

Industrial Footprint Project

Project Goals and Objectives

Background

There is significant pressure on both government agencies and those they regulate to improve environmental performance beyond legal compliance. Unfortunately, obstacles to such progress exist within current regulations, and there are few resources available that encourage “beyond compliance” work (that which addresses a broader range of environmental issues than is legally required). To this point, efforts to address beyond compliance projects have been limited to voluntary actions by progressive companies.

The Washington State Department of Ecology (Ecology) and the U.S. Environmental Protection Agency (EPA) want to step beyond current state and federal laws and regulations. As EPA notes in their Innovation Strategy, “environmental programs should address a broader range of issues than they typically do today. The goal should be greater environmental responsibility and natural resource stewardship across all of society, along with successful integration of environmental, economic, and social objectives”.

It is out of this recognition of the need for a more sustainable society that Ecology’s Industrial Section has received an innovative grant from EPA to conduct an analysis of an environmental footprint, called the Industrial Footprint Project. With the big picture in mind, the Industrial Footprint Project will develop a performance measurement tool for assessing environmental, economic and social impacts for the pulp and paper sector in Washington State.

Goals

The goal of the Industrial Footprint Project is to explore the use of a holistic facility performance measure as a tool for finding a better, more comprehensive way to regulate facilities with multi-media impacts. Our definition of an industrial footprint is the impact of a major manufacturing facility on the environment and the community in which it’s located. We will measure it in sustainability terms (i.e., environmental, economic and social impacts), and include many environmental aspects that Ecology and EPA do not directly regulate, (i.e., greenhouse gasses and resource use).

The outcome of this project will be to assess the industrial footprint analysis and determine its efficiency in improving regulatory and facility decisions. In other words, does an investment in selecting and measuring sustainability indicators, collecting the necessary data, and developing stakeholder relationships result in an improved environmental condition? Will an enhanced regulatory system (that

which would deliver an improved environmental outcome for the same or less cost) exist if holistic analyses take place?

Objectives

Specific objectives of this project are:

- A sector footprint that includes some traditional compliance measures (such as BOD and particulate) as well as greenhouse gas production, use of toxics in production, energy use and water consumption. Sector indicators will consist of a set of indicators that all the mills have in common.
- A benchmark or baseline footprint for each facility evaluated. The indicators for each baseline footprint will be selected with input from the stakeholders. All sector indicators will be included in each individual footprint.
- A sector energy challenge. The mills will be challenged to reduce their energy footprint by 25% over the next 5 years. Selected energy indicators will be used to evaluate the success of the challenge in reducing the mills' energy footprint.
- A set of environmental priorities which include a set of action items. Priorities will be developed with input from all the stakeholders.
- A comparison of the performance of the facilities and an assessment of the utility of the footprint tool in evaluating agency priorities action items.
- A comparison of the performance of facilities with an Environmental Management System (EMS) in place to those without an EMS.

Project Overview

This project is part of several ongoing Department of Ecology efforts to improve the quality of state permitting efforts. The core of this project is to test the effectiveness of the Coalition for Environmental Responsible Economies (CERES) sustainability measurement tool (described below) as a way to connect our work (or the work of the company) more directly to environmental results.

Focusing on the measurement of the environmental footprint allows a more direct measure of the effectiveness of any strategy, project or activity designed to reduce the footprint. Once the footprint has been vetted by the stakeholders, it can be used to identify opportunities, projects, or activities to reduce the footprint. Footprint measurement will put a spotlight on the need for companies to pursue opportunities for saving energy, water, materials and money, (i.e. those areas where compliance alone is not enough). It will add rigor to the use of environmental management systems already in place. Permitting, other regulatory work, and beyond compliance activities, can then be tied more directly to real environmental improvement.

The project will focus on pulp and paper mills in Washington State.

