

Evaluating Green Tier: A Practical Guide for the Wisconsin Department of Natural Resources

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Foreword

This report, which presents a set of criteria for evaluating a recent State of Wisconsin environmental law called Green Tier, is the product of collaboration between the Robert M. La Follette School of Public Affairs at the University of Wisconsin–Madison and the Wisconsin Department of Natural Resources. Our objective is to provide graduate students at La Follette the opportunity to improve their policy analysis skills while contributing to the capacity of the state government to effectively provide public services to the citizens of Wisconsin.

The La Follette School offers a two-year graduate program leading to a master's degree in public affairs. Students study policy analysis and public management, and pursue a concentration in a public policy area of their choice. They spend the first year and a half taking courses that provide them with the tools needed to analyze public policies. The authors of this report are all enrolled in Public Affairs 869, Workshop in Public Affairs, Domestic Issues. Although acquiring a set of policy analysis skills is important, there is no substitute for doing policy analysis as a means of learning policy analysis. Public Affairs 869 provides graduate students that opportunity.

The students were assigned to one of six project teams. One team worked on this project for the Wisconsin Department of Natural Resources, while two teams worked with the Budget and Management Division of the Department of Administration of the City of Milwaukee, and one team each worked with the Wisconsin Department of Revenue, the Wisconsin Department of Administration, and the Joint Legislative Council. The topic of this report—the search for suitable criteria to evaluate an innovative environmental law—was chosen by P. Scott Hassett, the Secretary of the Wisconsin Department of Natural Resources, in consultation with his staff.

This report does not provide the final word on the complex issues the authors address. The graduate student authors are, after all, generally new to policy analysis, and the topic they have addressed is large and complex. Nevertheless, much has been accomplished, and I trust that the students have learned a great deal, and that Secretary Hassett, the staff of the Wisconsin Department of Natural Resources, and appropriate legislative committees will profit from the analytical framework to assess Green Tier.

The Green Tier law adopts an innovative approach to regulating the environmental actions of private businesses. The law is inspired by a new governance philosophy, characterized by an emphasis on public and stakeholder participation in governance processes, reducing the adversarial approach of traditional command-and-control approaches to regulation, and partnerships between public and private actors. Green Tier encourages private businesses with strong environmental records to enter into contracts with the Wisconsin Department of Natural Resources. These contracts commit businesses to adopting an environmental

management system and continued environmental performance in exchange for regulatory flexibility and a single point of contact at the Wisconsin Department of Natural Resources.

The Green Tier law will sunset in 2009, and policymakers need a suitable basis upon which to judge the merits of the law. Since there are almost no precursors to Green Tier in the United States, the question of how to evaluate the program is a difficult one. Because Green Tier approaches environmental regulatory problems from a non-traditional approach, it requires a broad set of criteria that reflects its new governance origins. With this in mind, the authors propose that Green Tier be evaluated by the process guarantees of the law (in terms of information transparency, and the opportunity to participate in decision making), the costs and benefits for businesses, the environmental results produced by the law, and the ability of the law to change and improve the nature of governance relationships between regulators, private businesses and the public.

This report would not have been possible without the support and encouragement of Secretary Hassett, Mark McDermid and Jeff Smoller. A number of other people also contributed to the success of the report. Their names are listed in the acknowledgments.

The report also benefited greatly from the active support of the staff of the La Follette School. Terry Shelton, the La Follette outreach director, along with Kari Reynolds, Mary Mead, and Gregory Lynch, contributed logistic and practical support for the project. Karen FASTER, La Follette publications director, edited the report and shouldered the task of producing the final bound document.

I am very grateful to Wilbur R. Voigt whose generous gift to the La Follette School supports the La Follette School public affairs workshop projects. With his support, we are able to finance the production of the final reports, plus other expenses associated with the projects.

By involving La Follette students in one of the tough issues faced by Wisconsin state government, I hope the students not only have learned a great deal about doing policy analysis but have gained an appreciation of the complexities and challenges facing different levels of government in Wisconsin and elsewhere. I also hope that this report will contribute to the work of the Wisconsin Department of Natural Resources and their ongoing efforts to develop innovative ways to protect the wonderful natural environment that Wisconsin has been blessed with, while making the state attractive to businesses.

Donald Moynihan
May 1, 2006

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The authors would like to thank all those who contributed their time and energy to help us complete this tool for evaluating the Green Tier program. We would like to thank Mark McDermid, Jeff Smoller, Tom Eggert, John Shenot, and Carla Wright of the Wisconsin Department of Natural Resources for providing us with abundant information, data, and feedback on our evaluation tool. We would also like to thank Chris Campbell of MEGTEC Systems Inc. for his cooperation in our case study of a Green Tier business. Further, we would like to thank Karen FASTER at the La Follette School of Public Affairs for her editing expertise. Finally, we would like to thank our professor, Donald Moynihan of the University of Wisconsin-Madison Robert M. La Follette School of Public Affairs, for his extraordinary patience, thoughtful suggestions and helpful guidance.

Executive Summary

A common critique of the traditional environmental regulatory framework is that it does not provide incentives for businesses to go beyond the minimum environmental standards required by the state. This command-and-control approach to environmental regulation has been criticized as expensive for both government and business. As a result, businesses and government are looking toward a new approach to environmental regulation that changes the incentives structure of environmental performance. This “new governance” framework provides an alternative relationship between regulators, businesses, and the general public. Wisconsin pioneered such an approach through a state law called Green Tier.

The Green Tier law encourages partnerships between the Wisconsin Department of Natural Resources (WDNR) and state businesses in a transparent environment. Under this legislation, businesses with a history of environmental compliance gain customized flexibility and public recognition in exchange for a commitment to superior environmental performance.

In 2009, the Green Tier law is scheduled to sunset, and state decision-makers must determine whether the law should be renewed. This requires careful evaluation of the Green Tier program. This report suggests a series of criteria to evaluate Green Tier, and identifies potential data sources and a timeline for data collection to assess the criteria. The criteria follow the “new governance” approach, which means that, in addition to creating an evaluation that measures costs and benefits, we consider criteria related to the ideal of an accountable, inclusive governance system that fosters shared goals and positive working relationships. A summary of the criteria are as follows:

Process

Transparency: the level of stakeholder and the WDNR access to information throughout the Green Tier application and negotiation process.

Stakeholder Participation: the extent to which stakeholders from the WDNR, industry, and the community have an opportunity to participate in the negotiation and drafting of the Green Tier agreement.

Participants Costs and Benefits

Transaction Costs: the costs to the businesses of applying for, negotiating, and implementing a Green Tier agreement as well as the costs to the WDNR of recruiting participants for participation in Green Tier, promoting the program and developing the Green Tier brand, reviewing the applications, negotiating the agreement, and monitoring the business’s implementation of the agreement.

Environmental Management Systems Costs and Benefits: the costs to the businesses of implementing and maintaining an EMS system, the benefits to the business associated with their EMS, the costs to the WDNR of monitoring EMS conformance, and the benefits to the WDNR of a business implementing an EMS.

Benefits: the extent to which the incentives offered by Green Tier create measurable benefits for participating businesses and the WDNR.

Environmental Results

Direct Environmental Indicators: the achievement of environmental goals set by Green Tier participants in their contracts with the WDNR as well as the broad environmental indicators relevant to all Green Tier participants.

Learning and Innovation: the extent of the efforts of Green Tier businesses to work with others in their supply chain or in their industry as a whole to develop innovative solutions to increase their environmental performance.

Relationships

Relationship between the WDNR and the Business Community: how Green Tier businesses perceive the WDNR before and after participating in the Green Tier program.

Relationships within the WDNR: the extent of the learning and trust taking place within the WDNR as a result of Green Tier.

Relationships between the Community and Green Tier Businesses: the effect of each business's participation in Green Tier on their local community.

Introduction

This report presents our suggested criteria for the evaluation of the Green Tier program. We developed criteria by examining the Green Tier legislation, statements by public officials and stakeholders on the goals of the law, and previous research on new governance and Green Tier. Within each of the criteria, we outline evaluation tools such as interviews, surveys, and focus groups to use to assess Green Tier.

We begin with a discussion of new governance and Environmental Management Systems followed by a brief background and historical context for the Green Tier program. Finally, we present our criteria for evaluating Green Tier, as well as our recommendations regarding the use of the criteria.

New Governance

The term “new governance” refers to a specific philosophy based on a perception that the traditional forms of governance have reached their capacity to achieve their goals efficiently, and that alternative forms of governance are capable of achieving better results. Salamon argues that governments are no longer able to manage society’s problems because the problems are too complex, because disagreements exist about the proper ends of public action, and because the government increasingly lacks the authority to enforce its will on other crucial actors without giving them a meaningful seat at the table (Salamon, 2002).

In contrast, new governance refers to the creation, execution and implementation of policies backed by the shared goals of citizens, stakeholders and government (Bingham et al., 2005). New Governance encourages civic engagement, cooperation, and shares the responsibility of the decision making process with a wide range of stakeholders (Bingham et al., 2005). Salamon defines new governance as a framework recognizing:

the collaborative nature of modern efforts to meet human needs, the widespread use of tools of action that engage complex networks of public and private actors, and the resulting need for a different style of public management, and a different type of public sector, emphasizing collaboration and enablement rather than hierarchy and control (2002, vii).

New governance is built upon five principles: problem-solving orientation, participation by interested and affected parties in all stages of the decision-making process, provisional solutions, accountability that transcends traditional public and private roles in government, and a flexible engaged agency (US Environmental Protection Agency, n.d.). The idea behind new governance is that it is more flexible, less prescriptive, less committed to uniform outcomes, and less

hierarchical. Therefore, new governance promotes better relations among all players than traditional forms of governance.

The main characteristics of new governance are:

- A shift in the unit of analysis from the public agency or individual public program to policy tools or instruments. These basic tools or instruments share common features regardless of the field in which they are deployed.
- The use of “new” policy instruments in achieving the policy goals, such as benchmarking, co-regulation, voluntary codes of conduct and negotiated agreements.
- A shift from the internal workings of hierarchical agencies to a network of actors.
- The promotion of interdependencies and the participation of non-governmental players working cooperatively with government agencies to achieve the goals set out by traditional regulations.
- A shift from command and control to negotiation and persuasion. Because of the inclusion of new players in the decision making process, no entity is in a position to enforce its will on others; rather, public managers must learn to create incentives for the outcomes they desire from actors over whom they have only imperfect control.
- A shift for public managers from management skills used to control large bureaucratic organizations to enablement skills required to engage network partners and multiple stakeholders (Snow, 2005).

Table 1 presents a summary of the major differences between the classic command-and-control model and the new governance model for public management.

**Table 1:
Classic Public Administration Model
vs. New Governance Model**

Classic Public Administration	New Governance
Program/Agency	Tool
Hierarchy	Network
Public vs. Private	Public & Private
Command & Control	Negotiation & Persuasion
Management Skills	Enablement Skills

Source: Salamon, 2002.

New Governance in the Environmental Field

The new governance approach was pioneered in the area of environmental regulation. Using this approach, many countries, including Germany, Switzerland, Great Britain, Denmark, the Netherlands and the United States, have developed innovative policy tools to achieve environmental progress. For example, the countries designed alternative approaches to address the complex nature of environmental problems such as pollution.

Crucial to the new governance approach to environmental regulation is its critique of the command-and-control approach (Jordan et al., 2005). Command and control is characterized by direct regulation where governments prescribe uniform environmental standards, mandate the abatement methods required to meet the standards, license production sites that adopt the required methods, and assure compliance through monitoring and sanctions (Golub, 1998).

The limitations of the command-and-control approach can be categorized into: economic inefficiency, environmental ineffectiveness and democratic illegitimacy. Economic inefficiency arises from the fact that different firms have variable pollution abatement costs, and under command and control this difference is not taken into account (Golub, 1998). Under the command-and-control approach, the main goal is not superior environmental performance but rather environmental compliance, which is the ability of businesses to follow rules and standards in environmental codebooks. This approach stifles incentives to reduce emissions beyond mandated levels and does not encourage the development of innovative pollution control technologies (Golub, 1998). Command-and-control policies can be environmentally ineffective because, as adoption of new and increasingly stringent emissions limits and technologies encounter political resistance, there is higher non-compliance and higher costs of enforcing and overseeing increases in the new standards. Command-and-control instruments lack democratic legitimacy because they exclude the general public and environmental interest groups from the decision making process (Golub, 1998).

New governance was created to address the limitations of the command-and-control approach, specifically with regard to the environment. For example, new governance policies were developed to address non-point source pollution. There are two basic forms of pollution, point source and non-point source pollution. Point source pollution comes from a specific and identified source such as a drain, smokestack or pipe, while non-point source pollution, also referred to as diffuse pollution, is a form of pollution that enters the environment over a wide area and cannot be traced to an exact point. Command-and-control policies such as statutory regulations were created to address emissions, discharge and waste from point source pollution and are found to be highly effective in reducing point source pollution. However, because non-point source pollution is not directly linked to a source (e.g. a pipe), it is difficult to measure and regulate via the traditional command-and-control policies of regulations and standards.

New governance examines a broader scope; it goes beyond one chemical or compound emitted and instead takes the longer term view of environmental problems, the combined effect multiple pollutants have on the environment, and, most importantly, it addresses the multiple stakeholders in the pollution problem. Non-point source pollution requires a long-term commitment to change behavior, and this cannot be achieved through legislation, regulation, enforcement or litigation, but rather through a consensus process in which stakeholders work together.

In the United States, the Environmental Protection Agency (EPA) has developed the “Innovation Strategy” to identify new methods and tools to achieve environmental progress. The EPA has advanced innovative tools for compliance assistance; environmental planning and priority setting; information collection; environmental monitoring, permitting, and researching; and new technology and voluntary compliance program implementation (U.S. Environmental Protection Agency, n.d.)

The new governance approach does not attempt to replace the standards-based approach of command-and-control that makes excessive pollution illegal. Instead, new governance acts as a supplement to the traditional standards and regulations, and involves networks of stakeholders to develop innovative solutions to environmental problems not addressed under the traditional model. The new governance approach offers alternative policy tools consisting of the following characteristics (Snow, 2005):

- focus on environmental problems and goals not addressed by the current system via clear goals, outcomes and measures of success;
- build support for innovations by engaging mid-level staff (such as inspectors, permit-writers and enforcement staff); looking for and using existing regulatory flexibility;
- fund evaluations and use those results to change, expand or drop innovations;
- involve internal and external stakeholders early in the process;
- build value for participation through lowering transaction costs, establishing only one person for the point of contact, creating economic tools to measure impacts and reducing the barriers to entry by making the program applicable to small companies and municipalities;
- measure, evaluate, learn, and communicate results of the innovation to the public; and
- use cross-media, full-system or facilitywide approaches rather than a single media approach.

These alternative environmental policy tools include eco-labels, market-based instruments, and Environmental Management Systems (EMS). Eco-labels provide

consumers with information about the environmental impact of their purchasing decision, and seek to harness market pressure through consumption (Jordan et al., 2005). A successful example of an eco-label in the United States is the Energy Star program. The Energy Star program was initiated in 1992 through the EPA as a voluntary labeling program to identify and promote energy-efficient products. With more than 8,000 partnerships with private and public sector organizations, it resulted in 2005 in estimated energy cost savings for businesses, organizations and consumers of about \$12 billion (Energy Star, 2006).

