

The State and the Market:
Examining Environmentally Sustainable Economic Development in Rhode Island



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Submitted in partial fulfillment of the requirements for the Degree of Bachelor of Arts in
the Program of Environmental Studies at Brown University

PROVIDENCE, RI
MAY 2008

This thesis is accepted in partial fulfillment of the thesis requirements for the Degree of
Bachelor of Arts in Environmental Studies

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Acknowledgments

I am extremely grateful to Caroline Karp for her continual guidance and support during my time at Brown; this project would not have been possible without her. Thank you Glenn Bachman and Beth Collins for your feedback and encouragement. To Norm Deragon, Bob Griffith, and Bill McKenna, thank you for your invaluable assistance in data collection. Finally, many thanks to my family and friends, who have supported me at all points along the way.

Executive Summary

This thesis is an examination of the connection between people, the market, and sustainable development. Environmentally sustainable economic development has been an observable phenomenon across the globe, and its success can be linked to numerous factors relating to institutions and markets. This paper examines how the process of sustainable economic development has operated in the Rhode Island economy over the past two decades. Can the rise of sustainable businesses be attributed to the role of state-sponsored initiative, or simply to their profitability in filling a market niche?

I approach this question by first examining *The Greenhouse Compact*, a document produced by the Rhode Island Strategic Development Commission in 1984 that outlined a vision of economic growth for the Rhode Island economy. *The Compact* provides a basis of analysis for the first analysis in the paper, which evaluates Rhode Island government's role in sustainability by examining the Comprehensive Economic Development Strategy (CEDS) Priority Project System within the Statewide Planning Program. I find that there has been a growing trend in the incorporation of sustainability principles in the prioritization of development project submittals.

I then examine the Rhode Island economy for evidence of a growing cluster of environmental businesses. This is accomplished through an examination of lending through the Small Business Administration (SBA), which finds that contrary to expectations, there is no significant evidence for a growing cluster of profit-making environmental businesses between 1991 and 2007. I do find a positive significant trend for loans to minority and women-owned businesses, which reflects the social justice component of sustainability. These findings suggest that while the Compact's vision of

proactive initiative is slowly being realized on the part of the CEDS system, there is weaker evidence for a complementary growing presence in SBA loan data.

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Chapter 1: Introduction

In “Our Decrepit Food Factories,” Michael Pollan presents the Methicillin-resistant *Staphylococcus aureus* (MRSA) scare and the disappearance of the honeybee as warning signals of the breakdown of our society’s unsustainable agricultural practices. MRSA, the antibiotic-resistant strain of *Staphylococcus* bacteria that is threatening the lives of healthy people, has led researchers to examine the Concentrated Animal Feeding Operation (CAFO), an environment of heavy and rampant antibiotic use. Given warnings from public health experts about the rise of a super race of resistant bacteria resulting from heavy antibiotic use, it comes as no surprise that MRSA has been found in CAFOs—pig farms in particular—in Europe and Canada. In a seemingly unrelated story, within the past year beekeepers in 24 states have reported losing between 20 and 80 percent of their honeybee populations. This disaster has been termed “Colony Collapse Disorder,” and has been linked to the numerous stresses that bees undergo as they are moved to “vast monocultures” for pollination.¹ The stress of travel, exposure to agricultural pesticides, and threat of infectious diseases in unfamiliar territories have posed a dangerous combination for their immune systems. Although MRSA and honeybees may seem unrelated, both stories are “parables about the precariousness of monocultures,” in which the maximization of efficiency and production leads to huge sacrifices in biological resilience that ultimately cause the breakdown of the system. In other words, the threat of MRSA and the disappearance of the honeybees are ultimately tales of unsustainability. Examining sustainability, then, calls for more than simple

¹ Pollan, Michael. “Our Decrepit Food Factories.” *The New York Times Magazine*. 16 December 2007.

analysis and black-and-white perspective. Rather, as Pollan suggests, it requires a holistic understanding of how farms, markets, ecology and production overlap.

I hypothesize that Rhode Island represents a microcosm of the global movement towards this holistic thinking. It is moving towards a greener economy as reflected by increased State investment in environmentally sustainable economic development as well as the rise of non-governmental sustainability initiatives. The Apeiron Institute for Sustainable Living in the cities of Providence and Coventry, for example, mobilizes communities to embrace sustainability through education, advocacy, model sustainability projects, and joint collaboration with state agencies. The Institute advocates green building, renewable energy, sustainable agriculture, and sustainable corporate governance as the key aspects of sustainability that it wishes to instill.² Apeiron is not the only example of an organization that focuses on sustainable development in Rhode Island; sustainability has been championed by numerous other non-governmental organizations including Grow Smart Rhode Island and Save the Bay, which have collaborated with private businesses and federal and local governments to implement natural resource remediation and sustainable urban development. One example of a state initiative that was supported by Grow Smart Rhode Island is *Land Use 2025*, Rhode Island's recently launched state land-use plan that emphasizes conservation and long-term management of Rhode Island's remaining undeveloped land.³ Its emphasis on the prevention of sprawl, the encouragement of mixed-use development, and the maintenance of greenspace and greenways represents an optimistic vision for a more sustainable Rhode Island. Is this

² "Who We Are: Vision, Mission, & Guiding Principles," Apeiron Institute for Sustainable Living, 2007, <<http://www.apeiron.org/apeonvision.htm>>.

³ Rhode Island Division of Planning. 2006. *Land Use 2025: Rhode Island State Land Use Policies and Plan Executive Summary*. M. Allard Cox (ed.), Rhode Island Sea Grant, Narragansett, R.I. pp. 16

green document the culmination of a process that has been underway for years? If so, how has this process taken place in Rhode Island?

This paper examines the evolution of environmentally sustainable economic development in the Rhode Island economy over the past few decades. I examine evidence and/or potential for the emergence of an environmental cluster of sustainable businesses in Rhode Island. Rhode Island represents a microcosm of the global movement towards sustainable development, which has been championed in both the private and the public sector. This paper asks the question, “Is there evidence of growth in environmentally sustainable economic development in Rhode Island,” and if so, “To what extent have economic development institutions and tools promoted it?”

Valuable baseline data from the 1970s and 1980s are available in the *Greenhouse Compact* prepared by the Rhode Island Strategic Development Commission, and establishes a context in which to examine economic development over the past two decades.⁴ The *Compact* was produced with the intent of ensuring long-term economic sustainability for Rhode Island through proactive efforts by the State government, and it offers a window into evaluating Rhode Island’s progress toward *environmentally* sustainable economic development. Growing efforts to green industry and development projects have come from the State, but to what extent? What is the role of the variety of economic development institutions, such as development banks, incentive programs, and development agencies like the Rhode Island Economic Development Corporation (RIEDC) in fostering sustainable economic development in Rhode Island? Moreover, can a rise in green businesses be identified in the Rhode Island economy?

⁴ Rhode Island Strategic Development Commission, *The Greenhouse Compact* (Providence, RI: 1984)

The original focus of this study was RIEDC, an institution which plays an active and dynamic role in the state's economic development. However, in my research I faced difficulties gaining access to RIEDC records, particularly with respect to records of RIEDC annual investments in development projects. In response to this setback I redirected the scope of my study to focus on the Rhode Island Statewide Planning Projects and lending through the Rhode Island chapter of the Small Business Administration. I evaluate Statewide Planning as a State-run economic institution, and lending as an economic tool, to determine trends in sustainability in State-fostered economic development versus trends in the composition of businesses that are receiving lending. An overview of this paper is as follows:

Chapter 2 evaluates *The Compact* as a benchmark for evaluating the Rhode Island economy and sustainable economic development.

Chapter 3 reviews methodology.

Chapter 4 examines the CEDS system and presents corresponding findings.

Chapter 5 examines lending through the SBA and corresponding findings.

Chapter 6 examines other drivers of sustainable economic development in Rhode Island, including the Rhode Island Economic Development Corporation.

Chapter 7 presents recommendations and conclusions.

Chapter Two: Background

This paper is primarily concerned with examining evidence and/or potential for an “environmental sector,” or “cluster” of companies offering green products and services in the Rhode Island economy.⁵ I use *The Greenhouse Compact* as a benchmark that presents valuable baseline data on the Rhode Island economy in the mid-1980s, identifies attributes of a healthy economy, and provides recommendations on how the state should play a role in the development of such an economy. I conclude by examining to what extent *The Compact’s* goals have come true in a general sense, and suggesting how *The Compact* can provide a framework for evaluating environmentally sustainable economic development.

2.1 Sustainability and its Language

Before I examine *The Greenhouse Compact*, I wish to place Rhode Island within the global scheme of sustainable development, and to clarify the terms I will be using in this and subsequent chapters. Over the past half-century there has been an explosion of environmental discourse in the international community. Certain landmark events, and the dialogue produced at these events, can be identified as contributing fundamentally to this environmental discourse. The global community after World War II was one which sought to ensure the reconstruction of war-ravaged Europe and the establishment of an international regime that would prevent the political and economic deterioration that characterized the first half of the 20th century. What arose from this environment was an effort on the part of the international community to ensure *self-sustainability*, through the opening of global markets and the containment of destabilizing political ideologies such

⁵ See Chapter 3: Methods for further explanation of the definition of an environmental sector.

as communism. In *A Survey of Sustainable Development*, Jonathan M. Harris and Neva R. Goodwin characterize this environment as giving birth to the global economic institutions that provided a framework for concepts of “development,” namely, the International Monetary Fund, the World Bank, and the General Agreement on Tariffs and Trade (later succeeded by the World Trade Organization). The establishment of these institutions allowed for global discussions on various development issues, and soon the conversation shifted to include environmental concerns in such events as the United Nations Conference on the Human Environment (also known as the Stockholm Conference) in 1972, which launched the United Nations Environment Programme.

Over a decade later, in 1987, the term *sustainable development* was first coined in the 1987 UN report *Our Common Future*. *Sustainable development* was defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”⁶ Thus, a practice or system is unsustainable when, in Pollan’s words, “it is destroying the very conditions on which it depends.”⁷ This term took on environmental considerations in the wake of further global discussions on sustainable development during the 1992 United Nations Conference on Environment and Development (also known as the Rio Earth Summit) in which an agenda, named for environmental sustainability, named *Agenda 21*, was adopted. *Agenda 21* was a comprehensive plan for the implementation of social, economic, and environmental sustainability on national, state, and local levels. The document emphasizes the interconnectedness of environmental sustainability in social and economic sustainability.

⁶ Norman J. Vig and Michael E. Kraft (eds.), *Environmental Policy*, (Washington, D.C.: CQ Press, 2006), p.375

⁷ Michael Pollan, “Our Decrepit Food Factories,” *New York Times*, 16 December 2007. 1 January 2008. <http://www.nytimes.com/2007/12/16/magazine/16wwln-lede-t.html?_r=1&oref=slogin#>.

For example, Chapter 7 of the document falls under the “Social and Economic Dimensions” section and addresses the promotion of “sustainable human settlement development.”⁸ Despite its focus on housing and urban and rural development, environmental considerations are laced throughout the chapter, which emphasizes “the environmental implications of urban development,” and argues that “the consumption patterns of cities are severely stressing the global ecosystem, while settlements in the development world need more raw material, energy...simply to overcome basic economic and social problems.” *Sustainable development* and *sustainability* are terms that have become intimately connected with environmental issues in the mind of the international community. Norman J. Vig and Michael E. Kraft emphasize in *Environmental Policy* that “sustainable development supersedes environmental policy in the sense that all public policy and private activities ultimately must be concerned with environmental sustainability.”⁹ Environmentally sustainable development, then, is a holistic approach that encompasses not only environmental but civil and social justice considerations as well.

A further distinction can be made between *weak* and *strong* sustainability. Weak sustainability, a philosophy often held by strict economists, implies that manufactured and human capital can be substituted for deteriorating natural capital. It assumes that natural capital *can* be substituted; it can be allowed to deteriorate “provided compensatory investments in other forms of capital are undertaken,” capital which will

⁸ U.N. Department of Economic and Social Affairs, Division for Sustainable Development, *Agenda 21: Chapter 7*, United Nations, 15 December 2004, <<http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter7.htm>>.

⁹ Norman J. Vig and Michael E. Kraft (eds.), *Environmental Policy*, (Washington, D.C.: CQ Press, 2006), p.375

provide the same services once those natural resources are no longer available.¹⁰ Strong sustainability, often the rallying cry of deep ecologists, argues that this strategy is ultimately flawed because not all of the services provided by the natural world can be duplicated or replaced by man-made capital. In addition, the concept of intergenerational equity calls for the preservation of natural systems for future generations. Proponents of strong sustainability argue for the careful management of natural resources that are not substitutable and that should remain available for future generations to enjoy and benefit from.

This global discussion of sustainability has had profound implications for the political and civil society arenas of the United States. President Bill Clinton established the President's Council on Sustainable Development under his administration, and while progress stalled after 1994 with the rise of a Republican-dominated Congress, sustainable development initiatives have appeared throughout the country in states and local communities. Harris and Goodwin argue that while the market can achieve economic efficiency, sustainable development is concerned with goals and norms and must be guided by social and institutional processes as well.¹¹

The term "environment" can describe both the natural environment (containing physical resources and ecological biosystems) and the social and economic environment (containing institutions, market forces, and societal infrastructure). It should be noted that this paper uses "environmental" to refer exclusively to the incorporation of an awareness and concern for the natural environment and its preservation and management for future.

¹⁰ J.M. Harris, T.A. Wise, K.P. Gallagher, and N.R. Goodwin (eds.), *A Survey of Sustainable Development: Social and Economic Dimensions*, (Washington, D.C.: Island Press, 2001), p.26.

¹¹ *Ibid.*, p.xxxiv.

This paper also distinguishes between the terms *sustainable*, defined above, and *green*. Andrew Jamison describes the process of “greening” as being concerned with diverting “environmentalism into profit-making directions,” and integrating values of sustainable development into a preexisting business structure and approach.¹² For the purposes of this paper, greening is not necessarily restricted to “profit-making decisions,” but certainly includes this process. “Greening” characterizes the application of environmentalism to a preexisting form, structure, or process belonging to the mainstream economy. It can be identified in the rise of businesses that sell conventional products and services as well as businesses that incorporate green technology and green thinking into their operating and production processes. This greening process in the business sector can be identified as initially fueled by the need to comply with regulatory standards, but it has since been propelled by initiative from within the industry. The International Institute for Sustainable Development (IISD) argues that industry is on a “three-stage journey” to sustainability, which begins with regulatory compliance, moves on to environmental risk management, and finally reaches sustainable business strategies.¹³ Strict ecologists often criticize green business as fundamentally inconsistent with values of sustainable development, which requires more than what they view as simply “plugging” greener inputs into mainstream production and consumption.¹⁴ Under this framework, the greening of the industrial production process is a short-term, “plug-and-chug” solution that is superseded in the long-term by sustainable thinking.

¹² Andrew Jamison, *Making of Green Knowledge*, (Port Chester, NY: Cambridge University Press, 2002), p.123, <<http://site.ebrary.com.revproxy.brown.edu/lib/brown/Doc?id=10001834&ppg=33>>.

¹³ “The sustainable development journey,” *Business and Sustainable Development: A Global Guide*, Institute for Sustainable Development, 2007, <http://www.bsdglobal.org/sd_journey.asp>.

¹⁴ Jamison, p.124.

As its own act, the installation of green technology in an industrial process can be seen as failing to consider the larger implications of life-cycle thinking or industrial ecology that would characterize a more sustainable effort.¹⁵ However, as a larger movement of individual efforts on the part of businesses in an economy, greening arguably contributes to sustainable development as a movement that falls under its larger umbrella. Moreover, in the process of this “greening” of the economy, values of sustainable development, or sustainability, have increasingly become mainstream and have fostered a culture in which holistic thinking is growing more common. As such, this paper uses “green” synonymously with “environmental” and “sustainable” when describing enterprises belonging to the sustainable economic development movement.