Footprint Measurement Tool

The footprint measurement tool being tested is the draft Facility Reporting Project (FRP) Pilot Test Sustainability Reporting Guidance, released March, 2005. The FRP Guidance is a tool created by CERES and the Tellus Institute. The FRP is a multi-stakeholder initiative to develop a generally accepted facility-level economic, environmental and social sustainability reporting framework. It was developed as a tool for companies, rather than governments to use, but after considerable time spent researching the available sustainability reporting tools, the FRP was found to be the most appropriate tool for this project. The Department of Ecology is participating in the pilot test of the FRP that is currently underway. As part of our participation agreement, Ecology can access the resources of CERES to help in development of facility indicators and the public involvement plan. We will not, however, be asking our project participants to become pilot testers or to become CERES members.

The FRP includes a number of environmental, economic and social indicators designed primarily for U.S. companies to use in voluntary sustainability reporting. CERES has guidance available for the pilot participants to use in:

- Determining the most pertinent performance indicators
- Engaging stakeholders and identifying their priorities
- Determining the feasibility and challenges of data collection

Stakeholder Involvement

The stakeholder involvement plan will have two components; a plan to secure the participation of eight pulp mills and a community involvement plan.

Assessing the needs of the community could be done in a variety of ways. Though only one plan will be developed, it is likely that each community will have separate and distinct needs and may, therefore, have some custom fit components. Possible approaches include public workshops, focus groups, establishment of a local advisory group or use of the internet and newsletters. The plan will include elements to educate the community about the mill and educate the mill about the communities concerns and needs.

Energy Challenge

A pulp and paper sector energy challenge is envisioned as a way to jump start the footprint project. The idea comes from the industry, which is faced with significant increases in energy prices even though they produce energy themselves. In addition, creating the challenge provides the industry and the agency with an opportunity to practice collaboration in the selection of the energy indicators, which will come from the FRP, and may provide the beginnings of a discussion of incentives for beyond compliance work by the industry. The specific challenge will be to reduce each mill's energy footprint by 25% within five years.

Footprint Measurement

The sector footprint will consist of a series of measures common to all the pulp mills. At a minimum, the sector footprint will include energy measures, greenhouse gas, water use, waste BOD, TSS, and NO_x. Additional measures are likely to be added as a result of the collaboration between the agency and the industry. The footprint will include economic and social indicators if the project can successfully develop the indicators. The individual footprints will include all the sector indicators plus those specific to the facility and the local community.

Priority Assessment

Both the sector and individual baseline footprints will provide opportunity for the regulatory agency to develop priorities. The sector baseline will help reveal anomalies between facilities and if specific processes or pollutants present opportunity for improvement. The individual baseline footprints will help reveal whether there are specific concerns within a particular facility. In both cases, Ecology will work with the partners to develop priorities for action. If time allows, the top sector priority and the top priorities at two facilities will be initiated.

EMS Evaluation

Half of the eight major pulp mills in Washington have an EMS or are developing one. Two mills are currently members of EPA's Performance Track program. In addition, there are a number of programs being developed by the states to incorporate EMSs into a regulatory framework. Both programs assume that a company with an EMS in place is more likely to be a company that not only achieves compliance, but also one which will be willing to pursue beyond compliance activities. The footprint project will use the sector and individual baseline footprints to assess the validity of this assumption.

Final Report

Project conclusions will focus on a discussion of the data needs, costs of footprint measurement, utility of footprint measurement as a basis for environmental and regulatory decision making, how best to modify the process for use in other sectors or with other multi-media facilities, and next steps. It will include an assessment of potential benefits of using the footprint measure as the basis of a multi-media or integrated single permit, along with potential cost savings for Ecology and the industry.

Summary of Project Steps

The project will generally follow the following steps:

1. Select indicators for the sector and for each facility. This will be done in partnership with the facilities and with input from community members and requires the development of a stakeholder involvement plan.
2. Measure the baseline footprint for the sector and the facilities using the selected indicators. This step will require evaluation and analysis of a significant amount of data.