Market based instruments do not rely on the government to regulate polluters via statutorily created standards, but rather create environmental protection as a profitable or lower-cost option for producers and consumers. The Organisation for Economic Co-operation and Development (2003) has identified four types of market-based instruments: eco-taxes that include charges and levies; tradable permits; subsidies; and deposit-refund schemes. Two of the main advantages of market based instruments are that they are more cost-effective than conventional policies; and, if they are well-designed, market based instruments can stimulate innovation and diffusion of environmentally-preferred technologies (Jordan et al., 2005).

The best-known and most proven market based instrument is tradable permits. Permitting is an administrative procedure by which permission or authorization is granted to a facility or individual to perform an activity under specific legal conditions to ensure the protection of environmental quality and public health (Organisation for Economic Co-operation and Development, 2003). An example is an air permit which specifies how much sulfur dioxide a coal fired power plant can emit on a yearly basis. Tradable permits adjust the traditional permit process to foster flexibility and encourage innovation while improving environmental outcomes and reducing economic costs. They establish a limit on emissions, and require each source to hold allowances equal to its actual emissions. If the source does not have enough allowances for their emissions level, they purchase allowances from those sources that are emitting less than the amount of allowance they have. Some firms have a higher marginal cost to reduce pollution, thus they would prefer to purchase allowances. The end result is that the amount of emissions released is equal to the number of allowances provided. A successful example of this is the 1990 amendments to the 1970 Clean Air Act Amendments that created a tradable permit program for sulfur dioxide (acid rain) in the United States (McLean, 2004). This program cut emissions by more than 5.5 million tons of sulfur dioxide per year which equated to a 25 to 40 percent reduction in acid rain. The U.S. Office of Management and Budget found that the acid rain program accounted for the largest quantified benefits of any major federal regulatory program, exceeding costs by more than 40 to one (McLean, 2004).

An Environmental Management System is an approach an organization takes to identify, monitor and control its environmental impacts and aspects. An EMS is part of an organization's management system that includes organizational

structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy. EMSs include processes for developing and continuously improving the organization or community's environmental policies and goals while, at the same time, reducing environmental impacts (Anderson, 2005). The EPA officially supports the use of EMSs to achieve improved environmental performance and compliance, pollution prevention through source reduction, and continual environmental improvement (U.S. Environmental Protection Agency, 2004).

Environmental Management Success Story

An example of a successful implementation of an EMS occurred in 1998 at the Mott's Plant in Aspers, Pennsylvania. The Mott's plant was the first food processing plant in North America to implement an EMS. While in full compliance with federal, state and local regulations, Mott's reduced the volume of solid waste produced by the plant by 10 percent while maintaining the same output of finished product, reduce water usage by 12 percent and reduce energy usage by 2.3 percent. Beyond the environmental benefits of engaging in the EMS, Mott's saves \$45,000 in wastewater treatment costs annually (U.S. Environmental Protection Agency, 2006).

The use of EMSs is not limited to the United States. Similar environmental management tools are used in the European Union. In fact, the widespread use of environmental management tools such as the EMS led the International Organization for Standardization (ISO) in Geneva, Switzerland, to create international standards for particular products and for EMSs (Anderson, 2005). The standards specific to voluntary environmental standards are in the ISO 14000 series. The ISO 14001 standard refers specifically to Environmental Management Systems. ISO 14001 is not a technical standard with statutes or regulations, but rather a series of practices and procedures. The main ISO 14001 requirements include identifying all aspects of the organization's activities, products and services that have significant environmental impacts (including those not regulated); setting performance objectives and targets; implementing the EMS to meet targets via education, training and technology; establishing an audit program and taking corrective and preventative actions when deviations from the EMS occur; and reviewing the EMS to ensure continued performance (U.S. Environmental Protection Agency, 2006).

Background and History of Green Tier

This section examines the background of Green Tier and describes how the program operates. Green Tier relies on different tiers of involvement between businesses and the government, and uses charters and incentives to manage agreements. This section also provides examples of Green Tier businesses.

Environmental Cooperation Pilot Project

In 1997, the Wisconsin Legislature authorized the Environmental Cooperation Pilot Program (Wisconsin Statute 299.80) to offer Wisconsin businesses flexibility in exchange for a commitment to increased environmental performance. Six companies participated. According to the WDNR, the pilot program yielded exceptional environmental results. For example, We Energies avoided purchasing 1,600 train cars of coal through the program. Further, We Energies committed to investing \$400 million to \$600 million in future environmental improvements at its power plants and agreed to cut emissions of mercury, sulfur dioxide, and nitrogen dioxide by 45 to 65 percent in the next ten years. Companies participating in the pilot project have also served as mentors to companies considering participating in the Green Tier program (Wisconsin Department of Natural Resources, 2005a).

Green Tier

The Green Tier approach initially began with pilot companies in 2001 through legislation passed in 1996. Green Tier as a “program” was formally authorized by the Wisconsin Legislature in 2004 through Wisconsin Act 276 (Wisconsin Senate, 2004). Though similar to the Environmental Cooperation Pilot Program, Green Tier builds upon the lessons learned in that program. It provides the framework for achieving superior environmental performance through flexibility. With the Green Tier environmental brand, it also recognizes the exceptional environmental performance by participating businesses. Through the Green Tier program, businesses enter into voluntary, binding environmental agreements—including Charters and contracts—with the WDNR and community stakeholders. The businesses commit to “superior environmental performance” in exchange for incentives such as reduced frequency of inspections.¹ The WDNR benefits from Green Tier by spending less time and money on compliant businesses and, thus, can allocate more time and money to monitoring non-compliant businesses.

Two-Tiered System

To become involved in the Green Tier program, businesses must demonstrate a record of environmental compliance. The program operates through a two-tiered system that represents increasing levels of environmental performance, with Tier 2 requiring the strongest record of compliance and the largest commitment to environmental performance. Both tiers require the development and implementation of an EMS, although Tier 1 does not require that the EMS be in place at the time of the agreement.

¹ According to 2004 Wisconsin Act 276, the Green Tier law, superior environmental performance is “environmental performance that results in measurable or discernable improvements in the quality of the air, water, land or natural resources, or in the protection of the environment, beyond that which is achieved under environmental requirements” (Wisconsin Act 276).

Requirements for Tier 1 are twofold: a history of compliance with environmental regulations and a commitment to improving environmental performance in the future. After a business has completed a Tier 1 Green Tier application, both the WDNR and the business go through an informal process to draft a letter of acceptance into the program. During this step, the WDNR and the business negotiate the wording and content of the acceptance letter (Eggert, 2006a). After the negotiation and letter are complete, a 30-day public comment period is offered (Wisconsin Statute 299.83, 2006). At this time, members of the public can comment on the acceptance letter. During the comment period, if more than five individuals request a public hearing, one is conducted (Eggert, 2006b).

Tier 1 also requires annual compliance audits, which each business must submit to the WDNR. Modeled after the EPA's audit policy, these compliance audits provide an incentive for businesses to voluntarily disclose violations: the businesses face more limited liability under these audits than they would under the traditional non-voluntary WDNR inspections (Wisconsin Department of Natural Resources, n.d.b). Finally, Tier 1 requires a commitment to continually improved environmental performance consistent with the contents of each agreement.

For a business to participate in Tier 2, the business must demonstrate an even stronger compliance record than Tier 1 and must have an EMS in place. Tier 2 participants enter into legal environmental contracts with the WDNR and other community stakeholders. Before the formal legal contract is drafted, another 30-day public comment is held, inviting comments and participation in the formal contract negotiation. Participants involved in the negotiation are expected to offer significant compromises. For example, individuals participating in the negotiation might be required to give up their right to bring lawsuits or publish opinions regarding Green Tier and its participants (Eggert, 2006b). City governments involved in the negotiation are not exempt. They must offer significant compromises if they choose to participate. After the formal contract is drafted, another 30-day public comment period is held, inviting the public to offer comments on the formal contract. At this time, individuals or businesses can request a hearing to address controversial public comments.

In both tiers, outside parties such as other businesses or community organizations are encouraged to participate in the public comment period. However, only in Tier 2 are community and business stakeholders encouraged to become involved in negotiating Green Tier contracts. It is also important to note that although Tier 1 and Tier 2 agreements are designed to produce improved environmental outcomes in exchange for benefits to a single business, other groups such as businesses or local governments may be parties to the agreement.

Charters

Unlike the Tier 1 and Tier 2 contracts which primarily involve the WDNR and a *single* business, a Charter is defined as a *mutual* partnership between *multiple*

entities that grants rights and responsibilities to each participating entity, with the purpose of protecting the environment and committing to exceptional environmental standards (Wisconsin Statute 299.83, 2006). A Charter can be described as a vehicle that encourages businesses and individuals to join Green Tier and creates an environment where similar businesses can come together to discuss environmental standards and regulations. Charters are jointly administered and specify common goals and the responsibilities of each entity in working toward those goals (Wisconsin Statute 299.83, 2006). However, businesses can create Charters without participating in Tier 1 or 2 of Green Tier, and businesses can be involved in Tier 1 or 2 of Green Tier and not participate in a Charter (Eggert, 2006b).

After formal discussion between the WDNR and the Green Tier business is complete, a 30-day public comment is held so stakeholders can voice their opinions. If requested, a public information meeting can be held.

Incentives for Participation

What each participating business gains from Green Tier varies according to the type of business and the type of participation. For example, a business may choose to participate in a Charter and not Tier 1 or 2, because the business views Charters as beneficial but does not perceive benefits to Tier 1 or Tier 2 participation. Some businesses, like Veridian Homes, are both Tier 1 and Charter participants. Thus, businesses involved in Green Tier can choose the Tier or Charter best suited for their individual needs. However, both tiers of Green Tier offer several incentives, including the WDNR's recognition of the business's participation and use of the Green Tier logo. Another incentive is the WDNR assignment of a specific professional as a single point of contact for the business within the agency. A participating business gains customized flexibility, such as less frequent inspections, after it adopts an EMS (Wisconsin Department of Natural Resources, n.d.a).

Each Green Tier participant is assigned a single point of contact within the WDNR (Shenot, 2006a). This person will generally be a sector specialist; however, if there is no applicable sector specialist, the applicant is assigned to a specialist based on region. As the program increases in size, the WDNR will evaluate the most efficient and effective method of assigning specialists to applicants. The advantage to Green Tier businesses of having a single point of contact within the WDNR is that these specialists will develop a more extensive knowledge of the particular business and its operations, resulting in a more efficient and more trusting relationship with the regulatory agency (McDermid, 2006).

Current Status of the Program

Ten Wisconsin businesses or organizations were participating in Green Tier in spring 2006: American Transmission Company; scrap recycling company CCP Inc.; Clear Waters Initiative; Federal Foam Technologies Inc.; Holsum Dairies LLC; MEGTEC Systems Inc.; Serigraph; Times Printing; Veridian Homes; and

the Wisconsin Builders Association Development Council’s Environmental Compliance Corporation for Development and Economic Vitality Inc. Table 2 classifies each company into one of the three types of Green Tier participation: Charter, Tier 1, or Tier 2.

**Table 2:
Classification of Green Tier Businesses and Organizations**

Business	Charter	Tier 1	Tier 2
American Transmission Company		X	
CCP Inc.	X		
Clear Waters Initiative	X		
Environmental Compliance Corporation for Development and Economic Vitality	X		
Federal Foam Technologies Inc.		X	
Holsum Dairy		X	
MEGTEC Systems			X
Serigraph, Inc		X	
Times Printing		X	
Veridian Homes		X	

Source: McDermid, 2006

Criteria

Next, we present our suggested criteria for the evaluation of Green Tier. The criteria measure elements related to entering into a Green Tier agreement, the costs and benefits to the WDNR and to the businesses of participating in Green Tier, and the outcomes of Green Tier participation to the WDNR, participating businesses and the community at large. Our criteria incorporate elements of new governance, specifically with regard to the importance of broad stakeholder involvement in the process of negotiating and drafting the Green Tier agreement, and the effect of Green Tier on the relationships among the networks of actors developed through the program. The criteria also incorporate traditional cost-benefit concepts such as transaction costs, which measure the costs to participating actors, and benefits due to the incentives built into the program.

Process Criteria

The following process criteria—stakeholder participation and transparency—reflect the new governance emphasis on inclusive decision-making and citizen involvement. The criteria reflect the reality that many citizens may feel distrust toward agreements between businesses and their state government. The most useful way to allay these concerns is to offer as much information about the program as possible and to provide citizens with processes by which their

voices can be heard. Having such democratic processes in place is also expected to positively impact the trust and the overall relationships among stakeholders, another evaluation criterion.

Transparency

The transparency process criterion seeks to measure the level of access the WDNR and community stakeholders have to information pertinent to participating in the Green Tier process. Transparency is important for three reasons: 1) it facilitates the foundation of a trust-building relationship between the WDNR and Green Tier applicant, 2) it provides a measure of assurance that Green Tier negotiations and agreements are not drafted behind closed doors to benefit special interests, but instead are consistent with democratic values, and 3) it is essential to the new governance model. Therefore, to facilitate transparency, the Green Tier applicant and WDNR must be open and willing to share pertinent documents demonstrating past compliance and other relevant information such as: public comments; public hearing notes; results of random inspections; participant's Green Tier application; and violations of non-conformance (Bernstein et al., 2005).

Access to important information is essential to the application process and provides the WDNR with appropriate documentation regarding an applicant's environmental performance history. In addition, it is essential that Green Tier applicants provide valid and accurate documentation that the WDNR might not have access to such as: energy consumption, waste reduction, supply chain information, etc. Failure to provide the WDNR with this information may stymie trust within that relationship.

To maintain transparency, the Green Tier applicant must provide community stakeholders with relevant information, so community stakeholders can become better informed and more willing to participate in the Green Tier process. Access to important information, such as agenda notes and contractual agreements, assures community stakeholders that Green Tier negotiations are transparent, increases trust of Green Tier applicants, and reduces fear about the implementation of a poorly understood policy.

Although it is difficult to measure the extent or quality of transparency within the Green Tier process, it is possible to measure and ensure the transparency criteria outlined in the Green Tier law (Wisconsin Statute 299.83). Transparency between community stakeholders and Green Tier applicants and transparency between the WDNR and Green Tier applicants can be measured using a series of benchmarks after the Green Tier negotiation process has ended and the agreement is finalized (Appendix A). Possible benchmark questions could include:

- **Does the Green Tier applicant provide access to documents necessary to the application process?**
- **Are all documents from the negotiation and process period posted online as outlined in the statute?**

In addition, although the WDNR and Green Tier applicant can be dedicated to modeling transparent behavior, guaranteeing community stakeholder participation is impossible, because often community stakeholders are not aware of or interested in the Green Tier program. Therefore, the success or failure of Green Tier cannot be solely dependent upon the process criteria. Current Green Tier applicants have been exceptional businesses that carry little controversy and therefore little community participation has occurred. However, this may change.