Not only industrial firms but all businesses enterprises can incorporate sustainability into their operations in the form of *Triple Bottom Line* thinking. Triple bottom line thinking reinterprets the concept of financial accounting, in which a firm must answer to its external stakeholders, and places it in the realm of management accounting, in which a firm is accountable to not only financial concerns but environmental and social ones as well.¹⁶ Triple bottom line thinking may imply the usage of environmental management systems¹⁷ to reduce the environmental impact of a firm’s production process.

2.2 Rhode Island in 1984

¹⁵ William McDonough and Michael Braungart, *Cradle to Cradle*, North Point Press, 2002. <http://www.mcdonough.com/cradle_to_cradle.htm>.

¹⁶ M. Bennett et al. (eds.), *Environmental Management Accounting: Informational and Institutional Developments*, (Netherlands: Kluwer Academic Publishers, 2002), p.233.

¹⁷ “Environmental management system.” *Wikipedia*. 30 October 2007. <http://en.wikipedia.org/w/index.php?title=Environmental_management_system&action=history>.

The Greenhouse Compact provides a valuable baseline summary of the Rhode Island economy in and around 1984, the year of the report’s publication. It includes an analysis of the business structure of RI’s economy, physical infrastructure, state research activities, training capabilities in both public and private sectors, and financial institutions (capital and venture capital). I excerpt several key conclusions from *The Compact* as a benchmark to evaluate Rhode Island’s progress toward “environmentally sustainable development” since 1984 (see Fig. 2-2). It indicates that a relatively low standard of living and economic deterioration represented one of Rhode Island’s most significant economic problems in 1986. The early to mid-1980s was a time of economic recession. The *Compact* notes that in the year 1982, the economy had experienced a decade in which, “the portion of goods production fell while the service sector increased and the government sectors fell as Navy facilities in Rhode Island were reduced or closed.”¹⁸ Employment in manufacturing and raw materials remained relatively constant, while the service sector gained jobs in the tens of thousands.¹⁹ This trend in many ways reflected larger national trends—the country as a whole saw its service sector gain over 14 million jobs, or an increase of 40.4%, in the same period of time (1971-1982).²⁰

Citing an unattractive business environment (or at least, the perception of such), a declining manufacturing sector, and poor capitalization of resources, the *Compact* argues that unlike the past three centuries, in which the Rhode Island economy was historically dominated by agricultural, merchant, or industrial strength, the 1984 economy had

¹⁸ Ibid., p.61

¹⁹ Ibid., Exhibits 3, 4.

²⁰ Ibid., p.61

developed without any comparative advantage or strength.²¹ Interestingly, almost a decade ago an article on the commentary page of the Providence Journal echoed this characterization, arguing that

The greatest problem confronting Rhode Island, which has persisted for over a decade, is that we have yet to define our economic niche in the information age. Should you ask an elected official what that niche is, the typically response is little more than we are doing a little of this, a little of that, etc.²²

Ultimately, the economy of 1984 was one in which many industries were vulnerable to competition and needed to modernize, and very few companies had prospect for growth that would help them stay competitive.²³ The Compact attributes the lack of a “successful fourth economy” as the cause of the decline in the standard of living of the average Rhode Island citizen relative to Rhode Island history, neighbors in New England, and the nation as a whole.²⁴ In other words, the 1984 Rhode Island economy was not capitalizing on its strengths, and its existing industries were in danger of becoming obsolete and losing competitiveness. It was in need of revamping and an overall *vision* above all else. Figure 2.1 presents the main details of these findings.

2.2 Recommendations by The Greenhouse Compact

The main theme of *The Compact's* recommendations is the targeting of potential and the realization of that potential through proactive initiative. Figure 2.1 summarizes *The Compact's* recommendations, many of which reflect this underlying attitude. For example, the Incentives for Industrial Expansion represent proactive incentive creation

²¹ Rhode Island Strategic Development Commission, *The Greenhouse Compact* (Providence, RI: 1984), Volume One, p.36

²² Leonard Lardaro, “Rhode Island Must Find its Economic Niche,” *The Providence Journal*. Jan 1999. 5 May 2008. <http://members.cox.net/lardaro/economic_niche.htm>.

²³Rhode Island Strategic Development Commission, *The Greenhouse Compact: Executive Summary* (Providence, RI: 1984), p.12

²⁴ Rhode Island Strategic Development Commission, *The Greenhouse Compact* (Providence, RI: 1984), Volume One, p.36

through the form of a 12-year grant note at below-market interest rates, rather than the ever-hidden and indirect tax relief. Such a policy, it was argued, would also be easier to monitor and more efficient than general tax incentives. *The Compact* also makes specific recommendations for various industries, emphasizing throughout that improvements in waste treatment are essential in complying with regulations and regulatory deadlines, and that an awareness of environmental costs must be incorporated into the operation of industries.²⁵

The best example of this proactive attitude is in *The Compact's* central recommendation: the Focused Research Greenhouse.²⁶ This model is based on the trajectory of an industry as beginning with fundamental research followed by a long period of development, an initial production of the product, a high growth phase during which the technology is diffused into a whole series of new products, and finally a mature phase in which there is segmentation into different markets. *The Compact* envisions the Greenhouse initially being funded by the Rhode Island Strategic Development Commission, and then becoming self-sufficient through research contracts with government and private entities, direct consulting contracts with companies, and license/royalties. A venture capital fund would be set up from participating Rhode Island companies, and this fund would also operate as an incubator.

²⁵ See Figure 2.1, Industry-specific Recommendations.

²⁶ See Figure 2.1, Focused Research Greenhouse.

Figure 2-1: *The Greenhouse Compact's* Recommendations

	Objective	Methods
Stabilization Fund	Long-term stability and job preservation	Find new management and ownership for plants facing liquidation; provide debt and equity to new owners; extend credit to help firms stay afloat instead of sinking ²⁷
Incentives for Industrial Expansion	Industrial expansion	Make public funds available to proactively stimulate investment; create an aggressive job creation incentive program for existing and new firms ²⁸
New product incentives fund	New product and market creation	Create a fund directed at existing firms in the form of conditionally reimbursable limited liability loans of up to 50% of the cost of developing new products or markets ²⁹
Industry-specific Recommendations	Targeted recommendations for the Tourism, Boat Building, Fishing, Wholesaling, and Jewelry Industries	<u>Tourism</u> : Comprehensive planning in the tourism industry to provide access to natural resources with proper measures taken to protect them <u>Fishing</u> : Prevention of further pollution in Narragansett Bay which would interfere with the expansion of the fishing industry; upgrading of sewage treatment facilities and waste treatment facilities to reclaim parts of the bay that have been closed to shell-fishing due to pollution <u>Jewelry industry</u> : Improvement of waste treatment so as to comply with EPA pretreatment regulations for metal finishers and electroplaters ³⁰
Focused Research Greenhouse	Bring forward high growth industries that will be the national centers of the activities	Create a self-sufficient fund/incubator that accelerates the completion of basic research and launches initial production in any of the following areas: clinical trials, geriatrics and gerontology, robotics, and amorphous materials, underwater electronics, computer workstations, cancer drugs, and food preservation technologies. ³¹
Education and Training Programs	Technology innovation and human resource development	Enhance the research and training base of the state by forging links between universities and other research-based institutions and industries through training and skill-developing programs. ³²

²⁷ Rhode Island Strategic Development Commission, *The Greenhouse Compact* (Providence, RI: 1984), Volume Two, p.836

²⁸ *Ibid.*, p.840

²⁹ *Ibid.*, p.842-3

³⁰ *Ibid.*, p.851

³¹ *Ibid.*, p.854-7

³² *Ibid.*, p.897

2.3 *The Compact in Context*

The Greenhouse Compact was viewed by many as unwarranted intervention in the marketplace. The Governor of Rhode Island expressed this sentiment in his 1985 State of the State Address, when he noted that “It is not the role of government to pick winners and losers.”³³ However, the *Compact’s* vision for Rhode Island was not one in which incentives were randomly assigned to select industries. Rather, it was a vision in which industries that represented potential growth sectors were revealed through careful, context-based analysis, and these industries were then highlighted as smart investments for the state. The market determines efficiency, but *The Compact* suggests that it is the role of the state to determine how it can help a stagnant economy become alive again. *The Compact* argued that Rhode Island has many strengths, including well-respected research and educational institutions, a capital-rich financial system³⁴, land that can be used for industry and good transportation and communication facilities.³⁵ The expenditures of the state can harness these factors towards active economic development by playing a direct role, and the *Compact’s* vision is a plan for how the state can spend its money wisely and contribute to a stronger Rhode Island economy.

As the *Compact* argues, the drivers of an industrial cluster are not only market forces, but also state efforts and initiatives. The following are examples of institutions and tools that can be created by the state to encourage economic development and the formation of successful clusters:

³³ Rhode Island Statewide Planning Program. Economic Development Strategy, Report Number 51 (State Guide Plan Element 211) (Providence, RI: March 1986), p.4.4

³⁴ Bank deposits per capita were the highest in New England and commercial loans per capita amounted to \$1,647 as compared to \$1,078 for the nation as a whole. (Rhode Island Strategic Development Commission, *The Greenhouse Compact: Executive Summary* (Providence, RI: 1984), p.11)

³⁵ *Idib.*, p.11

Institutions

- Business incubators
- Trade associations
- State agencies and processes
- NGOs
- Philanthropies
- Green Enterprise Zones
- Small Business Grants/Loans
- Banks

Tools

- Taxes
- Tax Incentives/Credits
- Subsidies
- Grants
- Lending
- Stock Market

Many of these tools were identified in *The Greenhouse Compact* (see Fig.2.1). This paper examines to what extent two of these, namely State agencies and processes, and Lending, have contributed to environmentally sustainable economic development. Before examining the attribution question, I examine how these goals have been realized since 1984.

2.4 The Rhode Island Economy after 1984

Figure 2.2 below summarizes findings by *The Greenhouse Compact* and by the Comprehensive Economic Development Strategy, the Rhode Island Economic Development Corporation, and the Rhode Island Economic Policy Council, which represent economic development institutions at least partly run by the State, on the state of the Rhode Island economy in the mid-1980s and since the turn of the millennium.

Figure 2.2: The Rhode Island Economy: Then & Now

	<i>The Greenhouse Compact's Findings: Mid-1980s</i>	CEDS, RIEDC and RIEPC Findings: Now
Rhode Island compared to its Neighbors	<ul style="list-style-type: none"> • 16.7% lower than the New England average and 7.1% lower than the national average 	<ul style="list-style-type: none"> • Rhode Island's rose from the 21st (in 2002) to 11th (in 2004) ranking on the Milken State Science and Technology Index and from 21st (in 2002) to 15th (2007) on the New Economic Index.^[1]
	<ul style="list-style-type: none"> • 1982 average wage rate amounted to \$6.37 (after excluding the 3 major manufacturing defense contractors in the state), which was significantly below Mississippi and slightly below North Carolina's average wage rates. 	<ul style="list-style-type: none"> • While 61% of RI jobs pay below the national average, some 58% of jobs in Massachusetts pay above the national average, while in Connecticut, the figure is 55%."
Income	<ul style="list-style-type: none"> • Income gap between the average Rhode Islander and the average New Englander grew from \$852 in 1970 to \$1,193 by 1982. 	<ul style="list-style-type: none"> • 2006: national average private wage was \$42,405, while in Rhode Island it was \$38,732, and 61% of Rhode Island jobs paid below this national average
Business Environment	<ul style="list-style-type: none"> • High relative electricity costs were "hindering the competitiveness of many of our energy intensive industries," as well as costly unemployment compensation 	<ul style="list-style-type: none"> • The state is fostering a positive business environment through numerous initiatives and incentives, such as RIEDC's business programs
Manufacturing Sector	<ul style="list-style-type: none"> • Disproportionately large share of legacy manufacturing partially explained the low wage rates 	<ul style="list-style-type: none"> • Declines in low-wage manufacturing jobs as they were relocated or minimized
	<ul style="list-style-type: none"> • Significant declines in manufacturing industries: between 1971 and 1982, 177 large manufacturing firms had closed down or suffered significant layoffs amounting to job losses in the tens of thousands 	<ul style="list-style-type: none"> • Rising manufacturing wages and job creation in services
	<ul style="list-style-type: none"> • Unusually low wage rates were attributed to the disproportionately small share of the civilian economy that generated high wage jobs – defense contracts comprised more than 50% of employment in high wage categories (\$9.50 and over) at this time. 	<ul style="list-style-type: none"> • 41% of manufacturing jobs are classified as progressive manufacturing
Employment	<ul style="list-style-type: none"> • 60,000 new jobs needed to be created by 1990 to prevent the Rhode Island economy from deteriorating further. 	<ul style="list-style-type: none"> • 2008: Rhode Island has successfully added jobs in both middle and high wage industries in the last five years. [1]
Composition	<ul style="list-style-type: none"> • 31% of the economy was concerned with the production of manufacturing, raw materials, and construction; 49.5% was service-producing, and the remainder of the economy was occupied by self-employed individuals and the government 	<ul style="list-style-type: none"> • High-wage sectors: Information Technology & Digital Media, Financial Services, Marine Trades & Defense Technology, Industrial Products & Infrastructure, Health Care & Life Sciences, Professional & Educational Services, Consumer Products & Design^[3]

The turn of the millennium saw services continue to grow and replace some of the jobs lost in the manufacturing sector, but CEDS reports throughout this period emphasize that services were unable to provide enough high-wage jobs.³⁶ They also express uneasiness concerning the high concentration of employment in low-value-added industries “that are highly vulnerable to foreign competition.”³⁷ Although the state was slowly moving into “New Economy” high-tech industries like electronics, software, and biomedical products, it was still seen as largely dependent on “‘mature,’ ‘insular,’ and ‘low tech’” industries³⁸ The vulnerability of the Rhode Island economy remains an issue today, as certain industries, such as manufacturing and tourism, are particularly vulnerable to foreign competition and economic downturns. The final, and most recent, of these CEDS reports indicates that the Rhode Island economy in 2006 was a mixed picture. Declines in employment in manufacturing were still exercising a dampening effect on the economy, and the state had the highest unemployment rate in the region. In fact, the state's unemployment rate hit 5.7 percent in January of 2008, the highest in more than a decade.³⁹ Even more worrying is the persistent lower wage profile of the state, as shown in Figures 2.2 and 2.3.

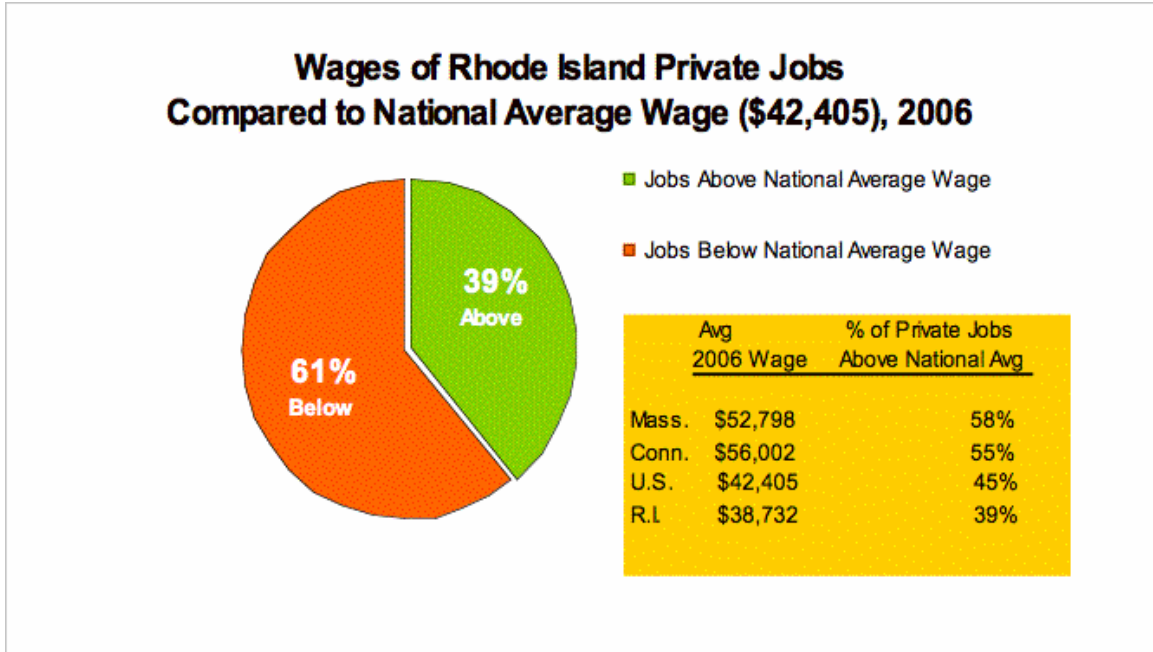
³⁶ Statewide Planning Program, Rhode Island Department of Administration. *Rhode Island Comprehensive Economic Development Strategy* (Providence, RI: August 2000), p.3

³⁷ Ibid.

