

MAINE STATE LEGISLATURE

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**STATE OF MAINE
117TH LEGISLATURE
FIRST REGULAR SESSION**

**Report of
THE COMMISSION TO STUDY THE FUTURE
OF MAINE'S PAPER INDUSTRY**

March 1995

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- G. Judith Bailey, vice president, research & public service, University of Maine
- H. Robert S. Briggs, president, Bangor Hydro-Electric Co.
- I. Clark Burbee, agricultural economist, USDA
- J. The Crugers Group
- K. Joseph Genco, chair, Department of Chemical Engineering, University of Maine
- L. James Giffune, vice president-operations, Fraser Paper Company

Wall Street Analysts

- M. George Adler, managing director, Smith Barney, Inc.
- N. John Chrysikopoulos, vice president, Investment Research Department, Goldman Sachs and Co.
- O. Laurence A. Ross, first vice president, Paine Webber, Inc.

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- P. Environmental Protection
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- CC. RESOLVE, to Require Development of Energy Plans
- DD. RESOLVE, to Establish an Environmental Regulation Task Force
- EE. RESOLVE, to Establish a Paper Industry Council
- FF. AN ACT to Institute a Yearly Series of Labor/Management Systems Conferences

THANK YOU

The commission wishes to sincerely thank the people and organizations who took time from their very busy days to help the commission in its work. Their names are to be found in Section III and Appendix C.

In particular, the commission would like to thank:

1. George Adler of Smith Barney, Inc. for traveling from New York to meet with the commission and being so forthright in his comments.
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In addition, the commission would like to thank the following persons from the legislative Office of Policy & Legal Analysis.

1. John B. Knox, the commission's assigned staff person;
2. Jon Clark for his assistance in helping the commission understand the technicalities of the energy situation in Maine; and
3. Charlene Raymond for her assistance in typing and copying of the commission's report.

EXECUTIVE SUMMARY

I. Overview

The Problem

This commission was established to study Maine's paper industry and to develop recommendations that will promote its long-term viability. The problem expressed by legislators who established the commission is that while ongoing capital investment in the state's paper industry is essential, such investment has declined significantly, leading to reduced jobs and tax collections by the state and municipalities.

The Economic Value of the Industry

Over the past 25 years, Maine's paper industry has provided a stable level of employment. Currently, the industry provides 16,000 direct jobs and pays the highest wages of any of Maine's manufacturing sectors. In addition, the industry generates over 29,000 intermediate and induced jobs in the state. In 1993, the combined annual personal income of these 45,000 employees was \$1.5 billion. Contribution to the Gross State Product by the industry was \$2.3 billion.

Maine's Strengths

Today, as in years past, Maine offers three of the major fundamentals for a competitive paper industry -- fiber, workforce, and energy:

- Maine's high quality fiber continues to be available at a competitive cost, and is projected to be more cost-competitive as worldwide demands for virgin fiber increases;
- Maine's existing workforce is skilled, knowledgeable, and experienced in papermaking, and is available at competitive labor costs in the United States;
- Maine has a sufficient supply of energy, although the cost of purchased electricity is relatively high, and the industry has invested heavily in hydroelectric power and other steam and electrical cogeneration capacity to help address its energy needs and reduce cost.

Market demand is strong and growing for products produced by the Maine industry. At the same time, however, customers are demanding better quality and more exacting paper specifications. Additionally, a number of high value-added niche business opportunities appear to offer smaller Maine mills the ability to create economically viable products.

Maine's Weaknesses

Maine's paper industry is disadvantaged for the future because of the lack of investment in technology to increase production capacity and improve quality. In general, Maine's mills are below average in size and older in age than their competition. Maine papermakers cannot remain globally competitive without upgraded technology.

Maine mills face increasing global competition in quality and price. they also face the geographic disadvantage of being relatively isolated from the new growth markets emerging in Asia. Other regions, such as Scandinavia, are overcoming these same challenges by making the required investments in plant and equipment.

Business climate weaknesses include a poor transportation infrastructure, high purchased energy costs, an inconsistent and time-consuming regulatory process, and a perceived negative attitude toward the paper industry.

Maine's Challenge

Papermaking technology requires significant capital investment. Attracting the capital investment required to capture future opportunities is the greatest challenge for the state and the industry in Maine. The state and the industry must meet that challenge if the paper industry is to prosper in the future.

To maximize the industry's potential, the state must take the initiative to continue to reduce electricity cost, create a regulatory environment that is consistent, non-duplicative and efficient, and enhance the transportation system. The state must also demonstrate to, and convince corporate decision makers, that Maine is a rewarding place to do business.

The Urgency

Attending to these initiatives is an urgent matter. The paper industry is both capital intensive and cyclical. The industry nationally has just begun to recover from the recent severe recession, which will be followed by a world wide cycle of investment in technology and productivity. There is now a brief window of opportunity during which major capital decisions will be made. Maine must seize the opportunity to aggressively compete for those investments.

II. Findings

The findings of the commission are summarized as follows:

1. Business Climate

The climate for business in Maine is below average. Among the causes are:

- a failure to focus and concentrate responsibility for economic support and development within the appropriate state agencies;
- a failure to address costly regulations and inadequate infrastructure.

Specific to the paper industry;

- a lack of centralized, comprehensive understanding, and appreciation of the industry and its contribution to the state economy;
- a perception among paper industry decision-makers that state government is anti-business;
- a lack of an advocate within state government to work in conjunction with the industry to address public policy issues impacting Maine's business climate and the cost of doing business.

2. Education and Training

The skills of the workforce are especially important for the state's economic future, particularly in the areas of science, mathematics, and technology, areas in which Maine needs to show improvement. In order for Maine's workforce to remain globally competitive, the educational community, including the universities, the Maine Technical College System, and the secondary education system, must improve the skill base and the communication of educational and career opportunities to the general public.

3. Energy

Maine's purchased energy costs are competitively unfavorable, domestically and internationally. This has been caused by lack of infrastructure, lack of alternative sources, and historically poor energy policy.

4. Environmental Protection

Environmental regulation is a significant factor affecting business operations and investment decision-making. Maine has more stringent regulations and a permitting process which has a higher degree of uncertainty than that experienced by paper producers in competing states and countries. Though improving, adversarial relationships in environmental issues aggravate and delay decision-making and investment.

5. Human Resources and Labor

Maine has an adequately sized, skilled, and productive workforce relative to the needs of the paper industry. The cost of labor is equal to the national industry average. Opportunities exist for companies to enhance their competitive positions through the use of new, innovative labor/management systems such as joint cooperative programs.

6. Research and Technology

Maine ranks poorly in university and federal research & development expenditures.

7. Taxation

Personal property tax on manufacturing machinery and equipment is a strong disincentive to investment in Maine's manufacturing facilities and reflects poor tax and economic policy.

8. Transportation

Maine is deficient in all three basic modes of transportation (rail, highways, and ports). While the industry is critically dependent on an integrated transportation network to become and remain competitive, freight rail is identified as the transportation mode most critical to the industry and most in need of improvement.

III. Recommendations

The Commission on the Future of Maine's Paper Industry has developed the following top priority recommendations. Implementing these recommendations will substantially improve Maine's competitive position in securing capital investments vital to the industry's future.

- The Department of Economic and Community Development shall:
 - (a) develop a senior level staff position assigned to enhance the forest products industry in Maine by assisting industry representatives and state policymakers in addressing threats and opportunities;
 - (b) advocate for business on behalf of the governor and within the executive branch, on current and proposed laws and regulations;
 - (c) implement a program designed to correct misperceptions of Maine as an unfriendly place to do business;
 - (d) implement a program designed to develop a broad understanding of Maine's paper industry, its importance to the economy and society of the state, and its viability as a future employment opportunity for the state's youth.
- Create a Paper Industry Council located within the Department of Economic and Community Development, comprised of industry stakeholders, whose purpose is to oversee implementation of these recommendations and to assist in identifying and addressing other emerging paper industry issues within the state;
- Improve the freight rail system available to Maine's paper industry;
- The State Planning Office shall assume a lead role in making Maine's energy prices more competitive; and
 - (a) develop and recommend to the Legislature a long-term energy strategy to achieve competitive energy prices;
 - (b) determine ways to reduce the costs and uncertainty involved in licensing and re-licensing hydroelectric dam facilities;
 - (c) form a commission to develop a plan of action to increase the availability of natural gas to paper manufacturing facilities in the State.
- Establish a task force comprised of representatives of company environmental managers, the Department of Environmental Protection, the Environmental Protection Agency, and the Department of Economic and Community Development to;
 - (a) develop a comprehensive comparison of applicable state and federal environmental standards;
 - (b) develop recommendations to eliminate duplicative reporting requirements;

- (c) study the competitive effects of Maine's Site Location of Development law and of public intervenor laws and process as to their effect on permitting time and the ability of business to react decisively to investment opportunities.
- Eliminate the personal property tax on manufacturing machinery and equipment.
 - Convene, each year, a series of statewide conferences on innovations in labor/management systems, with emphasis on joint cooperative programs, utilizing the Bureau of Labor and the College of Business Administration at the University of Maine as coordinators and facilitators.
 - The state should pursue opting out of the Ozone Transport Region, and simultaneously pursue other means of reducing the impact of the Clean Air Act amendments, such as obtaining NO_x waivers for attainment areas and developing a workable emissions banking and trading policy.
 - Upgrade Maine's Routes 2 and 9 to federal primary road standards.
 - Improve highways and rail access to the port at Eastport, rail and space availability at Portland's port, and develop a container port.
 - Develop and improve the Kennebec Valley Technical College Pulp and Paper Technology program, and make it more accessible to more students around the State of Maine.

REPORT

I. Commission Formation

In the spring of 1995, LD 1996 was enacted by the second regular session of the 116th Legislature resulting in Resolve, to Establish a Commission on the Future of Maine's Paper Industry, Resolves 1993, Chapter 75. (Appendix A)

The commission was to be composed of a total of 8 members. Appointing authorities were to consider the appointments of persons with experience in economics, business, or finance. At least one was to represent environmental interests and one to represent labor interests.

In practice, the commission ended with 5 paper industry members, 2 labor representatives and a businessperson/academician. (Appendix B)

The Commission diligently pursued the matter of an environmental representative but was unsuccessful in having such a member appointed. (Appendix B-1)

Because of a lateness in making appointments, the commission had its first meeting Aug. 6, about a month and a half after its statutorily required start date. The commission was due to report to the Joint Standing Committee on Housing & Economic Development and the Maine Economic Growth Council by January 15, 1995. The commission was given authority to submit legislation. The commission was granted an extension to March 16, 1995.

The commission was given no budget but was able to apply for legislative staff help and was given the ability to raise funds from other sources.

II. Problem Statement

This study arose out of Maine legislators' concern about the real and serious threats facing Maine's largest manufacturing industry, evident by a decline in jobs and capital expenditures in Maine's paper making facilities. At the outset, the commission recognized that a healthy future for Maine's paper industry is vitally linked to continued and expanded capital and human investments in Maine's mills and people.

The paper industry worldwide experiences constant technological advances to satisfy increasing customer demands and to gain the edge in fiercely competitive markets. Upgrading large, fast, sophisticated paper-making equipment is extremely expensive. At the same time, papermakers worldwide are becoming more skilled in working together to improve product quality, productivity, and cost-effectiveness.

Almost all paper companies operating in Maine own paper mills in other states and countries. Each company has limited capital investment dollars. Maine's challenge and opportunity with its paper industry is to position itself to be the most advantageous site for those investment dollars.

The enabling legislation provided a list of issues for the commission to study. The commission addressed the issues in the context of positioning Maine as a highly competitive state for any paper company's capital investment dollars. The commission also recognized that a healthy paper industry in Maine will result in a healthier state -- more jobs, more taxes for state programs and services, vibrant communities and schools, the list goes on. In the process of its deliberations, the commission was always mindful of these other quality of life factors affecting Maine people.

The commission developed three basic missions:

1. To determine those changes in state policy that would result in improved capital expenditures in Maine, while additionally having a beneficial effect on labor, the environment, and the state budget;
2. To help educate Maine's policymakers on the importance of the paper industry to Maine's economy, the nature and urgency of the threats facing Maine's paper industry, and the changes that could be made to help address those threats;
3. To help advise the industry's corporate leaders and decisionmakers on current, valid information about Maine as a desirable place for their investment dollars.

III. Method

The commission used an extensive, multi-fold approach toward obtaining the data necessary to accomplish its mission. This approach included the following:

A. Comprehensive Industry Study

To accomplish its mission with the most complete and comprehensive information, the commission determined that an independent study of Maine's industry was warranted. It identified three major areas of information that would provide a factual basis for its work. These areas are:

1. the products made and markets served by Maine mills;
2. the threats and opportunities presented to Maine mills by virtue of their technological abilities, geographic location, and products made;
3. the relative costs imposed by operating in Maine versus other states and countries.

To accomplish this task, the commission interviewed two consulting firms known to be knowledgeable in, and capable of, analyzing paper industry data. After reviewing the two proposals, the commission retained Jaakko Poyry, Inc., located in New York, to conduct the study. To pay for the study, the commission raised necessary funds from the industry and its suppliers, labor, and government. The list of contributors is in Appendix D.

The commission requested that Jaakko Poyry prepare an analysis of the Maine regulatory environment, comparing it with ten other states with a large pulp and paper presence, as well as to compare the impact of current and anticipated environmental regulation on the Maine industry relative to major competitive nations. The results of the Jaakko Poyry analysis will be used throughout the environmental protection section discussion and is referred to as the Ten State Comparison. The ten states that were analyzed include:

Alabama
Georgia
South Carolina
North Carolina
Virginia
Michigan
Wisconsin
Louisiana
Florida
Washington

B. State Planning Office Analysis

The State Planning Office (SPO) documented the importance of the industry in Maine, including its multiplier effect, in terms of income and jobs. SPO provided detailed forecasts through 2008 for employment, value-added and output. The office also collected industry specific capital investment data utilized by Jaakko Poyry within its report.

C. State Agencies

The commission heard presentations from many state agencies. In some cases, these agencies also responded in writing to extensive lists of commission questions.

The agencies reporting were:

1. The Board of Environmental Protection
2. Bureau of Taxation
3. Department of Economic & Community Development
4. Department of Environmental Protection
5. Department of Labor (written only)
6. Department of Transportation
7. Maine Council on Vocational Education
8. Maine Development Foundation
9. Maine Forest Service
10. Maine Science and Technology Foundation
11. Maine Technical College System
12. Public Utilities Commission
13. State Planning Office
14. University of Maine-Department of Chemical Engineering
15. University of Southern Maine-Muskie Institute
16. University of Maine-Office of Research & Public Service

D. Staff Research

Commission staff conducted an extensive search of secondary source materials, which are included in the appendix or listed in the bibliography. Staff also surveyed the leading paper industry states about their economic development activities, pollution standards, and fines.

E. Other Speakers

A number of other speakers were heard from including the following:

1. two senior state-based industry executives
2. two senior Wall Street industry analysts
3. representatives of the Natural Resources Council and the Maine Audubon Society
4. The Crugers Group

F. Chief Executive Officer Survey

The commission developed a qualitative questionnaire of eleven questions which was sent to the chief executive officers of the 16 paper companies with operations in Maine, plus two large companies that don't have Maine operations. The questionnaire was designed to determine the factors that influence a company's capital expenditure decisions, and its attitude toward Maine relative to capital expenditures.

The commission received responses from 13 of the 18 questionnaires that it sent to the chief executive officers of the various paper companies. At commission request, the survey was tabulated and summarized by the Margaret Chase Smith Center at the University of Maine. (Appendices E&F)

G. Out-of-State Agencies

The commission had conference calls with six members of Alabama's Forestry Team and with the director of Georgia's Consortium for Technological Competitiveness. The commission wishes to thank Gary Faulkner of Alabama's Forestry Team who put a great deal of work into coordinating the conference call.

H. Concurrent and Related Studies

The commission reviewed the conclusions and progress of a number of previous and ongoing studies that were found to be relevant.

1. A list of previous studies on some aspect of economic development, together with their common recommendations, is in Appendix BB.
2. At the time of the commission's activities, the following studies were in progress:
 - (a) There was an Economic Growth Council whose mission was to develop an economic development strategy and to whom the commission was to report. The council's final report is due June, 1995.
 - (b) There was a Task Force on Learning Results whose mission was to assist the State Board of Education in setting goals for education as required by the federal Goals 2000 program. Their report is due December, 1995.
 - (c) There was an Environmental Priorities Project whose goal was to develop a state environmental protection strategy and whose report date is late spring, 1995.
 - (d) There was a Study on Improving Access to the Maine Technical College System, published in January, 1995. Specifically, it reviews:

- (1) Deficiencies in the curriculum of the technical colleges;
- (2) Deficiencies in funding and equipment at the technical colleges, generally, and within specific courses and programs;
- (3) Locations of technical colleges and the possible need for new colleges; and
- (4) Other deficiencies and factors that result in long waiting lists for admission to the colleges.

I. Commission Process

The commission held 15 meetings. The meetings were open to the public, and notices were placed in the weekly calendar and agendas were sent to 60 people. Speakers were by invitation only. The commission voted to utilize a consensus form of decision making in which no recommendation would be made unless it had unanimous approval. For areas of disagreement, majority and minority findings would be presented without recommendations.

The commission identified a number of issue areas that influence the future of Maine's paper industry. These issue areas are similar to those that have been identified in past studies, which have involved taxation, the shoe industry, permitting, and the state's economy in general. (Appendix BB) These issue areas are:

1. Business Climate
2. Education and Training
3. Energy
4. Environmental Protection
5. Human Resources and Labor
6. Research and Technology
7. Taxation
8. Transportation

Following issue area identification and analysis, the commission developed recommendations to address those issues. During this process, the commission also challenged itself to prioritize those issues and recommendations. The commission's goal was to develop a set of specific, relevant, realistic recommendations that would have the greatest impact in positioning Maine as a highly desirable location for capital investment dollars from paper companies. The analysis will often compare Maine with the leading pulp and paper producing states in terms of tons produced. These are, in order, Wisconsin, Alabama, Washington, Louisiana, and Michigan. Maine ranks second in this list.

The commission reviewed the extensive report produced by the Northern Forest Lands Council and supports their efforts to address the important issues facing Maine's forests. Because of the magnitude of these

issues, the commission has not specifically addressed forest resource issues within this report. However, the Jaakko Poyry Diagnostic Review of the Pulp and Paper Industry in Maine and its Executive Summary (See section IV B) provide discussion of the future global wood demand/supply balance and Maine's forests.

Draft bills covering those recommendations for which the commission is proposing legislation are in Appendices CC-FF.

The scope of the report and the reports recommendations are the work of the commission. The Office of Policy & Legal Analysis assisted in the preparation of the report.