Stakeholder Participation

The stakeholder participation criterion seeks to evaluate the quality and quantity of stakeholder participation in the Green Tier process. This criterion tries to measure the extent to which stakeholders are involved in the drafting of Green Tier agreements. For the purpose of this paper, stakeholders are defined as parties who care about the process and outcomes of the Green Tier program. Possible stakeholders include the WDNR, community members, eligible businesses, outside businesses and local environmental groups.

An essential element to the new governance model is stakeholder participation. By involving multiple stakeholders, new governance programs such as Green Tier better incorporate a variety of voices, and the program becomes more representative as a whole. As a new governance program, Green Tier encourages community members, local businesses, and other entities to participate cooperatively with the government and Green Tier businesses to draft Green Tier agreements. However, the level to which stakeholders can participate is directly correlated to the Tier or Charter. For example, stakeholder participation in Tier 1 is limited to public comment periods, while there is more room for stakeholder participation in Tier 2. Tier 2 not only offers the opportunity for stakeholders to participate in a public comment period, it also allows qualified candidates who show interest to be involved in the formal negotiation.

In addition, during the Charter process, stakeholders are restricted to public comment. However, in both Tier 1 and the Charter process, stakeholders can request a public informational meeting to address issues pertaining to Green Tier. Similarly, in Tier 2, stakeholders can request a public hearing to address contentious issues surrounding the negotiated contract and its respective business. As the language and terms of each agreement vary, it is important for stakeholders to voice their concerns early on in the public comment period so that the ultimate agreement addresses these concerns.

While all stakeholders are able participate in all Green Tier processes, each group is limited in the ways they can participate. The WDNR is responsible for encouraging business participation, educating the public, facilitating Charters, and holding public comment periods and public hearings. Eligible businesses are obligated to communicate with the public and the WDNR, and to participate in the negotiation process and public hearings. Local and state environmental groups are able to participate not only in the public comment period, but also in the negotiation

process within Tier 2; however, as of 2006, no environmental group has participated in the negotiation process (Eggert, 2006b). Depending on the type of Green Tier agreement, outside businesses, such as suppliers, can participate in negotiations and the public comment period. Although there is room for participation and opportunity for public comment, stakeholder participation within both tiers and Charters has thus far been rare.

Although measuring the level of stakeholder participation is difficult, it is relatively easy to ensure community stakeholders have opportunity to participate and comment. Thus, although this criterion does not measure stakeholder participation directly, it does seek to establish reasonable benchmarks that measure whether stakeholder comment was sought and then considered. These benchmarks can be met through yes-or-no questions and verified with agenda meeting minutes. These benchmarks are included in Appendix B. For example (Wisconsin Statute 299.83):

- **Are public comment periods held as stated within the statute?**
- **Are community stakeholders able to participate within the public comment period, hearings, or informational meetings?**

The Green Tier law outlines a basic schedule for the participation of different stakeholders, depending on whether a Charter, Tier 1 or Tier 2 agreement is being pursued. A basic measure for Green Tier is whether these guidelines are followed. These timelines are presented in Appendices M-O. The criterion is measured using public comment data and requires the WDNR, Green Tier business, and other participating stakeholders to actively consider such comments and document the discussion.

In addition, Tier 2 negotiations, and public hearing participation, can be measured in a similar way by addressing the questions: Are public hearings held if requested? and, Are stakeholders' concerns addressed and considered during the process? Thus, despite its restrictions, stakeholder participation should be encouraged by all Green Tier participants and measured using the benchmarks established within this criterion.

Participants' Costs and Benefits

Despite our focus on new governance, it is also important to include traditional cost-benefit categories in our analysis. Because the requirements for participation in the Green Tier program through Tier 1, Tier 2, or a Charter vary greatly, we specify three distinct cost-benefit categories: transaction costs, Environmental Management System costs and benefits, and benefits.

The transaction costs criterion measures costs to the businesses and the WDNR of participating in Green Tier. To participate in Tier 2 of the Green Tier program, a business must have an Environmental Management System in place, and Tier 1

businesses are required to implement an EMS by the end of their first year of participation. However, costs associated with implementing and maintaining an EMS are included as a separate cost category because, according to the WDNR, many businesses implement EMSs for reasons unrelated to their participation in Green Tier, and therefore these costs should be considered “more as a cost of doing business” than as a pure transaction cost (Shenot, 2006b). The EMS may also result in savings to the business as a result of more efficient environmental management. This criterion captures these benefits. Further, the business’ implementation of an EMS results in costs to the WDNR of monitoring EMS conformance and could also result in benefits to the WDNR such as reduced frequency of inspections. Finally, we include a benefits category that measures the extent Green Tier incentives create measurable benefits for businesses and the WDNR.

Transaction Costs

Transaction costs are traditionally considered as the costs of carrying out a market transaction, but in the environmental protection context include costs related to negotiating, contracting, and monitoring and reporting information (Wang, 2003). Perceived transaction costs are relevant for Green Tier because if the costs of participating in the program outweigh their potential benefits to the participating businesses or to the WDNR, these stakeholders may choose to abandon their commitment to the program. This could occur despite benefits to the environment or community at large. Therefore, this criterion attempts to capture the costs and benefits to the WDNR, plus the costs and benefits to businesses.

Costs to Businesses

The transaction costs incurred by participating businesses include the costs of applying for the Green Tier program and the costs of implementing the Green Tier agreement. However, these costs vary depending on the type of Green Tier agreement. For example, the application costs associated with a Tier 2 application would likely be higher than a Tier 1 application, because the Tier 2 application process takes longer.

To participate in Tier 2 of Green Tier, the business must first submit a letter of intent to the Wisconsin Department of Natural Resources, and the WDNR then has 90 days to evaluate the eligibility of the business and decide whether to process the letter of intent. The negotiations over the agreement can then take up to one year, unless the WDNR and the applicant agree to extend the negotiation period, in which case the negotiations could take even longer. Once the negotiations are concluded, the WDNR publishes a public notice about the agreement, referred to as the “Proposed Participation Contract” and the WDNR may again decide to hold a public meeting concerning the agreement (Wisconsin Department of Natural Resources, 2005c). The WDNR then has 30 days after the public notice or public meeting (whichever occurred later) to decide whether to enter into a “Participation Contract.” If the WDNR decides to do so, then the participating business signs its contract. Appendix K provides a timeline for the Tier 2 process.

The costs for Tier 1 participation are lower. The applying business does not need to send a letter of intent to the WDNR; it sends an application. As soon as the WDNR receives an application, the WDNR and the business engage in an informal process to draft the letter of acceptance into the program. After the negotiation is complete and the letter is drafted, a 30 day public comment period is offered (Wisconsin Statute 299.83, 2006). A public hearing will be held if more than five people request one (Eggert, 2006b). The WDNR then has 60 days from the public notice or the public meeting to approve or deny the application (Wisconsin Department of Natural Resources, 2004a). Unlike Tier 2, Tier 1 does not include a negotiation process over a participation contract; Tier 1 instead involves an informal negotiation about the wording of the contract, which does not involve outside participants. Appendix M presents a timeline for the Tier 1 application process.

For Charter participants, the transaction costs are also likely to be lower than for Tier 2 participants. The application process is similar to Tier 1 in that the interested organizations form an association and submit an application to the WDNR, and the WDNR then determines “if the association has [the] resources to carry out the proposed Charter.” However, unlike Tier 1 and Tier 2, the WDNR *must* hold a public hearing regarding the proposed Charter. After the public hearing, the WDNR and the association sign the Charter (Wisconsin Department of Natural Resources, 2004b). Appendix L shows a timeline of the major steps involved in the Charter application process.

To capture the transaction costs to participating businesses we suggest two methods. The first is a survey to be administered to businesses after they have completed one year of participation in the Green Tier program and then again every two years to capture changes over time. Appendix F provides a sample survey of participating businesses. The survey contains both close-ended questions to extract a quantitative measure of participation costs, as well as open-ended questions to elicit qualitative responses regarding participation costs. The second method involves case studies of participating businesses. This would entail interviewing an employee familiar with the Green Tier program at several (at least three) of the participating Green Tier businesses. Ideally, at least one case study should be conducted of a business participating in each type of Green Tier: Tier 1, Tier 2, and Charters. Again, the businesses chosen should have been in the Green Tier program for at least a year, so that they can provide some measure of the ongoing costs of the program. This methodology was used to evaluate the pilot program and would be useful in identifying perceived costs that were not captured through the survey. Appendix C provides sample interview questions for use in the case studies to capture the range of costs to businesses participating in all aspects of the Green Tier program. For example, the following questions were designed to capture the application and negotiation costs, and whether these costs were perceived as excessive:

- **What kinds of resources did your company use in applying for Green Tier and negotiating your Green Tier agreement? (staff hours, consulting costs, outside labor costs, legal aid, etc.)**
- **What would you estimate these resources cost your business? Was this amount less than you expected, about the same as you expected, or more than you expected? Why?**

The ongoing costs to participants of complying with the Green Tier agreement also vary depending on the type of Green Tier participation. For example, all Green Tier participants are subject to certain annual reporting requirements, but the type of information included in the report varies. Charter participants are required to provide the WDNR with an annual report regarding the activities of the Charter association while Tier 1 participants are required to have an Environmental Management System in place within one year. They then must conduct annual audits of the EMS and submit an annual audit report to the WDNR (Wisconsin Department of Natural Resources, 2004a). Similarly, Tier 2 participants are required to submit reports regarding their EMSs. Additionally, they must conduct an annual compliance audit regarding their EMSs and their general environmental compliance, and submit the results to the WDNR (Wisconsin Department of Natural Resources, 2004b). The case study interviews with participating businesses should include open-ended questions to capture ongoing costs that are not captured by the surveys:

- **Does your business incur any other ongoing costs as a result of your participation in Green Tier?**
- **Do you think the procedural costs of being involved in Green Tier are reasonable? Why or why not?**

For Tier 2 participants, there are also requirements related to public participation. While it is not a statutory requirement, the WDNR plans to include a clause in all Tier 2 contracts that requires the participating business to form an “interested person’s group” (Eggert, 2006b). For example, Tier 2 participant MEGTEC Systems’ contract required the company to create an interested person’s group of “persons who live, own a business or work within a reasonable proximity to MEGTEC Systems Inc., or who otherwise have an interest in the workings of this Contract” (Wisconsin Department of Natural Resources, 2005b). This requirement necessitates a time and resource commitment from the participating business in developing and maintaining this group. Therefore, the case study interviews with participating businesses should also include questions related to public participation, such as:

- **What kind of efforts has your business engaged in to promote community involvement with your Green Tier agreement?**
- **How has this affected your business in terms of economic impact, employee pride, etc.?**

These questions provide information about perceived transaction costs on the part of businesses. The perception of transaction costs is important because it affects future participation in Green Tier.

To test the efficacy of our approach, we conducted a case study of MEGTEC Systems Inc., which is the first and only company participating in Tier 2. We interviewed Chris Campbell, emergency health and safety manager for MEGTEC, which manufactures air flotation dryers and air pollution control equipment. As Tier 2 requires the most stringent environmental performance to participate and involves the most detailed reporting and audit requirements, we use MEGTEC as an example of a business incurring upper-bound transaction costs. (See Appendix D for more information.) Table 3 summarizes MEGTEC’s transaction costs of an EMS system. While it focuses on a Tier 2 participant, a Tier 1 participant could incur similar costs because it must have an EMS in place within one year after signing the Green Tier agreement.

**Table 3:
Transaction Costs of Green Tier
to MEGTEC Systems Inc.**

Application Process Costs	Total: \$2,300
<ul style="list-style-type: none"> • Initial application • Negotiation 	<ul style="list-style-type: none"> • Application: \$1,000 (10 hours x \$100 an hour) • Negotiation: \$1,300 (\$300 legal aid, \$1000 internal employee cost)
Ongoing Costs	Total: \$1,200
<ul style="list-style-type: none"> • Compliance audit • Interested persons group 	<ul style="list-style-type: none"> • Compliance: \$1,200 (1 outside auditor x 12 hours x \$100 per hour) • Interested persons group not yet implemented
Total Transaction Costs	\$3,500

Source: Campbell, 2006

Transaction Costs to the WDNR

The transaction costs of the WDNR’s administration of Green Tier include costs associated with recruiting participants, reviewing applications, publishing public notices and holding public meetings, and ongoing costs associated with reviewing annual reports and compliance audits, promoting the program and developing the Green Tier brand. Because the WDNR did not hire additional personnel to administer the Green Tier program, any time spent by WDNR personnel on Green Tier takes time away from other activities within the agency (Wright, 2006a).

Because Green Tier is relatively new, the WDNR must recruit participants. For example, the WDNR might contact businesses that already have Environmental Management Systems, which makes them eligible for Tier 2. WDNR could discuss how Green Tier could benefit the business. To generate Charter participants, the WDNR might look to businesses and community organizations that had expressed frustration with regulatory processes and discuss how Green Tier could change some of those processes.

As with the business transaction costs, the transaction costs to the WDNR are likely to vary depending on the type of Green Tier agreement. For example, for Charter participants, the WDNR must hold public hearings on all proposed Charters (Wisconsin Department of Natural Resources, 2004b). Further, once the application is approved, the WDNR receives an annual report from each Charter association, which it must spend time reviewing. According to Mark McDermid of the WDNR, many Charters have some type of dispute resolution built in so that if participating associations do not comply with the measures agreed upon in the Charter, the WDNR can take enforcement action (McDermid, 2006).

Table 4 summarizes the types of costs associated with the WDNR’s administration of the Green Tier program. These costs mirror the transaction costs placed on businesses. Requirements that businesses produce compliance audits means that the WDNR will have to allocate staff to review these reports. Not all of these costs are relevant to each type of Green Tier participation; for example, there is no letter of intent in Tier 1 and there is no formal negotiation of the Tier 1 agreement. Table 4 displays all of the relevant transaction costs to the WDNR, which include costs related to Tier 1, Tier 2 and Charters.

**Table 4:
Transaction Costs of Green Tier to the WDNR**

<p>Application Process Costs</p> <ul style="list-style-type: none"> • Reviewing letter of intent • Reviewing application negotiation 	<ul style="list-style-type: none"> • Time (or money if applicable) WDNR spends on these activities
<p>Ongoing Costs</p> <ul style="list-style-type: none"> • Recruiting Green Tier participants • Promoting Green Tier and developing Green Tier Brand • Reviewing annual reports • Reviewing compliance audits enforcement action if necessary 	<ul style="list-style-type: none"> • Time (or money if applicable) WDNR spends on these activities

Ideally, for a complete evaluation of the Green Tier program, each of these activities would be recorded and reported by the WDNR. Currently, the WDNR does not track the specific time spent on each of these activities. However, Carla

Wright of the WDNR did provide us with data on the total amount of time spent on Green Tier as compared to the pilot program. While not a detailed measure of transaction costs, these data demonstrate how program costs have changed depending on the number of participants. This is useful in projecting the costs of Green Tier to the WDNR.

According to Wright, as the pilot program grew in terms of the number of participating businesses, the time the WDNR spent on the pilot program grew as well. For example, in fiscal year 1998, the first year the program had participants, WDNR employees spent 2,362.5 hours working on the program, or approximately one full-time position (Wright, 2006b). By fiscal year 2001, when Green Tier began, the amount of hours spent on the pilot program peaked at 7,311. This is equivalent to 3.5 full-time positions. Wright explained that when Green Tier began, the pilot program no longer accepted new participants, and that from that point on, some of the time WDNR employees had spent on the pilot program was devoted to Green Tier (Wright, 2006a). Since then, the amount of time spent by WDNR employees on Green Tier has steadily increased, going from 115.5 hours in fiscal year 2001 to 5,672 hours in fiscal year 2005.