³⁸ Statewide Planning Program, Rhode Island Department of Administration, *Rhode Island Comprehensive Economic Development Strategy* (Providence, RI: 2004), p.3

³⁹ “R.I. Unemployment Rate Highest in More Than A Decade,” *Topix*. 29 Feb 2008. 5 May 2008. <<http://www.topix.com/state/ri-gov/2008/02/r-i-unemployment-rate-highest-in-more-than-a-decade>>.

Figure 2.3



Source: RIEDC⁴⁰

Despite the challenges, several *Compact's* goals have been reached since the document's publication in 1984. The late 1990s saw declines in manufacturing jobs coupled with rising manufacturing wages and job creation in services,⁴¹ positive trends in New Economy industries, and the rise of the highly successful Enterprise Zone (EZs) program in the late 1990s. An EZ is a cluster of tax breaks, tax reliefs, and cheaper resources designed to encourage development in a geographic area. Although EZs represent a source of indirect tax incentives, which are a tool less favored by the Strategic Development Commission, the EZ program does not consist exclusively of tax breaks and represents a more proactive portfolio of incentives and resources as well. In 1999

⁴⁰ "Rhode Island's Changing Economic Profile." Rhode Island Economic Development Corporation. 2008. 5 May 2008. <<http://www.riedc.com/data-and-publications/economy-and-workforce/high-wage-job-comparison>>.

⁴¹ Statewide Planning Program, Rhode Island Department of Administration. *Overall Economic Development Program Update* (Providence, RI: June 1997), p.56.

alone, EZs contributed 1,050 new jobs to the Rhode Island economy.⁴² Furthermore, certain *Compact* goals reviewed in Chapter 2 advocating for new product incentives and programs to promote research and training have been addressed in the form of the Rhode Island Partnership for Science and Technology (1985-1993), the Slater Technology Fund (1997), and the Experimental Program to Stimulate Competitive Research (2004),⁴³ which have brought universities and colleges in this state together to pursue research and technology innovation in a comprehensive and collaborative way.

The Slater Fund in particular has implemented *Compact* goals by using proactive initiative to provide financing—private, venture capital and government investments—to technology ventures in the state, with a focus on the Life Sciences and Information Technology industries. Furthermore, the program has focused on environmental technologies since its inception, and these efforts have been consolidated in the form of the Slater Center for Marine and Environmental Technologies. Another example of the Slater Fund’s role in proactive sustainable economic development is its focus on “environmental sustainability” under the Slater Center for Design.⁴⁴

A 2007 report by the RIEPC noted that since 1996, Rhode Island has initiated “targeted investments” in technology-based development through collaboration with universities and partnerships between the public and private sectors. It cites the Slater Fund as an example of one of these initiatives, boasting that these efforts have

⁴² *Ibid.*, p.10

⁴³ One of EPSCoR’s preliminary growth targets is in the Environmental biosciences, “including but not limited to global change biology, population biology, and organismal biology” (“Research Focus Areas. Rhode Island Experimental Program to Stimulate Competitive Research. 2007. 13 May 2008. <<http://www.riepscor.org/initiatives.html#research>>.)

⁴⁴ (Rhode Island Economic Policy Council. 2002. *Report of the Slater Technology Fund 2002*. <http://www.ripolicy.org/resources/content/slater_2002.pdf>), (Rhode Island Economic Policy Council. 1999. *The Slater Technology Fund Progress Report*. <http://www.ripolicy.org/resources/content/1999_Slater_Report.pdf>)

contributed to Rhode Island's rising status in science, technology, and New Economy industries.⁴⁵

2.5 Conclusions

Patrick McPherron, an analyst for Moody's Analytics, a global research-based analytical firm, made an optimistic prediction in 2007:

Rhode Island...is slowly turning from a manufacturing hub into a finance and biotech sector. Once the transition is fairly complete, the state could become a model of innovation and implementation, making it a solid bet over the longer forecast horizon.⁴⁶

The status of the contemporary Rhode Island economy shows that *The Compact's* goals have certainly been realized with respect to economic development and even with respect to sustainable development, for example in the focus on environmental technologies in various research and science initiatives. In this paper, however, I wish to closely examine an economic institution and an economic tool within the state to evaluate its role in contributing to this kind of development and realizing *The Compact's* goals with respect to environmentally sustainable economic development. Taking into consideration the proactive recommendations of *The Greenhouse Compact*, to what extent has McPherron's statement been realized since 1984, specifically with respect to environmentally sustainable economic development? In the next chapter I establish the methodology by which I address this question.

⁴⁵ RI Economic Policy Council. 2007. Science and Technology Discussion Paper. <http://www.ripolicy.org/resources/roundtables/ScienceTechnologyDiscussion_v4.doc>.

⁴⁶ Statewide Planning Program, Rhode Island Department of Administration. *Comprehensive Economic Development Strategy* (Providence, RI: 2007), p.7

Chapter 3: Methods

My approach in this paper is to jointly evaluate an economic institution (the Comprehensive Economic Development Strategy (CEDS)) and an economic tool (lending through the Small Business Administration) in order to evaluate and/or observe trends in environmentally sustainable economic development in Rhode Island. I specifically adopt a “two-tiered” evaluative approach for CEDS, and a one-tiered evaluative approach for lending through the SBA. This chapter provides an overview of this methodology.

3.1 Comprehensive Economic Development Strategy (CEDS) Priority Project System

There are two tiers of evaluation in determining the level of involvement of an institution in environmentally sustainable economic development. First, the role of the institution in using environmental criteria in its allocation of projects must be determined, after which the actual environmental sustainability of the chosen projects must be determined.

Evaluation of projects funded through the CEDS system is undertaken through these two tiers. The first tier of evaluation tracks language on sustainability and criteria determining prioritization of projects over time in reports issued by the CEDS Committee between 1986 and 2007. Reports are analyzed at intervals of 4-6 years [1986, 1992, 1996, 2000, 2004, and 2007]. The second tier of evaluation takes a closer look at the criteria and Priority Project Lists produced within these representative reports over time.

3.2 Loans through the Small Business Administration (SBA)

The SBA dataset includes all 7,100 SBA 7(a) loans from October 1, 1991 through September 30, 2007 including information on approval date, fiscal year, original gross amount of the loan, lender, NAICS code/description, ethnicity of borrower, gender of borrower, and status of the business (Existing vs. New).

The “first tier” of evaluation plays no role here, because there is no deliberate allocation of loans through the SBA based on criteria other than financial eligibility, so there can be no evaluation of “driven” economic development. Loans are awarded only according to the viability of the lenders and projects.⁴⁷ Bank policies are not regulated under this program, and there is no allocation process through which certain businesses or certain sectors receive an advantage over others.⁴⁸ As long as businesses meet certain criteria in terms of credit worthiness and ability to repay, loans are not allocated according to economic factors. Ultimately it is the lenders who make the loans, and the SBA simply serves as a guarantor creating greater access to capital for startups and small businesses. Since there is no observed pattern of Rhode Island lenders specializing in specific types of businesses or allocating loans based on principles of environmental sustainability or social justice, analysis of the 7(a) loan guarantee program provides a way to see general trends in small business startups over time.⁴⁹

In the second tier of evaluation, indicators for environmental sustainability are tracked in borrowers over time. Businesses receiving loans are distinguished based on their economic activity, ethnic diversity, and gender diversity. Loans to businesses in

⁴⁷ Deragon, Norm. Rhode Island Small Business Administration. Telephone interview. 27 February 2008.

⁴⁸ “Basic 7(a) Loan Program. U.S. Small Business Administration. 26 March 2008. <<http://www.sba.gov/services/financialassistance/sbaloantopics/7a/index.html>>.

⁴⁹ Deragon, Norm. Rhode Island Small Business Administration. Telephone interview. 27 February 2008.

environmentally-related activities are a direct reflection of environmentally sustainable economic activity. Loans to businesses owned by ethnic minorities and women are a direct reflection of socially just economic activity, which is a component of environmental sustainability.⁵⁰

These indicators (Economic Activity, Ethnic Diversity, and Gender Diversity) are based on SIC and NAICS classification in the dataset. The following list represents the population of businesses that will be tracked over time in the SBA loan data to shed light on environmentally sustainable economic development between 1991 and 2007:

Dirty Manufacturing businesses
Service businesses
High-growth Clean Industries
Minority-Owned Businesses
Women-Owned Businesses

7(a) loans from 1991 through 1999 are classified according to the Standard Industrial Classification (SIC) 4-digit coding system, which was established by the U.S. Government in the 1930s as a way of classifying industries so as to observe and track the economy. The SIC system transitioned to the North American Industrial Classification System (NAICS) in 2000, so 7(a) loans between 2000 and 2007 are classified according to NAICS.⁵¹

3.3 SIC and NAICS Classifications

Certain criteria determine the industries that are represented, or classified, in the SIC and NAICS systems. The two main criteria in the SIC/NAICS classification are the economic significance of an industry, and its specialization and coverage ratios. The economic significance of an industry is determined by its size, as measured by a weighted

⁵⁰ See Chapter 1 for explanation of the social justice aspect of sustainability.

⁵¹ “What is NAICS?” U.S. Department of Labor. 27 October 2003. 29 March 2008. <<http://www.bls.gov/ces/ceswhatis.htm>>.

average of the number of establishments in the industry, the number of employees in the industry, its payroll, its value added, and its value of shipments. The SIC classification system requires that an emerging industry measure an economic significance of at least 20% of the average size for manufacturing industries in order to be classified.⁵² Because this system was based on a predominantly manufacturing economy, many small growing service industries were not classified and reported separately. In 1997, the SIC system transitioned into the 6-digit North American Industrial Classification System (NAICS) to better reflect the changing economy. 358 new industries are recognized in NAICS, 250 of which are services producing industries, with a majority of the sector classifications (16 out of 20) service-related. The U.S. Census Bureau argues that this new system “recognizes the changing and growing services-based economy” and provides the means to observe and measure the Information sector.⁵³ Furthermore, the NAICS system captures more categories of services and distribution businesses that the SIC system did due to its economic significance criterion.⁵⁴ And there is increased detail in the classification of service industries.⁵⁵

The change in classification system creates a methodological barrier making the data on environmental businesses prior to 1996 not directly comparable to the more recent data. Loans to certain new industries in the SIC system before 2000, particularly those in service sectors, were not disaggregated in the classification. The transition from

⁵² “Criteria for Determining Industries.” Economic Classification Policy Committee. Issues Paper No. 4. October 1993. <<http://www.census.gov/epcd/naics/issues4>>, p.1

⁵³ “Development of NAICS.” U.S. Census Bureau. 13 December 2001. 29 March 2008. <<http://www.census.gov/epcd/www/naicsdev.htm>>.

⁵⁴ “Criteria for Determining Industries.” Economic Classification Policy Committee. Issues Paper No. 4. October 1993. <<http://www.census.gov/epcd/naics/issues4>>, p.3

⁵⁵ “What is NAICS?” U.S. Department of Labor. 27 October 2003. 29 March 2008. <<http://www.bls.gov/ces/ceswhatis.htm>>.

SIC to NAICS poses certain implications when analyzing the loan data and these implications will be addressed when discussing findings in Chapter 6.

The “Economic Activity” indicator implies that certain establishments can be classified as environmental businesses according to their economic activity. It is environmental businesses—businesses offering green products or services—as opposed to businesses operating according to Triple Bottom Line principles that are evaluated within SBA loans. Those businesses operating on Triple Bottom Line are not observable in this data. Those businesses concerned with recycling, the production of green products and services (organic products, green spaces, environmental consulting, environmental remediation and health) and related scientific research can be classified under the designation of “environmental businesses.” Figure 3.1 demonstrates that certain industries, such as environmental remediation services, are accounted for in the NAICS system, present in the SBA loan data, but have no corresponding classification in the SIC classification and so are “invisible” between 1991 and 1996. Only those businesses specified in Figure 3.1 were present in the loan data, traceable and available as a basis for analysis in this paper. Those which were not traceable represent environmental businesses that are classified under the SIC/NAICS systems, but either did not receive loans or did not apply for loans between 1991 and 2007.

Figure 3.1: Tracking Environmental Businesses in SBA 7(a) Loans

Industries explicitly concerned with environmental activities:	
1991-1999 SIC System	2000-2007 NAICS System
Reconstituted Wood Producers	Reconstituted Wood Product Manufacturing
Arboreta and Botanical or Zoological Gardens	Nature Parks and Other Similar Institutions
Textile goods, Not Elsewhere Classified	Thread Mills (Natural fiber (i.e., hemp, linen, ramie) thread manufacturing), Broadwoven Fabric Mills (Natural fiber fabrics (i.e., jute, linen, hemp, ramie), broadwoven, weaving)
Services, Not Elsewhere Classified (Scientific and Related Consulting Services, Environmental Consultants)	Environmental Consulting Services
Administration of Public Health Programs (Environmental Health Programs – Government)	Administration of Public Health Programs (Environmental health program administration)
Air and Water Resource and Solid Waste Management	Administration of Air and Water Resource and Solid Waste Management Programs (Environmental protection program administration)
Engineering, Accounting, Research, Management, and Related Services	Engineering Services (Environmental Engineering Services)
Heavy Recycling Activities (Scrap and Waste Materials)	Heavy Recycling Activities
No Corresponding Industry	Heavy Recycling Activities (Computer and Office-Related)
No Corresponding Industry	Environment, Conservation and Wildlife Organizations (Environmental advocacy organizations, Natural resource preservation organizations)
No Corresponding Industry	Research and Development in the Physical, Engineering, and Life Sciences (Environmental research and development laboratories or services)
No Corresponding Industry	Testing Laboratories (Environmental testing laboratories or services)
No Corresponding Industry	Remediation Services (Environmental remediation services)

Note: The shaded businesses were present in the SBA loan data, while the unshaded businesses represent businesses to which no SBA 7(a) loans were given between 1991 and 2007.

A study undertaken by the consulting group Harbridge House, which was hired by the Rhode Island government in the early 1980s, identified high-growth, “clean” target industries in the Rhode Island economy. Ten industries were identified in this major study “because of their expected growth rates (high)...locational requirements (relatively unconstrained), products (high value relative to bulk and non-energy intensive), and environmental impact (little pollution likelihood).”⁵⁶ The environmental considerations taken into identifying these high-growth industries qualify them as environmentally “cleaner” than other industries.⁵⁷ As such, they form another group of environmental businesses to track in the SBA loan data, along with those identified in Figure 3-1.

The “Ethnic Diversity” indicator is based on the distinction that business owners of Black, Hispanic, Puerto Rican, American Indian, Asian or Pacific Islander, or Eskimo descent qualify as ethnic minorities.

The “Gender Diversity” indicator is based on the distinction that more than 50% female ownership of a business constitutes a Women-Owned Business.

Trends in these indicators are evaluated for statistical significance using a two-tailed t-test at the 95% confidence level.