IV. Findings and Recommendations

A. Economic Contribution of the Paper Industry in Maine

Section A was prepared by the State Planning Office at the request of the Commission.

Overview of Paper & Pulp Sector in Maine

Paper and pulp manufacturing has long been a staple of the Maine economy. Maine is the most heavily forested state in the eastern United States with roughly eight million acres of timberlands owned and managed by large forest industry corporations, and another nine million acres held privately as large and small non-industrial woodlots. While much of the Maine economy has seen wide fluctuations in employment and output over the past several decades, the paper industry has offered a generally stable source of economic support, especially in Maine's rural communities.

Although traditionally viewed as a mature natural resource industry, over the past several decades the paper industry has steadily become among the most technologically sophisticated sectors of the Maine economy.

1. Industry Composition

Maine has 19 active paper mills which produced 4.2 million tons of product in 1993. Of Maine's 19 paper mills, 14 produce their own pulp, four of the remaining five mills either get their pulp in slush form via a pipeline from a nearby mill or use recycled fiber; there is only one mill which must rely on market purchased pulp for its entire production. Currently there are no separate stand-alone market pulp mills in Maine as there are in other parts of North America; however the Stone-Webster recycling plant in Auburn is under construction and expected to go into production of market pulp as of July, 1995. Each of Maine's current pulp mills are located alongside their adjoining paper mill and several mills sell excess pulp, both within Maine and also as an export to markets in South America, Europe, and the Far East.

Printing and writing papers are the dominant grade of papers produced in Maine mills, accounting for roughly 80% of the total production. Maine's specialization in the market for printing and writing papers has been due to a combination of the high quality of "long" northern softwood fibers and a good supply of pulpwood quality hardwoods, which are needed to provide opacity and a smooth printing surface.

Maine's production of printing and writing papers accounts for roughly 16% of the U.S. total, which is the highest share for any single state. Over 50% of Maine's printing and writing paper business is in the high growth and high value added coated paper segment. Among coated paper varieties, Maine firms have a particularly high share of the lightweight coated groundwood capacity in the United States. Lightweight coated groundwood paper is mainly used for magazines, catalogs, and advertising supplements. Maine's production accounts for 60% of the lightweight coated groundwood papers made in the U.S.

Employment within the paper products industry in Maine is heavily concentrated within the paper mills sector at 88% of the industry total. At the national level the corresponding share of the industry's employment within the paper mills sector is only 26% (see Figures 1 & 2). The paper mills sector is where firms that produce mostly printing and writing papers are classified. The significance of this concentration is that Maine firms are focused on both the most capital intensive, high value-added segment of the industry, and Maine firms are experienced participants in the fastest growing segment of the market for coated groundwood.

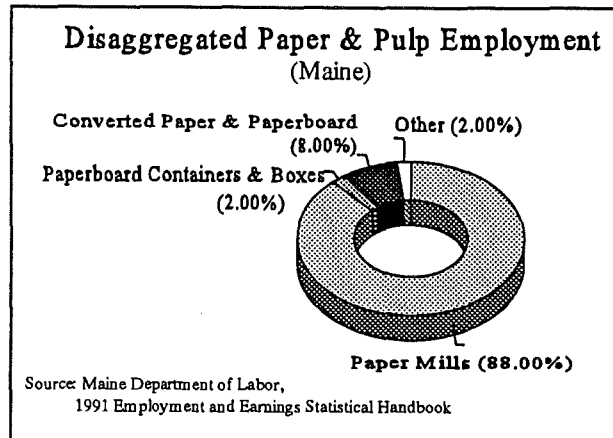


Figure 1

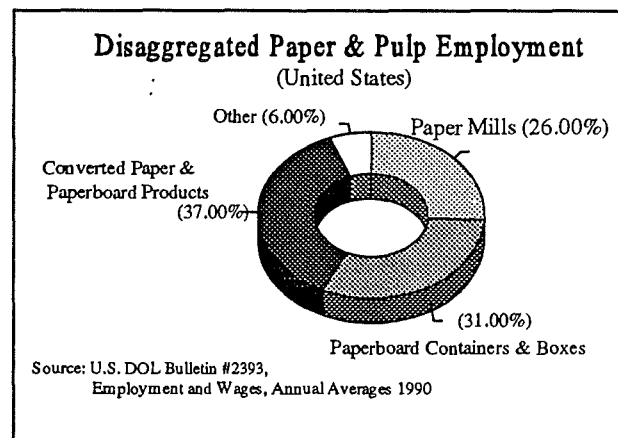


Figure 2

2. The Character of Employment and Earnings of the Maine Paper Industry

The paper and pulp industry has been one of the most reliable elements of the Maine economy for the last 25 years (see Figure 3). Over the last quarter of a century, paper employment has varied from a high of 18,284 in 1977 to a low of 16,173 in 1993. The latest full year of data available, 1993, reported the lowest level of average annual employment that the industry has experienced during the last 25 years. Among other things this is a result of the combination of being at the tail end of a national recession in the U.S. and a deepening European recession that created a situation of acute excess capacity in Europe. Each of these factors adversely affected demand for American-made paper products in 1993.

Although at its lowest point in 25 years, 1993 employment was still at 92% of its average level since 1969. Over this entire period the fluctuation in annual employment in the paper industry has been relatively minor, ranging from a maximum decline of -5.4% in 1975 to a maximum increase of +5.7% in 1977. In contrast, annual employment in the shipbuilding industry has fluctuated by changes of as much as +25% and -11% per year, and the electronics industry has seen annual employment changes of as much as +21% and -27% per year, over the same time period. These contrasts can be readily seen by comparing the relative stability in the graphs of the three employment trend lines in Figure 3.

The long term employment trend over the period has been an average decline in employment of -0.4% per year. Exacerbated by the adverse economic conditions in Europe and North America mentioned earlier, this downward employment trend also reflects long-term productivity improvements which have been achieved in paper production due to substantial investments in technological advances.

In addition to a reliable employment base, the paper industry provides high employee wages. Average annual employee wages in the paper and allied products industry were \$41,245 for 1992, as shown in Figure 4. This is the highest among Maine's manufacturing sectors, and is the second highest for any sector of the Maine economy. Only the rail transportation industry, which has fewer than 1000 employees, had a slightly higher 1992 average annual wage of \$42,761.

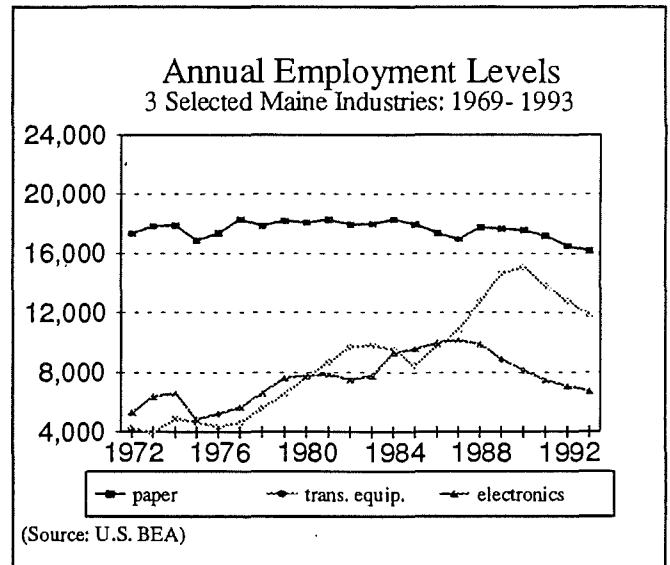


Figure 3

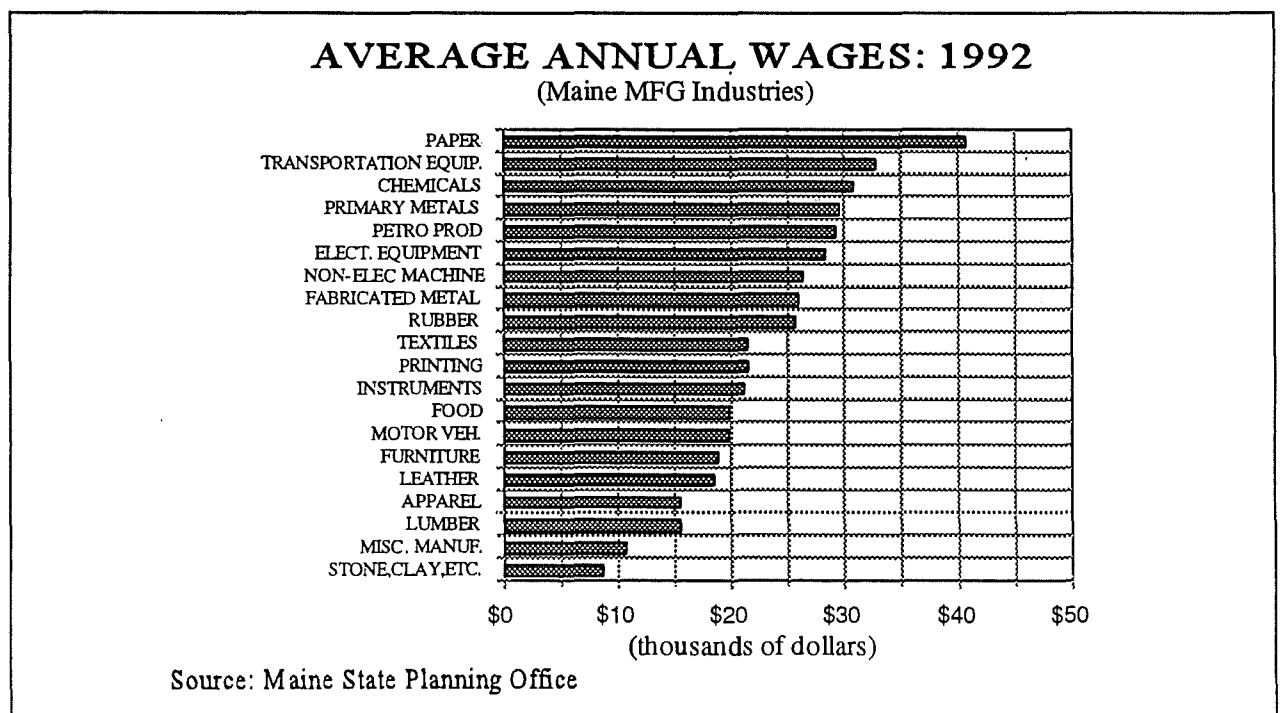


Figure 4

While employment has been stable, production has grown significantly. The paper industry contributed \$1.1 billion of Maine's \$22.8 billion (1987 dollars) of total gross state product (GSP) in 1993. Clearly, the paper industry plays an important role in contributing a significant and stable share of Maine's best paid manufacturing jobs; however it plays an even stronger role in its contribution to both manufacturing and overall gross state product. Gross state product is the sum of all the value-added produced within each sector of the Maine economy. Value-added by each sector amounts to the sector's output less all intermediate inputs.

The paper industry was directly responsible for 2.3% of Maine's total employment in 1993, yet the \$1.1 billion in value-added produced by paper industry firms accounted for 4.6% of Maine's total GSP. When the contribution of all the paper industry dependent employment is also factored in, the total share of GSP attributable to the paper industry amounts to a hefty 9.9% of Maine's total GSP.

Figure 5 shows the strong growth in value-added that Maine's paper industry has experienced since 1970. Over the period real net output grew from \$0.7 billion in 1970 to \$1.1 billion in 1992, measured in constant 1987 dollars (a total real dollar increase of 57%). This represents an average annual growth rate of 2.04% per year.

Another important aspect of Maine's paper industry is its contribution to productivity. At \$65,500 in value-added per worker, the paper industry in 1992 was ranked fifth highest in productivity among Maine's

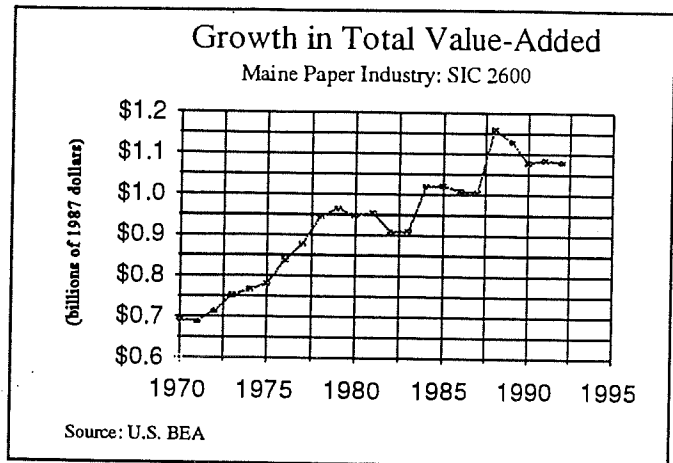


Figure 5

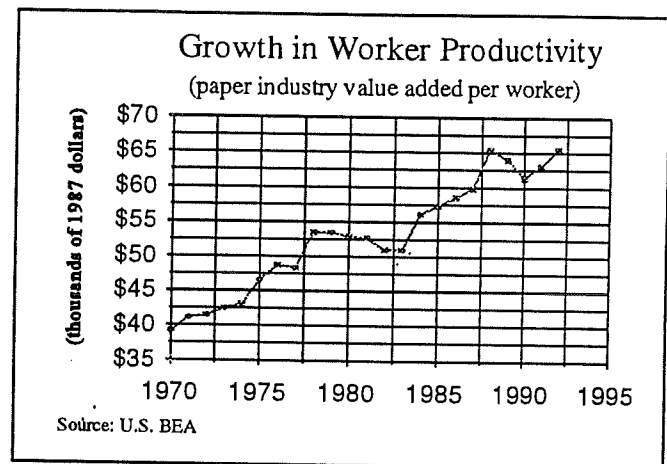


Figure 6

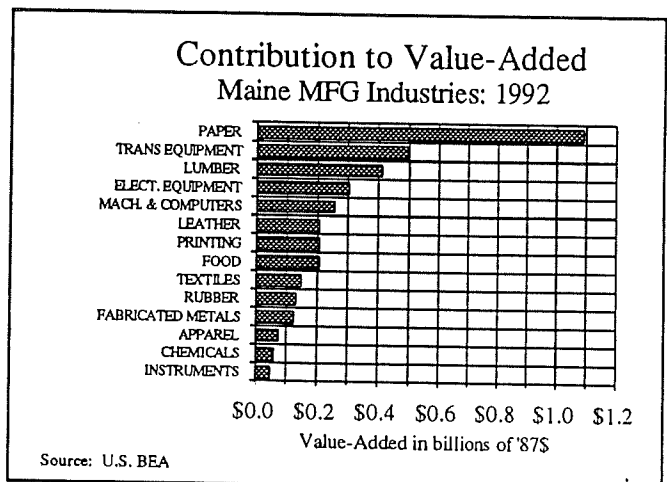


Figure 7

48 manufacturing and non-manufacturing economic sectors. Figure 6 shows the growth path in value-added per worker for the paper industry since 1970.

The paper industry contributed the largest share (29%) of manufacturing's total contribution to Maine's gross state product. In 1992 Maine's manufacturing industries were responsible for \$3.8 billion of Maine's \$22.2 billion in gross state product. Table 7 shows how the \$1.1 billion in value-added produced by the paper industry led all Maine manufacturing sectors by a wide margin.

3. The Role of the Paper Industry in the Maine Economy

The contribution of the paper industry to the Maine economy extends far beyond its role as an employer. The industry also supports thousands of Maine jobs through the procurement of inputs and services and through the purchases made by households directly or indirectly supported by the paper industry. In total, the Maine paper industry supports over 45,800 jobs in 43 sectors throughout the state, as well as \$1.5 billion in personal income and \$2.3 billion in Gross State Product. Table 1 summarizes the extent of the industry's role in the Maine economy.

Table 1
Economic Contribution of the
Paper Industry to Maine's Economy: 1993
(Includes Direct, Intermediate, and Induced Effects)

<u>Total</u> <u>Jobs</u>	<u>% of</u> <u>State Total</u>	<u>Earnings</u> <u>(current \$)</u>	<u>% of</u> <u>State Total</u>	<u>GSP</u> <u>(1987\$)</u>	<u>% of</u> <u>State Total</u>
45,829	6.6%	\$1.5 billion	6.4%	\$2.3 billion	9.9%

The paper industry supports three distinct layers of employment in Maine: direct, intermediate and induced jobs. **Direct employment** comprises all those people who are employed by the paper industry, itself, in Maine. In 1993 Maine's paper industry firms directly employed 16,173 people, as shown in column B on Table 2.

Intermediate employment is generated in all those firms who produce and supply inputs that are required by paper industry firms to maintain and continue their operations. Comprising 32% of the paper industry dependent jobs, this group includes businesses that provide an array of goods and services,

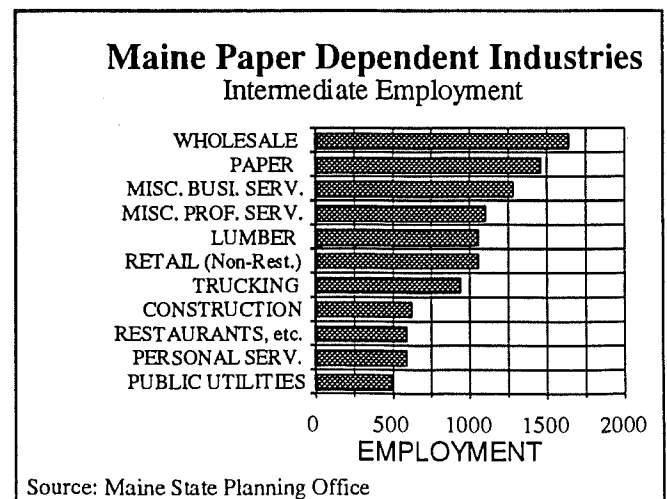


Figure 8

from lumber contractors to janitorial, accounting, and legal services; from trucking and railroad services to construction contractors, and wholesale or retail suppliers. The industries that have the largest number of paper dependent intermediate jobs are depicted in Figure 8. In all, there are over 14,600 workers in Maine who are employed to provide inputs or services to the paper industry as shown in column C of Table 2.