By the first quarter of fiscal year 2006, WDNR employees have spent 1,384 hours on the Green Tier program, 110.5 hours more than in the first quarter of fiscal year 2005 (Wright, 2006b). These data imply that the administration costs of Green Tier will continue to grow. Evaluations should utilize a similar calculation of the amount of Wisconsin Department of Natural Resources time spent on Green Tier both on specific activities and as a whole to better capture the transaction costs of Green Tier to the WDNR. Table 5 displays the total amount of hours per year WDNR employees spent working on the pilot program and Green Tier.

**Table 5:
Hours per Year Spent
By Wisconsin Department of Natural Resources
on the Environmental Cooperation Pilot Program and Green Tier**

Fiscal Year	Environmental Cooperation Pilot Program (hours)	Green Tier (hours)	Total Hours
1998	2,362.50		2,362.50
1999	3,792.50		3,792.50
2000	4,959.25		4,959.25
2001	7,311.00	115.5	7,426.50
2002	6,095.25	921.0	7,016.25
2003	3,420.50	952.5	4,373.00
2004	1,430.50	2,744.0	4,174.50
2005	1,238.25	5,672.0	6,910.25
2006 (first quarter only)	199.00	1,384.0	1,583.00

Source: Wright, 2006b.

EMS Costs and Benefits

While the transaction costs criterion measures the main costs to participants and the WDNR, costs and benefits also are associated specifically with an EMS. These are considered a separate category because, as WDNR officials point out, many businesses opt to implement EMSs for reasons unrelated to Green Tier participation. Therefore, the costs to businesses and the WDNR associated with the EMS should not be included in the pure “transaction costs” criterion. Also, implementing an EMS can be seen as a benefit to the business as it is likely to result in more efficient management of its environmental performance and possibly improve its public image. More broadly, the adoption of an EMS by more Wisconsin businesses could be considered a benefit to the state environment as a whole if they result in better environmental outcomes.

EMS Costs and Benefits to Businesses

The costs and benefits associated with an EMS system are most relevant to Tier 2 participants who must have an EMS in place at the outset of their participation. However, Tier 1 participants must have an EMS in place within one year of their Green Tier agreement. And, while Charter participants are not required to implement an EMS, they are encouraged to do so.

Again, as the costs and benefits associated with an EMS system vary by participation type, the case studies should include interviews with Tier 1, Tier 2, and Charter participants. Appendix C includes the following questions to be asked

of all participants who were required to implement an EMS system, namely Tier 1 and Tier 2 participants:

- **Why did your business implement an EMS?**
- **What kinds of resources did your business utilize in implementing your EMS, training your employees to work with the EMS, maintaining your EMS, and reporting about your EMS to the WDNR? What would you estimate these resources cost your business? Was this what you expected an EMS would cost? Why or why not?**

Additionally, the case study interviews should include questions related to the effects of the EMS on the perceived benefits of the EMS to the business such as:

- **How has your EMS affected your environmental performance? In your opinion, has your EMS increased the efficiency of your environmental management?**
- **Has your business saved money as a result of implementing your EMS?**

Again, we use the interview with Chris Campbell, emergency health and safety manager for MEGTEC, to illustrate EMS cost and benefit information that could be gathered from each business (see Appendix D for more information on the case study). Table 6 summarizes the costs.

**Table 6:
Environmental Management System (EMS) Costs
and Benefits to MEGTEC Systems Inc.**

Initial Costs <ul style="list-style-type: none"> Implementing EMS (number of employees, number of hours, labor cost per hour) 	Total: \$60,500 <ul style="list-style-type: none"> Implementation: \$60,500 (11 people x 55 hours x \$100 per person per hour)
Ongoing Costs	Total: \$9,862.5
<ul style="list-style-type: none"> Maintaining EMS 	<ul style="list-style-type: none"> Maintenance: \$4,500 (11 people x 4 hours x \$100 per person per hour + 1 person x \$100 per person per hour)
<ul style="list-style-type: none"> Training <ul style="list-style-type: none"> – Annual – Semi-annual Annual Reporting 	<ul style="list-style-type: none"> Training: \$5,262 <ul style="list-style-type: none"> – Annual: \$4,162 (185 shop employees x 0.5 hour x \$45 per person per hour) – Semi-annual: \$2200 (44 field service employees x 5 hour x \$100 per person per hour) Reporting: \$100 (1 person x 1 hour x \$100 per person per hour)
Total EMS Costs	\$70,362
Benefits <ul style="list-style-type: none"> Helped manage hazardous waste more efficiently and reduce overall hazardous waste “Sleep insurance” – sleep better knowing that our environmental situation is being managed and reviewed regularly and systematically 	<ul style="list-style-type: none"> Difficult to monetize Difficult to monetize

Source: Campbell, 2006.

EMS Costs and Benefits to the WDNR

As a result of the reporting requirements associated with a Green Tier participant’s EMS, the WDNR also incurs costs related to Environmental Management Systems. The WDNR must spend time reviewing the annual EMS reports submitted by each participating business and determine whether the EMS is being maintained in accordance with the Green Tier agreement. If there is a compliance issue, the WDNR may have to spend time working with the business to correct the problem, or ultimately may have to resort to some type of enforcement action. However, a business’s implementation of an EMS could lead to increased environmental performance, which could result in reduced monitoring costs to the WDNR. Table 7 summarizes the possible costs and benefits to the WDNR associated with EMSs.

**Table 7:
EMS Costs and Benefits to the WDNR**

<p>Costs</p> <ul style="list-style-type: none"> • Reviewing EMS reports • Enforcement action? 	<ul style="list-style-type: none"> • Time spent by WDNR personnel
<p>Benefits</p> <ul style="list-style-type: none"> • Reduced monitoring, such as reduced inspection frequency 	<ul style="list-style-type: none"> • Difference in time spent by WDNR personnel

Benefits

This criterion is designed to measure to what extent the incentives offered by Green Tier create measurable benefits for participating businesses and the WDNR. For Green Tier to be feasible, participants must see enough benefits associated with the program to warrant their participation. Therefore, the Green Tier program aims to provide participants with incentives that yield measurable benefits. The incentives aim to improve the efficiency of environmental regulation, which in turn saves money for the WDNR and for businesses, and to provide businesses with a means to improve their public image and consequently yield economic benefits for their business.

To capture the effects of these incentives on businesses, we suggest using a mix of surveys and interviews to both the participating businesses and the WDNR. We developed one survey to administer to businesses not participating in Green Tier to identify their perceptions of the program and inform the WDNR about possible changes in the incentives offered or administration of the program that could induce these businesses to participate in Green Tier (Appendix E).

We also developed a survey to be administered to businesses participating in Green Tier to capture their perceptions of how Green Tier has affected their business. This survey includes questions related to incentives the program offers and whether the business representative feels that these incentives resulted in measurable economic benefits to the business (Appendix F). For the participating businesses, these surveys should be administered after the first year of their Green Tier participation, and then again every two years to track any changes in their perceptions and gain further suggestions concerning improvements to the program. These surveys should not be administered annually because Green Tier already contains several reporting requirements and, while the information gained from these surveys is important, we would not want it to come at the price of the business’s participation. We also developed a survey (Appendix I) to be administered to WDNR personnel within and outside the Green Tier program to capture any benefits such as improved regulatory efficiency, to the WDNR of offering incentives to businesses.

The incentives designed to increase regulatory efficiency include permit and decision streamlining, permit exemptions, and more efficient monitoring,

recordkeeping and reporting methods. According to the WDNR, “Green Tier has the potential to reduce the turn-around time on permits and other [W]DNR decisions, reducing internal environmental staff effort, legal counsel and consultant costs” (Wisconsin Department of Natural Resources, 2004a).

Permit Processing: At the WDNR, personnel who are or have been involved in the permit review process should be interviewed. Because permit processing time is likely to vary depending on the type of permit, personnel from all environmental fields should be interviewed. Ideally, these interviews would provide data regarding the permit processing time associated with the type of permit that each Green Tier participant holds both before and after the implementation of the Green Tier program. While the WDNR may not have data regarding the specific business and its permit-approval time, the staff should be able to provide a general estimate of the time required to review the *type* of permit the business is applying for (before Green Tier and after Green Tier). The surveys to WDNR personnel within and outside Green Tier also include questions related to Green Tier’s effect on regulatory efficiency. These are included in Appendix I. If the permit processing time was shortened as a result of Green Tier, then this difference in time is a benefit to the WDNR due to Green Tier. Each business should be asked about the average length of time it took the WDNR to process a permit application before and after Green Tier. They should also be asked questions regarding their permit costs.

Permit Exemptions: The incentives listed above are all *possible* incentives that a Green Tier participant could receive through its Green Tier agreement. However, the specific incentives that each participant receives are negotiated between the participating business and the WDNR. They vary depending on the type of business and type of Green Tier participation. For example, the WDNR cites “permit exemptions” as another incentive for Green Tier participation. However, the WDNR states that this is only in “certain circumstances,” meaning that participation in Green Tier does not automatically assure a business that it will be exempt from any of the permit requirements. They cite an example from the Environmental Cooperation Pilot Program where “the WDNR was able to exempt one major facility from construction permit requirements,” but this was done only if “certain air emissions were not exceeded” (Wisconsin Department of Natural Resources, 2004a). This type of incentive achieves what Green Tier is striving for: allowing businesses flexibility in exchange for enhanced environmental commitment. As these types of incentives differ depending on the type of business and the type of Green Tier participation, the case study interviews with businesses participating in Tier 1, Tier 2, and if applicable, Charters should include questions related to the specific, customized, incentives negotiated by the business with the WDNR (Appendix C).

Reduced Monitoring Costs: Another possible incentive Green Tier offers businesses is “more efficient monitoring, recordkeeping, and reporting,” which could mean that a business is inspected less frequently or required to submit

monitoring reports less often. For example, the WDNR cites one of the businesses involved in the pilot program that “was able to reduce its monitoring and recordkeeping efforts by about 20 hours per week” (Wisconsin Department of Natural Resources, 2006).

While these incentives are beneficial to participating businesses, they also can be beneficial to the WDNR. One of the key incentives for business participation in Green Tier is allowing businesses to be subject to the lowest possible frequency of inspections. However Wisconsin does not have a minimum required frequency of environmental inspections, and the frequency of inspections prior to Green Tier varied by the type of environmental regulations that applied to each business and by the state and federal statutory requirements associated with them (Shenot, 2006b). In some cases, there were no state or federal statutory requirements. For example, air emissions from “minor sources” are not statutorily required to be inspected on a regular basis, and are therefore generally inspected by the WDNR only if a complaint is received (Rodenberg, 2006). Due to this ambiguity in inspection regimes, the difference in frequency of inspections before and after Green Tier will vary across different types of businesses.

The WDNR does not have data regarding the number of inspections a particular business was subject to per year before after its Green Tier participation. However, WDNR personnel could be asked about how Green Tier has affected the number of inspections they conduct each year. As with the permitting issue, WDNR personnel involved in inspections can estimate how Green Tier has affected the number of inspections they conduct.

Single point of contact: Another incentive is the single point of contact assigned to each Green Tier business by the WDNR. Under Green Tier, businesses deal with the same individual in the WDNR, rather than a variety of officials with possible oversight on their operations. Single-points of contact have the opportunity to become more knowledgeable about the business’ operation over time, reducing transaction costs for businesses and improving relationships with the WDNR. Again, the interviews with participating businesses should address the single point of contact and whether it resulted in avoided costs to the business (Appendix C).

Eco-label: Additionally, Green Tier offers participating businesses other incentives unrelated to the traditional regulatory process. These include public recognition by the WDNR of their participation in Green Tier, and a Green Tier logo to brand the business as a superior environmental performer. These incentives have the potential to create increased trust and increased public perceptions, which could lead to economic gains (Anderson, 2005). Again, interviews should be conducted with Green Tier businesses to discern whether they derived any financial benefits through these incentives. The interviewers should ask whether each participant feels that there is economic value in participating in Green Tier, and whether the Green Tier brand has resulted in improved community and business relationships.

Environmental Results Criteria

The goal of Green Tier, as a new governance tool, is to provide Wisconsin with an alternative method of achieving outstanding environmental outcomes that go beyond those attained under the traditional command-and-control policies. Therefore, the environmental outcomes criteria are fundamental to evaluating the effectiveness of the Green Tier program. The direct environmental indicators criterion specifically measures the ability of the Green Tier participants individually, and the program as a whole, to achieve the superior environmental outcomes outlined in the individual contracts. Beyond the mandated environmental indicators, there are also other indicators of a business's commitment to environmental performance that relate to its relationships with suppliers and consumers. An important element of new governance and specifically of Green Tier is the creation of networks of actors cooperating to develop innovative solutions to environmental problems. The learning and innovation criterion measures the extent to which Green Tier businesses are doing so.

Direct Environmental Indicators

Individual organizations' achievements should be measured to maintain accountability for their actions, to identify and recognize superior performance, and to maintain the integrity of their Green Tier agreement. Unlike the other criteria we describe in this section, the WDNR is evaluating the environmental criterion. The WDNR plans to collect information regarding the broad environmental categories at the end of 2006. The first of two components to the evaluation examines whether the Green Tier participant meets the goals and commitments on its contract. In addition, a review of the broad environmental media such as air, water, soil that are improved through the creation of the participant's contract should be measured. Because each contract is different, there is no uniform methodology; each participant must be examined individually.

The second component of the environmental criterion evaluation is the examination of broad environmental indicators relevant to all Green Tier participants. A full list of the environmental indicators can be found in Appendix G; however, they include the following:

- **Water**
- **Air emissions**
- **Waste**
- **Energy**
- **Transportation**
- **Spills**
- **Land use**
- **Toxic release inventory**

These environmental indicators are part of the Green Tier participant's agreement. Each Green Tier participant, upon joining the program, must create a baseline of these environmental indicators, and must submit an annual report to the WDNR

regarding these indicators. Once these indicators are collected, three analyses should be conducted. The first is the progress of the participant in the environmental indicators; the second compares the results of the Green Tier participant to the industry as a whole; and the third compares all Green Tier participants' results to Wisconsin businesses as a whole. The rationale for the third analysis is to evaluate whether Green Tier participants represent the best environmental performers in the state.

Due to the limited sample size, the lack of time series data, and the multitude of outside factors that may affect the results, it will be extremely difficult to create statistically significant results that point to the success of Green Tier or a causal relationship attributing improved environmental performance to the Green Tier program. However, through the environmental evaluation, it is possible to evaluate the participant's general environmental progress. In addition, if Green Tier participants are among the state's best environmental performers, this strengthens the eco-label value of the Green Tier logo.