⁵⁶ Rhode Island Statewide Planning Program. Economic Development Strategy, Report Number 51 (State Guide Plan Element 211) (Providence, RI: March 1986), p.1.5

⁵⁷ Their designation as “high-growth” is also accurate. For example, one of the industries identified by Harbridge House was the biotechnology industry. The same report identified that biotechnology companies in 1986 were growing earnings at twice the rate of large-cap pharmaceuticals (28% versus 13%), which supports their designation as high-growth.

Chapter 4: Comprehensive Economic Development Strategy (CEDS) Priority Project System

This chapter analyzes whether an institution of State-driven economic development has incorporated environmental sustainability over time. I examine language on environmental issues and sustainability in reports published by the CEDS Committee from 1986-2007 at intervals of 4-6 years. This provides a context for understanding the sentiment of state government with respect to sustainability issues. The next tier of evaluation will be an analysis of the criteria that form the foundation of the prioritization of development projects within the CEDS system to examine whether environmental sustainability has been incorporated into the criteria over time.

4.1 Background on CEDS

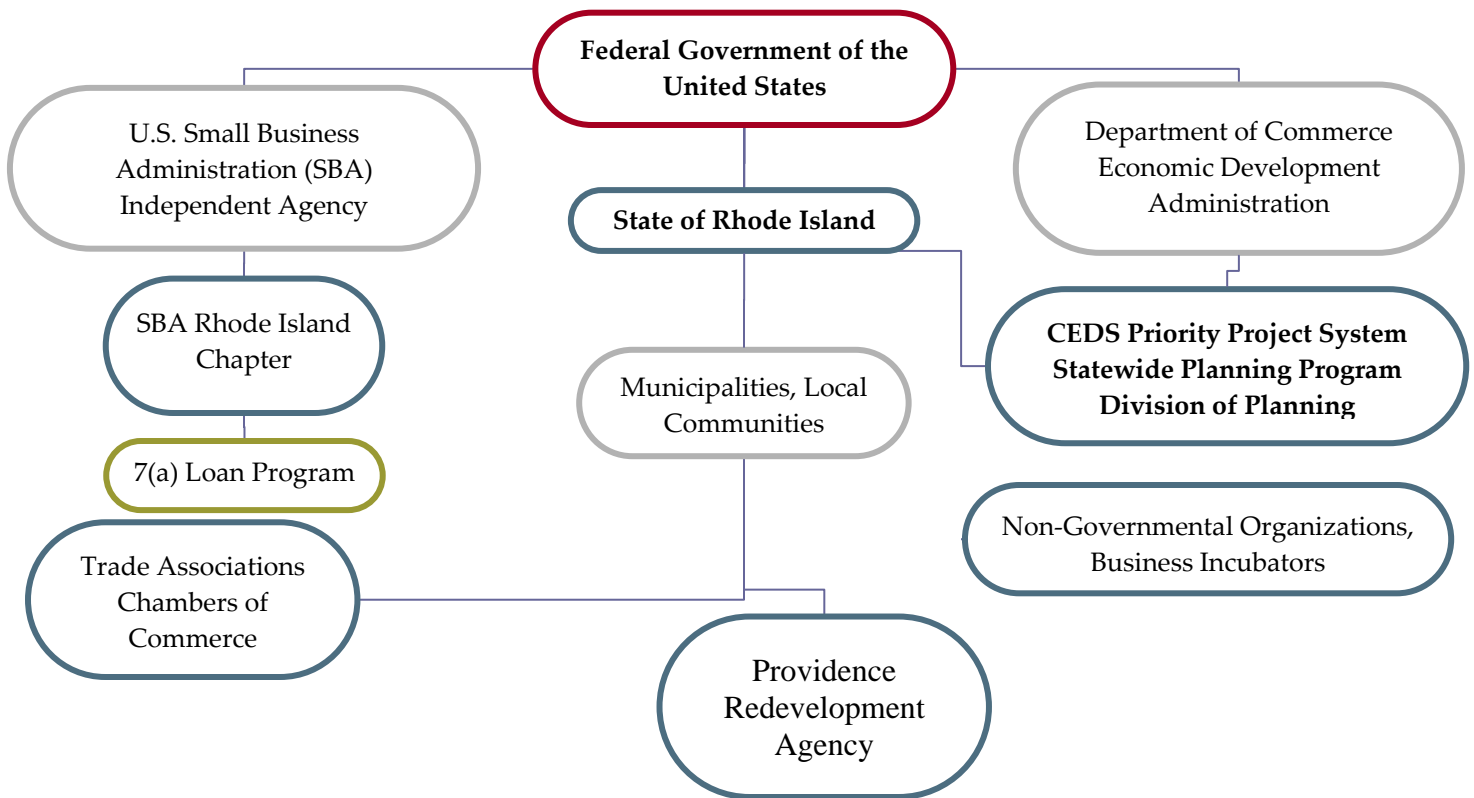
The Greenhouse Compact envisions a Rhode Island economy in which aggressive State action fosters industries and revitalizes a dying manufacturing sector. Testing whether this vision has come true requires examining State-driven economic development, which takes place in various forms and institutions. Institutions like the Economic Policy Council have worked to create a vision of smart growth and a sense of community for economic development in Rhode Island,⁵⁸ while other institutions have played a role in prioritizing the kinds of development projects that are pursued. The Economic Development Corporation (EDC) is an example of the latter, but as mentioned in the Introduction, difficulties accessing information prevented an examination of EDC's influential role in development projects in the state. I instead use the CEDS system to examine State-driven economic development.

⁵⁸ Rhode Island Economic Policy Council, "10 Ways to Succeed without Losing Our Soul", 2001. <www.ripolicy.org/resources/content/ExecSummary.pdf>

The federally mandated and funded CEDS system is an economic development institution established in 1971 (originally titled the Overall Economic Development Program, or OEDP) and contained within the Statewide Planning Program of the Rhode Island government. The EPA-mandated CEDS Committee screens projects being proposed for funding by the U.S. Economic Development Administration (EDA) through a priority ranking system. Federal funding has ranged from \$1 to 5.5 million per year since 1986.⁵⁹ Project proposals are submitted by local communities and municipalities, institutions of higher learning and public agencies. Each project gains points based on criteria measuring factors such as job development potential, area of influence, and environmental factors (see Fig.4.3), with those garnering the highest points ranking on the Priority Project List, which is reviewed, confirmed, and endorsed by the CEDS Committee. Figure 4.1 locates the CEDS system within a network of governmental drivers of economic development.

⁵⁹ Statewide Planning Program, Rhode Island Department of Administration. *Comprehensive Economic Development Strategy* (Providence, RI: 2007), p.36.

Figure 4.1: Diagram of Federal, State, and Local Economic Development Institutions



The process by which the Priority Project List is published each year can be identified as the “first filter” of a larger process through which EDA funding is allocated to development projects in Rhode Island. The “second filter” can be identified as the selection of projects (generally less than five) that *actually* receive funding from the EDA, which is determined by another set of criteria.⁶⁰ While the project score obtained from the Priority Project ranking system does not directly determine whether it receives

⁶⁰ Collins, Beth. Rhode Island Economic Policy Council. Telephone interview. 2008.

EDA funding, this “first filter” can be correlated with State priorities in economic development, and thus represents State-driven economic development.⁶¹

4.2 Analysis of CEDS Language

A. Common Language in the CEDS Reports

Economic development strategy reports published between 1986 and 2007 provide a rich source of language on economic goals for Rhode Island and a context in which to understand and analyze the CEDS System. Reports are published annually discussing economic development plans for the state and outlining updates to and revisions of the CEDS system. A brief examination of the language in six representative reports spanning 1986-2007 [1986, 1992, 1997, 2000, 2004, 2007] provides some insight into the awareness, acknowledgment, and support of sustainable development principles.

Much of the language in these reports remains the same over time. Forming the foundation for economic planning is the overarching economic development goal of the state of Rhode Island, which is

To foster and maintain a vigorous economy able to provide an adequate number and variety of activities that generate wealth for the people of the state.⁶²

More specific economic development goals relevant to sustainable development and common throughout the reports are the following:⁶³

1. A strong focus on directing economic development within the built environment and in areas with already available public transit and infrastructure

- The promotion and development of public transit
- Encouragement of investment to “stabilize and improve housing and commerce in deteriorating urban areas”

⁶¹ The criteria contained within the “first filter” of the CEDS process are applied through the application process, which is governed by the CEDS Subcommittee.

⁶² Ibid., p.71.

⁶³ Ibid., p.3.14-3.17

- Support for financing programs and tax policies that make historic rehabilitation viable

2. Consideration for land use and natural constraints in development plans

- Development in environments where resources are already available
- Development that “will not promote wasteful use of resources”
- Location of industrial activity in those sites which are most appropriate when natural resources are accounted for

3. The following four needs are cited in each of the reports, two of which can be identified as falling under the concept of environmentally sustainable development:

- Fully serviced industrial sites
- **Reuse of industrial facilities in the central cities**
- **Major pollution abatement capital improvement**
- Expansion of resource-based industries, particularly tourism, marine shipping, and fishing

4. Area development objectives and policies presented throughout the reports emphasize smart growth principles. These include the following:

- Encouragement of industrial and commercial development in densities high enough to facilitate the economical provision of public transit
- Consideration of overall land use by selecting locations that account for natural constraints of the “land, air, and water in the immediate vicinity” of development, and do not promote the wasteful use of these resources
- Focus on revitalization of the central cities through historic reuse
- Discourage further industrial development on the coast and instead concentrate it in the state’s established ports

While these goals are not explicitly associated with sustainable development or smart growth principles in the reports, they are consistent with principles of strong sustainability and represent fundamental priorities upon which the framework of the CEDS system operates. An examination of the changes in language on sustainability follows in the next section.

B. Trends over Time

Dialogue on sustainable development in the CEDS reports has grown tremendously in the period 1986-2007. This section discusses the most important trends that have been identified in representative reports spanning the 20-year period.

The 1986 CEDS report lays out the conflict between the creation of more industry and jobs and the environmental pollution that may accompany such development.⁶⁴ The report emphasizes that economic development does not imply continuous expansion, but rather it is “a means to achieve economic stabilization and economic security for the people of Rhode Island, “without damage to the environment.”⁶⁵ The interplay between this goal and the qualification, “without damage to the environment,” is the source of analysis in this section.

The 1986 report presents recommendations by Harbridge House, a consulting group hired by the RI State government in the face of the Navy’s withdrawal, to examine future opportunities for economic growth in the state. Ten industries were identified, partly because of their expected growth rates but also because of their non-energy intensive products and low-pollution environmental impact.⁶⁶ While the report argues that high tech industries cannot comprise the entirety of an economic development strategy due to the limited number of jobs that can be generated in these industries, it is significant that these recommendations were based partly on principles of non energy-intensive and low-impact development. Further discussions of low impact development are not discussed in this report, however.

The passage of ten years reveals some important changes in the environmental outlook of the CEDS Committee. The 1997 CEDS report addresses economic

⁶⁴ Ibid., p.1.2

⁶⁵ Ibid.

⁶⁶ Ibid., p.1.5

development from the perspective of the economic recession of the early 1990s and the declining manufacturing sector.⁶⁷ More worrying, the report finds that, “With few notable exceptions, the service sector – which has dominated the Rhode Island economy since 1988 – has not replaced these lost manufacturing sector jobs with secure, high-paying alternatives.”⁶⁸

Despite the distractions of growing unemployment, the report devotes a section of its economic development goals to “Sustainable Development” under the larger “Natural Resources and Environmental Issues” section. The section defines sustainable development as

...a process whose goal is to mitigate or eliminate the environmental problems facing society while simultaneously creating economic opportunities; it is a process to enhance the quality of life and save the environment.⁶⁹

This definition is clearly economically centered, as are the sustainable development indicators laid out by the report, which include distribution of jobs and income, percentage of wages earned and spent within a community, and percentage of development occurring annually within an urban area.

The report mentions the Enterprise Zone Program and the Mill Building Revitalization Act in encouraging urban renewal in distressed areas,⁷⁰ and it highlights the nine Enterprise Zones operating within Rhode Island as an example of sound

⁶⁷ The Committee reports that the decrease in manufacturing jobs between 1986-1996 climbed past 20 percent, as compared to 4 percent nationally (Statewide Planning Program, Rhode Island Department of Administration. *Overall Economic Development Program Update* (Providence, RI: June 1997), p.9).

⁶⁸ Ibid.

⁶⁹ Statewide Planning Program, Rhode Island Department of Administration. *Overall Economic Development Program Update* (Providence, RI: June 1997), p.16

⁷⁰ Statewide Planning Program, Rhode Island Department of Administration. *Overall Economic Development Program Update* (Providence, RI: June 1997), p.9

development policy, as well as the complementary Enterprise Zone program⁷¹ which provides incentives for the revitalization of old manufacturing centers and brownfields rehabilitation.⁷²

Further goals discussed in the report include the development of new products, generation of high and growing real wages, and the establishment of a hospitable business climate, but no mention of sustainable development or environmental business.⁷³ Although the report claims to account for environmental sustainability, the sustainability indicators cited make no attempt to account for environmental or ecological considerations, and are wholly concerned with economic sustainability. While positive attempts are made to include dialogue concerning sustainable development into the discussion, and to champion the smart growth principles of the Enterprise Zone Program and the Mill Building Revitalization Act, much of the language in this report emphasizes an economically-focused concept of sustainability.

Positive changes to include sustainable development as a more central element of economic development planning can be seen in the final report of this time period. The 2007 report cites that the four economic “needs” emphasized since 1986,

- Fully serviced industrial sites
- Reuse of industrial facilities in the central cities
- Major pollution abatement capital improvement
- Expansion of resource-based industries

⁷¹ The Enterprise Zone Program is a cluster of tax breaks, tax reliefs, and cheaper resources designed to encourage development located in one of the ten state enterprise zones: Cranston, Central Falls/Lincoln, East Providence, Pawtucket/Lincoln, Port of Providence Portsmouth/Tiverton, Providence II, Warren/Bristol, West Warwick, and Woonsocket/Cumberland.

⁷² Through Industrial Property Remediation and Reuse coordinated by the RIDEM and Mill Building Revitalization coordinated by the RIEDC and local officials.

⁷³ Statewide Planning Program, Rhode Island Department of Administration. *Overall Economic Development Program Update* (Providence, RI: June 1997), p.75

have been addressed with policies under the three objectives set forth in the Economic Development Policies and Plan. One of these objectives calls for “Work with economic development practitioners to encourage sustainable industrial and commercial development that advances the long-term economic and environmental well-being of the state...”⁷⁴ This report also touches upon an ongoing process to create a new *Economic Development Policies and Plan*—which represents the basis for the Rhode Island CEDS—that would account for climate change and ecology through a “multiple bottom line approach,” which echoes the *Triple Bottom Line* thinking of corporate sustainability:

From a public policy perspective, the workshops also encouraged us to engage in a multiple bottom line approach, and learn how a change in economic policy can impact a community’s culture, shared knowledge, social interactions, ecology, and the built environment, as all are interrelated. Similarly, a change in ecological conditions (e.g., global warming and sea level rise), can have a profound effect on the economy and the built environment.⁷⁵

Throughout the reports in this time period, environmental costs have been a concern when envisioning a plan for the future of the Rhode Island economy. However, it is clear that within the last few reports one can find a movement away from an economically-centered conception of sustainability and the greatest leaps to incorporate strong sustainability—including considerations of ecology, smart growth.

C. CEDS Criteria 1986-2007

The criteria of the Priority Project System have undergone numerous revisions between 1986 and 2007.⁷⁶ Figure 4.2 below lists all the individual criteria used between

⁷⁴ Statewide Planning Program, Rhode Island Department of Administration. *Comprehensive Economic Development Strategy* (Providence, RI: 2007), p.16.

⁷⁵ *Ibid.*, p.20.

⁷⁶ Rhode Island Statewide Planning Program. *Economic Development Strategy, Report Number 51 (State Guide Plan Element 211)* (Providence, RI: March 1986), p.A-4.

1986 and 2007. Some of these criteria are relatively new, while others have been eliminated and/or revised over time.

