that is, "sustenance"—and teaches the next generation that food does not come from a grocery store.
- Success will lead to replication, which will lead to additional, similar benefits.

Champion

The Florida West Coast RC&D will initiate the effort by advertising among neighborhood associations and community groups. When an appropriate partner group and site have been identified and secured, the initiative will be launched.

Ownership

After being incubated by the RC&D or another organization with experience in establishing community farms, the farm will become a separate business entity. Depending on ownership and site restrictions, the entity could become a business, a non-profit, or a co-op. For example, if the chosen site is County property, the most appropriate structure for the entity might be a entrepreneurial nonprofit with a mission that includes operation of the site in the public interest. Regardless of the business structure chosen, the farm will need one or two full-time and a few part-time employees with expertise in business and agriculture.

Resources needed

- Strong community support will be required in both the beginning (to generate funding) and in the long term (to create a sustainable business).
- For planning, community input, and business planning, \$35,000 will be needed from the EDC or other sources.
- Additional money will be required for site planning and site development.
- If a site cannot be identified or if site acquisition is necessary, significant additional time and money will be required.

Resources available

- The County and the EDC Life and Environmental Services Cluster Work Group.
- The neighboring community.

Indicator of progress

Evidence of the idea's success will be

- Financial solvency of the farm.
- Its replication at other sites.
- The number of CSA members. (Note: A CSA (community-supported agriculture) farm sells shares of its harvest directly to consumers.)

Barriers and important questions

Uncertainties include the site to be used and site limitations, the community group that will champion the farm, and the structure of the initial start-up operation.

Solutions and answers

The County could set aside or acquire the land, for example, through its environmental land acquisition program or it could

consider using existing parkland, though potential restrictions on the use of County land must be addressed in the planning stage. Existing common space in private *communities* could be used for community farming as long as the land is appropriate for food production (i.e., not wetlands or other environmentally sensitive land).

Feasibility

Because such a farm is currently being established in Manatee County, the idea is clearly feasible.

Who will do what next and when

The RC&D will:

- Promote the idea on the NatCap Sarasota blog.
- Advertise through neighborhood association networks to find grassroots champions for a specific site.
- Describe the idea in its newsletter.
- Submit a proposal to EDC when a site and group have been identified.

Interim leader of initiative

Laura Morton

5. Sarasota County Sustainability Branding Initiative

Background

There was a strong feeling among workshop participants that Sarasota's long history of sustainability could help position the community, through branding, to attract green businesses to the community and to encourage consumers to buy local products and services. "Branding" might refer to such themes as green business, natural capitalism, sustainability, and whole-system thinking.

Objective

Position nationally the region's sustainability leadership.

Business and economic benefits

- Through publicity, tout the accomplishments of local businesses to increase product and service sales.
- Attract new green businesses to the region.
- Increase the number and extent of sustainable practices within all community organizations.

Environmental or community benefits

- Strengthen existing network of knowledgeable green practitioners so that experts can be matched with interested consumers.
- Enhance educational awareness at all levels within the community.
- Reduce cumulative ecological footprint.

Champion

- A sustainability branding committee started with workshop participants has since held several meetings.

Ownership

- The overall effort will be the responsibility of several organizations, both for-profit and nonprofit, that address sustainability as a primary focus. Each will likely have its own unique take on sustainability. They may be coordinated through a steering group that monitors press coverage and reviews advertisements and collateral materials submitted by many groups. One of the existing groups may emerge as a natural long-term manager of the branding effort.

Resources needed

- Listing of current sustainability groups, including their missions, activities description, contacts, and membership information.
- Core group overseeing progress and stimulating connectivity.

Resources available

- Significant number of organizations and citizens committed to enhancing environment and quality of life.
- Strong regional public relations network.
- Diverse industry-cluster network.
- Established business/educational partnerships.

Indicator of progress

- Green-business inquiries, expansions, and relocations.
- SCOPE community measures.
- Press coverage.
- County sustainability metrics.

Barriers and important questions

- Previous extensive community-branding initiative did not yield definitive positioning endorsed by all involved participants.
- Funds to invest in market research, promotional materials, website, etc., have not been identified and cannot be assumed to be available.
- Autonomy of existing groups and their individual branding must be respected.

Solutions and answers

- Create a “brag list” by cataloging relevant information from local businesses, local government representatives, and www.greenmap.org. Also, catalog sustainable best practices and awards received by local organizations and post the highlights on highly visible websites such as the EDC’s and the County’s websites.

- Create a concise, one-page description of the branding effort, including core communication points that would be incorporated into the advertising and PR of local businesses that are offering or utilizing green products or services. Also used in community and County information and advertising, these communication points would:
 - o Heighten awareness of the value Sarasota places on the environment.
 - o Support the common use of environmentally friendly approaches.
 - o Encourage green businesses to locate in Sarasota.

Who will do what next and when

- An organizational structure will be determined by June 1. Sustainability-branding committee co-chairs will review alternative leadership options, such as:
 - o Collaboration with Creative Industry Cluster Public Relations committee and representation from Life and Environmental Sciences Cluster.
 - o SCOPE and Environmental Task Group.
 - o Additional community leaders.
- Nan Summers will explore a potential branding case-study for her Ringling College of Art and Design fall ’07 marketing class. A decision will be made by July 1.
- The committee will meet again following the May Community Partners meeting.