Learning and Innovation

While Green Tier businesses commit to increasing their environmental performance in directly measurable ways, there are also other ways in which these businesses may demonstrate their commitment to environmental performance, including working with businesses in their supply chain to develop innovative environmental solutions. A weakness of the traditional command-and-control approach is that it does not encourage the development of innovative pollution control technologies (Golub, 1998). By shifting the regulatory power from hierarchical agencies to organizational networks, new governance changes the focus from the internal workings of public organizations to networks of actors. This focus on networks and the corresponding shift to enablement and engagement of actors provides a forum for stakeholders to collaborate, learn from one another and look for innovative solutions. This criterion addresses to what extent Green Tier participants are seeking these "innovative solutions."

In Green Tier's case, the program provides a forum for business collaboration. A good example is the Green Tier Charters. By bringing together a group of similar businesses dedicated to a common goal, a Green Tier Charter creates an environment where these businesses can not only discuss environmental standards and regulations but also develop solutions to environmental problems.

Green Tier encourages businesses to seek innovative solutions to improve their environmental performance, while simultaneously creating economic gain for their business. According to the WDNR, "This forward-thinking could include meshing business practices related to accelerated depreciation of capital equipment, managing supply chains, anticipating international demands, and getting necessary regulatory approval to secure required capital" (Wisconsin Department of Natural Resources, 2004a).

As with many of our other criteria, these outcomes could vary tremendously by business. Again, it would be helpful to conduct case studies with participating businesses and interview representatives about their efforts to work with others in their supply chain or in their industry as a whole, to develop “innovative solutions” to increase their environmental performance.

For example, Tier 2 participant MEGTEC Systems is committed to working with its “supply chain on environmentally preferable products and practices” and to “sharing environmental improvement results with others” (Wisconsin Department of Natural Resources, n.d.c). They also encourage businesses in their supply chain and businesses that buy their products to join Green Tier and to implement EMSs. MEGTEC offers to teach other companies about how an EMS works and how to implement one. According to Chris Campbell, MEGTEC emergency health and safety manager, Green Tier “doesn’t do much good if we’re the only ones in the chain” (Campbell, 2006). Campbell’s statement suggests that Green Tier participants are recruiting other Green Tier participants and working with other businesses to find innovative solutions. Case studies should be conducted with businesses in all types of Green Tier to capture to what extent these businesses collaborate with other businesses inside and outside their supply chain, how much they learn from each other about ways to improve their environmental performance, and how best practices are developed and maintained. (See Appendix C for sample case study interview questions).

Relationships Criteria

An impetus behind the new governance approach to government regulation is the establishment of relationships, shared responsibilities, and shared goals among citizens, the community, and government entities (Bingham et al., 2005). Moving beyond the formal dichotomous command-and-control approach to environmental regulation, one principle of the new governance model is “participation by interested and affected parties in all stages of the decision making process” (U.S. Environmental Protection Agency, n.d.a). This principle implies the creation of relationships that are non-existent or subject to conflict under command-and-control regulation (Golub, 1998).

Increased interactions are expected to promote an increase in trust among stakeholders, which in turn leads to a commitment to common rather than conflicting goals among stakeholders (Bernstein et al., 2005). The commitment to common goals forms the basis for a cooperative relationship founded on trust. These cooperative relationships are crucial to seeking innovative policy solutions, which represent input from a variety of agencies, and lead to more representative policies. These criteria therefore examine the relationships between several participants in the Green Tier program.

Relationship between the WDNR and the Business Community

Under a command-and-control approach, businesses subject to environmental regulation have little input into the regulatory framework. However, the new governance approach encourages businesses to become active participants and negotiators in the regulatory process and to tailor performance goals that are specific to their businesses (Bingham et al., 2005).

One of the goals of the Green Tier program is to improve the relationship between the WDNR and the business community. This criterion addresses this goal by measuring how businesses perceived the WDNR before and after participating in Green Tier. It addresses the question: Has the relationship between the WDNR and Green Tier businesses changed from punitive to cooperative? (Eggert, 2006b). Further, this criterion evaluates the perception of the WDNR among non-Green Tier businesses, as well as their knowledge of Green Tier.

The first method for collecting information regarding the level of trust occurring among Green Tier, the WDNR and specific participants should include surveys with business and trade organizations, and with government organizations and administrators in Wisconsin.

A survey of businesses and local government agencies should be conducted to assess their (1) perception and trust of the WDNR, and (2) awareness of the Green Tier program. For example, a survey could be conducted of businesses represented by the Wisconsin Manufacturers and Commerce, a nonprofit statewide organization of more than 4,000 Wisconsin businesses of various sizes (Eggert 2006b). By surveying these businesses, one could target Green Tier and non-Green Tier participants and obtain a cross-sectional analysis of businesses from various industries (see Appendix E).

Further, as local governments are encouraged to be involved in the Green Tier negotiation process, a similar survey could be conducted of individual members of a local government entity such as the Wisconsin Counties Association (Eggert, 2006b), a nonprofit statewide organization of county executives and administrators. Surveying individual government leaders and administrators in an organization such as the Wisconsin Counties Association would allow one to evaluate the perceptions and knowledge these individuals have of the WDNR and Green Tier. This survey could ask about general knowledge, perception and trust of the WDNR and Green Tier. It would be ideal to randomly survey individual businesses and local governments several times to determine whether changes in the level of trust and learning occur over time (Eggert, 2006b).

A second method for obtaining information regarding the knowledge and perceptions acquired of individuals within the community regarding Green Tier is to provide a survey on the Green Tier web site when users initially access it (Eggert, 2006b). More specifically, individuals could be asked two short questions. First, they would be asked to identify themselves by selecting one of

these categories: individual citizen, potential Green Tier applicant, Green Tier participant, lawmaker, and other. Another question would ask the individual why he or she came to the web site. Again, the individual would select from a list of answers (see Appendix H). This would allow the WDNR to collect data regarding potential stakeholders.

While the web site survey could provide beneficial information about who is using the Green Tier web site and why, completion of a small survey before one enters the site may deter individuals from using it. In turn, this could decrease learning, as people refuse to take the survey and thus not use the site. However, the survey can be designed so that the user will not need to fill it out more than once. If this recommendation is adopted, the number of “hits” (visits) the web site gets before and after the survey is implemented should be compared to determine whether the survey discourages people from using the Green Tier web site.

Relationships within the WDNR

In addition to analyzing the relationships between the WDNR and community members as a result of Green Tier, this criterion is interested in analyzing the relationship *within* the WDNR between Green Tier and non-Green Tier employees. The criterion is also interested in analyzing the perception and knowledge of the program within the WDNR.

Effort should be made to create awareness of Green Tier within the WDNR before program evaluation commences. The coordinator of Oregon’s Green Permit program said some employees resisted the new initiative because they were not entirely aware of the program’s functions and purpose (Fitzgerald, 2005). This suggests that resistance to Green Tier may occur. Before surveying WDNR employees, they should be informed about Green Tier and given opportunities to learn more. Further, the resistance to the Green Permit program suggests that learning and knowledge within the WDNR should be measured to determine whether such a resistance to Green Tier could occur or has occurred within the WDNR.

Ideally, this criterion should be measured using random survey techniques; however that might not be feasible. WDNR employees working with Green Tier businesses and not working with Green Tier should be surveyed. These surveys should be given periodically to measure trust and learning over time (see Appendix I).

Relationships between the Community and Green Tier Businesses

This criterion measures the effect of each business’s participation in Green Tier on their relationships with their local community. Community participation and knowledge of Green Tier is essential to “increasing the understanding, involvement, and confidence in the environmental decisions that affect their community.” Community involvement within Green Tier also builds the public’s

confidence in both the Green Tier business and Green Tier (Wisconsin Department of Natural Resources, 2005a).

The new governance model focuses on engaging stakeholders in the negotiation process, as well as encouraging stakeholders to participate cooperatively in Green Tier. Possible community benefits of Green Tier include improved community relationships with businesses as well as perceived environmental improvements (Hassett, 2004). To evaluate and better understand the effect Green Tier has on community relationships, public opinion regarding Green Tier among the local communities where Green Tier participating businesses are located should be analyzed.

However, the WDNR and Green Tier businesses acknowledge that a large majority of community stakeholders are unaware of Green Tier and how it affects their communities. For example, Chris Campbell of MEGTEC Systems Inc. said that the business' local community is not aware of MEGTEC's participation in Green Tier (Campbell, 2006).

While there is an interest among the WDNR and participating Green Tier businesses to educate the public, some businesses may be nervous about bringing more public attention to their business and therefore decide to not participate (Smoller, 2006). Also, contrary to the criterion's definition of "community," MEGTEC considers its "community" to be its "customers and suppliers," rather than the actual community where MEGTEC is located (Campbell, 2006). Campbell explained that MEGTEC has educated these actors about MEGTEC's participation in Green Tier (Campbell, 2006). The community results criterion does not address this relationship, and defines "community," as the stakeholders who live in the location near the business.

We suggest that the community results criterion be measured using focus groups to solicit opinions and information from community stakeholders over a period of time.

Focus groups

This evaluation tool collects information at a local level regarding each community's perception of Green Tier and its impact on the local environment and on the community's relationship with the Green Tier business. Focus groups should be administered over time to measure the change in the relationship as a Green Tier business continually seeks to improve its environmental performance. Each focus group should get at five underlying issues regarding community opinion (Edmunds, 1999). Drawing on Edmunds (1999), we suggest these issues for Green Tier:

- **How groups of people in the community feel or think about Green Tier;**

- **Why those people hold the expressed opinions;**
- **How the program can be improved and develop strategies for community outreach and education;**
- **How to identify pertinent issues regarding Green Tier and the community that might not be addressed in a survey; and**
- **How these opinions have changed over time**

If funding permits, we recommend focus groups be conducted by a third party not affiliated with the WDNR, Green Tier or participating businesses. Prior to a focus group, all participants should receive a one-page handout introducing them to Green Tier (Appendix J). This hand-out attempts to make participation in focus groups independent of a participant's prior knowledge of the Green Tier Law and program.

Ideally, three to four focus groups should be conducted in each community to collect representative opinions and information. The same questions should be administered to all focus groups conducted within each community; and, ideally the focus groups should be conducted over a long enough time period to measure the change in the relationship between participating Green Tier businesses and their local community. Community focus groups should strive to include a variety of community representatives and environmental groups.

In addition, each focus group should discuss five to six open-ended questions, which can be found in Appendix K (Bystedt et al., 2003). As suggested in the focus group literature, before the focus group begins, a "starting" question should be given to each participant anonymously and then read aloud to promote discussion (Edmunds, 1999). For example:

- **How do you feel about the environmental performance of businesses in your community?**

Conclusions and Recommendations

One of the difficulties of new and innovative programs is that they require new evaluation methods. This report outlines a tool for evaluating an environmental program inspired by a new governance approach. It therefore seeks to consider not only the costs and benefits and environmental outcomes considered in a traditional policy analysis, but less familiar criteria, such as participation, transparency, relationships and learning. For each of these criteria, we provided methods of measuring the criteria. These criteria, and the associated measurement methods, should be viewed as a preliminary effort to foster a discussion about how to assess the merits of programs like Green Tier. As such, we do not claim that our approach is definitive, but is a first step in the process. We recognize that stakeholders in Green Tier value each criterion differently; consequently no one criterion emerges as the predominant factor in determining the success of Green Tier. In other words, the criteria most important to the WDNR may not be the most important criteria for community members, businesses or the Legislature. However, we do feel that the continuation of Green Tier will not be possible if an evaluation concludes that the environmental outcomes of the program were not at least equal to the environmental outcomes of each business before implementation of Green Tier.

We hope that the WDNR, interested members of the Legislature, Green Tier participants and stakeholders will continue the discussion.

Recommendations

In the process of creating our evaluation tool for Green Tier, we identified several recommendations to secure a successful evaluation. Our recommendations for the WDNR include creating a joint legislative and WDNR working group to address issues regarding the criteria we present in the report:

- establishing a timetable for implementation, funding for the evaluation, and realistic expectations of success;
- expanding the use of Green Tier for evaluation purposes; undertaking a multimethod approach for collecting data;
- assessing other Green Tier research using the criteria presented;
- providing an open evaluation process with results readily available;
- evaluating the relationship between the WDNR and the Legislature;
- measuring the learning and trust between the Green Tier participants and their employees; and
- continuing to increase awareness of Green Tier.

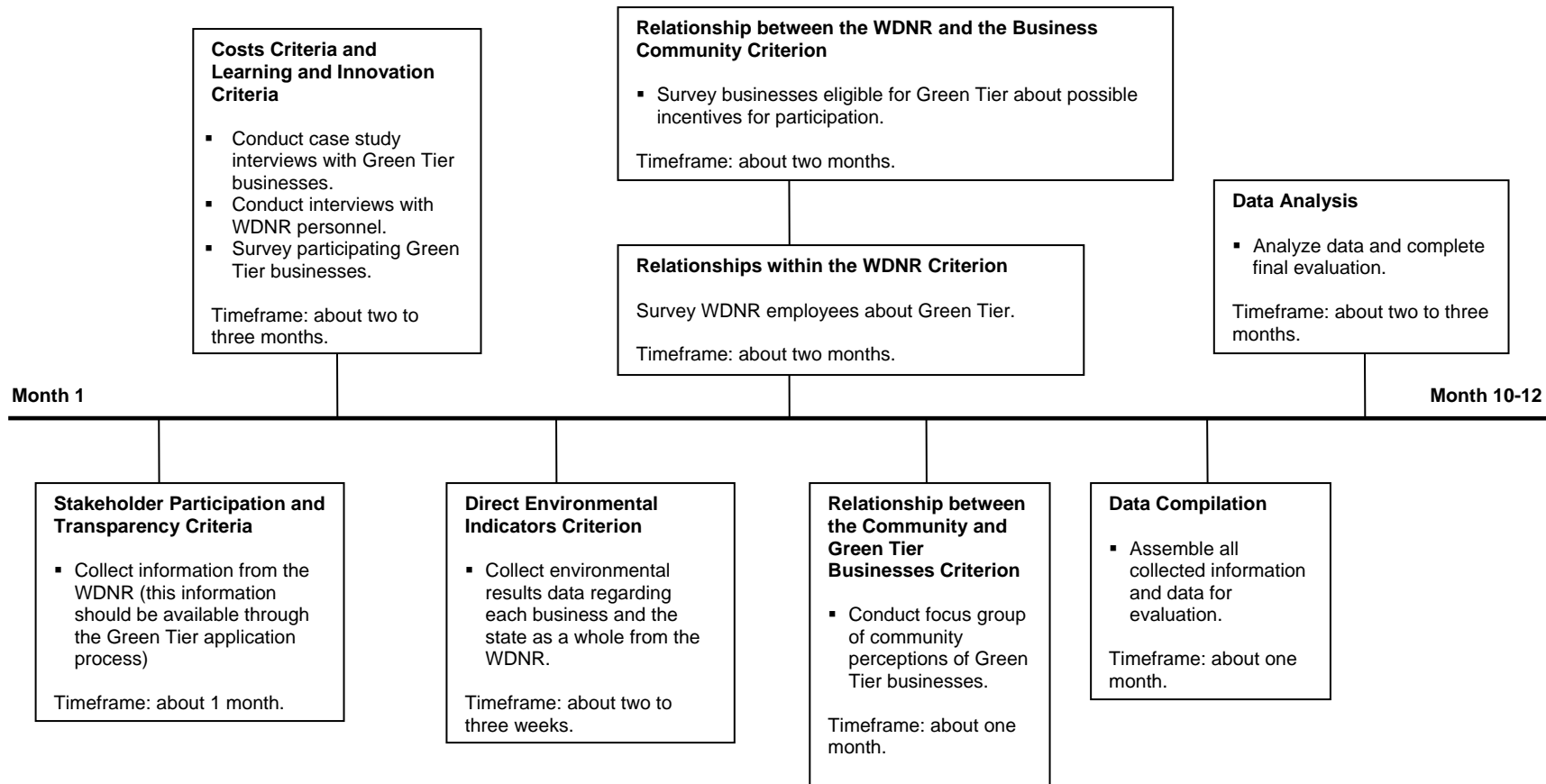
Form a Joint Executive-Legislative Working Group on Implementation

We suggest a joint legislative and WDNR working group be formed to oversee the completion of the evaluation of Green Tier before the sunset of the law in 2009. Such a committee would allow the Legislature and the agency to have a stake in the evaluation. One goal for such a working group would be to foster greater awareness of Green Tier among legislators. The tasks of the working group should be as follows:

- *Assess the suitability of the criteria presented in this report for evaluating Green Tier:* The Legislature and the WDNR may have differing opinions about the relevancy of our criteria for evaluating Green Tier. We suggest that these actors work cooperatively to determine which of our criteria are most useful to all parties in evaluating Green Tier.
- *Establish a timetable for evaluating Green Tier:* Each criterion will require a different amount of time and resources to complete. The timeframe necessary to complete the evaluation includes the time it takes to write, disseminate, gather and analyze surveys; conduct focus groups; and analyze data. The process criteria require evaluation of the availability of and ease of access to environmental compliance records of businesses, complaints and information requests of Green Tier businesses. Likewise, the costs criteria require businesses to provide information on costs and benefits. The environmental results criteria use surveys to measure direct environmental initiators and businesses' innovative actions. Finally, the relationships criteria will require sending surveys to the WDNR, businesses, government officials and individuals in the community. While the evaluation methodology is discussed in Appendix L, the initial evaluation of Green Tier is expected to take 10 to 12 months to complete. Again, the exact time will depend on the amount of funding allocated to conduct this evaluation. The timeline below outlines the major steps in the initial evaluation.