Figure 4.2: CEDS Criteria

1. Applicant's Priority
2. Area of influence
3. Availability/Commitment of Non-Federal Funds
4. Employment/Employment of Substate Employment Growth Area
5. Enterprise Zone
6. Environmental Factors
7. Essential project studies/Essential Project Studies, Permits, and EDA Contact
8. Income/Per Capita Income/Median Family Income
9. Job development potential
10. Labor surplus area
11. Linkages and Leverages
12. Local and State Priority
13. Partnering with Other Eligible Applicants
14. Unemployment
15. Workforce Development

The Environmental Factors criterion is one of fifteen criteria that have been used in this time period and presents the primary focus of this section. It presents a window into the environmental considerations that have been accounted for in the Priority Project System over time. The following section examines changes in the Environmental Factors criterion and justification for those changes by the CEDS Committee.

D. The Environmental Factors Criterion: 1986-2007⁷⁷

1986

The 1986 Environmental Factors criterion focuses entirely on the completion of assessments on environmental impact. Any project receiving a zero in this criterion is not necessarily excluded from ranking within the CEDS process, but will be

⁷⁷ See Appendix for criteria.

“appropriately dealt with at a later date by the appropriate regulatory agency.”⁷⁸ The point distribution of this criterion does not encourage projects that have a positive effect on the environment, because there is no marginal increase in points beyond the points awarded for a project in which a neutral, or “no adverse” effect, has been determined.

1992

The environmental criteria used to prioritize the 1992 CEDS applicants no longer allows a project with a negative environmental impact to remain under consideration. If the impact cannot be reasonably mitigated, the project is eliminated from consideration. However, a project with an adverse impact that is being mitigated can still be considered, and can even gain 5 points, although it is not clear to what extent this “mitigation” is judged or examined. This criterion equates a project obtaining all necessary permits with a project having a positive effect on the natural environment – in both cases, the project is awarded 10 points.⁷⁹ As in the 1986 system, there is no marginal reward for a project that has a positive effect – only doing the “minimum and necessary” garners the maximum number of points.

1997

The 1997 Environmental Factors criteria appear to take a step backward in incorporating environmental sustainability into the Priority Project System. The criterion eliminates language concerning environment impact and focuses wholly on the acquisition of necessary permits for a project. The criterion awards points to brownfield or manufacturing reuse projects, which the report champions as “a step to promote

⁷⁸ Rhode Island Statewide Planning Program. Economic Development Strategy, Report Number 51 (State Guide Plan Element 211) (Providence, RI: March 1986), p.A-8.

⁷⁹ Division of Planning, Rhode Island Department of Administration. *Overall Economic Development Program* (Providence, RI: September 1992), p.B-4.

sustainability.”⁸⁰ The report also argues that the Priority Project addresses Rhode Island’s need for reuse of industrial facilities and major pollution abatement capital improvement.⁸¹ However, the Environmental Factors criterion makes no attempt to directly enforce or encourage this, as there is no direct encouragement of positive environmental impact in this criterion.

A positive improvement consistent with previous reports, however, is that a project having a negative environmental impact that cannot be reasonably mitigated *will* be eliminated from consideration under the State Guide Plan conformance threshold review. However, the report qualified this by noting that “...this threshold review does not constitute required environmental regulatory review.”⁸²

2000

The year 1999 saw dramatic changes to the Priority Project System criteria. New criteria were introduced that placed “increased emphasis on environmental goals and ‘smart growth.’”⁸³ The 2000 Environmental Factors criterion was rewritten with a complete shift from an emphasis on permitting to an emphasis on environmental objectives: reducing consumption of natural resources or waste streams, rehabilitating brownfield sites or reusing mill buildings, meeting specific objectives in the State Guide Plan, and revitalizing and optimizing the “built environment” (existing infrastructure) (see Fig.4.3).⁸⁴ A closer look at the justification for this criterion further reveals the

⁸⁰ Statewide Planning Program, Rhode Island Department of Administration. *Overall Economic Development Program Update* (Providence, RI: June 1997), p.19

⁸¹ *Ibid.*, p.85

⁸² *Ibid.*, p.B-4.

⁸³ Statewide Planning Program, Rhode Island Department of Administration. *Rhode Island Comprehensive Economic Development Strategy* (Providence, RI: August 2000), p.26

⁸⁴ *Ibid.*, p.17

extent to which the CEDS Committee was viewing environmental issues from a sustainability perspective:

This rating method for this criterion rewards applicants whose projects make use of innovative technologies or management practices that use raw materials more efficiently, and that can reduce the consumption of energy, water, and other natural resources as well as air and water pollution. Examples may include (but are not limited to) alternative energy use; “closed loop” industrial parks; providing incentives to workers to use public transit to reduce air pollution; and the recycling of wastewater in the production process. Also under this criterion are those projects that are located in state designated growth centers, rehabilitate brownfield sites, or lead to the *non-residential* reuse of certified mill buildings and historic properties, whether individually listed on the national or state historic register or within national or historic districts.⁸⁵

This paragraph reveals a deliberate effort on the part of the CEDS Committee to consider innovative environmental technology with its reference to alternative energy use, industrial ecology,⁸⁶ and smart growth principles in emphasizing public transit and development in state designated “growth centers”.

The Essential Project Studies criterion, previously focused wholly on a project fulfilling planning and engineering studies, was revised so as to reward applicants who have obtained all necessary environmental permits in addition to planning and engineering studies.

The CEDS report for 2000 argues that these new criteria produce a total score that rewards projects that “revitalize the central cities,” “conserve and reuse existing industrial

⁸⁵ Ibid.

⁸⁶ In examining the greening of industry and manufacturing, it is important to characterize the rise of *industrial ecology*. This term is an indicator of the sustainability of manufacturing. As a term and a concept, it bases itself on an analogy to natural ecology. Robert A. Frosch explains that the natural system has evolved “so that organisms live and consume each other and each other’s waste...nothing that contains available energy or useful material will be lost.”⁸⁶ This concept is then applied to an industrial context, such that an industrial process operates as a closed-loop system that not only minimizes waste but reuses waste as “inputs elsewhere in the industrial system”.⁸⁶ Industrial ecology likens industrial economies to that of ecological communities or systems, such that it is taken to be an activity that has “ecological integrity” by managing human-production consumption systems in a sustainable way, as defined by John Ehrenfeld, one of the leading environmental thinkers on industrial ecology (John R. Ehrenfeld, *Sustainability, Industrial Ecology, and Complexity*, Sustainable Systems Symposium, Columbus: March 2-3, 2006. <<http://www.resilience.osu.edu/JohnEhrenfeld.pdf>>.)

land and buildings,” discourage development in greenfields, and provide employment to economically distressed communities through the Enterprise Zone program.⁸⁷

The report directly cites four projects in the Priority Project List that help meet the “Urban Industry” goal under the 10 economic development goals of the *Economic Policies and Plan*, which calls for relating “industrial development to land use, including distinguishing between urban and non-urban areas, revitalizing central cities, planning industrial parks, minimizing commuting distances, and general industrial development in accord with sound land use policy.”⁸⁸

Overall, the 2000 Environmental Factors criterion demonstrates dramatic improvements since the 1997 report, by using language reflecting strong sustainability and providing strong incentives for applicants to incorporate holistic environmental thinking into their proposals.

2004

The most noteworthy revision to the 2004 Environmental Factors Criterion was the introduction of bonus points for projects locating in “growth centers,” state-designated centers for development that are part of the Governor’s growth center initiative focusing on smart growth.⁸⁹ The CEDS report for this year emphasizes that the Governor’s initiative “is considered as crucial for smart growth in Rhode Island as brownfields.” Furthermore, the 2004 CEDS report demonstrates that one of the priority-

⁸⁷ Ibid., p.18

⁸⁸ Ibid., p.15

⁸⁹ This sentiment can be found in a report produced by the Governor’s Growth Planning Council which argues that growth centers are “dynamic and efficient centers for development” that draw development pressure away from natural resources and sprawl towards high-density development and a sense of place (Thomas E. Deller et al. *GROWTH CENTERS: Recommendations for Encouraging Growth and Investment in Economically and Environmentally Sound Locations in Rhode Island* (Providence, RI: 2002), <<http://www.planning.ri.gov/gpc/pdf/gpc.pdf>>, p.5)

listed projects was located in one of the two “growth centers” identified by the State (the Town of Burrillville, the other growth center being the East Providence waterfront).⁹⁰

Points were adjusted downward in the Environmental Factors criterion in 2004 to accommodate changes in the Job Development and the Commitment of Non-Federal Funds criteria.⁹¹ However, the incorporation of stronger “smart growth” principles through the addition of bonus points for location in a state-designated growth center indicates a deliberate effort on the part of the CEDS Committee to implement smart growth in the prioritization of projects. Positive changes evident in the 2000 Environmental Factors criterion are still present in the 2004 Environmental Factors criterion, such as rewards for revitalization and meeting environmental objectives (see Fig.4.3).

2007

The year 2007 saw even more positive changes in the Priority Project System with respect to incorporating principles of environmental sustainability, including social justice.

Applicants were *required* to locate their project within the “Urban Services Boundary” (an area already served by sewer and water) or in an area designated as a development “center” in the host municipality’s land use plan. This was a direct application of smart growth principles to the CEDS process. Furthermore, strong links with *Land Use 2025*⁹² were incorporated into the Priority Project System, rewarding a

⁹⁰ Statewide Planning Program, Rhode Island Department of Administration, *Rhode Island Comprehensive Economic Development Strategy* (Providence, RI: 2004), p.16

⁹¹ *Ibid.*, p.F-2

⁹² M. Allard Cox (ed.), *Land Use 2025: Rhode Island State Land Use Policies and Plan Executive Summary*, Rhode Island Division of Planning, (Naragansett, RI: Rhode Island Sea Grant, 2006)

project 10 bonus points for contributing to meeting one or more specific strategies in the State Land Use Policies and Plan.⁹³

Fewer projects on the 2006 Priority Project List addressed the recruitment of Enterprise Zone residents for employment, but smart growth through the creation of “accessibility to worksites” and investment in the “built environment” achieved the same result:

With such proximity to the urban workforce, location within the most heavily traveled routes within the public transportation system, and options for walking or bicycling to work, we expect such projects to draw heavily from the surrounding community and achieve what the Enterprise Zone criterion in our scoring system intended.⁹⁴

The CEDS report also cites success in discouraging public funding of greenfield development, citing as an example that all priority-listed projects in 2006 and 2005 were situated within the built environment, “and mostly with Rhode Island’s older central cities.” Moreover, nine priority-listed projects in 2006 contributed to the reuse of facilities and/or major pollution abatement capital improvements, two of the state “needs” cited repeatedly in reports dating back to 1986.⁹⁵ The report also reiterates the ongoing process of creating a new *Economic Policies and Plan* in collaboration with *New Commons* and other state and non-state institutions. The requirement that each project be located within the urban services boundary or in areas designated as future “centers” for development and employment remains in the 2007 Priority Project System.⁹⁶

⁹³ Statewide Planning Program, Rhode Island Department of Administration. *Comprehensive Economic Development Strategy* (Providence, RI: 2007), p.17, G-4

⁹⁴ *Ibid.*, p.38

⁹⁵ *Ibid.*, p.19

⁹⁶ *Ibid.*, p.28

Figure 4.3: Priority Project System Criteria: The Environmental Factors Criterion

	Permitting/Compliance	Adverse Impact	No Impact	Positive Impact	Sustainability
1986	5 points awarded if an applicant has performed an environmental assessment	A project completing an assessment and finding an adverse effect gains 5 points.	A project completing an assessment and finding no adverse effect gains 10 points.	A project completing an assessment and finding a positive environmental impact gains 10 points	No points awarded
1992	10 points awarded if an applicant has applied for all necessary permits	A project with an unmitigated adverse environmental impact is not allowed to remain under consideration	A project with an adverse impact that is mitigated or no adverse impact gains 5 points	A project completing an assessment and finding a positive environmental impact gains 10 points	No points awarded
1997	5 points awarded if an applicant has applied for all necessary permits.	A project with an unmitigated adverse environmental impact is not allowed to remain under consideration	N/A	N/A	5 points awarded to applicants of brownfield or manufacturing reuse projects
2000	N/A	A project with an unmitigated adverse environmental impact is not allowed to remain under consideration	N/A	N/A	10 points awarded if project incorporates reuse and revitalization; 10 points if project addresses an environmental objective in the State Guide Plan; 15 points if project incorporates brownfields/mill rehabilitation; 15 points if project uses a technology that reduces consumption of natural resources and/or reduces waste streams
2004	N/A	A project with an unmitigated adverse environmental impact is not allowed to remain under consideration	N/A	N/A	20 points if project incorporates brownfields/mill rehabilitation and/or is located in a state designated growth center; 10 points if a project uses a technology that reduces consumption of natural resources and/or waste streams; 5 points if a project addresses a specific environmental objective listed in the State Guide Plan
2007	N/A	A project with an unmitigated adverse environmental impact is not allowed to remain under consideration	N/A	N/A	15 points if project incorporates brownfields/mill rehabilitation and/or is located in a state designated growth center; 10 points if a project uses a technology that conserves natural resources, reduces air or water pollution and/or waste streams; 10 points if a project contributes to meeting one or more specific strategies in <i>Land Use 2025</i> ; 10 points if a project results in use, revitalization, and/or improved capacity of existing employment centers and infrastructure

4.3 Analysis of CEDS Criteria

Within the Priority Project System, applicants earn points by meeting the criteria listed in Figure 4.2. The number of points earned on an individual criterion is not necessarily equivalent to other criteria; thus it is a reflection of the relative weight given to that factor in prioritizing the projects. Charting the changes in the relative weights of the criteria over time provides a glimpse into the changes in priorities of the CEDS Committee. Since the criteria of the Priority Project System are meant to reflect the state's planning interests, charting these changes ultimately reflects changes in the state's priorities for economic development.

Figure 4.5 tracks changes in the relative weights of Non-Environmental versus Environmental criteria. Here, the term "Non-Environmental" refers to those criteria which are not concerned with the natural environment, though they may be concerned with the social and economic environment surrounding a project. Correspondingly, the term "Environmental" refers to those criteria which are concerned with the sustainability of the natural environment.⁹⁷ The distinction between the two groups of criteria is based on the idea that those criteria falling under the "Environmental" designation are consistent with principles of environmental sustainability, which was discussed in Chapters 1 and 3. They include the Environmental Factors criterion, because it represents environmental considerations; the Income criterion because it represents social justice principles by encouraging development in low-income communities; and the Enterprise Zone because it reflects smart growth principles by encouraging development within distressed neighborhoods and the "built" environment.

⁹⁷ See Chapter 1 for further discussion of the term "environmental."