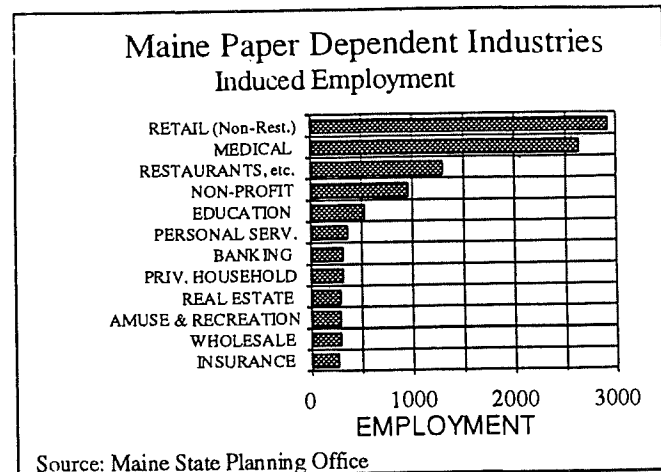


Figure 9

Induced employment, refers to those jobs which are supported by the purchases of goods and services by households supported by employment at the direct and intermediate levels. This group consists largely of retail trade, medical services, and restaurant employees. The industries that have the largest quantities of paper dependent induced employment are depicted in Figure 9. Induced employment created by the existence of the paper industry in Maine totals about 15,000 jobs. The full spectrum of paper dependent induced employment is shown in column D of Table 2.

4. Outlook

The State Planning Office anticipates employment in the paper industry to maintain its historical stability through the year 2005. During the period between 1994 and 2005 paper industry employment is expected to recover slightly from the recent recession and remain hovering around the 17,000 level, exhibiting little if any growth from the 1993 level of 16,173. At the same time, net output (value-added) of this sector is projected to grow at an annual rate of 1.8%.

This outlook presumes a growth in national paper industry net output (value-added) of 2.4% per year. The outlook is generated by the REMI (Regional Economic Models, Inc.) macroeconomic model of the Maine economy, which is largely based on the U.S. Department of Commerce's Bureau of Labor Statistics economic forecast 1992-2005 for the national economy. It also presumes that Maine's paper industry will achieve annual productivity improvements of 1.8% to maintain its share of national demand. Of course this result will only be achieved if investment in plant & equipment are sufficient enough to allow Maine's sector to also maintain its competitiveness in the national and international markets.

TABLE 2: Distribution of Paper Industry Employment in Maine: 1993				
INDUSTRY SECTOR	(A) TOTAL	(B) DIRECT	(C) INTERMEDIATE INPUTS	(D) LOCAL CONSUMPTION
LUMBER(24)	2,567	0	2,567	0
FURNITURE(25)	49	0	49	0
STONE,CLAY,ETC.(32)	178	0	178	0
PRIMARY METALS(33)	0	0	0	0
FABRICATED METALS(34)	32	0	32	0
MACH. & COMPUTERS(35)	65	0	65	0
ELECT. EQUIPMENT(36)	32	0	32	0
MOTOR VEH.(371)	0	0	0	0
REST TRANS EQUI(R37)	0	0	0	0
INSTRUMENTS(38)	0	0	0	0
MISC. MANUF.(39)	0	0	0	0
FOOD(20)	178	0	65	113
TOBACCO MANUF(21)	0	0	0	0
TEXTILES(22)	49	0	49	0
APPAREL(23)	16	0	0	16
PAPER(26)	16,173	16,173	0	0
PRINTING(27)	194	0	162	32
CHEMICALS(28)	16	0	16	0
PETRO PROD(29)	0	0	0	0
RUBBER(30)	65	0	65	0
LEATHER(31)	16	0	0	16
MINING(10,12-14)	65	0	65	0
CONSTRUCTION(15-17)	4,124	0	598	3,526
RAILROAD(40)	129	0	129	0
TRUCKING(42)	1,019	0	970	49
LOCAL/INTERURBAN(41)	97	0	49	49
AIR TRANSP.(45)	32	0	32	0
OTHER TRSP(44,46,47)	113	0	97	16
COMMUNICATION(48)	243	0	178	65
PUBLIC UTILITIES(49)	550	0	469	81
BANKING(60)	469	0	178	291
INSURANCE(63,64)	420	0	194	226
CREDIT&FIN(61,62,67)	129	0	65	65
REAL ESTATE(65)	420	0	146	275
EATING/DRINKING(58)	1,763	0	550	1,213
RETAIL(52-57,59)	4,302	0	1,536	2,766
WHOLESALE(50,51)	2,442	0	2,200	243
HOTELS(70)	146	0	49	97
PER SERV/REPR(72,76)	873	0	550	323
PRIV. HOUSEHOLD(88)	291	0	0	291
AUTO REP/SERV(75)	356	0	194	162
MISC. BUSI. SERV(73)	1,245	0	1,213	32
AMUSE&RECREATION(79)	340	0	65	275
MOTION PICTURES(78)	32	0	16	16
MEDICAL(80)	2,458	0	0	2,458
MISC PROF(81,87,89)	1,423	0	1,278	146
EDUCATION(82)	485	0	0	485
NON-PROFIT(83,84,86)	970	0	97	873
AGRI/F/F SERV(07-09)	113	0	81	32
STATE AND LOCAL GOVT	1,148	0	382	766
TOTAL	45,829	16,173	14,658	14,998
Source: Maine State Planning Office				

B. Diagnostic Review of the Pulp & Paper Industry in Maine

Forward

As a major component of its study, the commission commissioned Jaakko Poyry Consulting, Inc. to conduct a diagnostic review of Maine's pulp and paper industry. Jaakko Poyry Consulting, Inc. is the North American consulting headquarters of the Jaakko Poyry Group, which is the world's leading independent consulting and engineering company specializing in forest based industries.

This review was intended to assist the commission in developing an understanding of the current investment and operating environment for the pulp and paper industry in Maine and to provide a basis for the state to develop a long-term plan for enhancing the position of Maine's forest industry.

Jaakko Poyry conducted its analysis as a desk-top study, utilizing its knowledge, databanks, and forecasting techniques as they pertain to the resources, paper grades, and mills within Maine.

Market data was developed from industry statistics published by sources including the American Forest and Paper Association (AFPA), the Canadian Pulp and Paper Association (CPPA), and industry trade journals. Support from the commission in the form of publicly available information was provided in several areas. No information was solicited or received from any of the pulp and paper companies represented within the State of Maine.

The material that follows is an executive summary of the Jaakko Poyry Diagnostic Review of the Pulp and Paper Industry in Maine, prepared by Jaakko Poyry. The full report is available in the State Law & Legislative Reference Library.

While the commission had the opportunity to comment on a draft of the consultant's efforts, the report and the following summary represent the opinions of the consultant.

DIAGNOSTIC REVIEW OF
THE PULP & PAPER INDUSTRY IN MAINE

EXECUTIVE SUMMARY

Prepared for:

Commission on the Future of
Maine's Paper Industry

February, 1995

Prepared by:

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DIAGNOSTIC REVIEW OF MAINE'S PULP AND PAPER INDUSTRY

Jaakko Pöyry Consulting, Inc. prepared this report for the assistance of the Commission on the Future of Maine's Paper Industry (the Commission) in its evaluation of the status of Maine's pulp and paper industry.

The reader is assumed to be familiar with basic pulp and paper operations. This analysis does not purport to be all-inclusive or to contain all of the information which the Commission may desire. The analysis contained in this report is based on our best professional judgement and on sources of information which we believe to be reliable. However, no representation or warranty is made by Jaakko Pöyry Consulting, Inc. as to the accuracy or completeness of any of the information contained herein, and nothing in this report is, or should be relied upon as, a promise or representation as to the future.

Jaakko Pöyry Consulting, Inc.

COMMISSION ON THE FUTURE OF MAINE'S PAPER INDUSTRY

DIAGNOSTIC REVIEW OF THE PULP & PAPER
INDUSTRY IN MAINE

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I INTRODUCTION

I.1

Background

The recent decline in the profitability of the paper industry within the State of Maine has caused concern over the industry's long-term ability to remain a major part of the State's economy. Recognizing that the continued health of the paper industry is of vital concern to the entire State, the State of Maine has established the Commission on the Future of Maine's Paper Industry (the Commission) to identify problems the industry is facing and to recommend what, if any, actions the State may take to assist the industry.

As a starting point for developing a regional strategy and action plan, the Commission has invited Jaakko Pöyry Consulting Inc. to conduct a diagnostic review of Maine's pulp and paper industry. Jaakko Pöyry Consulting Inc. is the North American consulting headquarters of the Jaakko Pöyry Group, which is the world's leading independent consulting and engineering company specializing in forest based industries. In total, the Jaakko Pöyry Group employs some 5,000 professionals in 25 countries around the worldwide.

This review is intended to assist the Commission in developing an understanding of the current investment and operating environment for the pulp and paper industry in Maine. It is also intended to provide a basis for developing further studies around the industry's long-term prospects and for the State to develop a long-term plan for enhancing the position of Maine's forest industry.

The diagnostic review is not, and was not intended to serve as, an exhaustive analysis of the long-term viability of Maine's pulp and paper industry, and should not be relied upon as a promise or representation as to the future.

I.2

Scope of Diagnostic Review

Within the scope of this review, the current status of the pulp and paper industry in Maine has been evaluated with regard to wood resources, capital investments, the regulatory environment, key factors of pulp and paper production, and markets served. Following is a brief explanation of each component.

1.2.1

Maine's Wood Resources

Trends and issues affecting global wood markets have been reviewed with regard to the implications for Maine's wood resources. In addition, Maine's forest resources have been evaluated in terms of ownership structure, fiber quality, supply/demand, delivered cost, and forest management. Emphasis has been placed on relative advantages and disadvantages and their impact on the competitive positioning and operating environment of producers in the State.

I.2.2

Capital Investments

The review of capital investments includes a comparison of investment levels in the State of Maine relative to the United States pulp and paper industry over the past several years, as well as an evaluation of the technological status of Maine's industry versus relevant producing regions around the world.

I.2.3

Regulatory Environment

With regard to the regulatory environment, a brief review of the environmental regulations and permitting practices for air, wastewater, solid waste, and siting has been prepared for Maine and ten other states as they relate to the pulp and paper industry. In addition, general wastewater limitations have been presented for several countries for comparison to current and proposed limits in the United States.

I.2.4

Key Factors of Production

In addition to wood resources, a few key factors of production for the pulp and paper industry have been evaluated with regard to their impact on the competitive positioning and operating environment of producers within the State of Maine. The key factors which have been reviewed are as follows:

- Recovered Fiber
- Labor
- Energy

Each factor has been reviewed relative to cost, availability, and quality where appropriate. Significant trends and issues have been discussed.

I.2.5

Major Markets

While not all of the market segments served by Maine's pulp and paper industry have been reviewed, the segments which have been reviewed encompass a large majority of the producers within the State. The markets included within the scope of this analysis are as follows:

- Hardwood Kraft Market Pulp
- Uncoated Freesheet Papers
- Coated Freesheet Papers
- Uncoated Groundwood Papers
- Coated Groundwood Papers
- Newsprint
- Tissue

For each market segment, supply/demand, pricing, and significant trends and issues are discussed. In addition, the cost competitive environment, for the first five market segments listed, is evaluated using global cost curves. The cost curves illustrate the relative cost positioning of production in the State of Maine relative to significant producing regions around the world. Finally, a brief commentary on the overall attractiveness of each market segment for the State of Maine is provided.

I.3

Methodology

The diagnostic review has been conducted as a desk-top study, driven by Jaakko Pöyry's capabilities and databanks as they pertain to the resources, grades, and mills within Maine.

The market evaluation and review of key production factors is based on Jaakko Pöyry's industry knowledge, databanks, and forecasting techniques. The market data has been developed from industry statistics published by sources such as the American Forest and Paper Association (AFPA) and the Canadian Pulp and Paper Association (CPPA).

Cost competitive comparisons are based on proprietary computer simulation cost models developed by Jaakko Pöyry. These cost models were used to estimate the cash manufacturing cost to produce one ton of pulp or paper. Cash manufacturing costs include variable and fixed costs, as outlined below.

Variable Costs

Wood

Purchased pulp

Chemicals

Energy

Operating and Packaging Materials

Fixed Costs

Personnel

Maintenance Materials

Mill Overhead

Mill overhead includes expenses of office supplies, computers, office space, property taxes, and employee training. Cash manufacturing costs exclude corporate overheads and depreciation charges.

The primary information source for the estimates, as well as for the assessment of technological status, was Jaakko Pöyry's databanks for mill and process configurations. This data was supplemented with public data from sources such as industry trade journals and directories.

Support from the Commission in the form of publicly available information was provided in several areas. However, no information has been solicited or received from any of the pulp and paper companies represented within the State of Maine.

E**EXECUTIVE SUMMARY****E.1****Overall Summary**

The fundamental factors in the Maine investment environment, such as the quality and long term availability of wood raw material, are favorable for development of high value added pulp and paper production in the coming decades. The markets for several product categories provide attractive demand opportunities for the industry in Maine. In spite of this, it is apparent that the current industry in Maine is at a relative disadvantage in many respects, primarily as a result of low capital expenditure within the State. Therefore, attracting the capital investment required to pursue the future opportunities is the greatest challenge for the State and the industry in Maine.

Pulp and paper is a capital intensive industry, requiring not only large initial investments, but also significant on-going investments for the purposes of maintenance and environmental compliance, and for facility improvements, which are essential to the long term viability and competitiveness of a mill. Capital decisions are based on size and growth of the target market, as well as timing relative to the product price cycle, which can show extreme fluctuation. Due to this cyclicity and to intense competition during down-cycles, low cost position on the industry supply curve as well as competitive product quality are prerequisites for investment.

A review of the recent capital expenditures in the State of Maine indicate that relative to other regions of the U.S., little capital has been available for initial investments within the State, those being new "greenfield" facilities or new paper machines. As a result, Maine is experiencing a declining market share for most of the products historically produced within the State. In addition, an analysis of relative technological condition indicates that many mills and machines in Maine are old with small scale (capacity), indicating a relatively low level of improvement related expenditures over time.

To secure future capital, the investment and operating environment in Maine must be consistent with, or preferably more attractive than in competing regions. This includes not only the direct cost of doing business within Maine, but also the relative time requirements for implementing investment decisions. In an industry as competitive and cyclical as pulp and paper, where windows of opportunity for investment are short, timing can be the difference between success and failure.

With respect to operating environment, perhaps Maine's most significant advantage is its extensive forest resource, a critical element to the future and sustainable success of Maine's pulp and paper industry. The quality of fiber from Maine's forests, particularly softwoods, is superior to many regions of the U.S. and the world, and offers a competitive advantage for the manufacture of high quality paper. This inherent advantage is further enhanced by projected shortages of high quality fiber being driven by a growing fiber deficit in the Pacific-

Asia region. The adverse impact of this deficit will be greater on competing regions around the world, and will result in an increase in the value of Maine's wood resources for the production of quality pulp and paper products.

A few market segments offer attractive opportunity for Maine. Those offering the most attractive potential for expansion within the State include super-calendered (SC) uncoated groundwood, coated groundwood, and coated freesheet. In addition to attractive market potential, each of these grade categories, particularly the groundwood products, allow Maine producers a competitive advantage based on the quality of the fiber resource.

It is estimated that new, world-scale paper machines producing these products in Maine could be competitive on a global scale. Important competitive requirements, however, include integration to kraft pulp for coated freesheet, and to a lesser extent coated groundwood, and on-site electricity generation for the electric energy intensive groundwood products. The requirement for on-site generation (preferably hydro) is a must in Maine, due to high cost purchased electricity relative to competing regions.

As indicated, much of the existing industry in Maine is burdened by old and small scale machines. The competitiveness of these machines is typically poor in the production of commodity oriented products. However, opportunity exists for many of these mills to compete successfully in smaller, and higher value added niche markets available within the various grade segments, this is particularly true for uncoated freesheet papers. Several mills are already taking advantage of these opportunities.

Mills competing in commodity markets with little niche opportunities, or in markets with unattractive growth potential, may have the ability to invest in rebuilds enabling the production of higher value added papers. For example, the conversion of a newsprint machine to the production of coated groundwood, or the forward integration of a market pulp mill into the production of coated freesheet.

The investment and operating environment can be greatly influenced by the relative ease or difficulty of environmental regulations and permitting practices. From an operating standpoint, it is evident that in the absence of the EPA's proposed cluster rules, Maine is recognized as having more stringent regulations than the ten states reviewed. However, should the cluster rules be adopted in their current form, all states will be forced to be even more stringent than Maine's current limits, thus placing Maine on a level playing field.

With regard to the investment environment, a cyclical industry such as pulp and paper requires the ability to implement investment decisions in a timely manner to minimize the risk of missing a window of opportunity. In this respect, the types of projects which trigger environmental permitting and the relative time to permit can have a significant impact on a company's decision where to spend its investment dollars. While this study reveals that reported permit times appear to be comparable across the states reviewed, the importance of this issue warrants further analysis in order to reference actual permitting experiences, as well as to compare permit triggers from state to state.

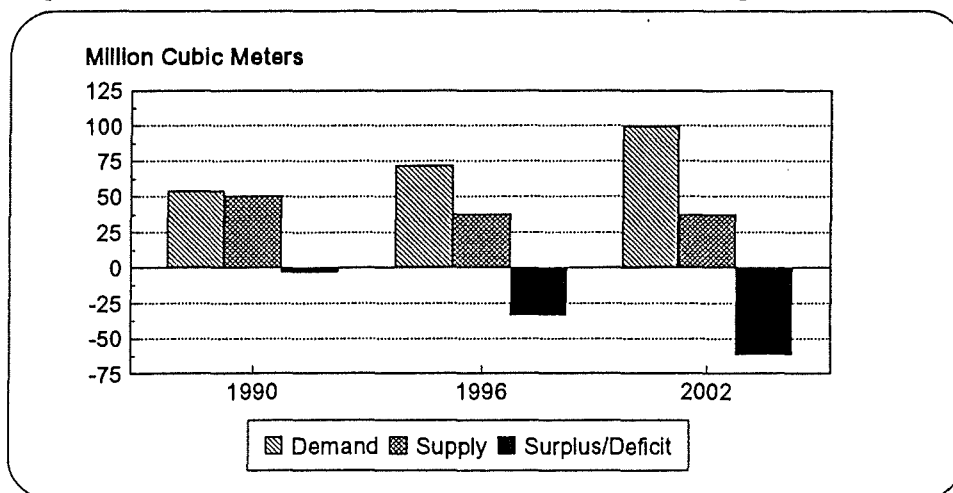
E.2**Maine's Wood Resources****E.2.1****Future Global Wood Demand/Supply Balance**

Future pressure on the world's forest resources will lead to shortages of high quality wood raw material, driven by a growing fiber deficit in Pacific-Asia. The impact is expected to be more adverse on competing pulp and paper producing regions than on Maine. Consequently, the value of Maine's forest resource for local manufacture of high quality forest products will increase.

Historically, international consumption of forest products has mirrored population growth: in the coming decades, this trend will change to one where consumption is projected to exceed the underlying rate of population growth.

Though demand in the industrialized nations continues to increase incrementally, demand in regions where the current standard of living and per capita consumption of paper is relatively low, will increase at a much greater rate.

The current population and anticipated population growth in Pacific-Asia are determining factors in projecting future demand for forest products and virgin fiber. The current demand for virgin fiber in Pacific-Asia substantially exceeds supply and the gap will widen as both population and per capita consumption increase and traditional sources of supply decline. This deficit will be a significant driving force in the global virgin fiber market in the coming decades.