Green Tier Timeline for Evaluation

This timeline illustrates the major steps in the evaluation of Green Tier.



Source: Authors' analysis

- Another issue regarding timelines is the importance of gathering data and evaluating Green Tier over a long period in order to measure changes in behavior, performance and perceptions. As the Green Tier label becomes better known, the public perception, internal relations and the environmental performance of participating businesses may change along with relationships among stakeholders. Because new governance is new to Wisconsin, ample time must be provided to evaluate the impacts and success of Green Tier as a policy tool. We recommend a minimum of three to five years for the evaluation, primarily based on the data needed for meaningful environmental results. However, we recognize that the evaluation needed prior to the sunset of the law may not allow for much time.
- *Identify funding sources for the Green Tier evaluation:* Green Tier is innovative and complex to evaluate. An objective evaluation requires a significant investment of time and resources. An evaluation of the state of Oregon's similar, though less ambitious, Green Permit was conducted for the Oregon Legislature by an environmental consulting company. The evaluation cost about \$50,000 and took six to eight months to complete (Fitzgerald, 2006). The Wisconsin Legislature could decide to fund an evaluation by a private company or by researchers from the University of Wisconsin. The Green Tier legislation identifies the Robert M. La Follette School of Public Affairs at the University of Wisconsin-Madison as a partner in assessing the program, but it is difficult to envisage a comprehensive evaluation without additional resources. If funding is limited for this evaluation, we expect the evaluation to take longer to complete than the evaluation of Oregon's Green Permit program.
- *Set realistic expectations for success:* This project has outlined some basic criteria to assess Green Tier. In applying these criteria, evaluators must be realistic. The program is unlikely to perfectly satisfy all criteria. Sometimes, this may be for reasons outside the control of the program—creating the opportunity for citizen participation may not lead to actual participation if citizens are uninterested. Sometimes, elements may have weaknesses, which is not unlikely given Green Tier's relatively novel approach. The basic standard for success should not be whether Green Tier is perfect, but whether it is an experiment worth continuing. If there are faults, can they be fixed, and are they outweighed by benefits? However, we do feel that out of the criteria we listed, the environmental criterion should have the most weight since the goal of Green Tier is to attain better environmental results than those attained under the command-and-control approach. The working group should ultimately offer a recommendation to the Legislature as to whether to continue Green Tier.

In the event that a joint committee is not created, we recommend that the tasks listed above be performed by the WDNR or the organization evaluating Green Tier.

Provide Open Evaluation Process

We recommend that the evaluation process and results be open to the stakeholders and the public. An open process is important to maintain transparency and to identify the degree of environmental progress Green Tier is making. Providing information to interested parties will increase trust and gain credibility from the community, businesses, legislators and WDNR employees. We recommend that the WDNR keep its web site updated, make the site easy to navigate site and ensure that the information on the Web site is consistent because the Web site is the key window for the public to access information regarding Green Tier.

- *Evaluate the Relationship between the Wisconsin Legislature and the WDNR:* During the course of this project, we attempted to create a method by which we could measure the trust and learning between the Legislature and WDNR; however, all potential methods failed to effectively address this criterion. Further efforts should be made to evaluate this essential component of Green Tier, because without lucid communication between the WDNR and the Legislature, crafting legislation and creating an effective program is more difficult. Therefore, another recommendation is to analyze the relationship between the Wisconsin Legislature and the WNDNR. Although we do not suggest that this relationship be measured formally, we believe legislators' perceptions of the WDNR and Green Tier should be examined. The fate of Green Tier ultimately rests with lawmakers when they decide whether to renew Green Tier and provide funding before the 2009 sunset.

Although lawmakers' true perceptions would be difficult to measure, legislative knowledge can be measured indirectly (Eggert, 2006b). As mentioned, a survey on the Green Tier web site can assess the demographics of those visiting the site. The categories by which new visitors to the site could identify themselves could include "lawmaker," "legislator" or "legislative assistant." Presumably, if legislators or their assistants visit the Green Tier web site, the legislators are developing some type of attitude toward the program. Whether this attitude is positive or negative could depend on their party affiliation or on their interpretation of the information on the site, but the fact that they are visiting the site suggests that they are at least interested.

Legislative attitudes toward Green Tier and new governance programs in general can also be measured by analyzing the Legislature's response to environmental legislation and lawmakers' willingness to use new governance approaches in other policy areas.

- *Measure Learning and Trust between the Green Tier Participating Businesses and Their Employees:* Business management literature suggests that an increase in trust and learning within a business will promote increased efficiency, decreased turnover rates and an increased pride in one's work. We attempted to use the formula mentioned by Jeff Smoller (Smoller, 1999): $Trust = (Intimacy \times Competency) / Risk$ to measure the change in trust and learning within Green Tier businesses, however we did not find a sufficient way to measure intimacy, competency and risk. We recommend that the evaluators of Green Tier further explore the potential and usefulness of this formula or another way to measure the learning and trust between Green Tier participating businesses and their employees.
- *Increase Awareness of Green Tier within the WDNR:* We recommend continued effort to raise awareness of Green Tier within the WDNR before the evaluation commences. According to the coordinator of the Green Permit program in Oregon, resistance to Green Tier may occur within the WDNR if employees are not entirely aware of the functions and purpose of the program (Fitzgerald, 2006). Therefore, it would be beneficial to raise awareness of the program and provide opportunities for WDNR employees to learn about Green Tier before these employees are surveyed for this evaluation.

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Appendix A: Transparency Benchmarks

Benchmarks

- Does the Green Tier applicant provide access to documents necessary to the application process?
- Are all documents verified and accurate?
- Is the Green Tier applicant willing to share these documents?
- Are all relevant documents posted online?
- Do community stakeholders have access to essential information?
- Do community stakeholders have access to knowledgeable personnel within the applying business or the Wisconsin Department of Natural Resources to answer their questions?
- Are all documents from the negotiation process period posted online as outlined in the statute?
- Are community stakeholders able to participate within the public comment period, hearings or informational meetings?
- Are community stakeholders made aware of these meetings and comment periods?

Although the statute outlines most of these benchmarks, it is important to ensure they are followed to the fullest extent. In the future, as more controversial businesses (meaning businesses with less exceptional environmental records) apply to Green Tier, these measures will be more useful. Also, although current stakeholder participation is low, Green Tier participants should actively solicit public comments; however, the success of Green Tier should not be solely dependent on whether Green Tier participants succeed in this endeavor. Often, community members are not aware of programs like Green Tier that seek to reward exceptional performers and instead focus on businesses that create problems.

Appendix B: Stakeholder Benchmarks

Benchmarks

- Are public comment periods held?
- Does the public have the opportunity to request a hearing or an informational meeting as outlined in the statute?
- Is a public hearing or informational session held?
- Are public comments considered after the comment period is over? Have the WDNR and Green Tier applicant considered the comments? Meeting minutes should be collected to check whether both participants considered the comments adequately.
- Are public stakeholders given the opportunity to participate in Tier 2 negotiations?

Although the statute outlines most of these benchmarks, it is important to ensure they are followed to the fullest extent. In the future, as more controversial businesses (meaning businesses with less exceptional environmental records) apply to Green Tier, these measures will be more useful. Also, although current stakeholder participation is low, Green Tier participants should actively solicit public comments; however, the success of Green Tier should not be solely dependent on whether Green Tier participants succeed in this endeavor. Often, community members are not aware of programs like Green Tier that seek to reward exceptional performers and instead focus on businesses that create problems.

Appendix C: Case Study Sample Interview Questions for Businesses Participating in Green Tier

Transaction Costs

What kinds of resources did your company use in applying for Green Tier and negotiating your Green Tier agreement? These could include staff hours, consulting costs, outside labor costs, legal aid, etc.

How much do you estimate these resources cost your business? Was this amount less than you expected, about the same as you expected, or more than you expected? Why?

Do you think the procedural costs of being involved in Green Tier are reasonable? Why or why not?

How has Green Tier affected your inspection frequency?

Describe your relationship with your single point of contact at the WDNR. Would you say that having a single point of contact has saved your business time or money? If so, how?

How has your business's overall relationship with the WDNR changed since joining Green Tier?

Does your business incur any other ongoing costs as a result of your participation in Green Tier?

Environmental Management System (EMS) Costs and Benefits

Why did your business implement an EMS?

What kinds of resources did your business utilize in implementing your EMS, training your employees to work with the EMS, maintaining your EMS, and reporting about your EMS to the WDNR?

What would you estimate these resources cost your business? Was this what you expected an EMS would cost? Why or why not?

How has your EMS affected your environmental performance? In your opinion, has your EMS increased the efficiency of your environmental management?

Has your business saved money as a result of implementing your EMS?

Benefits and Relationships

What would you say was your businesses' major incentive for joining Green Tier?
How has this worked out in practice?

How has Green Tier affected your management decisions with regard to environmental practices?

What kind of efforts has your business engaged in to promote community involvement with your Green Tier agreement? How has this affected your business in terms of economic effects, employee pride, etc.?

Do consumers of your products or representatives of businesses with which you work know about Green Tier? Do you encourage them to join Green Tier? If so, how do you inform them? What kind of feedback do you receive?

How many of your industry members have joined Green Tier?

Do you work with other Green Tier businesses to share best practices and innovative environmental solutions?

Should Green Tier be continued beyond the 2009 sunset date set in current legislation?

Appendix D: Cost: Benefit Case Study MEGTEC Systems Inc.

This is adapted from an interview with Chris Campbell, emergency health and safety manager for MEGTEC Systems Inc. Located in De Pere, Wisconsin, MEGTEC manufactures air flotation dryers and air pollution control equipment used in many industries, including printing, paper-making, automotive and metals-coating.

Transaction Costs

According to Campbell, he was the primary employee working on the Green Tier application. He estimated that he spent about 10 hours of his time working on the application, and he estimates that his labor cost is about \$100 an hour. To negotiate the Green Tier contract with the WDNR, Campbell said MEGTEC Systems brought in outside legal advisers who spent two hours on the contract, and that their billable labor cost MEGTEC \$150 an hour. Finally, MEGTEC met for two hours with Wisconsin Department of Natural Resources (WDNR) representatives over lunch. He estimated the meeting cost MEGTEC about \$1,000 (Campbell, 2006).

As a Tier 2 participant, MEGTEC is required to have a third party conduct annual compliance audits and to invite the WDNR to observe this audit. The company must submit this compliance audit to the WDNR for review (Wisconsin Department of Natural Resources, 2005b). Campbell said the company hires an auditor who “generates a report that says whether we are worthy of continuing an EMS.” The audit takes about 12 hours, and Campbell estimates the labor cost at \$100 an hour (Campbell, 2006). This cost is distinct from the reporting cost associated with the Environmental Management System.

Another transaction cost Green Tier participants incur relates to public participation. For example, MEGTEC’s Tier 2 contract requires the firm to implement an “interested person’s group.” While this group has not yet been formed, Campbell does not anticipate it costing MEGTEC very much.

Environmental Management System (EMS) Costs and Benefits

As a Tier 2 participant, MEGTEC was required to have an EMS in place prior to signing its contract with the WDNR. The terms of MEGTEC’s contract require that MEGTEC review its EMS at least once a year, and “provide to the WDNR an annual identification of objectives and targets” (Wisconsin Department of Natural Resources, 2005b). According to Campbell, MEGTEC’s parent company mandated that it implement an EMS, so it would have done so even if the company had not chosen to participate in Green Tier (Campbell, 2006).

Campbell also said that implementing the EMS was “costly in the sense of management resources.” To implement the EMS, MEGTEC received “corporate

assistance” from the parent company, which Campbell estimates cost about \$100 an hour for each of four visits. Campbell stressed that this was not the most expensive aspect of implementing the EMS. He said by far the biggest expense was the time spent by the 11-person Environmental Management System Committee the company created to manage the EMS. Campbell estimates that the company spent 50 to 60 hours implementing the EMS. While the labor costs of the committee members range from about \$45 an hour to \$130 an hour, Campbell said that \$100 per hour per person would be a good estimate and includes salary and opportunity cost (Campbell, 2006).

According to Campbell, “the ongoing costs of the EMS are much smaller.” He said the committee meets for about four hours each year. However, the ongoing costs also include training. According to Campbell, they train the employees every year for half an hour and the field service employees every other year for half an hour. He estimated that the shop employees’ labor is billed out at \$45 and the field service employees at \$100. Campbell estimates that the process of reviewing the EMS and submitting an annual report to the WDNR takes about an hour or \$100 of his time (Campbell, 2006).

Campbell said that the EMS has helped MEGTEC manage its hazardous waste more efficiently and reduce the overall amount of hazardous waste it produces. However, he also said it would be difficult to calculate the savings from the EMS, and especially difficult to determine how much of the reduction was due to the EMS and how much to other general practices at MEGTEC. He did say, however, that what the EMS provides for MEGTEC is “sleep insurance”—“we can sleep better knowing that our environmental situation is being managed and reviewed regularly and systematically” (Campbell, 2006).