Figure 4.4

Non-Environmental

- Job development potential
- Availability of non-required federal funds
- Area of influence
- Essential project studies
- Unemployment
- Labor surplus area

Environmental

- Environmental Factors
- Income
- Enterprise Zone

Figure 4.5

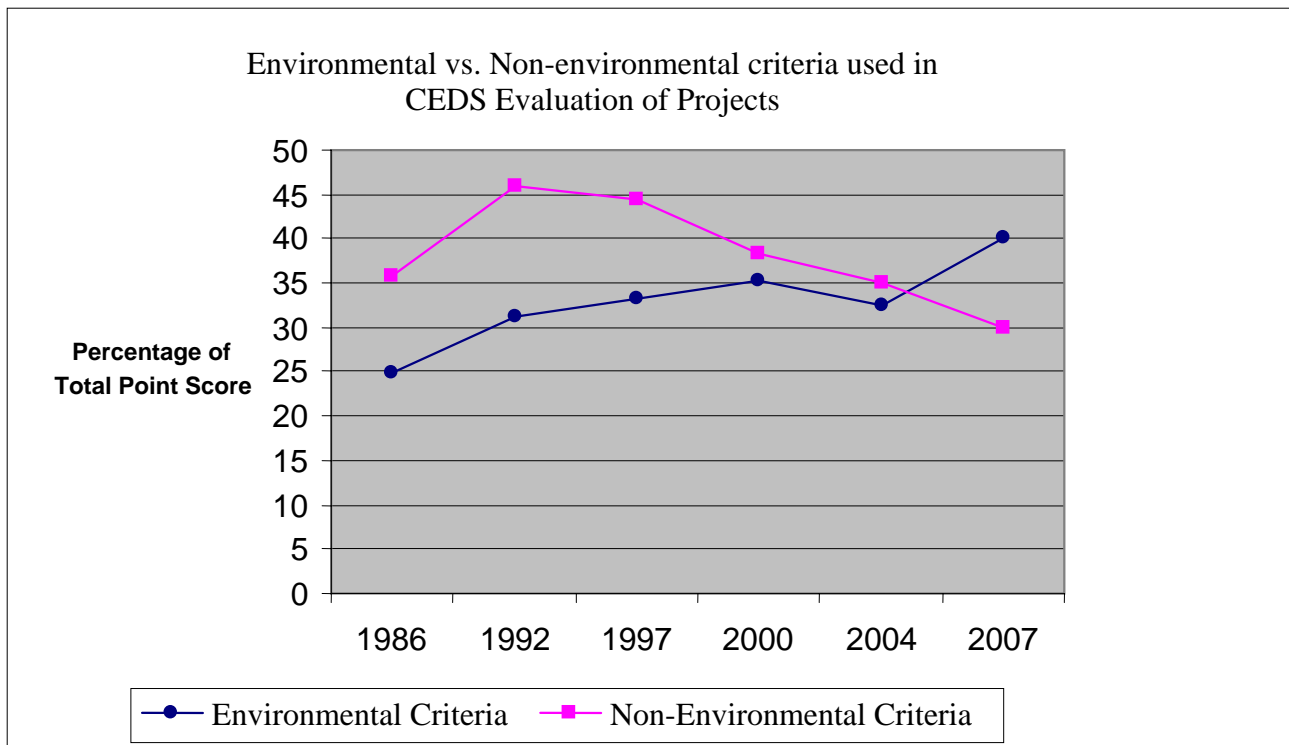


Figure 4.4 indicates that Environmental Criteria have exhibited an upward trend in their share of the total point score in the Priority Project system over time. Non-Environmental Criteria have exhibited a relative downward trend, reflecting the shift in points that has occurred over time toward the environmentally-related criteria.

4.4 Conclusions

An examination of the language in the CEDS reports and the corresponding criteria indicates that there has been a strong positive trend in incorporating a stronger definition of environmental sustainability into the discussion of economic development and into the criteria that prioritize development projects for EDA funding. Especially outstanding is the complete turnaround that can be identified by comparing the 1997 CEDS system with the 2007 CEDS system. The 1997 Priority Project System was based on an economically-centered concept of sustainability, and the Environmental Factors criterion used to prioritize projects was wholly concerned with an applicant's permitting status as opposed to their incorporation of environmental sustainability into the project's planning. Since then, dialogue on sustainable development in the RI state government has expanded to include smart growth principles including rehabilitation, brownfields remediation, development within the built environment, and the preservation of neighborhoods. Taking the recent publication of *Land Use 2025* as an example, it comes as no surprise that the CEDS system has evolved to demonstrate this growing incorporation of strong sustainability. The 2007 CEDS system contains requirements within the Environmental Factors criterion that create a direct link between an environmentally sustainable project and a project that obtains the maximum number of points.

Chapter 5: Lending through the Small Business Administration

5.1 Environmental Sustainability and Profit-Making

There is a growing view among investment professionals that environmental, social and corporate governance (ESG) issues can affect the performance of investment portfolios. These issues are embodied in the ESG framework, which is part of the Principles for Responsible Investment (PRI) recommended by the United Nations.⁹⁸

A recent report by Goldman Sachs utilized this ESG framework and identified company leaders in ESG who incorporate energy use, carbon emissions, management of water, waste and recycling, suppliers and sourcing, biodiversity and land use as well as social issues such as compensation, health and safety, and gender diversity into their governance.⁹⁹ The report finds that global demands and drivers are pushing innovation in specific industries towards more sustainable futures, and that companies taking advantage of these opportunities are the ones outperforming their peers. The report analyzes more than 120 ESG leaders from 5 industries (energy, metals and mining, food and beverage, pharmaceuticals and European media) and finds that companies in four of the five sectors (energy, mining and steel, food and beverages, and media) outperformed the MSCI world Index by an average of 25 percent since August 2005. Another central outcome of the report is the GS SUSTAIN Focus List, comprising companies from established, mature industries and representing leaders in ESG. Seventy-two percent of the companies on the list outperformed industry peers. According to these findings,

⁹⁸ “The Principles for Responsible Investment.” *Principles for Responsible Investment*. UN Environment Programme Finance Initiative and UN Global Compact. 12 May 2008.
<<http://www.unpri.org/principles/>>.

⁹⁹ “Introducing GS SUSTAIN.” Goldman Sachs. 2007. 27 March 2008.
<http://www.unglobalcompact.org/docs/summit2007/g_s_esg_embargoed_until030707pdf.pdf>

industries that incorporate ESG are more likely to outperform their peers, and certain emerging industries in particular can be characterized as facing more exposure to sustainability themes than others.

These remarkable findings suggest that clusters of environmentally sustainable companies are not only good for sustainability, they're good for profit. Determining the presence of such a cluster in Rhode Island by looking at loans through the Small Business Administration necessitates a look at how small businesses in Rhode Island have played a role in the state's economy.

5.2 Small Businesses in Rhode Island

The Greenhouse Compact provides some relevant background on small businesses in Rhode Island and their status in the mid-1980s economy.

A trend identified by the *Compact* is that firms in the early 1980s were getting smaller. Small firms¹⁰⁰ dominated the Rhode Island economy, representing 86% of manufacturing establishments relative to a national average of 69%. They were the largest job generator in the state at this time, comprising 56% of all new jobs between 1976 and 1981.

Despite their significant role in the economy, small businesses often have difficulty securing financing from the private sector or the government. The source of initial financing for small firms surveyed by the *Compact* was primarily venture capital from family and friends, and only 30% received initial financing from banks.¹⁰¹ Furthermore, approximately 47% of firms had difficulty with commercial banks, with

¹⁰⁰ Having fewer than 50 employees.

¹⁰¹ *Ibid.*, p.129

firms grossing under \$200,000 annually facing significantly more difficulty.¹⁰² The *Compact* finds in an additional survey that about 20% of companies received government assistance, most of it from the Small Business Administration (SBA).¹⁰³

The *Compact* thus demonstrates positive trends in small businesses in certain sectors of the economy as well as the imperfect role of the SBA in dominating government assistance to these businesses.

5.3 Lending through the SBA

The *Compact* provides a valuable context for evaluating lending through the Small Business Administration as it pertains to sustainability.

The Small Business Administration defines itself as “an independent agency of the federal government to aid, counsel, assist and protect the interests of small business concerns, to preserve free competitive enterprise and to maintain and strengthen the overall economy of our nation.”¹⁰⁴ It was established by the Small Business Act of 1953 to serve as a federal lending program for all businesses hurt by the Great Depression. The Investment Company Act of 1958 established the Small Business Investment Company (SBIC), under which SBA licensed, regulated, and helped provide funds for private venture capital investment firms.¹⁰⁵

The SBA acts primarily as a guarantor of loans made by private and other institutions, and does not offer loans to small businesses. Rather, the SBA acts as a critical intermediary in supporting commercial loans to small businesses that have need

¹⁰² Ibid., p.132

¹⁰³ Ibid., Exhibit 24

¹⁰⁴“About SBA.” U.S. Small Business Administration. 27 March 2008.
<<http://www.sba.gov/aboutsba/index.html>>.

¹⁰⁵ Ibid.

for it. Loans mediated through the SBA represent one of the main sources of government assistance as well as non-venture capital financing.

The SBA offers several programs in Rhode Island: the Microloan program,¹⁰⁶ the 7(a) program, and the CDC/504 program.¹⁰⁷ The Microloan program represents a smaller financing program, and the CDC/504 loan program involves the purchase of major fixed assets in property, real estate, and manufacturing.

This paper examines 7(a) loans in particular, a program of loan guarantees to approved banks and other lenders. In the event of default by the borrowing Small Business Concern, SBA reimburses up to 85% of the loss. This arrangement enables lenders to accept a greater credit risk and “grant more favorable terms than they might otherwise.”¹⁰⁸ The loans under this program range from \$100,000 to \$2 million.

5.4 Findings on Green Businesses

As explained in Chapter 3, the “first tier” of evaluation plays no role here, because there is no deliberate allocation of loans through the SBA based on criteria other than financial eligibility, so there can be no evaluation of “driven” economic development.

The “second tier” of evaluation involves an initial comparison of dirty manufacturing industries versus clean services. Rhode Island’s manufacturing legacy is one of heavy jewelry manufacturing and correspondingly heavy pollution. However, recent years have seen Rhode Island transition to cleaner manufacturing including biotechnology, and manufacturing that is much more service-like. Nevertheless, a

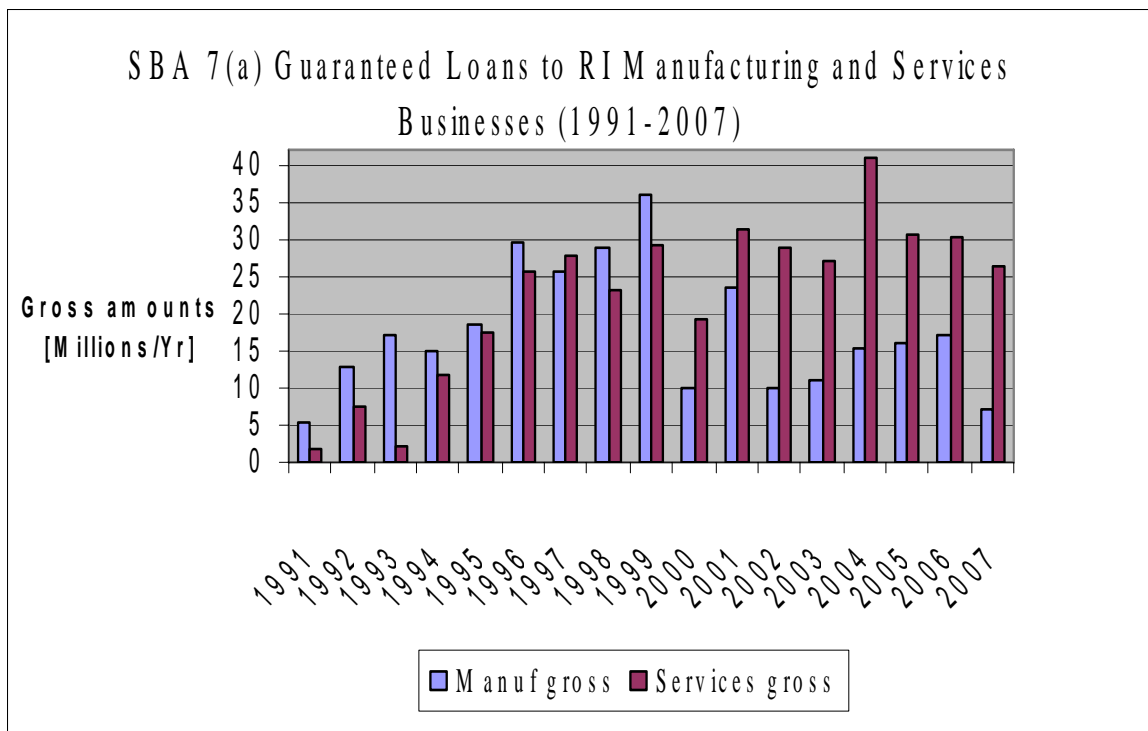
¹⁰⁶ “Micro-Loans.” U.S. Small Business Administration. 27 March 2008.
<<http://www.sba.gov/services/financialassistance/sbaloantopics/microloans/index.html>>.

¹⁰⁷ “CDC/504 Program.” U.S. Small Business Administration. 27 March 2008.
<<http://www.sba.gov/services/financialassistance/sbaloantopics/cdc504/index.html>>.

¹⁰⁸ Adams, Stephen. Small Business Administration Advocacy. Telephone Interview. 27 February 2008.

comparison between manufacturing and services sheds light on the degree to which the loan data represents trends in the state. This comparison (see Fig.5.1) finds a statistically significant difference between loans to manufacturing and loans to services ($p < 0.01$). Loans to manufacturing industries (in millions of dollars) have been declining since 1999, although this trend is not significant ($p > 0.05$), while loans to service establishments have demonstrated a positive relationship with strong significance ($R^2 = 0.5277$, $p < 0.001$).¹⁰⁹ The year 2004 is particularly striking, as loans to manufacturing industries are at the \$15 million mark compared to services, which rose above \$40 million.

Figure 5.1



¹⁰⁹ Standard error for regression of loans to manufacturing industries over time = 34.809, standard error for regression of loans to service industries over time = 125.155

Figure 5.1 raises the question of whether Rhode Island is actually moving away from heavy investment in heavy industry toward education-driven investments in Information Technology and businesses relate to sustainability. However, this trend is characteristic of the nation as a whole, and does not provide much insight on economic trends specific to Rhode Island. What it does show is that the loan data is relatively representative of trends that have been identified in the larger state of Rhode Island. The next piece of analysis is far more specific, as it tracks loans over time to the environmental businesses identified in Chapter 3 based on NAICS codes.

Figure 5.2

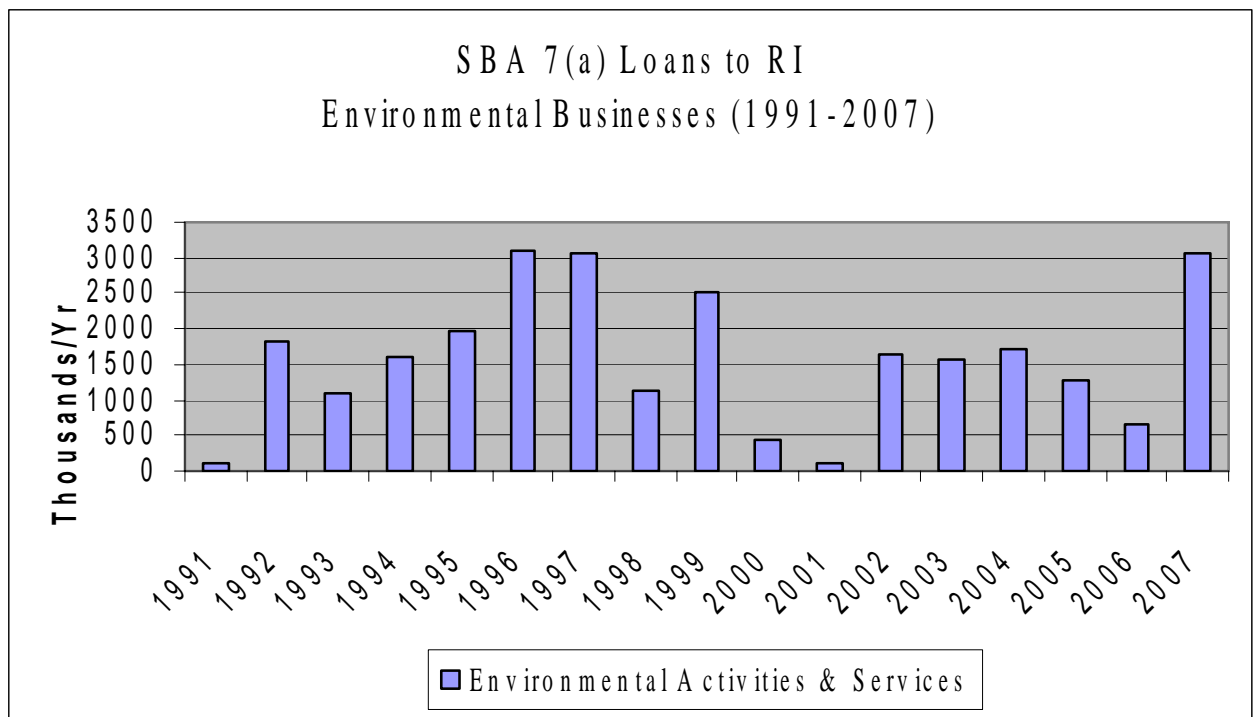


Figure 5.2 shows an observable—although unclear—trend in loans to environmental businesses over time. However, the absolute number of loans per year is

extremely small. For example, in the years 1991 and 2001, the number of loans is below ten.