FIGURE E/1**Projected Pacific-Asia Roundwood Balance - 1990 Through 2002**

Historically, the value of virgin fiber was largely determined by local demand and overland transportation costs within the domestic market. World trade in virgin fiber has become a reality as total demand increased, prospectively, it is

demand from the Pacific-Asia market that will increasingly impact the cost of wood in domestic markets around the world.

The greatest impact will be on those regions where transportation and logistical costs to Pacific-Asia are most favorable. Given Maine's geographic location, the impact on virgin fiber prices will be limited to the highest value products, resulting in a disproportionately greater rate of increase in other regions. The result will be an improvement in the relative competitive positioning of Maine's mills with regard to wood costs.

E.2.2

Maine's Forests

Maine's forests are significant both in terms of land area and the standing timber inventory. Commercial forests as a percentage of land mass are higher than any state in the nation. These forests rank eighth in terms of land area and eleventh in terms of standing inventory.

Maine has the highest percentage of privately owned commercial timberland in the U.S. Industrial ownership, a subset of private ownership, is also the highest in the U.S. The small proportion of public ownership results in a more stable market relative to national and international wood producing regions where administrative or regulatory actions affecting public ownership can affect a more substantial portion of the total available forest resource.

Maine's forests are dominated by softwoods, though the proportion has declined during the past two decades as a result of serious insect infestation. However, the volume of softwood growing stock per unit area is the second highest in the eastern U.S. Softwood will be adequate to sustain the established pulp and paper capacity, but opportunities for additional capacity based on softwood are limited.

With the declining availability and rising prices of softwood, hardwood usage increased, resulting in a decline in hardwood inventory for the first time in history between 1980 and 1990. While this declining trend is expected to continue over the next decade, additional capacity based on hardwood resources is believed to be sustainable in some regions of the State.

The quality of fiber from Maine forests, particularly softwoods, provides for a superior raw material for the manufacture of high quality paper. While growth per unit area in Maine is inferior to regions such as the U.S. South or countries in the Southern Hemisphere, the quality of fiber can be an entry barrier against producers in these regions, provided that Maine's producers target the high value added market segments.

The cost of softwood delivered to Maine mills is high compared to many U.S. and international regions, though to a much lesser extent when compared to regions with species of similar fiber quality such as Scandinavia. It is expected that the gap will narrow as international demand differentially influences the cost

of wood from other regions, increasing prices in other regions before any impact will be felt on Maine's resource.

Hardwood costs in Maine are low, relative to other U.S. and world regions, though recent increases in demand have been accompanied by price escalation.

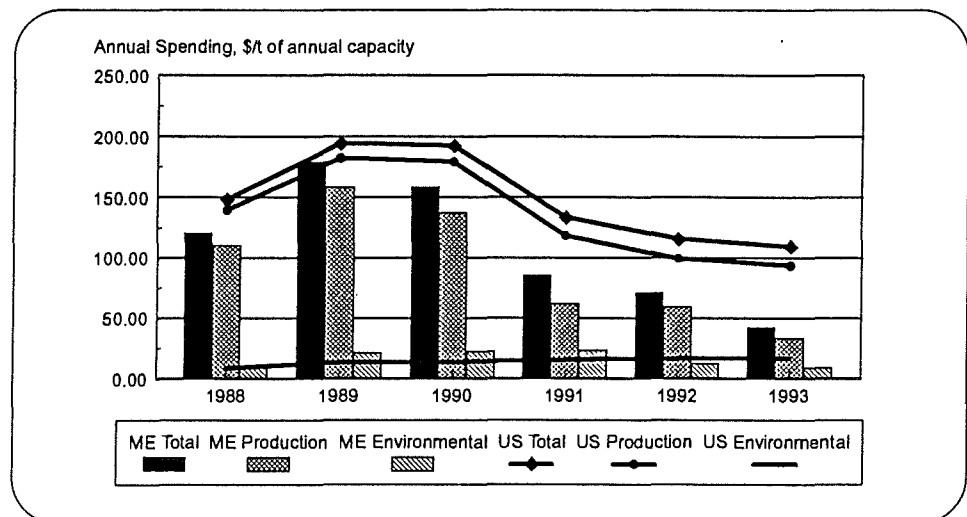
E.3**Capital Investments****E.3.1****Capital Spending**

The pulp and paper industry is a cyclical and capital intensive industry. The cyclicality includes product demand/pricing and capital spending. The peaks and troughs of these cycles tend to coincide. The last peak occurred in 1990 and the next peak is expected to occur in the 1996-1997 period.

Since 1988, a large portion of capital investments, almost 50% of the total, have been directed at facilities in the U.S. South. This compares to the approximately 3% of the total that was invested in Maine.

The annual spending on capital investments per ton of total regional pulp and paper production was used to compare the investments across regions. The ratio of spending in Maine to spending in the rest of the U.S. reveals that investments in Maine have dropped from 92% of the average U.S. level in 1989 to 39% in 1993, an indication that the industry in Maine is not receiving the capital investment support found in other regions.

Dividing the total capital spending between production and environmental related projects reveals that Maine has invested more capital per ton of capacity on environmental related projects than the U.S. average.

FIGURE E/2**Maine Spending on Capital Expenditures Relative to U.S. Average**

The higher level of capital spending on new capacity in other U.S. regions has resulted in Maine's declining share of U.S. capacity in four of the five grades analyzed. The fifth grade, SC-A, did not have any new U.S. capacity added since 1989.

E.3.2

Age and Scale of Mill Technology

The result of the lack of investments in new plants and equipment results in poor positioning of Maine in the production of most commodity grades. This is evidenced by Maine's positioning on the Strategic Capacity Evaluation (SCE) diagrams, a plot of capacity versus apparent age, an indicator based on the correlation between paper machine or pulp mill equipment age and its technological condition as determined by integrating its start-up year and subsequent capital investments.

The most desired location of the diagram is quadrant A, which indicates relative modern equipment and a significant presence in the market place. Mills in quadrant A tend to have a cost competitive advantage over mills in other quadrants. Conversely, quadrant D indicates relatively old and small production equipment, which can lead to relatively high fixed costs of production, particularly for commodity oriented products. However, smaller mills can be cost competitive in the production of niche or specialty grades that have small volume requirements.

Older than average apparent age indicates a lack of production related capital investment, leading to production equipment that has scale and operational disadvantages compared to newer and larger scale equipment.

The following diagrams illustrates the positioning of Maine as a region in the production of bleached hardwood kraft market pulp, uncoated freesheet, coated freesheet, supercalendered-A, and coated groundwood.

FIGURE E/3
SCE - Bleached Hardwood Kraft Pulp

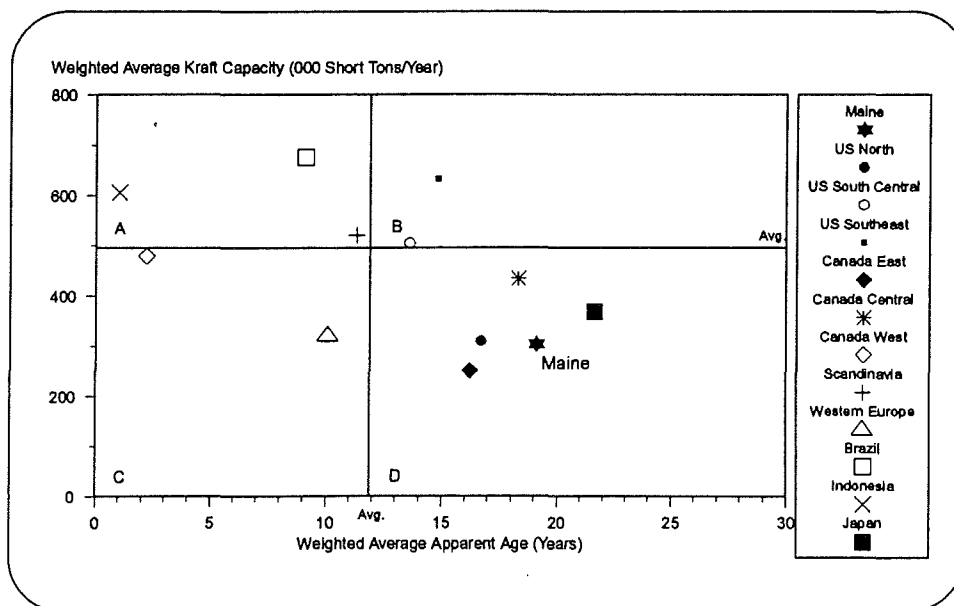


FIGURE E/4
SCE - Uncoated Freesheet Papers

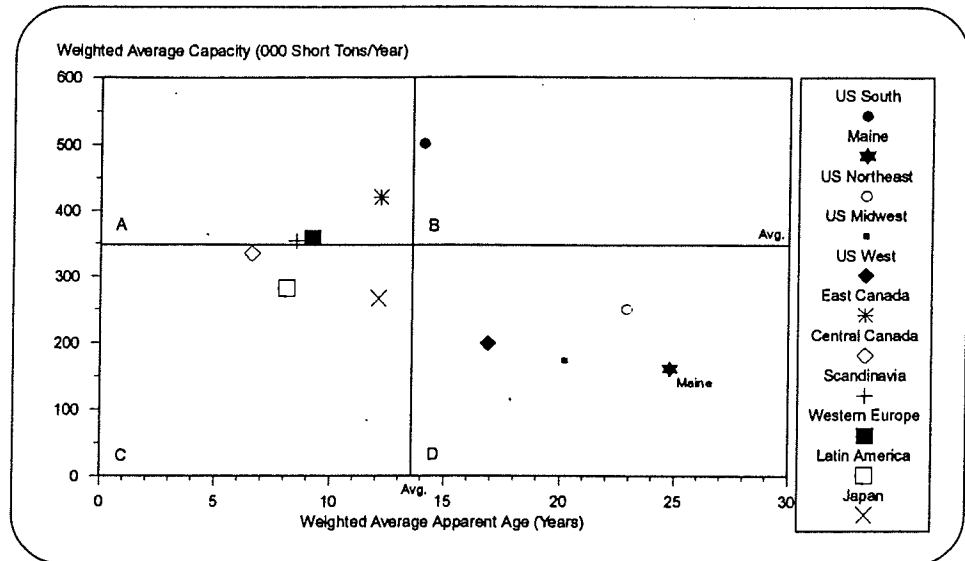


FIGURE E/5
SCE - Coated Freesheet Papers

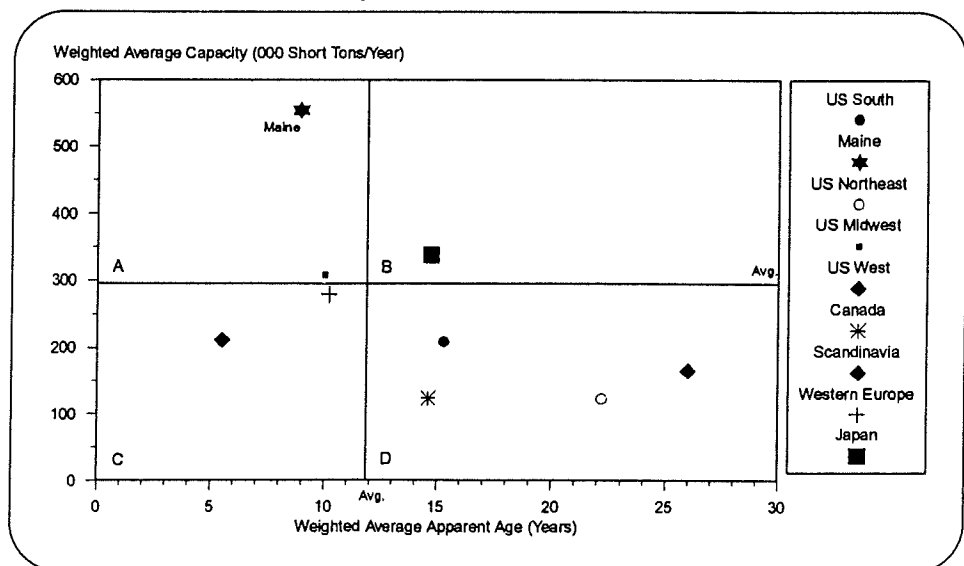


FIGURE E/6
SCE - Supercalendered-A Papers

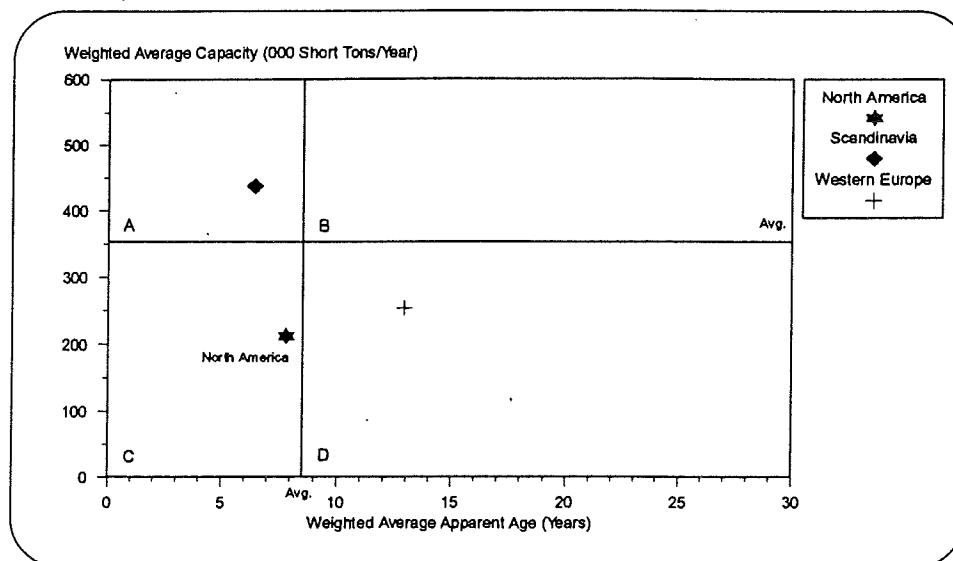
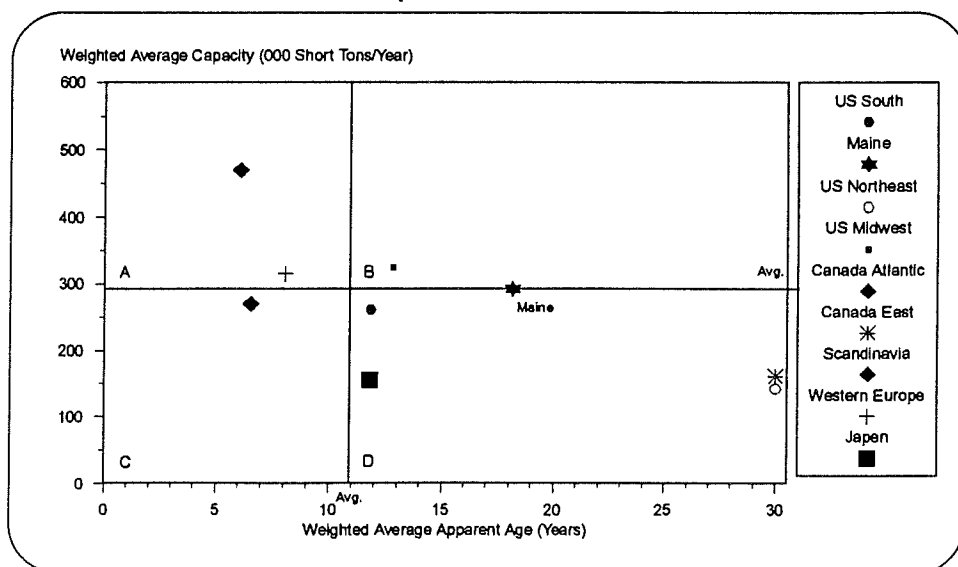


FIGURE E/7
SCE - Coated Groundwood Papers



The general conclusion for Maine mills is that they are typically smaller scale and tend to have older production equipment than other key pulp and paper regions. Coated freesheet is the only grade in which the average mill in Maine is considered to be large scale and is clearly more modern than in other regions.

Capital spending is required in Maine in order to either bring the paper industry to competitive standards in the production of commodity grades, or to successfully shift production towards higher value added specialty or niche markets. These investments should be targeted at market opportunities where Maine's inherent advantages of fiber quality can be utilized.

E.4 Regulatory Environment

E.4.1 Air Emissions

The State of Maine consistently sets limits in the commonly permitted criteria pollutants that are more stringent than the federal rules. Of ten additional pulp and paper states reviewed, Washington was the only one with limits more stringent than federal. Washington limits are as stringent as Maine relative to SO₂, but not the remaining criteria pollutants.

Maine also addresses pollutants not addressed with federal limits. For the majority of these pollutants, Maine has established guidelines from Bureau of Health criteria which are not enforceable but are referenced in the permits. The exceptions to this are chlorine and chlorine dioxide, which are regulated as enforceable parts of a license. Michigan also addressed many of these additional pollutants and has set limits which are typically much more stringent than Maine.

It is important to note that while Maine's air emission limits are more stringent than the other states reviewed, possible modifications to Federal limits, via the EPA's proposed cluster rules, would mandate a reduction in discharge levels for all states to levels which are more stringent those in Maine. This is true not only for the criteria pollutants, but also for the additional pollutants addressed by Maine. These and others would be controlled as Hazardous Air Pollutants.

E.4.2 Wastewater Discharges

Maine wastewater discharge requirements are similar to the states reviewed, dischargers must meet federal effluent standards adjusted for state water quality standards. State water quality standards are based upon state philosophies relative to water use, and are different for different bodies of water and for different locations on the same body of water. Therefore, the discharge limitations for pollutants will be different depending on which state the facility is located in and which body of water it may discharge to. A detailed analysis of state water quality standards was too complex for a review of this duration.

Relative to international environmental regulations, AOX, BOD, and TSS limits were reviewed and are comparable to the U.S. without consideration to water quality criteria for individual discharges. In the event that the EPA's cluster rules are imposed in their present form, the U.S. mills are projected to be much more stringent in AOX limits than all other countries except Australia, Finland, and Sweden. With respect to BOD, and TSS, the present U.S. limits are average and lenient, respectively. However, the proposed cluster rules would move the U.S. to the extreme low end in both categories.

Of the states reviewed, only Maine, Louisiana, and Florida do not have federal delegation to issue National Pollutant Discharge Elimination System (NPDES) wastewater discharge permits. Florida is about to receive its delegation. While

the federal and state requirements to receive a permit do not differ greatly, it does require the applicant to deal with two agencies and to obtain two wastewater discharge permits. Maine should evaluate receiving delegation for NPDES permitting to simplify the wastewater permitting process for industry.