An additional note from RMI:

Local branding is valuable and important for both the economy and the community. And, it will be even more effective when it is used for increasing “sustainable operating practices within all community organizations,” as stated above. One excellent example of such an effort is Cleveland’s Entrepreneurs for Sustainability, “...a diverse network of over 3,800 business leaders who are putting the principles of sustainability into action.” A sister organization to RMI, E4S, provides a network, training, and “...implementation services for individual companies and industry-focused economic development projects” (www.e4s.org).

B. Sustaining the Momentum

Sarasota is a national pioneer in sustainability and continues to demonstrate its leadership in many ways. To name a few: County government is leading by example by, among other things, creating a *Roadmap to Sustainability*. Additionally, EDC is linking sustainable practices to economic development, framing that effort as Natural Capitalism. And many local business people and nonprofit experts (e.g., Florida House Institute) have already woven sustainability and whole-system thinking into their operations.

To be most effective, the Sarasota Natural Capitalism agenda requires at least two kinds of support that should be driven by some local organization or consortium of organizations.

First, each of the five initiatives outlined in this report stand a far better chance of success if they are supported with coaching, strategic contacts, partnerships, marketing, seed money, and financing. Second, some organization should catalyze future initiatives that build on those described in this report. With an ongoing effort, Natural Capitalism will no longer be regarded as a cool, new idea; it simply will be the way Sarasota does business.

Sarasota's February 2007 RMI workshop should be just the beginning of a series of community conversations and practical projects to build the local green brand. Another workshop should be convened in a few months to review progress on the five initiatives developed in the first session, to dig deeper into additional Natural Capitalism ideas (building on the ideas below and the notes from the February session), and to gather input from innovative local business people and nonprofit experts.

Sarasota is not alone in pursuing green economic-development. For example, in 2005, Eugene, Oregon Mayor Kitty Piercy launched the Sustainable Business Initiative "to identify, establish, and support mechanisms to assist private businesses, non-profits, and other organizations in Eugene to gain competitive advantage and create jobs in the emerging field of sustainable business practices and products" (see <http://ri.uoregon.edu/programs/SBJD/SBI.html>).

Albuquerque, New Mexico is taking yet another approach: on one section of the City's website (www.cabq.gov/sustainability), the City will be teaming up with the nation's largest green business directory (www.sustainlane.com) to enable site users to locate green businesses, or add them if they are not already in the directory. This enables Albuquerque to promote local green business without the expense and maintenance it would have otherwise required in-house. The Albuquerque/SustainLane directory is scheduled for release on June 1, 2007.

It has been a pleasure for RMI in assisting the Sarasota community by conducting recent Natural Capitalism workshops and other workshops in years past. And we can assist further in such areas as helping local government institutionalize sustainability and in developing a local energy-investment strategy. At the same time, we want to fully acknowledge the extraordinarily talented local people, many of whom perform work related to RMI's. They deserve even more support from their own community. Few communities have these kinds of skills from which to draw.

C. Additional Natural Capitalism Ideas

Though the following ideas were not explored in the workshop to the extent that the first five initiatives were, *that fact does not necessarily reflect on the viability of these ideas*. It may mean only that a particular expert, entrepreneur, or champion just happened to miss the February workshop. Therefore, RMI encourages the community to take a second, longer look at each of these ideas in addition to examining February's session's notes (Appendix III), which contain the seeds of other ideas. For example, the EDC Life and Environmental Services Cluster Work Group might convene separate conversations on each idea, for which it could recruit participants who are entrepreneurs and local technical experts in each field.

6. Whole-System Design Network

Local engineers and designers who understand integrative design could collaborate formally or informally to learn from one another and work together on large projects. In addition to engineers, such a network (or practice) could include design professionals like architects, landscape architects, and urban planners. They could encourage such practices and projects as distributed energy systems (e.g., district cooling), integrative master planning, integrative water management, water reclamation, waste management, transportation, green roofs, and high-speed fiber-optic telecommunications.

Workshop participants who came up with these ideas also suggested a specific and practical application: the Warm Mineral Springs Resort project, which is a prototype mixed-used development based on whole-system design and whose design will be driven by a multi-disciplinary team with expertise in water, waste, health, and communications. The goal with Warm Mineral Springs Resort's plan is to preserve the values and functions of the springs in a compact, walkable community.

Though this project sounds promising, RMI encourages local whole-system designers to pursue other ways to foster integrative design. At a minimum, some kind of loose-knit network should be formed. Additionally, the Florida House Institute should be consulted so that Sarasota County can determine the extent to which it has developed such a network.

7. Renewable Energy

A wide range of energy-efficiency and renewable-energy ideas were discussed at the workshop, including methane digestion, landfill-gas collection, tankless on-demand water heaters, utility-rate structures conducive to efficiency, the local manufacture of solar-electric panels that generate electricity and solar-thermal panels that heat domestic water, and ESCOs (energy services companies) that install efficient heating and cooling systems free of charge (often in such big institutions as hospitals) and generate profit by sharing cost savings with clients. As discussed at the workshop, Sarasota County could adopt an approach to energy similar to Lakeland County's.