Consistent with Harbridge House’s projections (discussed in Chapter 3), Goldman Sachs identifies Biotechnology as one of three emergent growth industries (along with Alternative energy and Environmental technology) with sustainable investing themes in their recent report. Given these findings that biotechnology is a high-growth, clean industry, and taking into account the attention paid to the industry in the Rhode Island economy of late, this paper tracks loans to Biotechnology firms over time.

The particular firms include the following:

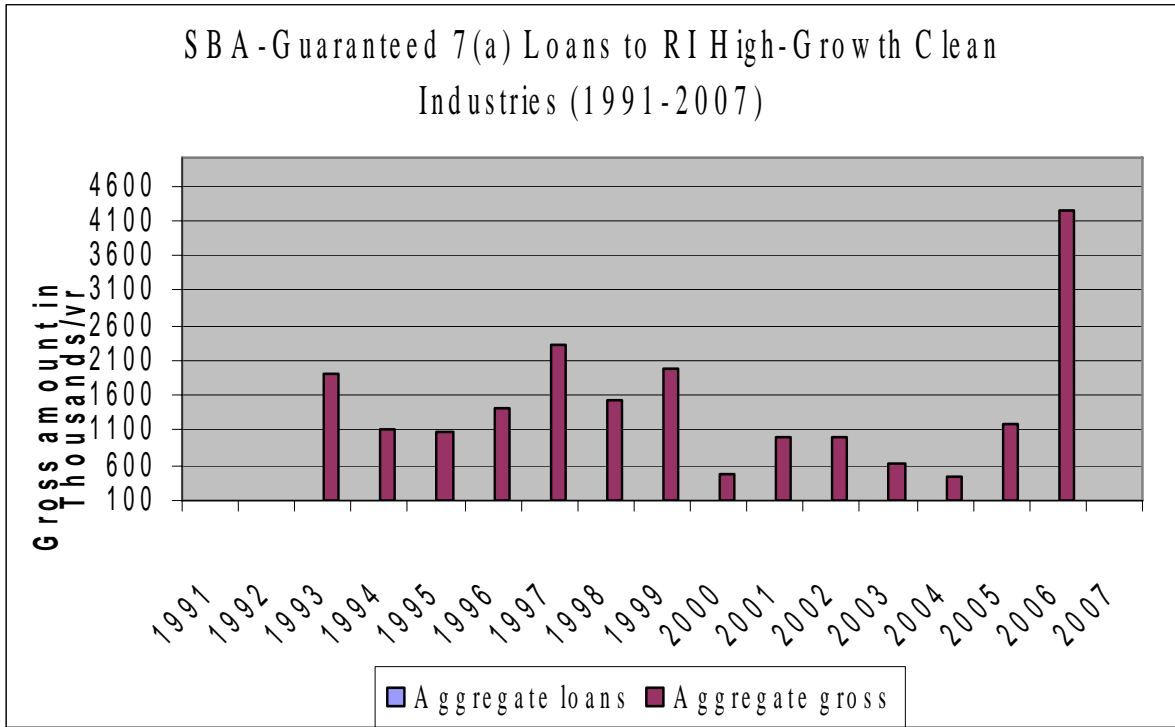
Industry	SIC/NAICS
• Biological Products	2836/ 424210
• Medicinal Chemicals	2833/ 325411
• Pharmaceutical Preparations	2834/ 325412
• Medical Electronics	2833/ 325411

Harbridge House also identifies the following high-growth clean target industries, which are also tracked over time:

Industry	SIC/NAICS
• Small & Medium Turbines	3511/ 333611
• Two-Way Communications Equipment	3662
• Instruments for Measuring & Testing of Electricity & Electric Signals	3823/ 334513
• Laboratory, Scientific & Research Instruments	3825
• Dental Equipment	3843/ 339114

Figure 5.3 below reflects loans to high-growth clean industries in gross amounts. Again, what may look like an observable trend is brought into question when placing these loans in context. The absolute number of loans to these industries never rises above ten between 1991 and 2007.

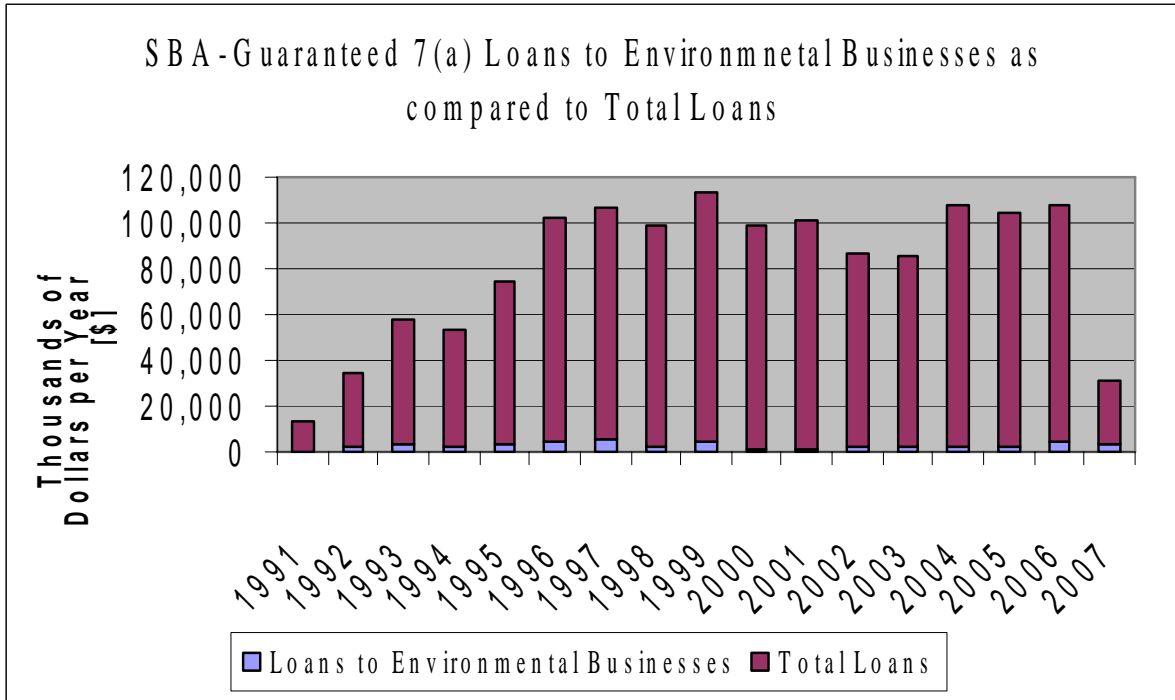
Figure 5.3



Combining loans to environmental businesses and loans to clean industries over time reveals their negligible presence in the loan data compared to total loans. There is no statistically significant trend in loans to these environmentally sustainable businesses ($p > 0.05$).¹¹⁰ As such, the trends observable in Fig.5.1-5.3 do not reveal a trend toward growing investment in clean industries in Rhode Island. Consider Figure 5.4, which demonstrates the scarcity of these loans in the larger picture.

¹¹⁰ Standard error for regression of loans to environmental establishments and clean industries over time = 72.101

Figure 5.4

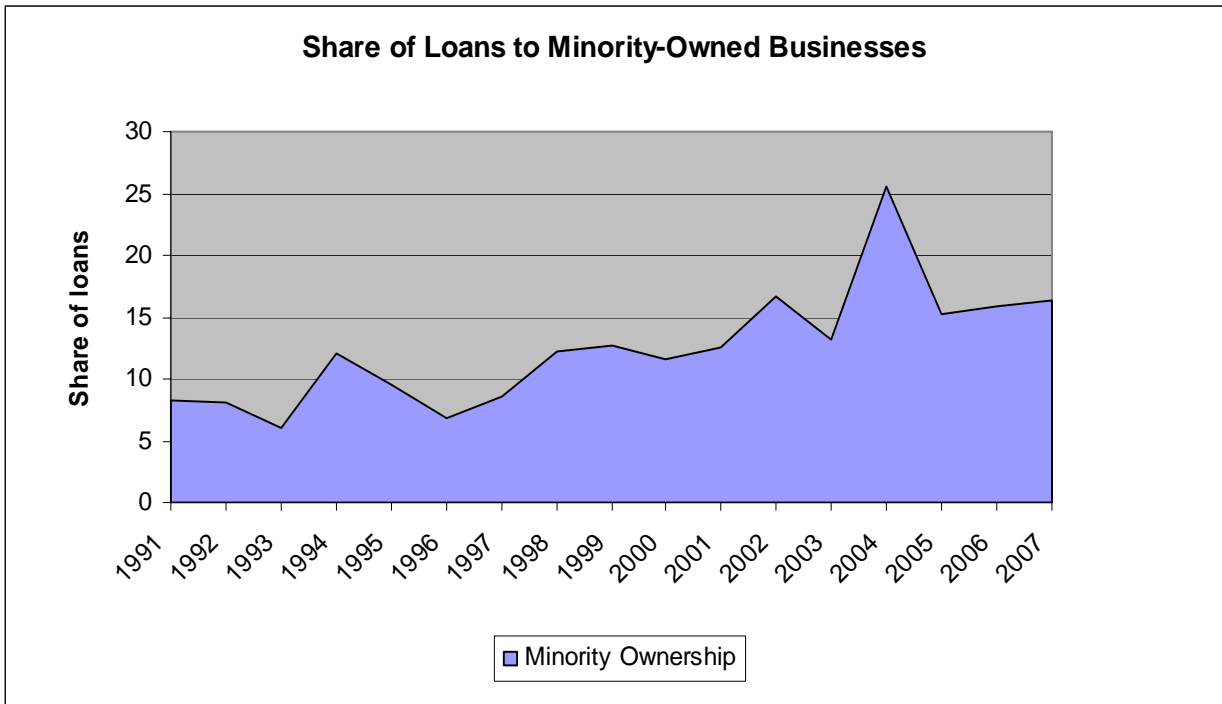


Little can be concluded in terms of trends to these establishments. What can be concluded with certainty is that a cluster of environmental industries is not traceable in the loan data, and is not growing over time.

5.5 Findings on Social Justice

Tracking the percentage of 7(a) loans to minority-owned businesses yields stronger findings. There is a strongly significant difference between loans to white-owned businesses and loans to minority-owned businesses ($p < 0.001$). Tracking the share of loans to minority-owned businesses reveals the following trend over time:

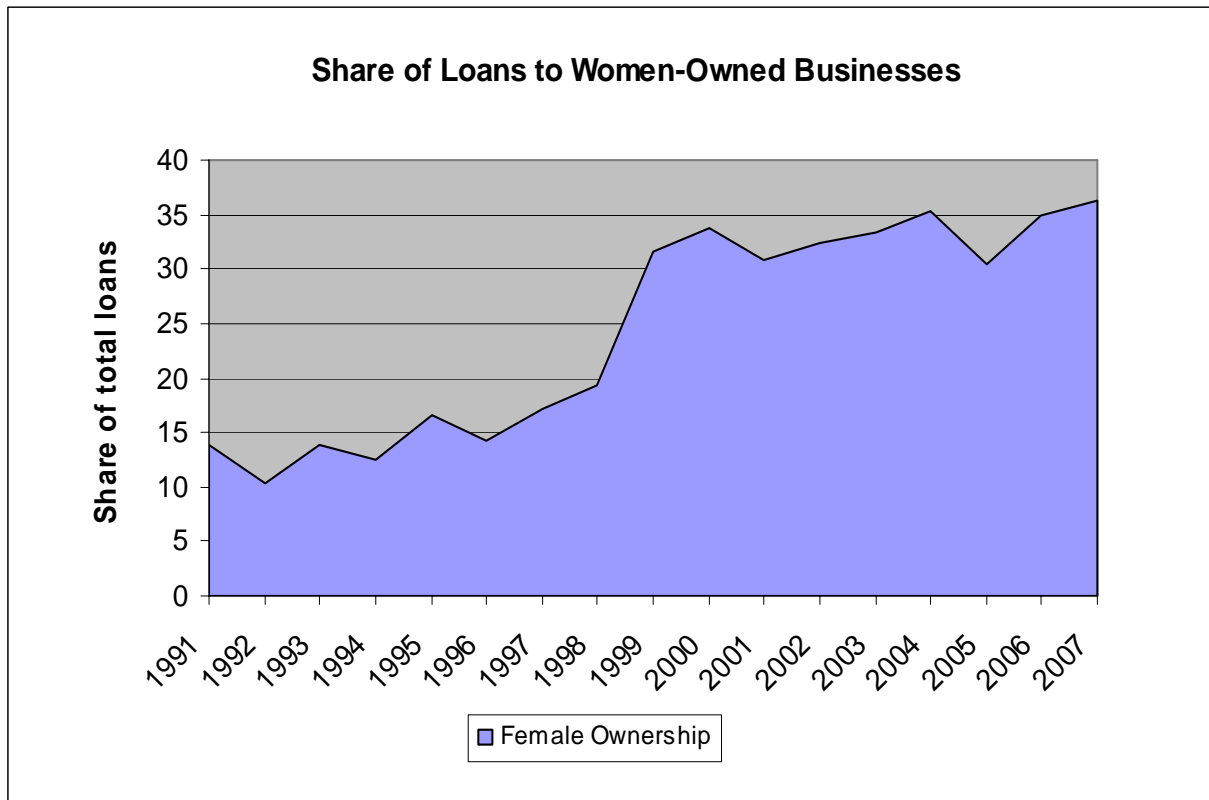
Figure 5.5



The positive trend observable in this chart is strongly significant ($R^2 = 0.508$, $p < 0.01$).¹¹¹ Tracking the percentage of 7(a) loans to women-owned businesses yields strong findings as well. There is a strongly significant difference between loans to men-owned businesses and loans to women-owned businesses ($p < 0.001$). Tracking the share of loans to women-owned businesses reveals the following trend over time:

¹¹¹ Standard error for regression of loans to minorities over time = 58.357

Figure 5.6



The positive trend observable in this chart is strongly significant ($R^2 = 0.728$, $p < 0.001$).¹¹²

5.4 Conclusions

It is clear that loans to manufacturing and loans to services have experienced differing trends over time. And while no observable trend has been found for loans to environmental businesses, a significant positive trend has been identified for loans to service industries, which can be considered “cleaner” than manufacturing establishments. Furthermore, a significant positive trend has been identified in loans to minority-owned and women-owned businesses. These trends reflect state trends in which minority-owned and women-owned businesses have been on the rise. For example, between 1987 and

¹¹² Standard error for regression of loans to women-owned businesses over time = 70.008

1996, the number of women-owned businesses in the state increased 84.8%, and between 1987 and 1992 black-owned firms grew 75.3 percent and Hispanic-owned firms grew a remarkable 204.5%.¹¹³ Within the next ten years, women owned businesses increased to 26.7% in 2002 and minority-owned firms had grown to 4.5% of businesses in the state.¹¹⁴

Certain biases must be considered when interpreting these findings. First, the flexible, facilitative nature of 7(a) loans is such that companies operating through the SBA are companies that would otherwise face difficulty acquiring loans from conventional lenders. Perhaps, then, the reason for the relative un-presence of environmental businesses in the loan data is that they are successfully acquiring loans and other forms of financing from other sources. In addition, the divided classification systems represent a barrier to tracking certain industries across the entire period, which makes it difficult to definitively conclude that loans to environmentally sustainable businesses have or have not been rising over time, because these businesses were not necessarily classified correctly in loan data before 2000.

¹¹³ U.S. Small Business Administration, Office of Advocacy, "Small Business Grows Strong in Rhode Island," 1995. 1 May 2008. <<http://www.sba.gov/advo/research/profiles/95ri.txt>>.