As with air emissions, pending legislation would require reductions in discharge levels for all states. The proposed cluster rules are very stringent in setting limits.

E.4.3

Solid Waste Issues

Based on this review, it is evident that Maine's solid waste requirements are similar to those of the other states reviewed, and that the State's requirements for landfills should not be a deterrent to industry. Of greater concern are the siting issues discussed below.

E.4.4

Siting Issues

Maine's Site Location Permit Requirements are more organized and defined than the other states and are also more stringent. They include a complete environmental assessment of the site and centralized environmental permitting and approval oversight control, such as required by the National Environmental Procedure Act (NEPA) when federal involvement is included. While the EPA will more than likely become involved in issuing an NPDES permit for a new major facility, and the assessment required anyway, there have been numerous developments by the industry that did not trigger NEPA but the Maine requirement was still enforced.

Most of the other states can conduct permitting without federal involvement and therefore are free to establish their own siting requirements, or conversely, not to have comprehensive siting requirements. The Maine permitting procedure provides more opportunity for input by public factions than other states reviewed, and as such can lead to extended permitting times. Given that the window of opportunity for investment is often very short in the pulp and paper industry, timing can be the difference between a projects success and failure.

E.5**Key Factors of Production****E.5.1****Recovered Fiber**

The recovered fiber market has undergone significant changes over the past decade. Recovery rates have risen from 29% in 1984 to 40% in 1994. By 2000, approximately half of all paper and paperboard consumed in the U.S. will be recovered from the waste stream.

Consumption of recovered paper from the printing and writing and newsprint segments has led to other segments of the industry due to strong consumer demand for recycled products. This trend is expected to continue through the end of the decade.

Maine's paper industry will be targeted for recycled content due to its' significant printing and writing paper capacity. Recovered fiber usage in printing and writing papers is being driven by government legislated content requirements as well as by voluntary goals set forth by many newsprint, magazine, catalog, and directory publishers.

An example of government driven content requirements is the Executive Order, which directs that federal agencies meet or exceed minimum content standards when purchasing, or causing the purchase of, printing and writing papers. While the Order officially applies to federal purchases only, recent surveys of paper users reveal that the majority expect the paper of the future to contain at least 20% postconsumer fiber. The Executive Order is mainly driving the recycled content of uncoated freesheet papers.

Producers of coated and uncoated groundwood papers are affected mainly by the voluntary goals of publishers. An example is Time/Warner, which has announced that all of its titles would contain recycled paper by 1996. These voluntary goals will continue to increase, and could have a significant impact on groundwood mills.

Newsprint mills are subject to the same problems as the printing & writing paper mills, as voluntary and legislated recycled content requirements adopted by many states make recycled content a must. Maine's one newsprint mill appears to have adapted quite well, with an integrated deinking facility producing recycled pulp from old newspapers and old magazines.

A potential disadvantage for producers in Maine is the higher cost of procuring recovered paper. Recovered paper is generated by people, and while a significant percentage of the U.S. paper making capacity is located in Maine, only 0.5% of the U.S. population resides in Maine. This lack of potential supply, coupled with Maine's remote geographic location and high cost of importing waste-paper from other regions, results in a competitive disadvantage.

For many printing and writing mills, sources exist for obtaining pre-processed recovered fiber, such as from market deinked pulp mills, which have been being built in response to the increasing demand for recycled content paper. One such mill is currently under construction in Auburn, Maine.

Additionally, mills in Maine may be able to take advantage of an excess supply of old corrugated containers (OCC) in the State and the Northeast. Historically, lower grades of recovered fiber such as OCC have not been used in the production of high quality printing and writing papers, this could change however, due to the success of one mill now using OCC to produce uncoated freesheet grades.

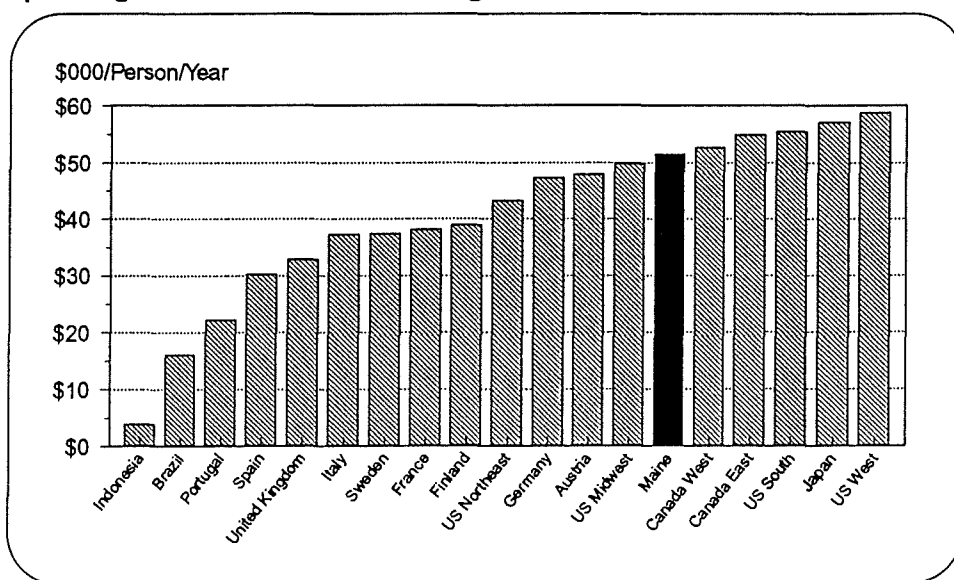
E.5.2 Labor

Labor is a significant cost element in pulp and paper production, accounting for roughly 20% of the cash manufacturing costs for several analyzed grades.

Labor costs are the product of total cost per person and the total number of people employed. Wages paid to employees, for time on the job, accounts for roughly two-thirds of the total cost per person. The remaining one-third goes towards benefits and taxes.

The following figure shows annual labor costs and benefits per person in Maine to be close to average for North America, but higher than many off-shore regions. Lower rates in many Scandinavian and Western European countries are partially offset by their use of a five shift system versus the four shift system in the U.S.

Figure E/8
Operating Personnel Costs Including Benefits - Cost Level 1994



A significant difference in labor costs between regions, and the most significant difference in labor costs between Maine mills and those in other states, is due to mill scale. A common benchmark for comparing labor cost differences is to compare costs per ton of production. Since per person costs do not vary much between states, labor cost differences within the U.S. are mainly associated with the number of employees required to produce a ton of product.

For expansions or new capacity to be as attractive in Maine as in other regions of the U.S., the capacity must be of sufficient scale to have competitive labor costs. This requires that new capacity which is targeted for the production of commodity grades be of world scale. While scale is not as critical for equipment targeted for specialty grades, it is important that for each grade, the scale be on par with existing and planned equipment used by competitors in other regions.

E.5.3

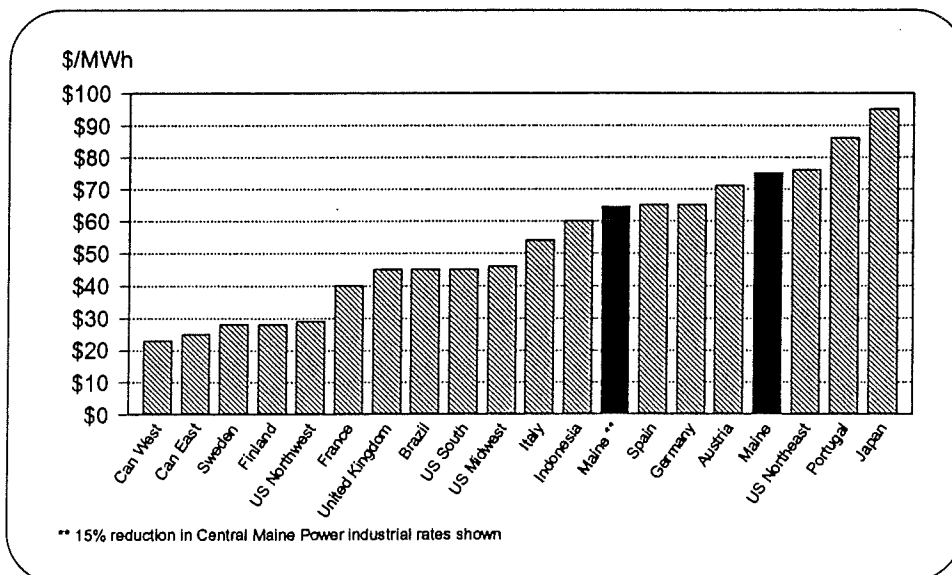
Energy

Pulp and paper production is energy intensive, requiring a large amount of electricity and heat to convert wood into value added pulp and paper products. North American average purchased energy costs as a percentage of total cash manufacturing costs range from a low of approximately 4.5% in the production of bleached hardwood market pulp to 21.1% in the production of supercalendered paper.

Mills satisfy their electricity requirements either through on-site generation or purchases, which are usually from an electric utility company. Purchased electricity rates in Maine are high compared to other pulp and paper producing regions as illustrated in the following figure.

FIGURE E/9

Global Purchased Electricity Prices - Cost Level 1994



The impact of high electricity rates can be significant. Many existing mills in Maine have mitigated the impact of high rates by installing electricity generating capacity on-site. Those mills without on-site generation, however, remain exposed to the higher rates. The lowest cost on-site electricity is produced using hydrodynamic power. The other option for mills is to install gas or steam powered turbogenerators.

Pulp and paper mill heat requirements are generally satisfied by burning fuels to produce steam. Typical sources of fuel include wood and wood residuals, oil, natural gas, and coal. Many mills have the flexibility to use several fuel types and make their selection based on cost and availability. The result of this flexibility is that bottom line purchased fuel price differences throughout the U.S. do not vary as much as purchased electricity prices.

In spite of high purchased electricity unit prices, the current energy operating cost structure in the mills in Maine is competitive with other regions. Mills in Maine have invested in on-site electricity generation resulting in Maine having a relatively high level of on-site generation, especially hydro, per ton of production. Compared to regions with lower cost energy, the high unit costs of purchased power in Maine have increased the capital requirement for paper mills. Even after the 15% reduction in Central Maine Power industrial rates, Maine rates are significantly higher than those in many high growth states.

For pulp and paper industry expansions or new capacity to be as attractive in Maine as in other regions, the expansions must include additional power generation. Maine can be more attractive than most other regions in the consideration of energy costs if it allows for and aids in the expansion of industrial hydrogenation and thermal cogeneration.

E.6**Major Markets****E.6.1****Bleached Hardwood Kraft Market Pulp**

Market pulp is produced for sale on the open market, this is in contrast to pulp that is produced for internal consumption at an integrated pulp and paper mill. Bleached softwood and hardwood kraft pulp comprise over 80% of worldwide market pulp shipments.

While there are no mills in the State of Maine which operate solely as a producer of market pulp, there are four hardwood kraft producers in the State which have the capability to dry and sell a portion of their pulp. These four mills have an aggregate capacity to produce approximately 495,000 metric tons of Bleached Hardwood Kraft market Pulp (BHKP) annually, representing nearly 10% of North American BHKP capacity. The producers and their capacities are outlined in the following table:

TABLE E-1
Bleached Hardwood Kraft Market Pulp Producers in Maine

Mill	Location	Annual Capacity 000 M Tons
Boise Cascade	Rumford	30
Georgia-Pacific	Woodland	295
James River	Old Town	130
Lincoln Pulp & Paper	Lincoln	40

Historically, BHKP has been produced in the U.S., Canada, and the Nordic Countries. However, over the past two decades, these traditional supply regions have been threatened by production from the Iberian Peninsula and the Southern Hemisphere, particularly Brazil and Indonesia, which is based on relatively low-cost, fast-growing, plantations of eucalyptus and acacia.

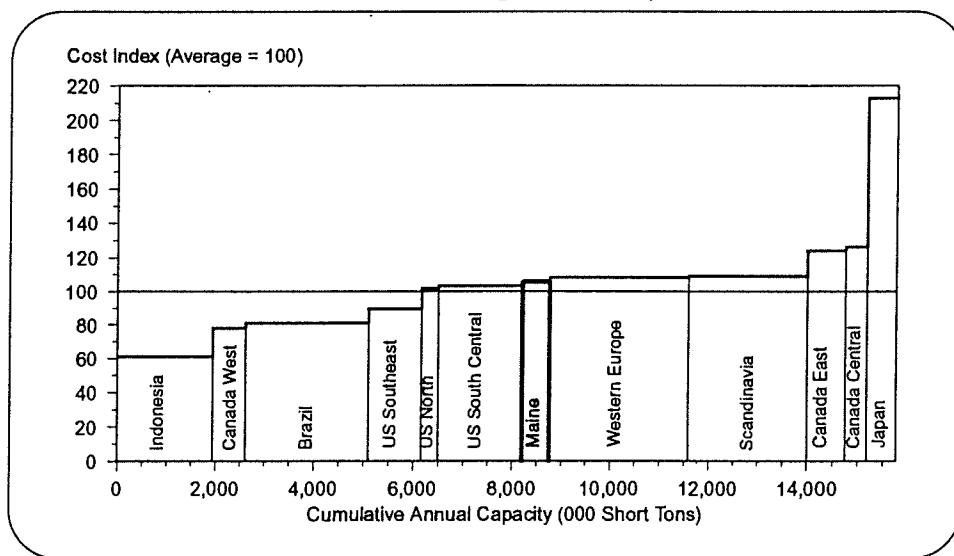
While the market pulp business has begun to rebound after a period of depressed prices, it remains a highly cyclical business, with a short term characterized by sharp inventory swings and wide price fluctuations, and a long term characterized by five to seven year cycles, based primarily on economic conditions and capital investment.

The emergence of low-cost capacity in the Southern Hemisphere, as noted above, is changing the nature of competition in the market pulp business. The investment and operating environment in these countries is different than that in the traditional supply regions, and as such, decision making is driven by different factors. For example, capacity expansion in Indonesia is being driven by an aggressive government plan for developing the country's forest industry. In the long term, it is expected that the shift to these low cost regions will contribute to a declining real price trend for market pulp.

Environmental pressures are also adding an element of uncertainty to the market pulp business. The movement towards recycled content papers is resulting in the substitution of deinked market pulp, made from recovered paper, for BHKP in many printing and writing papers. In addition, newly evolving environmental standards as proposed by the EPA cluster rules will likely have a significant impact on all U.S. pulp producers. The regulation, as proposed, would require a move to elemental chlorine free (ECF) bleaching and for many mills would require significant capital expenditure. Currently, one of Maine's market pulp mills is producing ECF pulp.

Maine's BHKP producers are estimated to have average cash manufacturing costs on a global scale. With average cash costs which are 6% higher than the global average, Maine falls in the third quartile on the global cost curve, as illustrated in the following chart.

FIGURE E/10
1994 Global BHKP Cash Manufacturing Cost Competitiveness



Maine's market pulp mills are at a relative disadvantage due to their relatively small production capacities, resulting in poor economy of scale and fixed costs that are over fifty percent higher than the average producer.

Opportunities in the hardwood market pulp business for producers in Maine are characterized by high risk. In addition to being a highly cyclical business, market pulp is a low value added product. However, options exist for Maine BHKP producers to enhance their position in the future. Forward integration into freesheet papers, particularly coated freesheet, or bristols, represents an opportunity for increased value added and a move to less cyclical markets.

E.6.2

Uncoated Freesheet

Uncoated freesheet papers (UFS) are commonly used for business correspondence (eg. copier paper), commercial printing, direct mail, envelopes, and business forms. UFS is produced primarily from bleached kraft pulp and also contains chemical "fillers" such as clay and calcium carbonate. The net result is paper which has good strength and optical properties.

UFS is an important grade category for Maine with six mills producing a variety of products. The combined annual capacity of these mills is approximately 990,000 tons, which represents over 7% of total U.S. capacity. These mills are outlined in the following table:

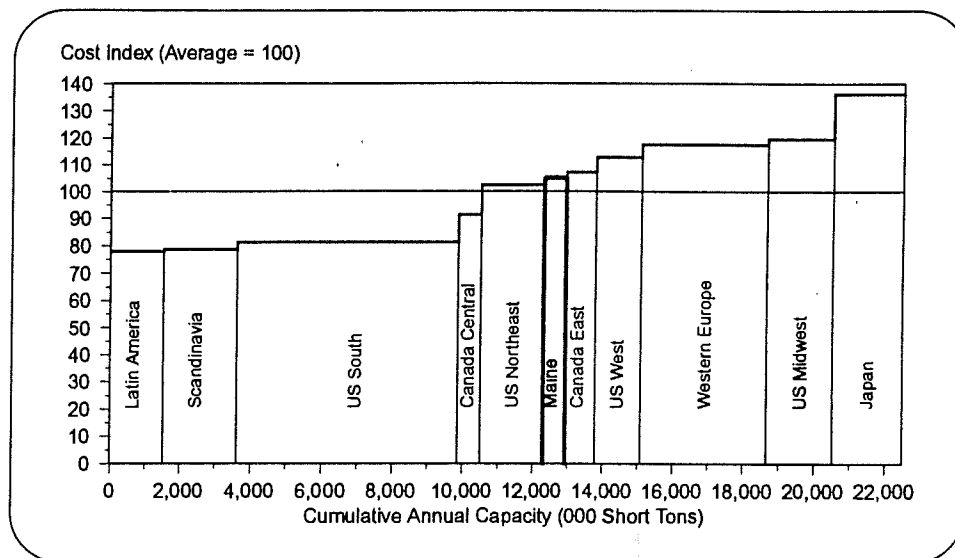
TABLE E-2
Uncoated Freesheet Producers in Maine

Mill	Location	Annual Capacity 000 Tons	Grades
Boise Cascade	Rumford	145	book, bond, offset, tablet,
Eastern Fine Papers	Brewer	40	specialty grades: greeting card, opaque, papeterie
Fraser Paper Co.	Madawaska	215	book, bond, offset, tablet
Georgia-Pacific	Woodland	110	commercial printing papers
International Paper Co.	Jay	280	book, bond, envelope, tablet
Lincoln Pulp & Paper Co.	Lincoln	55	bond, tablet, xerographic
Otis Specialty Papers	Jay	145	specialty papers

In 1994, the UFS market began to emerge from an industry downturn which had lasted for over three years. During that period, industry operating rates and prices fell to sub par levels as a result of declining demand growth in conjunction with significant capacity increases. The current economic recovery has stimulated demand and the forecast is for improved operating rates through the end of the decade.

UFS producers in Maine are estimated to have relatively high manufacturing costs for commodity products. With average cash costs which are five percent higher than the global average, Maine falls in the third quartile of the global cost curve as illustrated below. This indicates that over 50% of production comes from lower cost regions.