The correct use of energy is a significant Natural Capitalism opportunity, which, as conventional energy prices rise, can only become increasingly attractive and profitable to Sarasota consumers and businesses. Energy efficiency and the use of renewable energy are low-risk, high-reward strategies. Therefore, RMI recommends convening local energy experts, engineers, entrepreneurs, and specialists in state electric-utility policy and practices (people who work for utilities and those who do not) for a pragmatic conversation that focuses on the whole array of community energy opportunities. Alternatively, or in addition, the County could develop an energy resource investment strategy. A description of San Francisco's strategy can be found at www.rmi.org/sitepages/pid1089.php.

8. Waste-to-Revenue (a.k.a. Industrial Symbiosis)

Industrial symbiosis is the practice of taking waste from one entity's activities and using that waste as a resource for another entity's activities. The application of this idea could result in several local businesses harvesting, distributing, and manufacturing or reprocessing materials that had once been regarded as waste. For example, one workshop participant indicated that 80 percent of Florida's crops are not harvested. A new business venture could collect unharvested organics and distribute them to various buyers—for example, biofuels manufacturers and soil humus or mulch producers. For some general information on the idea, see www.indigodev.com/Sustain.html#metabolism.

One idea discussed at the workshop was turning “stranded organic assets” into profit—that is, collecting and distributing stranded organic assets to the proper recipients. Such assets include stormwater aquatics, seaweed, other organic waste, floating algae, compost, and recycled fruit trees.

Waste-to-revenue could be initiated by a local government or a nonprofit organization. As part of a larger RMI project in Cleveland, a sister nonprofit organization called Entrepreneurs for Sustainability (E4S at www.e4s.org) convened local light and heavy industry representatives to informally discuss their waste streams. The profitable result was several business deals that put waste to work. Another more rigorous approach would begin with a technical analysis of local waste streams followed by an E4S-type forum in which these waste streams were offered for sale or trade.

Such an effort undertaken locally might include using the Southern Waste Information eXchange, Inc. (www.wastexchange.org), a non-profit clearinghouse and repository for industry concerning the recycling and reuse of solid and hazardous waste.

The enormous business and environmental value potential of waste-to-revenue is reflected in the UK’s National Industrial Symbiosis Programme (www.nisp.org.uk), which claims to have created 383 jobs, diverted more than 1.1 millions tons of waste from landfills, saved its members more than \$94 million, attracted \$68 million in private investment in reprocessing and recycling, and generated more than \$92 million in new sales for its members.

9. Inventory Regulatory Barriers to Sustainability

The idea of exploring regulations that inhibit sustainability efforts also emerged in the workshop. One example of these barriers is anti-competitive, electric-utility regulations that discourage innovation for energy efficiency and therefore limit consumer savings.

RMI suggests a pragmatic approach in which each group or committee that is working on a given Natural Capitalism initiative identifies local, state, and federal barriers to sustainable solutions then seeks help (e.g., from local government) regarding ways in which the barriers might be overcome. However, one important caution: do not allow an initiative to become bogged down while you await some change in government regulations. Depending on the situation, waiting could take years. Instead, while pursuing such policy solutions, try to also find a way of “working around” the regulations so that you can achieve at least some of your desired results regardless of whether policy changes take place.

D. Strengthening the Community's Larger Sustainability Strategy

The County's *Roadmap to Sustainability* is a fine model for other communities. It includes policies and programs that are well ahead of most. To accelerate progress even further in Sarasota, RMI offers four recommendations regarding the Roadmap:

First: perhaps one of the greatest challenges of sustainability is ensuring that it is institutionalized in the organizations that have chosen to adopt it. Unintended institutional barriers can seriously hamstring excellent programs and projects. Therefore, an effective sustainability program in any organization includes a concerted effort to dig deep into that organization's structure to find barriers and solutions regarding, for example:

- Capital budgeting,
- Managing operations and maintenance budgets,
- Staff reporting,
- Personnel and human resources,
- Funding for the sustainability program,
- "Silo busting" among departments,
- Data collection and sharing, and
- Implementation authority.

In order to succeed, sustainability must become the responsibility of each person and each department in the organization, regardless of whether it's a public, private, or nonprofit organization. Sustainability must be woven into the fabric of the organization through close examination of the areas listed above.

Note: To read the *Roadmap to Sustainability*, go to www.scgov.net and search for "roadmap."

Second: most institutional changes are internal and relatively invisible to the public. One notable exception is indicators. RMI suggests the development of indicators of progress for each Roadmap goal, and that the public be allowed easy access to the indicators. This will ensure that the goals are more durable, transparent, and even cost-effective.

Indicators are a form of feedback, which is critical to decision-makers and citizens in at least three ways:

- Determining if policies and programs are achieving the goals they were designed to achieve,
- Identifying if additional policies and programs are needed to achieve the goals, and
- Determining when existing programs are unproductive or no longer needed.

If feedback is nonexistent or incomplete, decisions can often be based on anecdotal information, misperceptions, favoritism, comfort, and political bias. As a result, effective programs may be eliminated, weak ones may be continued, and needed ones may not be seriously considered. This kind of feedback is different from opinion. Though expressing one's opinions is essential in the community political process, the type of feedback to which we refer here is objective. It is often described as indicators, measures, or benchmarks. Sarasota has led the nation in the early adoption of sustainability indicators. An important next step would be to apply its early indicator work to its *Roadmap for Sustainability*. (Appendix IV describes the value of indicators in more detail.)