¹¹⁴ U.S. Small Business Administration, Office of Advocacy. "Small Business Profile: Rhode Island," 2007. 1 May 2008. <<http://www.sba.gov/advo/research/profiles/07ri.pdf>>.

Chapter 6: Other Drivers of Environmentally Sustainable Economic Development

6.1 The Rhode Island Economic Development Corporation

It should be noted that the Economic Development Corporation (EDC) was originally the subject of this study, the dynamic and influential quasi-governmental economic development agency that was established in 1996. Its enabling legislation authorizes it to “promote the economic development of the state and the general welfare of its citizens” with respect to federal land, real property, new and existing industry, business, commerce, agriculture, tourism, and recreational facilities in the state.¹¹⁵ As such, EDC offers various forms of capital and services through which it fosters economic development, including tax credits, grant programs, workforce development consulting, small business assistance, permit expediting, and loans. EDC is the state agency that can act as a developer or development facilitator. For example, the Quonset Development Corporation which is responsible for the development of the Quonset Business Park is a subsidiary of the RIEDC.¹¹⁶

RIEDC’s role should not be underestimated. As a quasi-governmental agency it works proactively to foster economic development in Rhode Island by offering various services and programs to businesses throughout the state. For example, RIEDC offers the following incentives for manufacturing firms thinking of locating in the state:¹¹⁷

¹¹⁵ “Chapter 42-64 Rhode Island Economic Development Corporation, Section 42-64-4.” Title 42 State Affairs and Government. State of Rhode Island General Assembly. 12 May 2008. <<http://www.rilin.state.ri.us/Statutes/TITLE42/42-64/42-64-4.HTM>>.

¹¹⁶ “Who We Are.” Quonset Development Corporation. 2004. 12 May 2008. <http://www.quonsetpointri.com/about_us/who_we_are/>.

¹¹⁷ “Why Rhode Island?” Manufacturing and Industrial Products. Rhode Island Economic Development Corporation. 2008. 13 May 2008. <<http://www.riedc.com/industry-sectors/manufacturing-and-industrial-products>>.

- Innovation investment tax credits of up to 50 percent (maximum credit of \$100,000)
- Manufacturing tax credit of up to 4 percent for new facilities and machinery and equipment used in the production process
- High-performance manufacturer investment tax credit of up to 10 percent
- Research and development tax credit of up to 22.5 percent
- Access to expansion financing, lowinterest loans
- Assistance with identifying, and in some cases creating, customized workforce development programs
- Site selection assistance and guidance on permitting and regulatory issues
- Comprehensive export assistance programs for companies looking to tap into global markets

The Rhode Island Small Business Loan Fund (SBLF), which receives its funding from the federal government as a direct, revolving loan fund, is a wholly-owned subsidiary of EDC. SBLF loans are available for existing manufacturing, processing and selected services in amounts up to \$500,000. Eligible applicants include firms in manufacturing, processing, office, wholesale, retail, and recreational (travel/tourist facilities) sectors. Funding for the SBLF comes from the federal government, which has channeled millions over the years. The allocation of these loans centers on manufacturing and service-oriented facilities.¹¹⁸ Examining environmentally sustainable development in Rhode Island through EDC would entail an examination of the investments EDC has made in the Rhode Island economy over time. Because of the extent of its influence in the state, EDC and its investments can play a significant role in fostering environmentally sustainable businesses in Rhode Island. Note that EDC, QPDC (as property managers) apply to CEDS for almost funding almost every year in competition with cities and towns. Constructing a sense of its historical role in environmentally sustainable economic development could facilitate improvements and/or a continuance on the part of the institution in fostering this kind of development.

¹¹⁸ Barros, Victor. Rhode Island Economic Development Corporation. Telephone Interview. February 2008.

Acquiring data and records on past EDC investments proved extremely difficult, however. Over a period of several months, EDC released very little information in response to direct requests for information on SBLF and investments in development projects throughout the state. Ultimately, little information was retrieved on the allocation of funds through the SBLF and other investment programs offered by the organization. Despite the fact that these documents represented public information, the accessibility of this information was extremely limited. This problem can be attributed mainly to an issue of transparency, which will be expounded on in the recommendations section of the final chapter.

6.2 Other Drivers

EDC can be identified as an institution that single-handedly plays a large role in economic development, but the following additional drivers of economic development have also been identified as playing an active role in the Rhode Island economy:

A. Business Incubators

A business incubator is an organization that supports the entrepreneurial process. This support can include consulting and the provision of supplies and office space for newly emerging companies. Incubators have been heralded as a dynamic way to encourage entrepreneurship and innovation in emerging industries.¹¹⁹ Some incubators focus on achieving economic development goals with a social return on their investment, while others are more concerned with generating profits for the incubator operators and investors. The most recent trend has been for an incubator to combine both efforts.

¹¹⁹ Johnsrud, Theis & Bezerra, "Business Incubation: Emerging Trends for Profitability and Economic Development in the US, Central Asia and the Middle East," U.S. Department of Commerce Technology Administration, (Washington, D.C.: May 2003), p.16

The following incubators are active in Rhode Island and have played a role in sustainable economic development:

- **Center for Design and Business**, which is a department within the Rhode Island School of Design (RISD) that forges links between design and production, and recently featured a solar-powered house as one of its design projects.
- **Urban Ventures Inc.**, which is primarily concerned with urban entrepreneurship and revitalization.
- **Southside Community Land Trust Farm Business Incubator**, which provides low-income and immigrant farmers with the resources to produce with environmentally sustainable methods.¹²⁰
- **Slater Fund Biomedical Incubator Facility**, which has leased lab space to biotechnology-based start-up companies associated with the Slater Technology Fund.¹²¹
- **17 Gordon Avenue Business Incubator**, which was an Enterprise Zone Urban Initiative Spotlight Project in which a historic industrial building was rehabilitated for incubation space with an emphasis on green building design.

B. Trade Associations

Trade associations can also be influential actors in economic development. A trade association, also known as an industry trade group, is generally a public relations organization founded and funded by corporate members operating in a specific industry. Its purpose is to speak for and promote the industry through, for example, advertising, education, political donations, lobbying and publishing. The formation of a trade

¹²⁰ "Farm Business Incubator." Southside Community Land Trust. 2008. 29 March 2008. <<http://www.southsideclt.org/urban/incubator.php>>.

¹²¹ "Slater Technology Fund Renews Its Commitment to Incubator Program," *American Venture Magazine*, 26 October 2006. 29 March 2008. <<http://www.americanventuremagazine.com/news.php?newsid=1835>>.

association creates a community in which businesses belonging to an industry can access resources and support. Within Rhode Island, the Tech Collective, the Southeastern New England Defense Industry Alliance, and the Greater Providence Chamber of Commerce are key trade associations. While these trade associations are not directly linked to sustainable economic development, they create forums for collaboration and large-scale thinking, which are essential elements to sustainable development.

C. State Agencies

This paper examines one state institution, the Rhode Island Comprehensive Economic Development Strategy (CEDS) system, as reflected by criteria used in its Priority Project System.

Numerous other state institutions can be identified as playing a direct role in sustainable economic development. They include, but are not limited to, the following:

- **State Department of Environmental Management**, which contains an Aqua Fund designed to remedy existing pollution in Narragansett Bay but can also be directed to other projects for environmental spending.
- **Rhode Island Housing**, which is working on a \$10 million proposal to built 3-5 model sustainable communities.¹²²
- **Quonset Development Corporation**, which is a subsidiary of EDC and which is currently producing a mixed-use “gateway” development based on green design principles.
- **Rhode Island Economic Policy Council**, a nonprofit corporation equally funded by the State of Rhode Island and the private sector which has produced numerous plans and documents espousing smart growth planning and sustainable development. Its most recent 2010 Community Development Goals included environmental and ecological considerations related to water quality and green space conservation.

¹²² Hyson, Brad. Apeiron Institute for Sustainable Living. Telephone Interview. 5 October 2007.

D. Non-profit Organizations

Non-profit organizations (NGO) play a critical role in advocating for environmental and social causes. In the world of environmental sustainability and economic development in Rhode Island, the following can be identified as particularly relevant to these issues:

- **Apeiron Institute Rhode Island**, which fosters a culture of sustainability through education and collaboration with both the private and public sectors¹²³
- **Grow Smart RI**, an organization that primarily focuses on smart growth in the context of urban planning.
- **Rhode Island Coalition for Water Security**, a coalition of Rhode Island environmental, policy, and economic organizations that advocates for water conservation and related water security issues.

¹²³ Ibid.

Chapter 7: Recommendations

I find that there has been a growing trend in the incorporation of sustainability principles in the prioritization of development project submittals between 1986 and 2007, but that these improvements have primarily occurred in the last decade. An examination of lending through the Small Business Administration (SBA) finds that contrary to expectations, there is no significant evidence for a growing cluster of profit-making environmental businesses between 1991 and 2007, but a positive significant trend for loans to minority and women-owned businesses, which reflects the social justice aspect of sustainability. These findings suggest that while the Compact's vision of proactive initiative is quickly being realized on the part of the CEDS system, there is no evidence of a complementary growing presence in SBA loan data.

I make several recommendations based on my findings in examining the role of the state government and the presence of environmental businesses in SBA-approved loans.

1. A central recommendation of this paper is the improvement self-evaluation and transparency for economic development institutions. The difficulties encountered in gathering information on EDC investments (discussed in the previous chapter) suggest that there is plenty of transparency in the economic development mission of certain governmental institutions, but there is little transparency in how that mission is respected and met. Transparency in how governmental economic development institutions invest their funds and services in the

name of public welfare must be improved if environmental sustainability is to be examined.

2. Transparency was not a significant issue in examining the CEDS System and the prioritization process. However, forming an understanding of the role of this institution was difficult when the institution itself had not evaluated its environmental record. Self-awareness and self-evaluation of environmental sustainability practices on the part of an institution can aid outsiders in examining the institution in an efficient and effective way. As such, this paper recommends that those findings relevant to the CEDS System be utilized and incorporated in a comprehensive, time-spanning evaluation of its record with respect to environmental sustainability.
3. This leads to the next recommendation, which is that further implementation of environmental sustainability occur in the CEDS prioritization of projects. The incorporation of *Land Use 2025* into the CEDS Criteria demonstrates an effective way of implementing sustainability. However, simply awarding 10 points is not enough. Real improvements in the environmental sustainability of projects entail not only the incorporation of smart growth principles, but social justice considerations as well. The criteria of the Priority Project System must provide direct incentives for applicants to fulfill the entire ESG framework. This can be accomplished by including criteria that award applicants for locating development projects in communities with

under-served populations and allocating a certain number of jobs to minorities and women. Empowering disadvantaged populations is a critical component of sustainability, and as such, should be emphasized in the Priority Project System. A holistic understanding of environmental sustainability must be expressed through the criteria in this system, so that a growing understanding of sustainability's huge implications can allow for comprehensive, lasting improvements in development projects.

4. The final recommendation of this paper is that environmental sustainability be instituted in the 7(a) loan program. The mission of the Small Business Administration (SBA) is to enable small businesses to succeed in competitive markets. Environmentally sustainable businesses are often those companies that face risky outcomes and difficulty acquiring initial funding, because they are such a new development in the Rhode Island economy. While the SBA is prohibited from discriminating amongst industries in its loan involvement, its mission is also to help struggling businesses gain a foothold in local economies, and it would be an ideal institution to offer cushioning for the emerging green business industry. This paper specifically recommends that SBA adopt criteria that facilitate the evaluation of green businesses as an industry that can be targeted for loans. As a guarantor, the SBA could foster loans to these businesses by offering incentives for SBA-approved lenders, such as higher loan

guarantees. The Goldman Sachs findings indicate that fostering green businesses is the smart choice both economically and in terms of sustainability; giving these enterprises a head start is not discrimination—it is the only way to give them a chance to thrive.

Chapter 8: Conclusions

The question of attribution is a million dollar question. Effects and correlations can be observed, but determining the cause of an observable trend is the key to correcting trends that are not consistent with desired outcomes and strengthening those that do.

In Massachusetts, green energy businesses will soon become the state's 10th largest industry.¹²⁴ Can the rise of environmentally sustainable businesses be attributed to their profitability or to deliberate investment by economic development institutions? The report by Goldman Sachs may point to profitability, since company leaders in ESG are outperforming their peers across different industries. While this paper finds that companies reflecting social justice principles (greater ethnic and gender diversity) have been receiving more SBA 7(a) loans over time, this trend was not found when looking at businesses producing environmentally-related and/or “clean” products. We would expect that if ESG leaders are outperforming their peers, then environmentally sustainable businesses in Rhode Island would be applying for more loans and receiving more loans over time. SBA lending reveals quite the opposite—no observable positive trend in 7(a) loans to environmental businesses between 1991 and 2007. However, comparing the Goldman Sachs findings with the findings of this paper is not necessarily fair, since the Goldman Sachs report focused on larger companies that typically have the resources to incorporate sustainable thinking into their strategizing.

The changes to the Rhode Island Comprehensive Economic Development Strategy (CEDS) System reflect the state's increasing interest in promoting a dialogue on environmental sustainability in the CEDS System and an implementation of sustainability strategies. The incorporation of *Land Use 2025* into the Environmental Factors criterion in 2007 can be identified as one of the most exciting examples of sustainability planning

¹²⁴ A survey published by the Massachusetts Technology Collaborative, a non-profit development agency for renewable energy and the innovation economy, found that 14,400 people are employed in the clean-energy sector, making it the state's 11-largest industry, with an expected increase of another 20% over the following year. (Roush, Wade. “Directing Clean-Energy Investment in Massachusetts: An Xconomy Debate.” *Xconomy*. 13 August 2007. 18 April 2008. <<http://www.xconomy.com/2007/08/13/directing-clean-energy-investment-in-massachusetts-an-xconomy-debate/>>.)

being implemented so as to affect the kinds of development projects funded in Rhode Island.

Discovering and fostering a cluster of environmental businesses in Rhode Island is difficult given its industrial legacy and its recent economic stagnation. After all, innovation in environmental sustainability requires momentum and resources, which can be difficult to muster in the face of pervasive brownfields and insufficient support. While it is clear that those who are working in economic development institutions are catching on to the green wave, it is surprising to find that businesses such as environmental consultants and environmental remediation services are not evident as growing in the SBA loan data. Even more surprising is the complete absence of environmental consulting services, environmental engineering services, and environmental remediation services from the loan data. Furthermore, tracking sustainable businesses in 7(a) loan data was extremely limited due to the limitations of the classification systems, which have no distinctions for organic restaurants like Local 121, or sustainable food markets like Whole Foods, both of which are successful businesses currently operating in Rhode Island's capital.

These findings within the loan data could be linked to various possible explanations. One is that these businesses are not attractive borrowers, either because of high risk or a lack of qualifications. It could be that these businesses are securing financing through other sources—the Greenhouse Compact found that financing from venture capital and family members can play a significant role. Furthermore, this finding could be attributed to a fundamental lack of entrepreneurial capacity to even apply—in other words, these businesses don't exist in the first place. Or it can be attributed to the

limits of 7(a) loans in reflecting statewide economic trends. An examination of other types of financing, such as venture capital, would perhaps reveal a different picture of environmentally sustainable businesses in the Rhode Island economy. Nevertheless, the findings presented in this paper offer a glimpse into where and how environmentally sustainable economic development is being fostered and encouraged.

This paper's findings also shed some light on the vision outlined by Magaziner and the rest of the Strategic Development Commission in *The Greenhouse Compact* over twenty years ago. *The Compact* emphasized proactive economic development, identifying tax breaks as an indirect and insufficient method to foster growth in a stagnating economy. This paper finds that, in terms of sustainable economic development, the CEDS system has been a tool of proactive initiative and encouragement. However, in reviewing other ways through which the State fosters economic development, it seems that tax breaks and incentives remain a primary tool of economic development in the state. Take the Enterprise Zone program and the Historic Investment Tax Credit as examples of recent tax break programs.

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