FIGURE E/11
1994 Global UFS Cash Manufacturing Costs



While the cost structure of the mills in Maine varies, they generally have higher fixed costs and lower variable costs than the global average. Higher fixed costs are due to small mill scale and non-integration to kraft pulp at certain mills. The global average scale of UFS mills is over twice that of most Maine UFS mills. This small scale hampers Maine's competitive positioning in the production of commodity grades.

However, Maine's smaller machines have a competitive advantage serving the smaller UFS niche markets. Smaller market sizes dictate production runs which are much lower in volume and more demanding than for commodity grades. Large machines tend to be dedicated to large volume commodity products in order to maximize efficiency. Conversely, specialty grades can offer smaller, more flexible producers the ability to shield themselves from competing directly against larger mills.

As with other segments of the pulp and paper industry, environmental issues are having an impact on UFS mills. Recycled content has become an important requirement for many consumers, and UFS producers need to be sensitive to the challenges and opportunities it presents. Given Maine's geographic location and low population base, Maine is at a relative disadvantage to many regions with regard to the ability to procure recovered paper economically.

In addition, the EPA's proposed cluster rules would also have an impact on UFS producers, particularly integrated mills, as the proposed legislation would require a move to ECF bleaching of kraft pulp.

An advantage for Maine is its high quality and abundant hardwood forest resource. Northern species, such as those in Maine, have the capability of providing a more uniform and closed paper surface compared to southern fiber. This

can result in superior graphics definition compared to southern fiber based paper, resulting in a competitive advantage.

E.6.3**Coated Freesheet**

Coated freesheet (CFS) papers are high quality printing grades. The largest end-use markets for CFS are commercial printing, catalogs, magazines, labels, direct mail, and books. As with UFS, CFS papers are produced primarily with bleached kraft pulp and contain chemical fillers. The major difference from UFS is the application of chemical pigments to the surface of the product, resulting in a sheet with superior printing properties.

The U.S. is a major producer of CFS, and is largely self-sufficient for these grades. CFS is also a major product for the State of Maine, with nearly one-quarter of total U.S. production, or approximately 975,000 tons annually, as outlined in the following table.

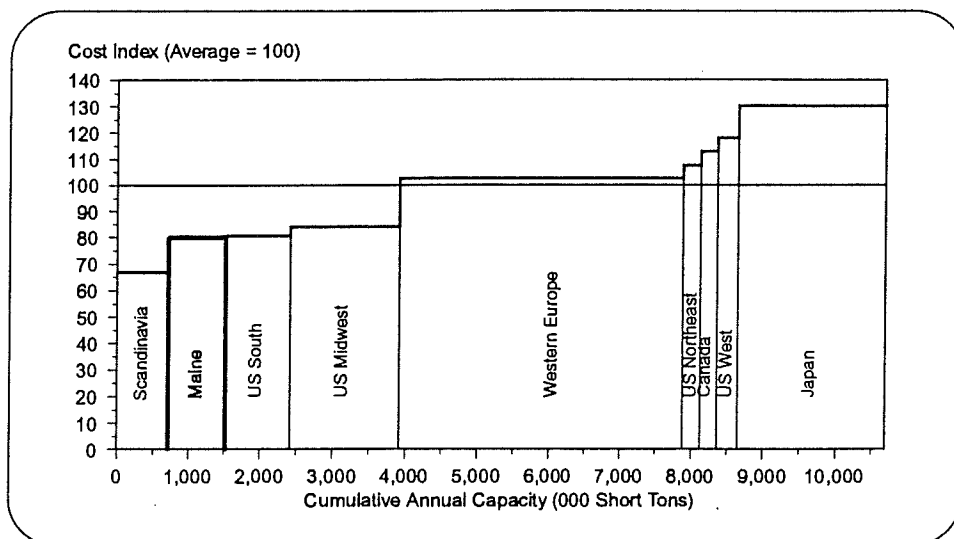
TABLE E-3
Coated Freesheet Producers in Maine

Mill	Location	Annual Capacity 000 Tons	Grades
Boise Cascade	Rumford	210	Coated commercial printing papers
Eastern Fine Paper	Brewer	10	Coated freesheet
Fraser Paper	Madawaska	20	Coated specialties
S.D. Warren (Sappi)	Hinckley	645	Light weight coated printing papers
S.D. Warren (Sappi)	Westbrook	90	Coated printing papers

In the early 1990s, significant CFS capacity additions combined with falling demand due to the recession, resulted in oversupply and price distressed markets. While prices have risen during the last half of 1994, they are still below the peak levels of the late 1980s. However, the CFS business is expected to show good demand growth in the future at 3.3% per year through 1999.

Overall, Maine's production is low cost due to good machine scale, low hardwood costs, and a high degree of integration to kraft pulp. As a region, the capacity in Maine is positioned favorably relative to the age and scale of capacity in competing regions. Cash manufacturing costs in Maine average twenty percent below the global average, falling in the first quartile on the global cost curve.

FIGURE E/12
1994 Global CFS Cash Manufacturing Costs



Coated freesheet grades offer attractive potential for the industry in Maine. The quality of the Maine's wood resources provide a competitive advantage and with almost one-quarter of the total U.S. capacity for coated freesheet papers, the State is well positioned to continue to serve the future needs for these products.

It is estimated that a new large scale paper machine at an integrated mill in Maine would be competitive on a global scale. The older and smaller paper machines can be competitive serving niche markets with value added products.

E.6.4

Uncoated Groundwood

Uncoated groundwood papers consist of two grade segments, supercalendered (SC) papers and other uncoated groundwood, which includes directory, groundwood specialty, and a variety of other grades. Unlike freesheet papers, groundwood grades are produced with a high percentage of mechanical pulp, resulting in a lower value product.

SC papers are heavily filled papers resulting in higher smoothness, opacity, and brightness than other uncoated groundwood grades. SC's largest end-use markets are the inserts and catalog markets, a substantial portion is also used for commercial printing and for magazines. SC competes with some coated papers (mainly coated groundwood) in the catalog and magazine markets.

Other uncoated groundwood papers are more closely related to newsprint, but have higher brightness levels and enhanced printing surfaces. The major markets for these products are directories and inserts. A significant portion is also consumed for commercial printing and business forms.

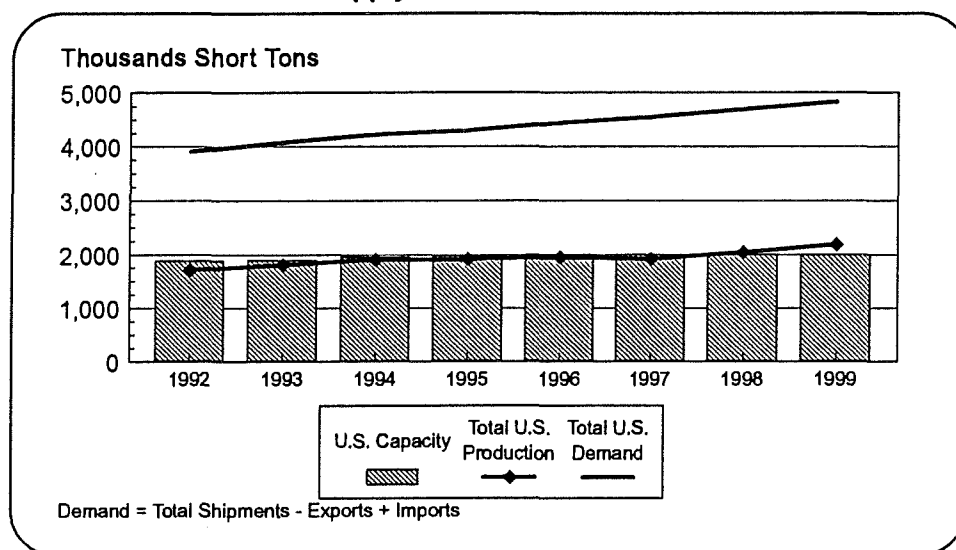
Maine is a significant producing region for uncoated groundwood papers with over one-third of the U.S. capacity, or approximately 625,000 tons as outlined in the following table.

TABLE E-4
Uncoated Groundwood Producers in Maine

Mill	Location	Annual Capacity 000 Tons	Grades
Bowater (Great Northern Paper)	E. Millinocket	160	Uncoated groundwood specialties
Bowater (Great Northern Paper)	Millinocket	85	Uncoated groundwood specialties
Fraser Paper	Madawaska	165	Directory, other
Madison Paper	Madison	215	SC

Growth rates for U.S. uncoated groundwood demand is expected to be a healthy 4.4% through 1999. Annual consumption will increase by 1.2 million tons over current levels. The following supply/demand figure illustrates the heavy dependence of the U.S. on imports to meet demand and the opportunity for domestic mills to fill the supply gap.

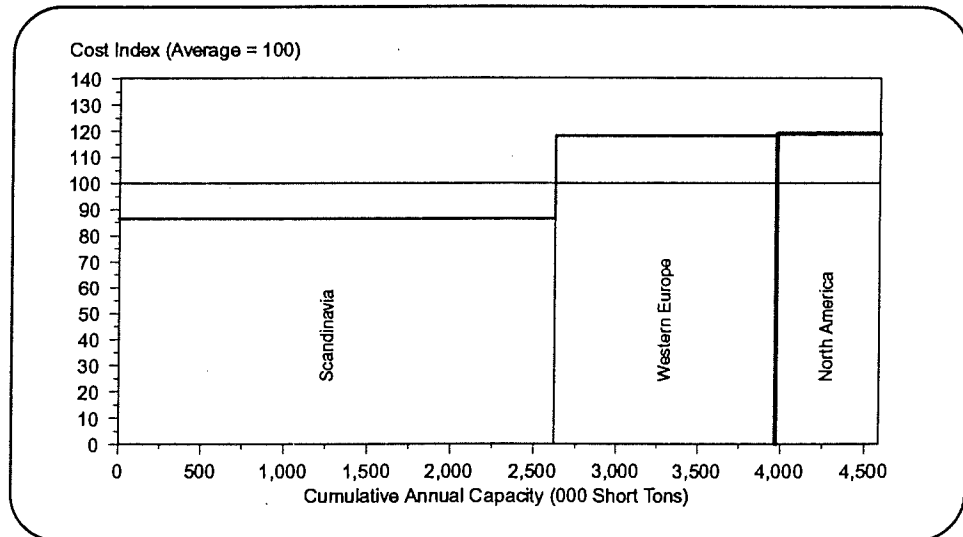
FIGURE E/13
Uncoated Groundwood Supply/Demand Balance Forecast



Nearly 40% of SC demand was satisfied by offshore imports in 1993. Even if the current supply gap is disregarded, it is important to note that the U.S. market growth alone is sufficient to accommodate new capacity. Estimated new demand through 1999 will require nearly 500,000 additional tons of SC.

The current cost competitiveness North American mills is illustrated in the following figure. The cash costs of North American producers are estimated to be nineteen percent higher than the global average, and fall in the fourth quartile of the cost curve.

FIGURE E/14
1994 Global SC-A Cash Manufacturing Costs



The main advantage of the low cost Scandinavian producers is larger and more modern production capacity than in North America or Western Europe, resulting in lower fixed costs per ton of product. Additionally, electricity requirements are great for these products and Scandinavian mills enjoy significantly lower purchased electricity costs than the North American mills.

The addition of new world-scale capacity at existing North American mills would be cost competitive with Scandinavia if the new capacity is accompanied by low cost electricity. In Maine, high electric company rates requires on-site electricity generation to achieve low cost electricity, hydrogeneration is a significant advantage.

The industry in Maine is positioned to pursue the growing market opportunity in high value added uncoated groundwood grades such as SC-A and SC-A+. These grades are a substitute for high quality coated grades and therefore quality is a key requirement. Sufficiently high quality fiber is only found in the northern climates such as in Maine, the Midwest, and the Nordic countries. This forms a barrier for entry against producers in regions of faster growing species.

Additionally, a relatively new grade development is Film Coated Offset paper (FCO). FCO is a lightly coated grade which falls between SC paper and coated groundwood on the quality spectrum. Currently produced only in Europe, FCO is typically produced on converted SC machines, however a new machine will start up in 1995. While not currently produced in North America, this grade may provide attractive opportunity for either an upgraded or new paper machine.

The lower-value added uncoated groundwood markets are less attractive, due to relatively low growth and increasing substitution pressures from other grades. These grades are being displaced by newsprint from below and SC from above.

E.6.5**Coated Groundwood**

As with uncoated groundwood papers, coated groundwood contains a high percentage of mechanical pulp. The major difference between the two grade categories is the application of chemical pigments to the surface of the product, resulting in a higher quality sheet. Coated groundwood papers are primarily mass publication papers for end-use markets such as magazines, catalogs, coupons, and inserts/flyers.

Coated groundwood is also an important market segment for the State of Maine with capacity to produce about 1.3 million short tons annually, over one-quarter of the total U.S. capacity, as outlined below.

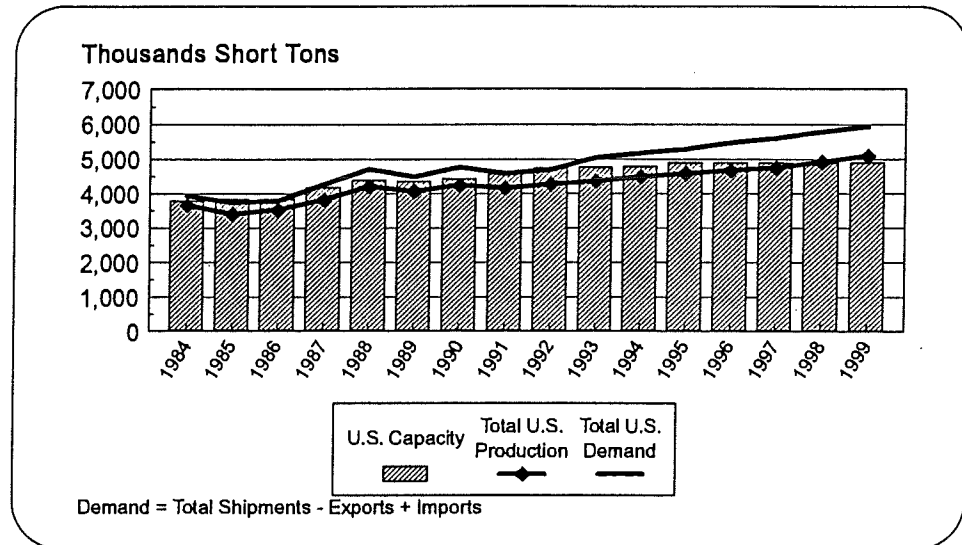
TABLE E-5**Coated Groundwood Producers in Maine**

Mill	Location	Annual Capacity 000 Tons	Grades
Boise Cascade	Rumford	220	Coated publication papers
Bowater (Great Northern Paper)	Millinocket	200	Coated publication papers
Champion	Bucksport	460	Coated publication papers
Fraser Paper	Madawaska	160	Coated publication papers
International Paper Co.	Jay	230	Machine coated book papers

Over the past five years, the Western European and Asian markets have shown major growth in consumption, whereas the North American markets declined significantly with the recessionary period. The combination of declining demand and over 300,000 tons of net capacity additions in the U.S. resulted in oversupply and price distressed markets during the early 1990s.

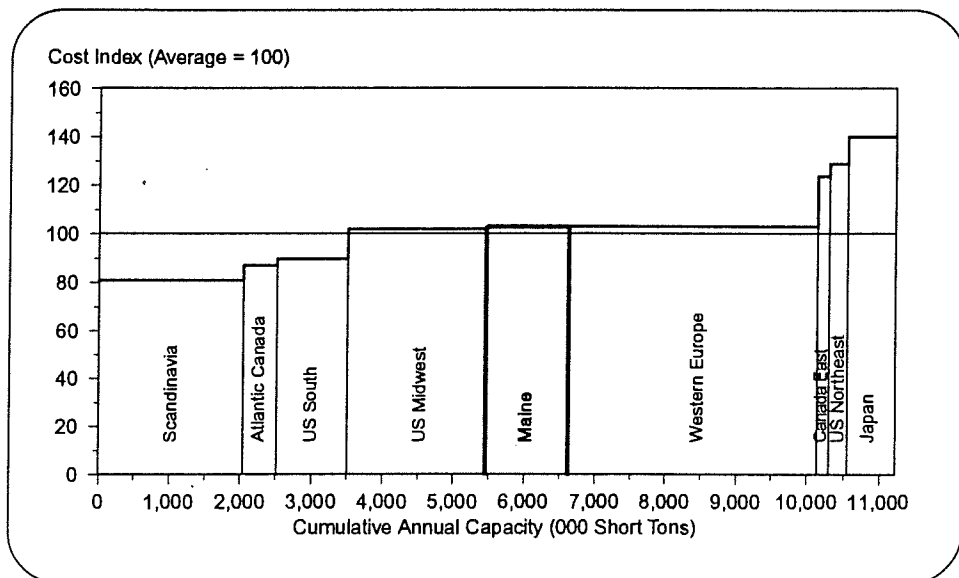
U.S. coated groundwood paper consumption is forecast to grow at a rate of 2.8% through 1999, resulting in an increase of over 770,000 tons over current levels. The supply/demand picture illustrates the dependence of the U.S. on imports to fill demand as well as the opportunity domestic mills have to fill the future supply gap. This assumes no major new U.S. capacity, as none is currently announced.

FIGURE E/15
Coated Groundwood Supply/Demand Balance Forecast



The current cost competitiveness of Maine is illustrated below. Overall, Maine is an average cost region in the production of coated groundwood, with cash manufacturing costs three percent higher than the global average. However, there is a wide variation in scale and cost level among the mills in Maine.

FIGURE E/16
1994 Global Coated Groundwood Cash Manufacturing Costs



The low cost producers of coated groundwood are the Scandinavian mills, followed by Atlantic Canada and the U.S. South. The average scale of the mills in these regions is similar to Maine, but the low cost regions benefit from larger and more modern paper machines.

Integration to kraft pulping provides a significant cost advantage over those mills purchasing kraft market pulp. The addition of new world-scale capacity at integrated Maine mills would be cost competitive on a global scale, particularly if new capacity is accompanied by low cost electricity, as mechanical pulping requires a significant consumption of electricity. High electric company rates in Maine increase the need for on-site electricity generation.

The high value added coated groundwood market offers attractive potential for Maine producers. The heavy use of mail to distribute magazines and catalogs favors the use of the lighter coated grades, which require the strength characteristics of high quality Northern fiber. Due to the shift to lower basis weights, the forecasted tonnage growth, which is expected to be 2.8% per year, does not truly reflect the growth potential of coated groundwood.

In addition to existing coated groundwood mills, potential exists for uncoated groundwood mills to rebuild equipment to produce these higher value added papers.