Third: seeing that the County has embarked on a journey down this innovative path, it would be natural for other local organizations to assume that they need not spend much time on it since the effort is owned and run by the County. But the most effective sustainability programs are the ones owned by all sectors. The community's future will have a stronger foundation when a wide array of local organizations—business, nonprofit, and faith-based—is just as responsible for the *Roadmap* as is local government. For example, different sections might be written by different organizations with one organization, probably the County, coordinating production. This does not mean that it is the County's sole responsibility to persuade other organizations to become actively involved. Rather, other local organizations should also devote time to this effort and reach out to the County.

Fourth: many of the topics described in the *Roadmap* will stand a better chance of being implemented when they include greater specificity regarding actions underway and who is responsible for each, inside and outside local government.

Appendix I: Natural Capitalism

The book *Natural Capitalism* describes the opportunities that are arising with the birth of a new type of industrialism, one that differs from conventional industrial systems in its philosophy, goals, and fundamental processes. In the next century, as the human population doubles and the resources available to each person drop by one-half to three-fourths, a remarkable transformation of industry and commerce can occur. Through this transformation, society will be able to create a vital economy that uses radically less material and energy. Such an economy can free up resources, reduce taxes on personal income, increase per-capita spending on social ills (while simultaneously reducing those ills), and begin to restore the damaged environment. Done properly, these necessary changes can promote economic efficiency, ecological conservation, and social equity.

Natural Capitalism introduces four central strategies that enable companies and communities to operate by behaving as if all forms of capital were valued.

Radical Resource Productivity

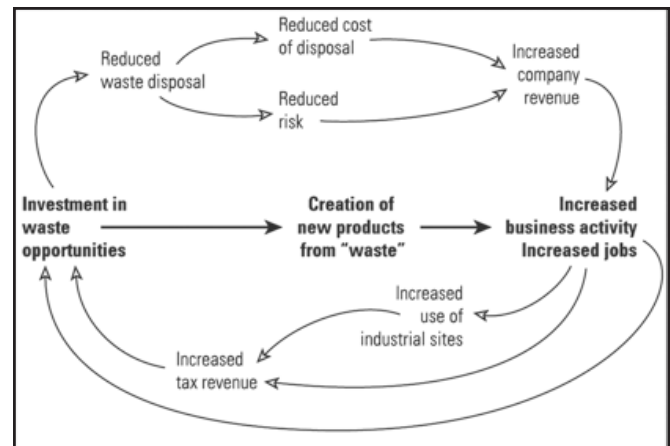
Radically increased resource productivity is the cornerstone of natural capitalism because using resources more effectively has three significant benefits: it slows resource depletion at one end of the value chain, it reduces pollution at the other end, and it provides a basis to increase employment with meaningful jobs. The result can be lower costs for business and society, which no longer has to pay for the chief causes of ecosystem and social disruption. Much environmental and social harm is an artifact of the uneconomically wasteful use of human and natural resources, but strategies for radical resource productivity can avoid degradation of the biosphere and make it more profitable to employ people—thus safeguarding against the loss of vital living systems and social cohesion.

One path to radical resource productivity is “end-use/least-cost thinking.” RMI’s CEO Amory Lovins coined the phrase to guide decision-making in the energy industry, though it applies to a wide range of situations. People don’t want electricity or oil or coal, he reasoned. What they want are the services energy provides: illumination, cold beer, comfortable living rooms, hot showers, and so on. How can we provide these services, he asked, at the least overall cost? Lovins concluded that building central power plants to power baseboard heaters in drafty houses was not a least-cost solution to keeping people comfortable. For far less financial and environmental cost, one could simply insulate the houses properly. His ideas prompted some in the electric utility

industry to implement “demand-side management” energy service programs that seek to meet customers’ needs more cost-effectively through energy savings instead of providing more power at a high cost. Though this approach may sound like common sense, it is actually a fairly novel way of doing things. For more information, see www.rmi.org/sitepages/pid225.php.

Biomimicry

Natural systems create no waste. Everything that is no longer useful to one organism becomes food (energy) for another. Similarly, much industrial waste is a resource out of place, a nutrient seeking another industry where it can be of use. Reducing the wasteful throughput of materials—indeed, eliminating the very idea of waste—can be accomplished by redesigning industrial and business systems along biological lines, enabling the constant reuse of materials in continuous closed cycles and often eliminating toxicity. For more information, see www.biomimicry.net.



Waste = Revenue (a.k.a. industrial symbiosis or waste matching) is an innovative form of industrial collaboration that redefines waste and byproducts as inputs for other industrial operations. It “engages traditionally separate industries in a collective approach to competitive advantage involving physical exchange of materials, energy, and/or byproducts” (Chertow). In a city, it can offer development opportunities regardless of prospects for future industrial expansion, creating more wealth within an existing mix of industries. For more information, see *Cuyahoga Valley Initiative: A Model of Regeneration* at www.rmi.org/sitepages/pid177.php.

Service and Flow Economy

A “service and flow economy” calls for a fundamental change in the relationship between producer and consumer. Already underway, it entails a shift from an economy of goods and purchases to one of service and flow, which changes the incentives regarding the reuse of materials. For example, nearly all offices now lease copier services rather than buy copy machines as they once did. Thus, it’s in the interest of the copy-machine company to design the machine to be recyclable instead of designing it so that all the parts of an old machine are discarded.