Benefits

For MEGTEC, the major incentive for participation in Green Tier was that its Green Tier contract allows it to vary its emission rate with productivity. This differs from the traditional emissions regulations, which would only allow MEGTEC to produce a certain *amount* of emissions, regardless of production growth. According to Campbell, “This is why we got into Green Tier—if we’re going to generate a lot of pollution we want to do it because we made more product”(Campbell, 2006). In MEGTEC’s case, Green Tier offered an incentive that yielded measurable economic benefits. Green Tier allows MEGTEC to produce more product, which in turn creates economic benefits for the company, while MEGTEC maintains its commitment to containing emissions.

Appendix E: Survey to be Administered to Businesses Eligible for (but not Participating in) Green Tier

This survey was designed following suggestions found in “The Survey System: Survey Design,” (Creative Research Systems, 2005).

1. Business name _____
2. What does your business do?
3. In which part of Wisconsin are you located: Northwest, Northeast, North Central, South Central, Southwest, Southeast
4. How would you characterize the perception of the Wisconsin Department of Natural Resources (WDNR) within your business?

Extremely negative					Extremely positive
1	2	3	4		5

5. What type of environmental regulations is your business subject to by the Wisconsin Department of Natural Resources?
6. About how frequently does the Wisconsin Department of Natural Resources inspect your business?

Less than once in every five years	Less than three times in every five years
Once a year	More than once a year

7. How satisfied are you with these regulations?

Very unsatisfied					Extremely satisfied
1	2	3	4		5

8. How do you describe your business’s relationship with the surrounding community, including homeowners, business owners, and other community members?

Positive					Negative
1	2	3	4		5

9. What incentives would be most attractive to help your business increase its environmental performance?

	Minor advantage			Primary advantage	
Reduced inspections	1	2	3	4	5
Single point of contact with WDNR	1	2	3	4	5
Use of an environmentally friendly brand	1	2	3	4	5
Better relationships in community	1	2	3	4	5
Better relationships with the WDNR	1	2	3	4	5
Learning from other businesses	1	2	3	4	5
Quicker permit times	1	2	3	4	5
Creation of an Environmental Management System	1	2	3	4	5

10. On a scale of 1 to 5, how familiar are you with the Wisconsin Green Tier Program?

Extremely unfamiliar					Extremely familiar
1	2	3	4	5	

If you answered three or more, what is your impression of Green Tier?

Negative				Positive
1	2	3	4	5

11. Do you agree or disagree with the following statement: I believe that the benefits of Green Tier exceed its costs?

Strongly disagree				Strongly agree
1	2	3	4	5

Appendix F: Green Tier Participating Business Survey

This survey was designed following suggestions found in “The Survey System: Survey Design,” (Creative Research Systems, 2005).

1. Business name: _____
2. What industry is your business in? _____
3. In which part of Wisconsin are you located? Northwest, Northeast, North Central, South Central, Southwest, Southeast
4. How would you characterize the perception of the Wisconsin Department of Natural Resources within your business?

Extremely negative					Extremely positive
1	2	3	4	5	

5. What type of environmental regulations is your business subject to by the Wisconsin Department of Natural Resources?
6. About how frequently does the Wisconsin Department of Natural Resources inspect your business?

Less than once in every five years
Less than three times in every five years
Once a year
More than once a year

7. How satisfied are you with these regulations?

Very unsatisfied				Extremely satisfied
1	2	3	4	5

8. Based on your business’s experience with Green Tier, how would you rate this program overall?

Poor Fair Good Excellent

Application and Negotiation Costs

9. How much did it cost your company to complete the *application* process? In calculating this cost, please take into account
- How many employees were involved in the process?
 - How much time did each employee spend working on the application process?
 - How much would your company bill in terms of labor costs for these employees?
10. About how long did it take your business to *finalize* your Green Tier contract?
- how many employees were involved in the negotiation process,
 - how many hours did they devote to the negotiation process?
 - how much did this cost you in terms of billed labor costs?
 - any outside employees such as lawyers or lobbyists hired to aid you in the negotiation process and if applicable how much time did they spend working on negotiating the contract, and how much did this cost your business in terms of billed labor?
11. If applicable, how much does it cost your company to develop the “interested person's group” and to maintain this group?

Ongoing Costs

12. About how much does your annual compliance audit cost your business? (The audit itself as well as the report you must send to the WDNR regarding the audit)
- Less than \$1,000 \$1,000-\$2,000 More than \$2,000
13. Does your business incur any other ongoing costs as a result of your participation in Green Tier? If so, please describe.
14. Do you think the procedural costs of being involved in Green Tier are reasonable?

Environmental Management System (EMS) Costs

15. If you were required to implement an EMS, how much did this cost your business? Please consider the following:
- How many of your employees are trained to work with the EMS and how often are these individuals trained?
 - How long do these training sessions generally last?
 - How much would these individuals' labor costs be per hour?
16. How much does it cost to maintain the EMS and to review it annually and send a detailed report concerning your EMS to the DNR as per your Green Tier Contract?

Benefits

17. Do you believe any of the following are advantages of Green Tier?

	Minor advantage				Primary advantage
Reduced inspections	1	2	3	4	5
Single point of contact with WDNR	1	2	3	4	5
Use of the Green Tier brand	1	2	3	4	5
Better relationships in my community	1	2	3	4	5
Better relationships with the WDNR	1	2	3	4	5
Learning from other Green Tier participants	1	2	3	4	5
Quicker permit processing	1	2	3	4	5
Creation of an Environmental Management System	1	2	3	4	5
Other (please specify):					

18. What are the main disadvantages of Green Tier?

	Minor disadvantage		No Opinion		Primary disadvantage
Time spent in application and negotiation process	1	2	3	4	5
Public participation requirements	1	2	3	4	5
Other (please specify):					

19. What image comes to mind when thinking of the Green Tier brand?

20. Since participating in Green Tier, how has your business's frequency of environmental inspections changed?

Much less frequent	Less Frequent	No Change
More Frequent	Much More Frequent	

21. How much do you agree with each of the following statements:

	Strongly disagree				Strongly agree
Participation in Green Tier reduced the costs of environmental regulation to my business	1	2	3	4	5
Participation in Green Tier improved the financial health of my business	1	2	3	4	5
There is too much paperwork and administrative costs associated with Green Tier	1	2	3	4	5
My organization's relationship with our community has improved since joining Green Tier	1	2	3	4	5
My organization's relationship with the WDNR has improved since joining Green Tier	1	2	3	4	5
We have learned from other Green Tier participants	1	2	3	4	5
Participation in Green Tier has improved consumer investment in my business	1	2	3	4	5
The public is aware of our Green Tier status	1	2	3	4	5
My business has gained economic value through participation in Green Tier	1	2	3	4	5
I would recommend Green Tier to other businesses	1	2	3	4	5
I have made a decision on a purchase, investment, or agreement based on the idea of being an environmentally superior company	1	2	3	4	5
Our company provided mentoring to other businesses on the benefits of participating in Green Tier	1	2	3	4	5
The WDNR should do more to advertise Green Tier	1	2	3	4	5
I feel that the public trusts Green Tier participants more than other businesses	1	2	3	4	5
The benefits of Green Tier exceed its costs	1	2	3	4	5

23. How has your commitment to Green Tier improved air, water and/or soil quality? How has your commitment reduced consumption of water and/or energy?

24. Can you give examples of how being a member of Green Tier has changed decision-making in your organization?

25. What suggestions do you have to improve Green Tier?

Appendix G: Environmental Indicators

The environmental indicators below are part of the Green Tier participant agreement. Upon joining the program, each participant must create a baseline of these environmental indicators and submit an annual report to the Wisconsin Department of Natural Resources regarding these indicators. Once this information is collected, three different analyses should be conducted.

1. Water
 - Total water use
 - Total amount of phosphorous released in water
 - Total waste water produced
2. Air emissions
 - Total greenhouse gas emissions
 - Total emissions of ozone depleting substances
 - Total air emissions
3. Waste
 - Total solid waste produced
 - Total percentage of material ending up as waste
 - Amount/percentage of waste that is hazardous
 - Amount of mercury lost or released into the environment
 - Amount/percentage of waste recycled
4. Energy
 - Total energy used, listed by source
 - Amount/percentage of energy from renewable resources
5. Transportation
 - Total fuel consumption
 - Amount/percentage of vehicles using alternative fuels
6. Spills
 - Number of spills
 - Total amount of hazardous substances released due to spills
7. Land Use
 - Total amount of land owned and percentage that is permeable (not paved or covered)
8. Toxic release inventory
 - Total toxic release inventory emissions

Appendix H: Green Tier Web Site Survey

Please identify yourself:

- Community member
- Potential Green Tier participant
- Green Tier participant
- Wisconsin Department of Natural Resources official
- Researcher
- Lawmaker or legislative aide
- Other: _____

What brought you to this web site?

- Want to learn about Green Tier
- Need an application or form
- Need a publication
- Other: _____

Appendix I: Wisconsin Department of Natural Resources Employee Survey

1. I have worked on Green Tier.

No Yes

2. Using the following scale, please indicate your familiarity with Green Tier.

Extremely unfamiliar					Extremely familiar
1	2	3	4	5	

3. How much do you agree with each of the following statements:

	Strongly disagree				Strongly Agree
Green Tier is a worthwhile program	1	2	3	4	5
Green Tier businesses can be trusted to meet environmental commitments	1	2	3	4	5
There is too much paperwork and administrative costs associated with Green Tier	1	2	3	4	5
Green Tier has improved the public perception of the WDNR	1	2	3	4	5
Green Tier has allowed the WDNR to build stronger relationships with businesses	1	2	3	4	5
Green Tier has reduced the regulatory burden on businesses	1	2	3	4	5
The public knows about Green Tier	1	2	3	4	5
The businesses participating in Green Tier can be trusted	1	2	3	4	5
Green Tier has made the permit review process more efficient	1	2	3	4	5
Green Tier has increased my workload	1	2	3	4	5
The WDNR should do more to advertise Green Tier	1	2	3	4	5
Members of the Legislature know about Green Tier	1	2	3	4	5
Green Tier provides too much flexibility to businesses	1	2	3	4	5
Members of the Legislature are supportive of Green Tier	1	2	3	4	5
The benefits of Green Tier exceed its costs	1	2	3	4	5

4. Can you give examples of how Green Tier has changed decision-making in the WDNR?

5. Are there any aspects of Green Tier that you would like to see changed? Please describe.

Appendix J: Handout for Focus Groups

Background of New Governance, the Foundation for Green Tier

The term “new governance” refers to a philosophy of governance that goes beyond the traditional “command-and-control” governance framework. In the environmental context, “command and control” refers to federal and state environmental standards that agencies such as the Wisconsin Department of Natural Resources enforce. A perception that command-and-control framework was unable to achieve environmental goals efficiently led to new governance. New governance engages multiple actors and provides a more flexible, less prescriptive, less uniform and less hierarchical forum for collaboration among these actors.

Green Tier

Green Tier, Wisconsin’s new governance program, began in 2001, but was authorized by the Wisconsin Legislature in 2004. Through Green Tier, businesses enter into voluntary, binding environmental agreements—including Charters and contracts—with the WDNR and community stakeholders to increase their environmental performance beyond minimum state standards in exchange for incentives such as reduced frequency of inspections. The WDNR also benefits from Green Tier by spending less time and money on compliant businesses, and as a result, the WDNR is able to allocate more time and money to monitoring non-compliant businesses.

Two-Tiered System

To become involved in Green Tier, businesses must demonstrate a record of past environmental compliance. The program operates through a two-tiered system. The two tiers represent increasing levels of required environmental performance, with Tier 2 requiring the strongest past compliance and requiring the largest commitment to future environmental performance. Both tiers require the development and implementation of an Environmental Management System (EMS), although Tier 1 does not require that the EMS be in place at the time of the agreement.

Tier 1 Requirements

- A history of environmental compliance
- A commitment to improving environmental performance as specified in the agreement
- Annual compliance audits, which each business must submit to the WDNR.
- Development of an EMS after one year of participation

Tier 2 Requirements

- An even stronger environmental compliance record than Tier 1
- An EMS system must be in place

- Legal environmental contracts with the WDNR and other community stakeholders must specify the contents of the agreement with specific plans to improve environmental performance and compliance

Charter Requirements

- Commitment to improving and protecting the environment and commitment to exceptional environmental standards

A Charter can be a vehicle to encourage businesses to join Green Tier and create an environment where similar businesses come together to discuss environmental standards and regulations.

Appendix K: Focus Group Questions

Introduction Question (Icebreaker):

How do you feel about the environmental performance of businesses in your community?

Other Questions:

1. Before you read the introductory handout, how familiar were you with the Wisconsin Green Tier program? What do you know? What would you like to know?
2. Please rate the air, water, and soil quality (whichever applies) in your community on a five point scale (1 = poor, 5 = excellent). Why do you feel this way?
3. Has local environmental quality changed since a business in your community joined Green Tier? If so, in what way?
4. How do you feel about the past compliance, reliability, trust and community relations of participating Green Tier businesses? How has this changed over time? (The second part of this question should be asked when conducting additional focus groups, not in the first year, as it is intended to measure how compliance, reliability, trust, and community relations have changed over the years).
5. How do you feel about the past compliance, reliability, trust and community relations of businesses that don't participate in Green Tier?
6. How could or has this program benefited or harmed your community?
7. How could or has this program benefited or harmed local businesses?
8. Do you feel you have been provided adequate information about local businesses joining Green Tier?
9. Do you feel like you had a chance to participate in Green Tier? Are you interested in participating?
10. What would make your community's businesses or other businesses likely to participate in Green Tier?

Appendix L: Evaluation Methodology

General Methodology

After completing the community focus group and the annual and biennial surveys for Green Tier businesses and the WDNR, the program on a whole can be evaluated by compiling all information. However, not all the information is quantitative; therefore, the program should be evaluated by dividing the responses into: Quantitative Responses, Quantified Qualitative Responses, and Qualitative Responses to effectively provide information and responses that gauge and measure the program's success.

For example, when an outside consultant evaluated Oregon's Green Permits program, the firm prepared a report with qualitative and quantitative results. The qualitative results were helpful in illustrating perceptions, concerns and recommendations that stakeholders expressed. The quantitative results were essential in presenting the direct environmental impacts and the transaction costs associated with the program. In the final report, the consulting firm compared the results of each participating business to the baseline of that individual business (Kerr et al., 2002). Any improvement from the baseline was considered a success.

The results from the focus group and the surveys should be used to create an overall evaluation of the program that can be used as an independent evaluation tool or compiled within the quantitative report. In addition to compiling evaluation measures on a yearly basis, another evaluation measuring observed changes or improvements over time should be conducted to measure changes in attitudes toward Green Tier, Green Tier participating businesses, stakeholder relationships, and perceived environmental achievements. Table 8 indicates our methods for finding information relevant to the criteria and the suggested timeline for collecting the information. Table 9 indicates which surveys and questions specifically address each criteria and where they are in this report.

Timeline for Green Tier Evaluation

Included in this project is a tentative timeline for evaluating Green Tier (see Conclusion and Recommendations). The amount of time needed to complete the evaluation was derived from the experiences of the authors in conducting evaluations and engaging in survey administration. Further, the evaluation of the Oregon Green Permit program, which took about six to eight months to complete, serves as a rough estimate of the time needed to complete the evaluation of Green Tier. Nonetheless, the time to complete the evaluation will ultimately depend on the amount of funding allocated to this project.