E.6.6

Newsprint

Newsprint is a relatively low value added grade of paper, used primarily for the production of newspapers. It is generally considered to be a global commodity because it has a uniform product definition and there are no distinctive differences worldwide. The North American market is self-sufficient, with 98% of the newsprint consumed in North America being supplied by North American mills.

Bowater's East Millinocket mill is the only mill in the State of Maine producing newsprint. With an annual capacity of 180,000 metric tons, this mill represents just 1% of total North American capacity. This mill also has deinking capacity, allowing for the production of recycled-content newsprint, an important requirement for the industry.

North America is the largest producer of newsprint, with almost 50% of global production, followed by Asia, Scandinavia, and Western Europe. The U.S. is the world's largest consumer, followed by Western Europe and Asia, which has the highest consumption growth of any region, in fact most regions have shown little or negative growth over the past several years.

Due to decreasing circulation rates and general weakness in the advertising market, the pricing environment during the late 1980s and early 1990s has been poor, with transaction prices close to 1979 levels. The market has begun to rebound and conditions are expected to continue to improve in the industry over the next several years.

In spite of an improving market, newsprint is an inexpensive, low value added product which represents a relatively unattractive market for producers in the State of Maine. It is a mature and cyclical market, with low growth expectations. North American consumption is expected to increase at a rate of only 1.3%/a through 1999, as continuing decline in circulation, combined with competition from other media limit future growth.

In addition, new capacity in the U.S. South, based on low-cost southern fiber, has a competitive advantage over Northern regions. While the quality of northern fiber is superior to southern fiber, it is cost rather than quality that is the key to success in the newsprint market.

A potential opportunity for existing newsprint producers is the ability to upgrade to the production of higher value added products such as lightweight coated groundwood. This represents both an opportunity for increased value added and a move to a less cyclical market.

E.6.7

Tissue

The tissue business consists of two subsegments; Consumer and Commercial & Industrial (C&I). Both are further divided into bathroom, toweling, facial, and napkins. Consumer tissue is heavily promoted and sold through retail channels, while C&I tissue is used by commercial and institutional entities such as restaurants, hotels, and schools. Consumer and C&I demand comprised 55% and 45% of tissue demand respectively.

As outlined below, mills in the State of Maine have capacity to produce 200,000 tons of tissue annually, representing three percent of total U.S. tissue capacity.

TABLE E-6
Tissue Producers in Maine

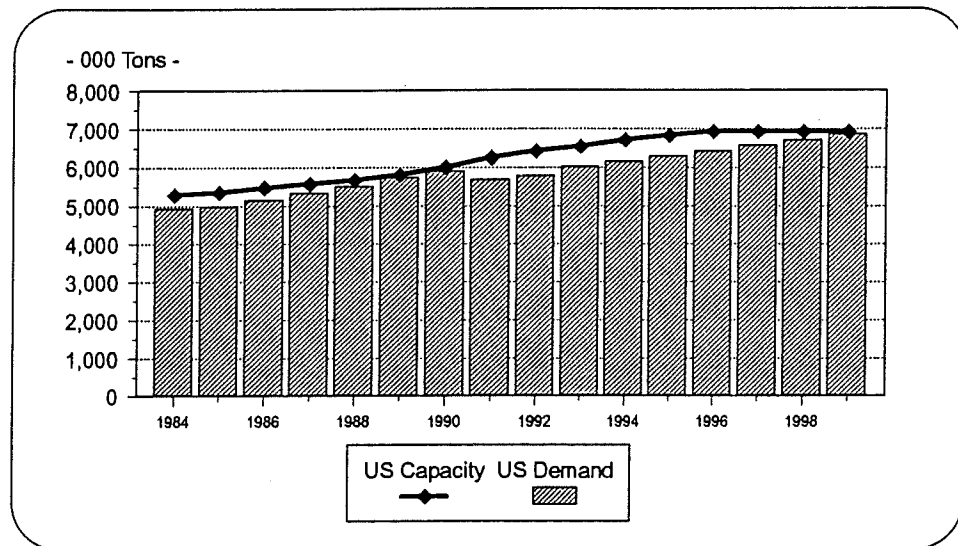
Mill	Location	Annual Capacity 000 Tons	Segment
James River	Old Town	72	Consumer
Lincoln Pulp & Paper	Lincoln	35	Consumer
Scott Paper	Winslow	40	C&I
Statler Tissue	Augusta	55	C&I

Consumer tissue demand is linked to population growth and the rate of household formation, therefore growth is relatively recession-proof and not as cyclical as the C&I market. The key drivers for C&I demand are GNP growth, business spending, and travel and food service expenditures, the market is therefore subject to economic cycles.

During the early 1990's, declining demand as a result of the recession, in combination with capacity additions, had a negative impact on industry operating rates, which are not forecast to improve significantly until 1996-1997. In total, U.S. tissue demand is expected to grow at a rate of 2.0% through 1999, and as

illustrated in the following figure, no new domestic capacity will be needed to meet demand growth before 1998 or 1999.

FIGURE E/17
Tissue Supply/Demand Balance Forecast



The tissue grades offer limited attractiveness for the industry in Maine. The U.S. market is mature and regional market growth is limited. U.S. population growth, and thereby tissue demand growth, is concentrated in the Southeast and Southwest, unfortunately, the high bulk/low density of tissue products results in high unit shipping costs, making long distance shipping costly.

Maine's geographic location and high quality hardwood resources do provide an opportunity to grow within the Northeast market. However, given the stable demand base in the Northeast, the only way to achieve significant growth is to gain market share. The intense marketing focus of the market leaders results in limited opportunity to increase share in the short term.

C. Business Climate

1. Findings

- (a) The Commission has reviewed in detail the statutes of the Department of Economic and Community Development (DECD), the Economic Development & Business Assistance Coordinating Council, the State Planning Office (SPO) and the Maine Development Foundation. The commission finds that:
 - (1) Many of the things that are desirable relative to a relationship between the state and industry are already required by statute and are not being adequately done or not being adequately marketed.
 - (2) What appears to be a duplication of effort and a failure to concentrate responsibility may be a contributing factor to the failure of the desirable actions to be taken.
- (b) With the caveat that there is a lag in the time when a policy is revised and the availability of data to evaluate the results of the revision, the commission finds that the climate for business in Maine is well below average. The major cause of the current climate is threefold.
 - (1) The state has an anti-business attitude, although the recession has caused some improvement in this attitude.
 - (2) Maine's environmental regulations are stringent and time consuming, Maine's cost of energy, labor, and workers' compensation are high, and the state puts inadequate emphasis on research and technology development.
 - (3) There are misperceptions concerning the state as a place to do business that have gone uncorrected.

While the commission felt that there are several state policies that were sufficient in themselves to create a negative perception of the state as unfriendly to business, as reflected by the number of studies dedicated to it, the subject is a complex one and a number of factors should be considered:

- (1) a combination of policies rather than one policy;
- (2) a matter of attitude in applying policy;
- (3) a failure to properly market the state;
- (4) the lack of a long-term economic development plan;
- (5) failure to implement the findings of past studies;
- (6) failure of state agencies to carry out their statutory mandates.

- (c) While there has been increased emphasis on economic development, the commission finds that it has taken the form of development programs and incentives. It has not fundamentally addressed costly regulations and inadequate infrastructure.
- (d) The commission finds that it is necessary for some state agencies to advocate for business relative to current and future statutes and rules. The commission finds that DECD is the obvious candidate for this role. The commission finds that DECD should very aggressively address public policy issues which impact Maine's business climate and the cost of doing business and advocate aggressively for changes in existing laws and regulations which hinder economic development. These things have not been done adequately by any state agency in the past.
- (e) The commission finds that:
 - (1) the paper industry is one of the most important industries in the state because of its contribution to the economy, its importance to the welfare of many communities, and its relationship to the state's predominant natural resource.
 - (2) the state has tended not to adequately appreciate the importance and contribution of the paper industry. There are numerous possible explanations for this including:
 - a. The commission heard testimony that the industry has on occasion failed to communicate adequately and has failed to present itself in a persuasive, future-oriented, visionary fashion.
 - b. The industry is, by nature, a polluting industry, which creates environmental issues that must be constantly dealt with.
 - c. The industry can be classified as a mature industry with the perceptions of inescapable decline that this can bring with it.
 - d. The industry is basically one of out-of-state ownership and senior management.
 - e. The industry was largely forgotten in the non-sustainable, speculative boom of the late 1980s.
 - f. The state has failed to see the recent strong emphasis on technology in the industry and continues to see it as blue collar, somewhat unsafe employment.
 - g. The industry is generally located in geographically remote areas where its size is less evident.

- (3) as a result of these findings, the state lacks a centralized, comprehensive understanding of the paper industry.

2. Issue Identification and Analysis

(a) Maine Rural Development Council

The Maine Rural Development Council is another initiative that impacts economic development. This council is the implementation body at the state level for the Presidential Initiative on Rural Development whose mission is to improve the economic condition of rural people by strengthening the capacity of rural America to compete in the national and international economy. This is done principally through supporting the partnership of the public & private sectors to promote rural development. The council's purpose is to develop a strategy for rural development and to serve as a focal point for identifying and resolving barriers to the implementation of this strategy.

The Maine council has targeted for its work the six issues of cooperation and coordination, physical infrastructure, human infrastructure, natural resource development, leadership, and business development. The commission has identified ten strategic principles to guide its work, one of which is particularly important to the paper industry. It states that the council's work must be guided by the principle that attention must be paid to value-added, local product development and marketing issues.

The council is currently pursuing five initiatives. Of particular importance to the paper industry are:

- a. Improving the performance of the secondary wood product industry
- b. Work force development and business competitiveness
- c. Building partnerships around the Sears Island cargo port project

The FY95 budget for the council is \$196,000 of which \$147,000 is federal funding.

(b) Comparative State Data

(1) Development Report Card for the States

The Development Report Card for the States has been published since the mid 1980s by the Corporation for Enterprise Development and is considered the major syndicated study available to those wishing to compare economic development between states. The commission found that most state agencies were aware of this study and the need to consider it in their planning. (Bib. 18)

For 1994, the Development Report Card for the States gives Maine a "D" in economic performance and in development capacity and a "B" in business vitality. Since the inception of this service, Maine has had a "D" in development capacity. Economic performance and business vitality both had a grade of "A" in 1988. Maine's "D" grades are lower than any other paper state, except Louisiana, which has "Fs", and Alabama, which had a "D" in development capacity. (Appendix V)

Looking at the components of the three major categories discussed above, economic performance is depressed by the unemployment situation in Maine and its low salaries. Development capacity is depressed by technology resources, particularly a lack of university research & development (R&D) and of science/engineering graduate students, and by infrastructure and amenity resources, including highway deficiency, urban housing costs, urban mass transit, and energy costs.

Relative to Maine's economic development strengths, it should be noted that this survey lacks figures on population density and, particularly, workforce productivity and quality of life.

(2) Quality of Life

Quality of life is perceived to be a major economic development advantage of Maine. The commission is concerned that the state has no agreed upon objective measure of this attribute. It is also concerned that several national evaluations do not give Maine's quality of life a particularly high ranking. (Bibs. 51 & 68)

(3) Departmental Budget

For FY95, DECD's budget was \$6.7mm. The department budget was \$12.3mm in 1989 but has increased somewhat since FY93. In a list of 16 states, all of which have larger populations, and in most cases, greater economic prosperity, Maine's budget ranks 10th against a median average of \$7.4mm. The commission concluded from this information that financial resources are adequate for an effective economic development program in Maine. (Appendix BB)

(c) Past Research

It appears that the perception of the state as a poor place to do business has existed for as long as economic development has been a state issue, and there appears to be little improvement. Improving the business climate is the one most mentioned specific recommendation in four of the seven economic development studies completed in the last 10 years. (Appendix Z)

With five mentions, the business climate tied for second in the commission's survey of industry chief executive officers (CEOs) on the question of why they would not invest in Maine. (Appendices E & F) George B. Adler of Smith Barney, Inc., a leading Wall Street industry analyst, stated to the commission that the state is "not friendly to the paper industry". (Appendix M)

It is noteworthy that the majority of past analyses of the State's business climate conclude that it is based to a considerable extent on misperceptions, some of which originate in poor attitude on the part of both industry and government.

The 1990 Task Force on the Economy suggested that one beneficial step would be for "state government to try to pull business back into the main stream of politics and policy ... get business to participate in government".

3. Recommendations:

a. Create a Paper Industry Council.

- (1) **Responsibility.** The initial function of the council will be to oversee implementation of the recommendations of this commission and communicate with industry corporate leadership concerning these recommendations. The long-term function will be to recommend to all interest groups ways in which the future of the industry may be enhanced and to oversee the implementation of its recommended programs.
- (2) **Membership.** The governor will appoint one representative from DECD, the Department of Transportation (DOT), DEP, the University of Maine (UM), an electric utility, a railroad, organized labor, and the environmental community and three paper industry members.

Leadership will appoint one legislator from each branch of the legislature and at least one legislator from each party.

- (3) **Interest represented.** As members of the task force, appointees are not to be advocates for the group recommending their appointments, but are to operate in the best interests of the state.
- (4) **Functioning review.** At least once a year the task force is to invite experts in group dynamics to observe the task force and make recommendations as to improving its functioning.

b. In priority order DECD should:

- (1) Develop a senior level staff position assigned to enhance the forest products industry in Maine by assisting and coordinating industry and policymakers in addressing threats and opportunities.

- (2) Act as an advocate for business on behalf of the governor and within the executive branch on current and proposed laws and rules.
 - (3) Mount a program to correct the image of Maine as unfriendly to business by correcting misperceptions held by industry and by the purveyors of state-by-state comparisons and by advocating for policy changes. This program should have numerical goals, an evaluation component, and measurements for all components which lead to a state image, including work force productivity and quality of life.
 - (4) Work with the Department of Education and the Department of Labor to undertake a public information campaign to develop broad understanding of the pulp and paper industry, its importance to the economy and society of the state and its viability as a future employment opportunity for the state's youth.
 - (5) Encourage development of expanded market opportunities for the paper industry, particularly through value added products, forward integration, other uses of raw materials, and better supplier services.
- c. SPO should develop a comparative database of pulp and paper industry-specific data for Maine and other states.

D. EDUCATION & TRAINING

1. Findings

- (a) The commission identified education and a skilled workforce as critical components of a strong economic development strategy and found that they may be one of the last sources of competitive advantage. (Bib. 21 & 21-A)
- (b) The commission finds that two of the most desirable directions for education are developing basic skills and assisting students in school-to-work transitions and that Maine is a leader and innovator in many of these initiatives. (Appendix AA)
- (c) The commission finds that an education system must be designed to accommodate lifelong learning and that barriers, such as the nontransferability of credits between Maine educational institutions, must be eliminated.
- (d) The commission finds there is an apparent lack of understanding by parents and students of the excellent career opportunities and earning potential that technical positions offer, particularly those in the paper industry.

2. Issue Identification and Analysis

(a) Comparative Data

Industry reports that the highest value it attributes to a university is college graduates. (Bib. 47)

The following data relates to Maine's educational ranking. (Appendix S provides a more detailed presentation.)

- (1) Maine has the lowest SAT scores of the paper states, but has the highest percentage of students taking the test.
- (2) Maine has the lowest percent of high school graduates going to college, but the highest percent of high school graduates per 18 year old population.
- (3) Maine has the highest retention rate in college but, as mentioned, the lowest percent going to college.
- (4) Maine ranks last among the paper states:
 - a. and 49th of the 50 states in graduate science/engineering degrees.

- b. and 166 out of 227 universities in the academic reputation of its state university undergraduate program.
 - c. and 148 out of 209 universities in the overall rank of its graduate engineering program.
- (5) In terms of finances, Maine ranks next to last among the paper states in the percent of the budget spent on higher education, about the middle on dollars per student, and second on faculty salary levels.

(b) National Conference of State Legislatures Recommendations

Recent writings by the National Conference of State Legislatures has identified the following two issues as basic to the education component of economic development.

(1) School to Work

In a discussion of workforce competitiveness, special note should be made of reform efforts intended to improve the relationship between what a student learns in school and what is required in the working world. Increasing emphasis is being placed on the ease with which students can transition from school to work. The success of European countries, which include some of Maine's major paper industry competitors, in developing large numbers of highly skilled workers is based on a well-organized system that explicitly integrates what students learn in the latter half of high school with what will be required on the job. The system also gradually increases the amount of direct work experience utilizing that knowledge. The initiatives in the U.S. have names such as school-to-work transition, youth apprenticeship, "tech-prep" and "2+2" programs, school-based enterprises, and career academies.

(2) Basic Skills

Assessment of student performance has also received much attention because of a growing sense that a high school diploma does not insure that a student has the skills to perform in today's economy. Not too long ago the lack of reading, writing, or math skills did not disqualify someone from getting life-long employment at a job that paid a decent wage and offered good benefits, but no longer. The inability to read, write, and do math increasingly consigns a person to marginal, low-wage jobs with no prospects for advancement.

In order to improve the skill level as well as the types of skills students learn, schools must increase graduation requirements and explicitly outline standards of content and performance. Special emphasis must be placed on understanding and using concepts and ideas, solving complex problems, demonstrating writing skills, and working successfully in group settings. Several states have instituted programs that require students to earn a series of "certificates of mastery" that demonstrate a student's abilities in specific areas.

(c) Credit Transfer

Students could greatly benefit from a smoother transition from secondary schools to the technical colleges without the need to repeat courses once enrolled in the college. The commission supports the concepts of two + two or Tech Prep programs as a means of facilitating the transition from secondary school to a technical college, and encourages the Maine Technical College System (MTCS) to develop such programs wherever possible.

The MTCS and the University of Maine System have recently developed articulation agreements that have greatly benefitted students wishing to enroll in bachelors degree programs after obtaining an associate degree from a technical college program, or vice versa. The commission commends these actions and encourages the MTCS and the University of Maine System to continue these efforts as a means of encouraging students to continue their education as efficiently as possible.

(d) Kennebec Valley Technical College's Pulp & Paper Technology Program

This program is currently offered as a satellite program to industry facilities. The curriculum is in a very early stage of development and requires considerable improvement. Although there are initiatives to address this problem, there currently is inadequate tie-in between secondary and post-secondary education of students for paper industry employment.

(e) Maine Technical College System (MTCS)

Too often, technical colleges are erroneously seen as a less desirable alternative, instead of colleges of choice, for students not pursuing a four-year baccalaureate degree. As a result of these outmoded perceptions, the commission believes that a large segment of Maine students is missing out on excellent educational and career opportunities. The MTCS

needs to be more proactive in communicating the career opportunities and earning potential associated with technical education to the public, to high school guidance counselors, and to parent-teacher organizations. While the commission is aware of the many excellent recruitment and public awareness efforts undertaken by college professionals, changes in technical education fields have occurred so quickly that an aggressive, focused campaign is needed. In addition, the MTCS needs to communicate more clearly to middle and high-school students the educational requirements needed for matriculation to technical colleges so that they can better prepare for their post-secondary technical education.