In essence, an economy that is based on a flow of economic services can better protect the ecosystem services upon which it depends. This requires a new perception of value. It requires shifting from perceiving the acquisition of goods as a measure of affluence to an understanding that the continuous receipt of quality, utility, and performance promotes well-being. A service and flow economy offers incentives to put into practice the first two innovations of natural capitalism by restructuring the economy so that it better focuses on relationships that meet customers’ changing needs and rewards automatically both resource productivity and closed-loop cycles.

Investing In Natural Capital

Investing in natural capital simply means reinvesting in, sustaining, restoring, and expanding stocks of natural capital so that the biosphere can produce more abundant ecosystem services and natural resources. It encourages understanding that natural systems not only provide products (e.g., wood from a forest), they provide—at no cost—many services that humans cannot do without (e.g., flood control by a forest’s root system). A community or company located near a river downstream of a mountain forest will eventually feel the effects if that forest’s *products* are harvested without regard for its *services*. As history has repeatedly demonstrated, those effects can be catastrophic.

Businesses must restore, sustain, and expand the planet’s ecosystems so that they can produce their resources and services even more abundantly. If businesses do not do so proactively, the cost of reinvesting in natural capital will increase, stocks will be depleted, and ecological problems will multiply. This will lead to societal pressures through regulation and costly and inefficient governmental actions. To avoid these problems, reduce risk, and avoid getting a reputation of environmental irresponsibility, a business must work to ensure that there will be sufficient ecosystem services in the future. This concept is the fundamental reason that many companies are reducing carbon emissions and buying carbon offsets even when they are not required by regulations to do so. Additionally, with growing consumer awareness, environmental stewardship offers a significant market advantage.

For more information, including free download of the book, see www.NaturalCapitalism.org.

Appendix II:

Integrative Design and Whole-System Thinking

Integrative design is one of the most important tools for tackling the world's greatest energy- and resource-related challenges. It accomplishes large resource savings at lower cost than modest, incremental savings achieved by conventional means.

Integrative design is a process employing whole-system thinking through which the interconnections among and within systems are actively considered and solutions are designed to address multiple problems. Because this approach optimizes the entire system rather than individual parts, it is naturally more challenging than conventional (reductionist) problem solving, which tends to reduce a problem into a collection of components and then focus on those components individually.

Thinking in terms of whole systems requires ingenuity, intuition, and teamwork—especially teamwork. Don't expect to fully understand a whole system by yourself, at least at first. Instead, gather colleagues to help. RMI's workshops are such gatherings.

Whole-system design is not new. Old expressions such as “you can't see the forest for the trees” and “the whole is greater than the sum of its parts” affirm that being able to understand the big picture has long been understood as important. But our industrial past pushed society away from thinking in terms of entire systems. Highly skilled designers, facilities operators, and decision-makers often define problems too narrowly, without identifying their causes or connections, which merely shifts or amplifies problems. This kind of “silo” thinking is often found in large organizations, whose various departments each handle their own set of problems and issues in isolation—limiting

opportunities, innovation, and creativity. In contrast, integrative design cuts across departments, occupations, and disciplines—often revealing lasting, elegantly frugal solutions with multiple benefits, which often enable us to transcend ideological and turf battles and unite all parties around shared goals.

For many businesses, understanding the dynamics of systems is essential to maintaining long-term profitability. Not only does the integrative design process point the way to solutions to particular resource problems, it also reveals interconnections between problems, which often permits one solution to be applied to numerous challenges. Investing in single “system” solutions can often generate multiple benefits, providing several sources of revenue and a higher return on investment.

Take cars, for example. Driven by complexity, automotive engineers and designers tend to specialize. One person's job is to make a given component or subsystem the best it can. As a result, the modern automobile has evolved, through an incremental process of small improvements to individual components, without much change to the overall concept. The current market position of U.S. automakers painfully demonstrates how reductionist thinking, specialization, and incrementalization has stifled sweeping innovation and has limited market share.

The problem with blind specialization is that optimizing isolated parts often “pessimizes” the greater system or other parts of the greater system—integration and synergy are lost, and complexity, over-sizing, and inefficiency abound. What's lacking is a sense of the big picture, the whole system.

Appendix III:

Notes from RMI's Natural Capitalism Workshop

Sarasota, February 23, 2007

The following are notes taken at the workshop—raw information from the discussion that has not been interpreted, though it has been edited for clarity. These notes should be useful to people who did not attend the workshop, but want a more complete picture of the discussion. Also finding it useful would be anyone who attended and feels that some important idea was not included in this report. These notes include three sections:

- 1) Participant discussion following Natural Capitalism presentation.
- 2) Brainstorming session: ideas for new local initiatives.
- 3) Reports by subgroups of their ideas for initiatives.

1. Participant discussion following Natural Capitalism presentation

- Waste mapping to track waste business opportunities (a.k.a. industrial symbiosis).
- Organic-matter requirements and building-site regulation improvements for reduced runoff or stormwater from developed land.
- Large-scale solar for industrial and commercial applications.
- Benefits of locally owned businesses: in many cases they generate triple the local economic wealth as that generated by their chain competitors.
- Plants that would be used for biofuels production in Florida may be invasive exotic species, which can severely damage natural ecosystems (e.g., the Everglades).
- New retail development requires anchor store, which must be balanced with local independent and smaller businesses.
- Methane digestion—use digesters to create methane from biogas, sewage, animal waste, and yard waste. Carollo Engineering from California has suggested there are wastewater facilities doing this. Here in Sarasota, the landfill produces significant amounts of methane.
- National policies and the national agenda are not in alignment with the local grassroots efforts. In fact, the national policy/leadership is slowing down local efforts.
- Energy efficiency and alternative energy development and profitability are artificially constrained by unfavorable rates at which Florida Power & Light buys back energy.
- Biofuels can be an unsustainable source of energy when their feedstock is grown in ways that deplete soils and water. Also, when food crops are used for biofuels the effect

can be skewed food markets and high prices (e.g., corn-based ethanol is contributing to the high cost of tortillas in Mexico.