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3. Issue an energy challenge to the sector facilities, using the footprint indicators to measure progress against the established baseline.
4. Develop a set of environmental priorities for the sector and each facility, working in partnership with the stakeholders.
5. Implement priority actions and measure results.
6. Assess the utility of this approach to improving environmental results, including identifying barriers to implementation, recommended improvements and follow-up actions. This assessment will include a comparison of mills within the sector and a comparison of the holistic performance of those mills with an EMS in place to those without one.

Project Schedule

Task	Task Description	Assignment	Milestone	Start Date	End Date
1. Secure agency resources	Hire project coordinator, include project work in IS staff workplans	PM	ES-1 hired, workplans revised	4/06	Original - 6/06 Actual - 12/06 Completed
2. Secure mill participation	Partner with 8 pulp and paper mills and secure participation	Ceres, PM, PC, PI	8 participation letters issued	06/06	5/07
3. Select sector indicators	Develop draft sector indicators. Work with 8 mills and Northwest Pulp and Paper Association to finalize sector indicators.	PC, PI	Sector indicators agreed upon	10/06	2/07
4. Conduct Community Outreach	Establish community contacts, create website, implement community involvement plan	C, PC, PI	Community needs assessment report complete for 8 communities	12/06	12/07
5. Secure contractor support	Draft and issue RFP to procure contractor support of data	PM, PC, PI	Contract in place.	1/07	5/07

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Task	Task Description	Assignment	Milestone	Start Date	End Date
	analysis and public involvement. Award contract.				
6. Select indicators for 8 mills	Partner with 8 mills and 8 communities to develop mill specific indicators	MP, PC, PI, PM	Indicators selected for 8 mills	1/07	7/07
7. Amend QAPP	Develop data quality objectives for 8 individual mill footprints	PC, PI	QAPP amendment approved	2/07	3/07
8. Develop stakeholder involvement plan	Develop a community stakeholder involvement plan	PM, PC, PI, C, Ceres	Stakeholder involvement plan complete	2/07	4/07
9. Develop baseline footprints for 8 mills	Collect and analyze data to complete 8 baseline footprints	PM, PC, PI, C	8 baseline footprints completed	2/07	7/07
10. Amend QAPP	Develop data quality objectives for sector footprint	PM, PC, PI, C	QAPP amendment approved	4/07	5/07
11. Develop sector baseline footprint	Collect and analyze data to complete sector baseline footprint	PC, PI, C	Baseline sector footprint completed	5/07	9/07
12. Develop sector priorities	Evaluate the baseline footprint for 4 mills for improvement opportunities, establish priorities	PM, PC, PI, C	Regulatory agency priorities for the sector established	7/07	10/07
13. Initiate sector	If appropriate, initiate sector	PC, PI	Top sector priority	11/07	3/09

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Task	Task Description	Assignment	Milestone	Start Date	End Date
priorities	priority		initiated		
14. Develop priorities for 4 mills	Evaluate the baseline footprint for 4 mills for improvement opportunities, establish priorities	PM, PC	Regulatory agency priorities established for 4 mills	1/08	4/08
15. Initiate 2 of the top individual priorities	If appropriate, initiate the top priorities for 2 mills	PM, PC	Top 2 mill priorities initiated	4/08	3/09
16. Amend QAPP	Develop data quality objectives for energy footprint indicators	PM, PC, C	QAPP amendment approved	3/08	4/08
17. Initiate and conduct energy challenge	Partner with pulp and paper mills to develop and initiate a sector energy challenge	PM, PC	Energy challenge initiated; sector baseline energy footprint developed	4/08	1/09
18. Final Report	Compare mills, assess the utility of the footprint measurement as a regulatory tool, share results with stakeholders	PM, PC, C	Report complete, future work identified	11/08	4/09
19. Assess results of the energy challenge	Use the footprint tool to assess the results of the energy challenge	PM, PC, C	Energy footprint reduced	2/09	4/09

PM = Project Manager (Carol Kraege)
PC = Project Coordinator (Marc Crooks)
PI = Project Intern (Angela Fritz)
C = Contractor

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