Each criterion will require a different amount of resources and time to complete. First, the transparency criterion evaluates the availability and ease of access of past environmental compliance records of businesses, complaints and information

requests of Green Tier businesses. It should take about a month to collect this data.

The second criterion, costs, requires interviews and collection of data. For transaction costs, case studies should be conducted to evaluate the amount of time individual businesses spent during the initial stage of becoming a Green Tier business. Data on the hours spent by WDNR employees on Green Tier has been collected. EMS costs must be collected. These costs are divided between costs to the businesses and costs to the WDNR as a result of management. These data can be collected using interviews and figures the WDNR supplies.

Finally, benefits should also be measured. This can be accomplished through the use of surveys. It is expected that preparation, dissemination, collection and analysis of the survey would take two to three months. The third criterion, environmental results, would measure environmental indicators through surveys. These surveys should take about two months to carry out and analyze.

The final criterion requires sending surveys to the WDNR, businesses, government officials and individuals in the community. Funding and time must be allocated to preparing, sending and evaluating the surveys — at least two months. We expect a few additional months would be needed to analyze the data and compile a final report to be presented to the Legislature.

**Table 8:
Methods and Time Needed for Evaluating Green Tier**

Criteria	Method	Timeline
Process Criteria		
Stakeholder participation	Benchmarks	During application process
Transparency	Benchmarks	During application process
Outcome Criteria		
Participants' costs and benefits		
— Transaction Costs	Survey	After 1 year of participation, and again every 2 years
— Environmental Management System costs	Survey	After 1 year of participation, and again every 2 years
— Benefits	Survey	After 1 year of participation, and again every 2 years
Environmental results		
— Direct environmental indicators	WDNR Green Tier annual report	Annually
— Learning and innovation	Survey	Annually
Relationships		
— Wisconsin Department of Natural Resources and business community	Survey	Annually
— Within the Wisconsin Department of Natural Resources	Survey	Annually
— Community and Green Tier businesses	Focus groups	Every 2 years

**Table 9:
Tools for Addressing Green Tier Evaluation Criteria**

Quantitative Responses				
Criteria	Specific Attribute	Resource	Question Number	Metrics for Green Tier Results
Transaction Costs	Application Process	Appendix F	9	in dollars
	Green Tier Contract	Appendix F	10	in dollars
	Public Participation Costs	Appendix F	11	in dollars
	Green Tier Costs	Appendix F	12, 13, 14	in dollars
EMS Costs	Implementation	Appendix F	15	in dollars
	Maintenance	Appendix F	16	in dollars
Environmental Impacts	General Environmental Indicators	Appendix G	1 to 8	total output in various metrics
	Comparison of General Environmental Indicators to baseline	Appendix G and Baseline	1 to 8	in percentage, ability to improve results
	Comparison of General Environmental Indicators to same industry performance	Appendix G and Industry average	1 to 8	in percentage
	Comparison of General Environmental Indicators of all Green Tier participants with Wisconsin average	Appendix G and Wisconsin average	1 to 8	in percentage
	Specific Environmental Goals	In each Contract	Not applicable	in percentage, ability to improve results

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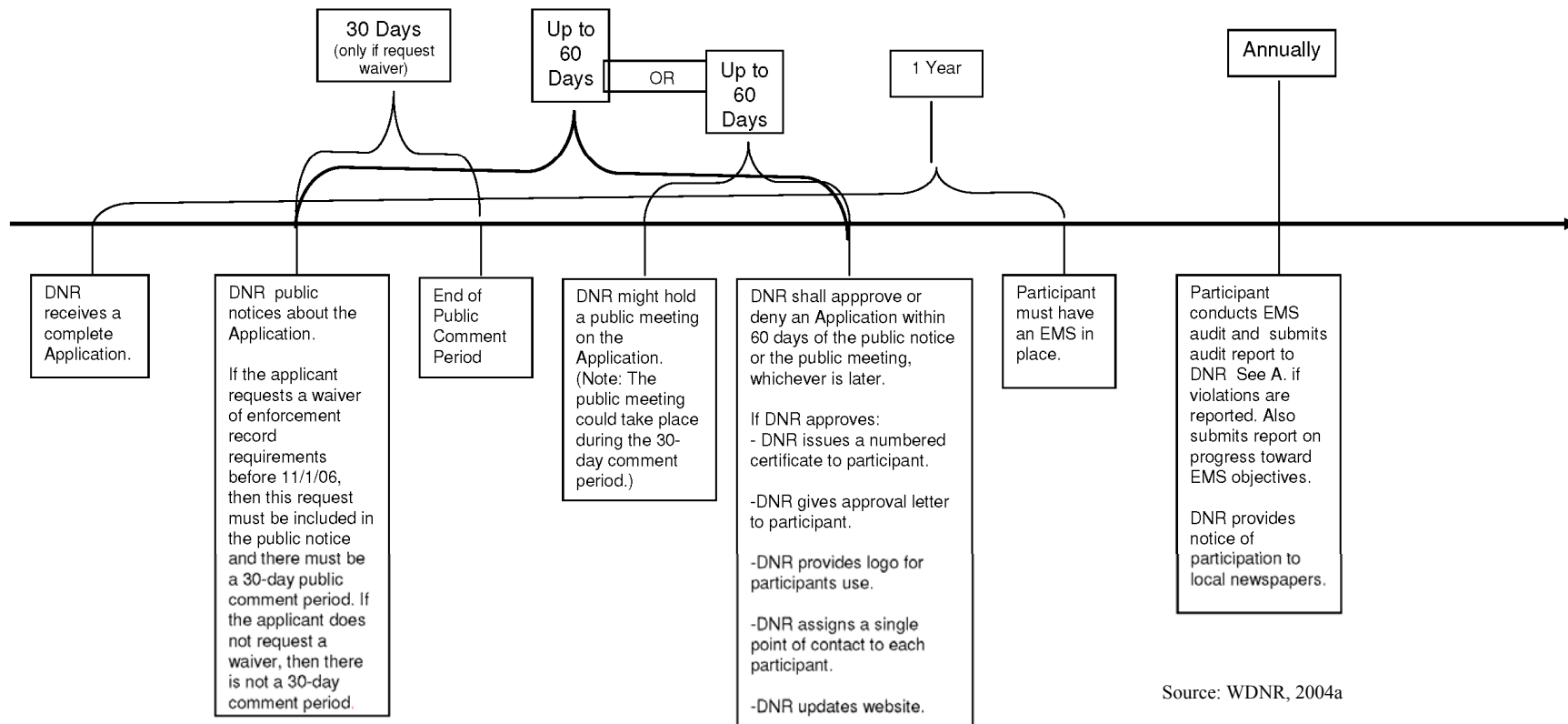
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Qualitative Close-ended Responses				Rank-based Green Tier Results
Participant Costs and Benefits	Benefits	Appendix F	18 & 19	Rank 1 to 5, 1 being disadvantage, 5 being advantage
Relationships	Wisconsin Department of Natural Resources (WDNR) and Business Community	Appendix F	4 & 22	Rank 1 to 5, 1 being disadvantageous, 5 being advantageous for relationship
	Within the WDNR	Appendix I	3 & 4	Rank 1 to 5, 1 being disadvantageous, 5 being advantageous for relationship
	Community and Green Tier Businesses (Business perspective)	Appendix F	22	Rank 1 to 5, 1 being disadvantageous, 5 being advantageous for relationship
Perception of Green Tier	Business perception	Appendix F	8	Rank: Poor to Excellent
	WDNR perception	Appendix I	3	Rank 1 to 5, 1 being strongly disagree, 5 being strongly agree for Green Tier being a worthwhile program
Qualitative Open-ended Responses				Results written
Participant Costs and Benefits	Benefits	Appendix F	17	Overall Comments
Relationships	WDNR and Business Community	Appendix F	17	Overall Comments
	Within the WDNR	Appendix I	5	Overall Comments
	Community and Green Tier Businesses (Community perspective)	Appendix I	4 to 7	Overall Comments
Environmental Goal	Direct Environmental Results	Appendix F	23 & 24	Overall Comments
Perception and Recommendations for Green Tier	Business perception	Appendix F	25	Overall Comments
	WDNR perception	Appendix I	6	Overall Comments
	Community perception	Appendix K	3	Overall Comments

Appendix M: Time-Line for Tier 1 Green Tier - Tier 1

This timeline shows the major steps and associated timeframes for Tier 1 of Green Tier.

Revised 7/20/04



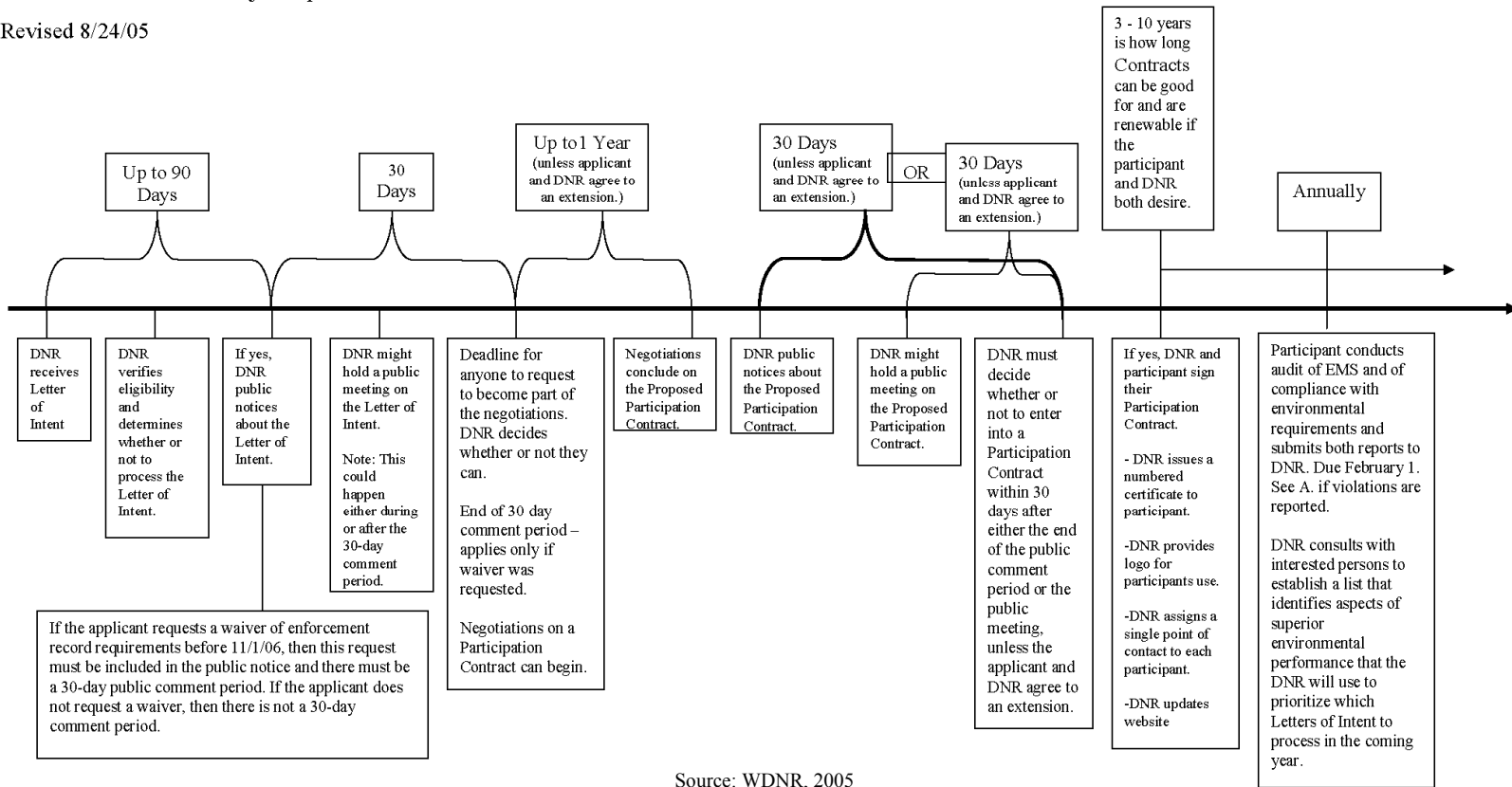
Source: WDNR, 2004a

Appendix N: Time-Line for Tier 2

Green Tier - Tier 2

This timeline shows the major steps and associated timeframes for Tier 2 of Green Tier.

Revised 8/24/05



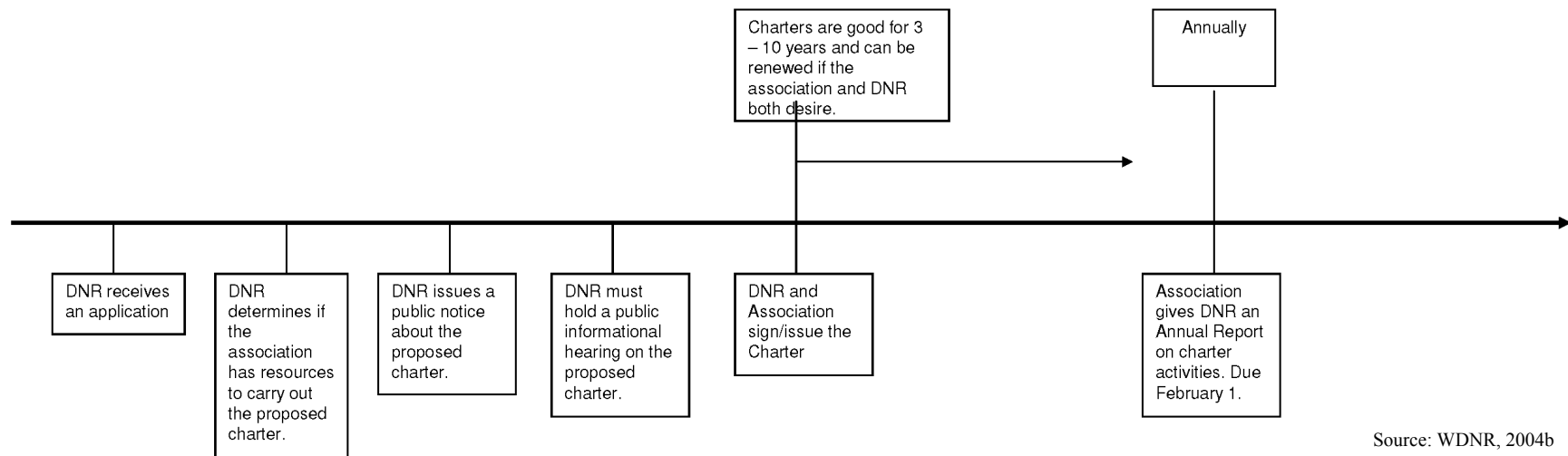
Source: WDNR, 2005

Appendix O: Time-Line for Charters

Green Tier - Charters

This timeline shows the major steps and associated timeframes for Green Tier Charters.

Revised 6/15/04



Source: WDNR, 2004b

In time, we will determine how this timeline fits with the Tier 1 and 2 timelines. It may precede them, or it may mesh with them.