- Composting toilets can be designed to use no water. However, market acceptance is apparently difficult.
- We want to get this information to our 21st Century Workforce study, which is looking at all the issues that will create our economy (www.swdb.org) (Leslie Loveless).

2. Brainstorming session: ideas for new local initiatives

- Develop a list of desired businesses in our region: business opportunities and priorities listed by the Economic Development Corporation of Sarasota County and other business websites to attract sustainability-focused businesses.
- Retrofit toilets and retrofit other elements of local infrastructure.
- Emphasize distributed use of solar energy in homes (e.g., solar hot water heaters, etc.) set up by utilities to harvest energy from individual landowners that host the solar panels. The landowner using the energy gets billed for hotwater while the landowner with the solar panels gets a reduced energy rate. Lakeland, Florida is doing something like this, sponsored and encouraged by DOE. The cost of solar water heating is the same as if heated with electricity. But they fix the price, creating a hedge against inflation for the customer. Solar-heated water it is an unregulated service. Great economic return and local job creation. Example of an avoided-cost solution, analogous to many stormwater solutions.
- Integrated master planning: maximize the density of real estate developments—that is, the number of houses per acre, which will increase profit.
- District cooling systems that include cogeneration and thermally-active technologies. Chill water at night, when power is less expensive, to be used during the day. District systems require relatively high-density settlements.
- Energy service companies (ESCOs) install new heating and cooling systems in big institutions, like hospitals, for free. Profits are paid to the firm based on the cost-savings.
- Land for production of local food: strategically placed organic farms around the county, including using the regulated 30 percent open space in new development for local food production. Incorporate this idea into the

- Sarasota 2050 plan of new urbanism and other development regulations that require agricultural preserves/farms close to population centers. Combine art and vegetation around the farms to make them magnet sites. Provide incentives to farmers for gleaning by others, a self-pick field.
- Use abandoned land for agriculture. Example: the City of Tampa has areas of land that are not being used and could be used for community-supported agriculture.
 - Small- to medium-scale food distribution service.
 - Gleaning of trees—map out neighborhoods to see what fruit trees and growing space is available and contact owners to see if they can glean the food. The example is Somali refugees and providing food.
 - Edible landscaping—edible green roofs to localize food production.
 - Gleaning of crops left in the field for biofuels—needs to be harvested by another company for biofuels, pharmaceuticals.
 - Scouts for landscaping—trained entomologists to assess what pests are actually on site before applying pesticides (a.k.a. integrated pest management).
 - Intentional communities—business opportunities for creating a planned community that includes organic farming, etc.
 - Analytical laboratory to study red tide (Mote Marine currently provides such a service).
 - We don't have an environmental forensic specialist.
 - “Deconstruction,” that is, recycling of renovation materials (old cabinets, other materials from tear-downs and renovations). Four reuse stores exist in Sarasota already.
 - Green building standards and low-impact design/development: many local firms have been working on this for the last few years.
 - Recycling of computers (e-waste): a small effort currently is underway to upgrade and rebuild computers that will be donated to schools. Currently it's a volunteer program and the donations are going to schools, but it could be expanded into a rebuild business.
 - Is there a place locally that does appliance reuse/rebuild (refrigerators, stoves, dishwashers)? We are not sure about market demand versus cost of rebuild.
 - Currently all the plastic bottles are being shipped to Alabama. We need a local plastic regrind business.
 - How do we figure out which of these are really good ideas? We need business planners, accountants, etc. to help bring these ideas to business fruition (a slightly practical educational opportunity). Training for business development consultants—renewability partners, continuous improvement, and increasing skill sets for organizational consultants.
 - Inspire the vision of sustainability through using financial incentives. We need consultants who know how to do environmental audits. This could be done by not charging for services and only sharing in the savings afterwards.
 - Retrofit existing fleets using hydraulics to capture energy wasted by braking.
 - We are required to put in littoral zones for water management. We need to harvest these aquatic areas (stormwater ponds) for biomass.
 - Stranded assets related to organic material. We need to have a better network so landowners have access to a steady supply of humus/mulch to amend their sandy, semi-sterile lots, especially when combined with edible landscaping. Collection of organic material and composting it and get it around to landowners, seaweed, algae, etc.
 - Offshore floating algae farms to address red tide.
 - Green catering—linens, utensils, waste, etc.
 - Environmental art and Sarasota EcoFolkArt: ecologically sound displays such as green roofs, rain gardens, topiaries. Not sure about profitability.
 - Add a business awards competition to e-Fest. The County has been successful at having e-Fest. Present awards for eco-art, eco-business ideas.
 - Sarasota artisans.
 - Like a local version of Trader Joe's: Sarasota-based artisan, production, value-added foods and other goods—emphasize locally made products.
 - Fund a business plan that would develop waste stream businesses.
 - Communal/commercial/licensed kitchen: micro-enterprise development for value-added products, cooperative enterprise that people rent space/time. There is currently one underway or in the planning stages at All Faiths Foodbank.
 - Recycle/harvest fruitwood—good to compost the tops and then use the wood for furniture.
 - Design and install gardens that are for recovery from illness episodes (i.e., garden therapy, texture gardens, a.k.a. biophilia).
 - Eighty percent of our growth in Sarasota County comes from existing businesses. We need to focus on helping those businesses grow and create more jobs, save money for them.
 - We need to sell Sarasota as a place for people to get old. The healthcare industry here is excellent.
 - Establish a school of ecological engineering, analogous to the Sarasota School of Architecture. (We have hundreds of engineers in town.) This could be self-organizing and part of Sarasota's new brand identification.
 - Create market mechanisms for renewable energy and green power. Create a volunteer committee for green energy solutions.

- Apparently, the County will soon form a task force to examine “low-impact design” of new developments.
- Inventory existing businesses and their equipment to determine what could be used at idle times.
- Sarasota-wide promotional campaign on energy savings and green options.
- Route optimization for local drivers: a service that offers information on the current conditions at intersections.
- Microloan program for small startup businesses.
- Rainy season dumping of reclaimed water into Sarasota Bay: how to gather that extra water.
- Allow indoor reuse of reclaimed water— in toilets, for example.
- Green-business incubator.
- Expand the idea of a business-plan award for green business by getting sponsorships through the philanthropic community.
- Local or regional center to support community decision-making on sustainable design. Partner with universities, nonprofits, and businesses. Connect the community to assets in the community for decision-making.

3. Reports by subgroups of their ideas for initiatives

The topics discussed in the morning were grouped under a few key headings so that participants could focus on a few key ideas. They split into subgroups that developed worksheets for specific initiatives. Those worksheets provided the basis for the section of this report titled, “Sarasota Natural Capitalism Initiatives.” Five of the ideas noted here were developed into actionable initiatives by participants. The fact that some were not fully developed does not necessarily mean that the ideas were not viable.

Subgroup reports:

1. Whole-System Engineering Practices
 - a. This idea includes such topics as district cooling, integrative master planning, integrative water management, water reclamation, and green roofs.
 - b. Initiative: A prototype mixed-use community (Warm Mineral Springs resort), looking at creating 400 jobs, several different ethnic groups. 2000–3000 people working through it. Creating a wellness community. Looking completing 1st phase in 18 months. Will meet again soon.
2. Local Branding
 - a. This idea includes such topics as Sarasota Eco-Art, local artisans, e-Fest, Sarasota-made brand, School of Ecological Engineering, eco-tourism, green

business certification, local-regional centers (Future Florida House), Green Business Plan Competition.

- b. Initiative: A strategic plan on branding Sarasota and focused marketing on what they have discussed. Wonderful opportunities across the board in Sarasota—e.g., the school of art and design. Want to outline a plan for focused marketing proposal.
 - c. Wikinomics: don't have to be part of same firm to be part of this organization.
 - d. Mass collaboration could change everything and we have the opportunity like no place we have ever been.
 - e. Green Bay Packers are owned by the people of Green Bay and will, therefore, never leave.
3. Integrative Landscaping Practice
 - a. Included such morning topics as soil testing, environmental forensic, red tide study, sustainable turf and palm feed.
 - b. Initiative: Fertilizer and pesticide reduction and proper use. The community and County need to support local efforts to change landscaping consumer and profession in terms of application of pesticides and fertilizers in time and amount to one of sustainability. Certification program, recording nutrient input, record keeping of consumer on tax bill. The goal is to use science.
 - c. Working to get an ordinance to enforce certification and input requirements. No nitrates or phosphorus in summer time.
 - d. Create a buffer between water and turf.
 4. Existing infrastructure retro-fitting for cost savings
 - a. Included such morning topics as housing, toilets, solar, making cisterns out of septic.
 - b. Initiative: septic tanks having two functions to increase market (cisterns, etc). Mainly new construction market. There will be a contact with local septic companies. Planning on contacting local septic tank companies.
 - c. Solar water and electric. We think it is just a matter of doing it, that is, attracting to this community more solar panel manufacturers. Regulatory process is the biggest challenge to prospective business. Contact EDC or be involved in education and marketing of these ideas.
 - d. With all the thousands of septic tanks is your idea to leave in place and start retrofitting these? Ben has already accomplished this. He set the precedent. Is a tank with sewage appropriate for rain?

5. Energy

- a. Included morning topics such as ESCO, renewable portfolio standard, solar thermal energy, tankless water heaters, conservation rate structure, methane digestion, and landfill gas collection.
- b. Initiative: use the Lakeland County model. Solar water heaters as a business. Long-term energy sale agreement with the user. The environmental benefits are huge: jobs, carbon dioxide reduction and less need for another power plant. Going to put dollar value on this and to quantify non-dollar.
- c. The next steps: Del will write to County commissioners because they will be taking over the billing. To send out an RFQ to come and run this and set up the installer. It is something that is a no-brainer, the County makes money. No question that the County will do it.
- d. Plan B: Just to go forward. If County not set up for billing, then company will.

6. Food-Farming

- a. Included morning topics such as self-pick fields, organic farms, commercial kitchen, vacant lot usage for farming, gleaned or organics, medium-scale food distribution business, edible landscaping, and inventory mapping.
- b. Initiative: Start a community farm in a neighborhood association environment that will include many replicable demonstrations. Need to find a neighborhood group or association that will support the establishment of a small farm as a pilot project. The neighborhood or community people must want this to happen.
- c. It will include certified nutrient management planning, alternative energy, integrated water resource management, and sustainable agriculture.
- d. Next step: The Florida West Coast RC&D will reach out to interested communities on land availability and neighborhood interest.

7. Stranded organic assets

- a. Included morning topics such as harvesting of stormwater aquatics, seaweed, other organic waste, floating algae farms, composting collection and delivery, recycled fruit trees.

- b. The reporter for this group had to leave, so initiative is somewhat underdeveloped. Will await further development through RMI report, if possible. The initiative would involve collecting and distributing stranded organic assets to the proper source. Sierra Club would be interested in this project.

8. Sustainability auditors/specialists

- a. Included morning topics such as sustainability auditors, eco-accounting specialists, and sustainability capability index.
- b. Initiative: Establish a consulting think tank that would assess county-wide issues of policy and institutional operations, somewhat like a local version of RMI. Capture all the values (social, environmental, economic) for “triple bottom line”—that is economy, community, and environment.
- c. Assess county-wide issues as well as corporate or institutional. Comprehensive to assess all values to arrive at triple bottom line. In reviewing knowledge of existing programs, the challenge is accuracy of calculations. Prove cost saving through resource and labor efficiency. Put newly realized profits to work on facility expansion, diversification, or increased profits. The challenge is the lag time for savings, a risk that each entity must consider.
- d. Next steps: Planning to start right away and operational by Jan '08. Present business model to leadership in EDC Life and Environmental Services Cluster Work Group. Local government is in a position to drive this initiative. The first step is to meet with Sustainable Sarasota and develop a business plan.

Appendix IV:

Indicators of Progress

Though the development of indicators of progress is critical to both decision-makers and citizens, this task is a large one and will compete with other more pressing matters for staff and volunteer time. Virtually every organization faces a similar dilemma: important long-term activities are often set aside in favor of immediate challenges. Therefore, the development of indicators could be phased. In any case, RMI recommends that the County begin this process immediately by selecting a few indicators that are relatively straightforward to collect and that will measure progress on the most time-sensitive goals in its Roadmap to Sustainability. Then, set out a realistic schedule for adopting and collecting the balance of the indicators over time.

But why are indicators so important? Many indicators of community progress are familiar (for example, property values, sales-tax revenues, and tourist days). Because we tend to pay attention to the things that we measure, these conventional indicators tend to dominate conversations about how the community is doing. Accordingly, local policies and programs also tend to address the issues addressed by conventional indicators. It's a vicious circle: we measure the things we think are important, and regard as important the things that we measure. The effect of this myopic thinking is that we actually measure the things we *once* regarded as important, allowing no resources for phenomena and goals we *have come to* regard as important.

Conventional indicators don't give us the whole picture; they don't portray the whole system—the community, the environment, and the economy. Because many important community values are not measured, they are often misunderstood and misrepresented during community decision-making processes. For example, housing-price increases and housing starts are a common metric for community success, but they don't reflect the problems created when local working people are priced out of the market.

Without such indicators as housing affordability, household transportation costs, and water quality, a community does not have a picture of the road ahead. It's not clearly identifying current and possible future problems, or tracking whether a problem is getting better or worse. Even if it is aggressively pursuing many private and public programs meant to improve economic, social, and environmental conditions, it will not know if its programs are effective unless it measures their effects over time.

To drive to its destination, the community needs not only a roadmap, it also needs a dashboard—a cluster of indicators it regards as important to the long-term success of the community.

Fortunately, many communities are developing more comprehensive lists of indicators of local economic, social, and environmental factors. Each community's indicators are unique to it. They can generate productive problem-solving among people with different viewpoints, when previously, those same people had simply argued in circles. Also, indicators can help spot negative trends that can be examined, understood, and dealt with before they become serious problems. The result can be a shared vision of the community's future that is specific and can be acted upon.

Indicators of progress toward Sarasota *Roadmap* goals will be valuable to many different groups of people:

Citizens: Transparency in local government is the path to public trust. A government that uses indicators becomes more transparent—accountable for its goals and objectives in specific terms.

Current County decision-makers can assess progress and make mid-course corrections. Indicators demonstrate the practical effects of budgetary allocations, the tangible relationship between specific expenditures and particular outcomes.

Employees: Indicators demonstrate substantial reasons to be proud of one's work, which improves morale and increases productivity.

Future County decision-makers: Demonstrating the practical effect of specific programs and projects can transcend political differences. As a result, the continuity of demonstrably useful programs can be maintained despite turnover in elected officials. In turn, continuity increases the effectiveness of programs, giving taxpayers more bang for their buck. In contrast, many programs that would otherwise be effective are rendered ineffective when they stop and start with changing administrations.

Indicators should be understandable to the public and policy makers, and are most practical if based on data that are already being collected or can be collected relatively inexpensively. Many communities spend money collecting a lot of information that was once useful, but is no longer. The savings achieved by discontinuing the collection of unneeded data can be used to collect useful information.

One important proviso: not every important community value or goal is easily measured. For example, community safety can be measured in part by crime statistics, but the feeling of security may be as important. The challenge is that measuring feelings and other indicators of progress can require public-opinion surveys, which are expensive.