(f) Education and Training Programs

The following education and training programs are found to be excellent initiatives to address the education and training needs of the paper industry:

- (1) Quality Centers
- (2) Maine Job Service
- (3) Tech Prep
- (4) The Maine Technical College System (MTCS)
- (5) Youth Apprenticeship Program
- (6) UM's Cooperative Industry Program
- (7) Maine Maritime Academy's Engineering Program
- (8) UM's Pulp & Paper Foundation
- (9) Job Development Training Fund

3. Recommendations

- (a) The various agencies responsible for the programs in Section 2-f should aggressively promote knowledge of their existence to industry.
- (b) DECD should use existence of these educational and training initiatives in their efforts to market the State to industry.
- (c) Education and training leaders should meet regularly with economic development agencies to identify emerging training needs. Service delivery areas should coordinate more closely with the economic development agencies to determine current and future training needs.
- (d) The Council on Vocational Education should work with industry labor unions, DOL, and employers to see that the education and training needs of mid-career employees are met and that employees are informed of the need to maintain and add to their skills in order that they and their employers can compete in the changing market place.

- (e) The commission recommends that the Maine Technical College System strengthen its alliances with secondary school guidance departments and parent/teacher organizations with the goal of increasing awareness of the excellent career opportunities and higher earning potential associated with technical jobs in the paper industry.
- (f) KVTC Pulp and Paper Technology Program
 - (1) The program should be made available at locations accessible by qualified members of the general public.
 - (2) An education/industry task force should be brought together to accelerate development of a suitable curriculum.
- (g) Credit Transfer

Require that program credits be transferable from high school to the technical colleges, between the UM campuses and between UM, the technical colleges and the Maine Maritime Academy.

E. ENERGY

1. Findings

Of the six paper states reviewed by the commission, Maine has higher use of petroleum and nuclear power for its energy needs and lower use of natural gas and coal. Across all six paper states, natural gas and coal are the low cost forms of energy. The costs of purchased electricity, natural gas (where available), and coal in Maine are the highest of the six paper states reviewed by the commission. (Appendix Q) The Jaakko Poyry Diagnostic Review supports this finding. Among the causes for this have been lack of infrastructure, lack of alternative sources, lack of government support, and historically poor energy policy.

Some Maine facilities are able to achieve a competitive advantage by generating significant portions of electricity requirements through hydrosites. The cost and uncertainty of licensing and re-licensing these facilities are significant. Costs can exceed several million dollars to re-license an existing facility, with an outcome far from certain. Furthermore, investment decisions are often delayed pending the outcome of such re-licensing procedures.

2. Issue identification and analysis

(a) New developments. As this report is being written it is apparent the energy marketplace is in for substantial change.

- (1) Incentive rates. Incentive rates are currently available for some customers; many large consumers have made contracts over the last few years for incentive rates with the utilities.
- (2) ARP/special rate contracts with CMP. Central Maine Power Company's (CMP's) Alternate Rate Plan (ARP) has been approved and the Public Utilities Commission (PUC) has agreed to 14 customer service agreements between CMP and large industrial consumers. The ARP is mainly concerned with two mechanisms: rate caps and flexible pricing. Rate caps are designed to produce stability, reduce regulatory costs, create incentives for cost minimization and shift certain risks away from ratepayers. The pricing flexibility mechanism will allow CMP to enter into proposed five-year contracts with large customers under a 30-day Public Utilities Commission (PUC) review process. Price flexibility programs are permitted under legislation passed last year (35-A §3195(6)).

- (3) Bangor Hydro-Electric Company (BH) flexible rate program. BH has filed for approval of a flexible rate program with the Maine PUC. If approved, a flexible rate program could permit BH to more freely offer special rate contracts to its large customers. The case is docket #94-125; the final order is expected February 14, 1995.
 - (4) Surplus energy auction by CMP. The PUC, pursuant to recently enacted legislation (35A §4401 et seq.), has established a surplus energy auction program for CMP. The PUC determined that Maine Public Service Company (MPS) and BH did not have surplus energy to offer. CMP will be auctioning off 15% of its surplus under the program; the program should result in a number of contracts at successful bid rates for terms of up to five years.
 - (5) Qualifying Facilities. CMP's buyout of the Fort Fairfield biomass plant has been approved by the PUC and state backed financing is being provided by the Finance Authority of Maine (FAME); the buyout will result in CMP's rates being lower than they would otherwise have been. The PUC dismissed a motion by MPS to have the PUC void its contract with Wheelabrator Sherman.
 - (6) Municipalization. The town of Madison is seeking to expand its service territory and to offer potentially less expensive power to some of CMP's current customers (including two wood products companies in Anson). Madison has filed a request for investigation; a final decision is expected in 2-3 months (docket 94-379). The town of Jay has filed for PUC approval to provide electric utility service as a municipal electric utility (docket 94-428). No schedule has been established for handling the case.
- (b) Lessons learned. Maine's energy policy should recognize certain basic principles which reflect the energy lessons learned by Maine in recent decades:
- (1) the viability of the pulp and paper industry is highly sensitive to electric rates; Maine's electric rates are the highest of any significant paper producing state;
 - (2) the availability of competitive market prices for the purchase and sale of energy, conservation, and interruptible resources will most efficiently develop the many energy resources of Maine's pulp and paper industry;
 - (3) electric rates must be based on costs; market prices usually are the most accurate indicators of cost;

- (4) all of Maine, including the pulp and paper industry, will benefit from diversification of energy resources;
 - (5) access to the electric transmission grid for wheeling is essential to the creation of competitive markets in energy;
 - (6) the cogeneration of energy minimizes resource impacts and maximizes efficiencies;
 - (7) industrial energy conservation and demand-side management programs can have positive impacts for all ratepayers;
 - (8) consistent implementation of state energy policies is essential to build and continue the trust necessary to justify the hundreds of millions of dollars invested by the industry in energy producing and energy-using facilities;
 - (9) the industry's energy production of 600 megawatts (25% of all Maine generation) and the industry's energy consumption stabilize Maine's electric grid and provide efficiencies that benefit all Maine consumers;
 - (10) hydroelectric resources utilized by the industry provide a base load of clean, renewable energy generation.
- (c) Questions. There are two basic questions that the state needs to confront.
- (1) Competition. Self-generation, municipalization, and wholesale wheeling all mean competition to utilities. Retail wheeling is not here yet, but it is being pushed very hard. Whether it comes or not, the threat of it and the forces that are causing it to be such a significant issue are all causing a major change in the way utilities are being regulated. Special rate contracts are becoming widely used and flexible pricing may soon be available (BH and CMP have cases pending approval before the PUC). The result is reduced rates for some industrial customers, with the prospect of even further reductions and, potentially, of being shielded for the next five years from any rate increases.
 - (2) The Qualifying Facilities (QFs). FAME-backed buyouts of QFs has begun. CMP successfully completed a buyout of its contract with the QF in Fort Fairfield. The \$100 million cap on the bonds issued by FAME to finance contract buyouts means that more buyouts under the program are unlikely unless the Legislature increases the cap.

3. Recommendations

- a. State Planning Office should be required to take the following action:
 - (1) Have a goal of making Maine energy prices more competitive.
 - (2) Develop and recommend to the Legislature a long-term energy strategy to attain the goal above.
 - (3) Determine ways to reduce the cost and uncertainties included in the Federal Energy Regulatory Commission (FERC) licensing and re-licensing hydroelectric dam facilities.
 - (4) Form a commission to develop a plan of action to increase the availability of natural gas in the State.
- b. PUC must emphasize and enable choice by consumers through the availability of market options, including retail wheeling and municipalization. Ratemaking must be based on true costs as experienced in competitive markets.

F. ENVIRONMENTAL PROTECTION

1. Findings

- a. **Significance of Environmental Regulation.** The commission found through the CEO survey, previous state studies, testimony by industry executives, and the Jaakko Poyry Ten State Comparison that environmental regulation is a significant factor affecting business operations and investment decision making.

(1) Previous Studies

A review of the seven economic development studies conducted by the state since 1983 (Appendix Z) reveals that of the ten recommendations that received more than one mention, seven dealt with environmental regulation issues. The following items were mentioned three times: simplicity, stability and predictability in regulation, duplicate review and permitting, and cost/benefit analysis.

(2) The Commission's Work

With the commission's own work, ten of the thirteen chief executive officers who responded to the commission's survey reported environmental regulation as a reason for not investing in Maine. The next most mentioned item was identified by five respondents. Eight respondents mentioned the standards and six mentioned the process. Five suggested that the state adopt a more definitive and balanced approach. (Appendices E & F)

The commission heard from two of the leading securities analysts of the industry who's reports are read by industry officials and portfolio managers worldwide. Their major conclusions were: 1) "Maine has inherent problems. It also has ones it inflicts on itself, particularly environmental regulation. Why does the state feel that it needs to exceed federal standards? Why is the permitting process so lengthy?" 2) "The industry is unwilling to increase its presence in Maine for seven reasons, one of which is more stringent environmental regulation." (Appendices M & N)

The Jaakko Poyry Ten State Comparison concluded Maine has more stringent environmental regulations than other states. They also concluded that on a current operating basis, Maine's rules for air and solid waste discharge relative to the other states did not materially impact operating decisions once an investment had been made. Because of definitional and

other complexities, they were unable to make a similar comparison of waste water discharge costs. However, they did determine Maine's siting regulations for new operations, either greenfield or at existing facilities, are of greater significance and higher cost than other states, resulting in longer time periods for permits and uncertainty of outcome which inhibits capital investment.

- b. **Comparative Ranking.** The commission found that compared to the other states reviewed in the Jaakko Poyry Ten State Comparison, environmental regulation in the State of Maine adds cost to ongoing operations and creates significant barriers to new investment.

- (1) **Consistency with Federal Standards**

Maine has numerous regulatory standards and procedures that are significantly more stringent than the federal requirements. In general, it was found the other major paper producing states adhered more closely to federal requirements.

- (2) **Site Location of Development**

The Maine Site Location of Development law was found to be unique among the states surveyed. More comprehensive and with lower thresholds to trigger review, this area of regulation has the capacity to negatively impact investment decisions.

- (3) **Public Participation**

The opportunity for public participation and intervention in the permitting process in Maine is more extensive than other states. While public participation is necessary and desirable, unmanaged, its effects can result in built-in waiting periods or allowing qualified projects to be abandoned because of the sponsor's frustration with an indefinite and uncertain outcome.

- (4) **Enforcement**

Maine relies more heavily on fines as part of its compliance and enforcement programs than other states where the industry operates.

- (5) **National Pollution Discharge Elimination Systems (NPDES) Delegation**

Maine is one of three states that does not have federal delegation to issue NPDES permits. This creates duplicate permitting and review for wastewater dischargers.

(6) Ozone Transport Region

Maine's inclusion in the Ozone Transport Region, the failure to obtain NOx waivers, and the lack of a workable emissions banking and trading policy have caused significant uncertainty and delay to new projects requiring air emissions licenses or modifications.

2. Issue Identification and Analysis

a. Comparative Ranking

(1) Standards

Maine's environmental standards, enforcement policies, and results achieved are all ranked in the top ten among the states. Its expenditures on environmental protection rank from 15th to 20th. It is one of the few states where high environmental health (rank 3) is not matched by high economic health (rank 31). (Appendix P). In addition to the information presented in the Jaakko Poyry report, the following was obtained from staff research.

- a. The Gold & Green report is a new report by the Institute for Southern Studies which is best known for its Green Index, last published in 1992. The basic premise of the Gold & Green report is that high environmental standards result in a healthy economic climate. (Bib. 35) According to the 1994 Gold & Green report, Maine's environmental policy record ranked ninth in 1991, with particular strength in drinking water, energy pollution, and energy conservation. The specific strengths are based on 1988-1989 data. The table below shows the presence of specific state policies in the six major paper producing states:

Policies of Six Major Paper States - 1991-1992

	<u>Promote Toxic Cuts</u>	<u>Plan & Report on Toxic Cuts</u>	<u>Ozone Protection</u>	<u>Wetland Protection</u>	<u>Least Cost Energy</u>
Wisconsin			X	X	X
Maine	X	X	X	X	X
Alabama	X				
Washington	X				X
Louisiana	X	X			
Michigan				X	X
National Total #	16	13	15	16	17

- b. Maine ranked second based on the capital expenditures for pollution control made by industry compared to the national average for states with similar chemical emissions.

(2) State Spending on Environmental Protection

In most rankings of state expenditures on environmental protection, Maine ranks between 15 and 20. (Appendix P)

(3) Environmental Protection Results

The 1994 Gold & Green report ranks Maine third for environmental health. It is below average only for air quality, ranking 38th. (Bib. 35)

(4) Enforcement

Environmental Protection Agency reports from the four other largest paper states indicate total paper industry fines of \$325,000 for the period 1990-1993 compared to fines of \$4mm in Maine during that time period. (Appendix W)

It should be noted the Maine DEP takes the position that there are so many variables involved as to render this data incomparable.

A number of states have adopted environmental audit programs that allow environmental issues to be identified and corrected without risk of audit disclosure. Allowing this approach or allowing for non-enforcement audits would enable Maine facilities to work jointly and cooperatively with the DEP to determine whether they are operating in compliance with environmental regulations and to correct any problems without risk of penalties.

The commission heard testimony that the Maine Department of Environmental Protection has made positive changes in paper industry/DEP working relationships. This commission supports the continuation and expansion of such joint cooperative approaches to problem solving.

b. Consistency with Federal Requirements

Industry reports it considers environmental regulation compliance to be one of the major costs it faces. Industry also feels investing in environmental controls typically does not increase mill productivity. With limited available capital, investments in environmental equipment mean other needed investments to increase competitiveness and long-term viability cannot be made.

Therefore, it is desirable that environmental requirements be scientifically demonstrated to produce a health and environmental gain. Additionally, rulemakings should be evaluated in context with the economic impact on the state, municipalities, the consumer, and the business community; requirements should be prioritized based on the costs and benefits. While Executive Order 12 FY 91/92 by the governor currently requires such an industry cost analysis prior to adoption of rules, the industry feels that the existence of this data has not resulted in a tempering of the rules. Many Maine regulations continue to require businesses to comply with tougher standards and requirements at a more rapid timeframe than the rest of the country. Other regulations place additional requirements on Maine businesses that result in minimal environmental benefit. Thus, it may be said that while the governor's initiative was very appropriate philosophically, it has largely failed to affect the rulemaking results and, of course, the governor's order was not retroactive. Therefore, change has not yet been substantial.

Proposed federal regulations, if enacted in current form, will require a sharp increase in capital expenditures for environmental controls, the effect of which will decrease the capital available for improvements in production, quality, and capacity. The extent of required investment to comply with these proposed regulations is so great that both the Environmental Protection Agency (EPA) and the industry are predicting closure of multiple mills throughout the country. As a result, Maine mills will have to compete with other mills nationally for limited corporate dollars to invest in environmental improvements as well as for modernization.

State programs will undoubtedly play a large role in the determination of how corporate investments will be distributed. Maine mills are at a disadvantage as compared to other states. Maine appears to continue to impose more stringent standards and requirements on the paper industry in a more rapid timeframe. The industry considers the economic burden of these stricter requirements to be one of the most significant factors affecting the ability of Maine's paper industry to be competitive with mills in other states that are only required to comply with federal regulations.

Several examples of where Maine differs from the Federal requirements follow:

(1) Ozone Standard

One of the provisions of the Clean Air Act of 1990 (CAA) focuses on the reduction of ozone to below the federal standard of 0.12 parts per million (ppm). Maine,

however, has a more stringent ozone standard (0.08 ppm). This has a potential effect of requiring businesses in Maine to expend more capital on additional controls than what is required in the rest of the country.

The federal ozone standard is currently undergoing a review by EPA. It is possible that EPA may determine that the federal ozone standard should be lowered. Should that occur, additional controls could be required in nonattainment states. In the meantime, the requirement of potential additional controls on Maine businesses to meet a state standard places Maine at a competitive disadvantage.

(2) Malfunction, startup, shutdown, bypass, and upset language

A few years ago, state legislation was enacted which explicitly authorized the DEP to exempt from penalty certain unavoidable events that occur within facilities. These events which include malfunction, startup and shutdown, bypass, and upset were already exempted under certain situations at the federal level. To date, few facilities have received language in their licenses which exempt these events, as was the intent of the legislation.

(3) Title V Operation Permits

Unlike many other states, Maine has had an operating air permit program for many years. However, pursuant to Title V of the Clean Air Act Amendments of 1990, all states are now required to develop operating permits programs.

EPA has developed extensive and complex regulations that detail the required elements and provisions of an acceptable Title V program. Maine should adopt EPA's program with the maximum amount of flexibility and protections for the regulated community allowed under the federal rules.

(4) Elementary neutralization

Elementary neutralization is not required to be permitted or reported at the federal level. Requiring elementary neutralization to be permitted and reported in Maine puts the mills at a competitive disadvantage. This requirement also provides a false perception that hazardous waste generation in Maine increased substantially and is greater than in other states. An exemption for pH waste discharge to licensed National Pollutant Discharge Elimination Systems (NPDES) facilities could be applied in Maine.

c. Reporting Requirements

Many of the reporting requirements that apply to the industry are duplicative of both federal as well as other state requirements. Streamlining reporting requirements would be beneficial to the licensee and DEP staff.

- (1) Chapter 137, the new emissions inventory reporting rule, requires information that is already provided to both the EPA and the DEP. The chemicals reported under Chapter 137 as well as their thresholds could be consistent with the federal requirements. Additionally, the timing of the reports could be aligned.
- (2) Other examples of duplicative reporting include the notices that must be given for malfunctions/exceedances (e.g., 48 hour oral notice, five day written notice and quarterly reports). In addition, reports under the Toxics Use Reduction Act (TURA) are also duplicative: hazardous waste (annual hazardous waste reports; TURA hazardous waste report), toxics use Superfund Amendments Reauthorization Act (SARA Section 312 Annual Inventory Reports; TURA Use Reports), toxics release (SARA Section 313 Form R/TRI Reports, Chapter 137 and TURA Release Reports).
- (3) Additional examples of state reporting or recordkeeping requirements that depart from federal requirements include requirements to inspect 90-day hazardous waste storage facilities and satellite accumulation facilities daily instead of weekly and annual hazardous waste reporting, rather than reporting every two years.

d. Opt-Out the State of Maine from the Ozone Transport Region (OTR)

Recent developments from the Inspection and Maintenance program and credit trading has sparked much interest in opting out some or all of the state from the OTR, as well as reclassifying to attainment all areas of Maine that qualify and reclassifying to rural transport all areas of Maine that do not qualify for redesignation to attainment, but are eligible to be redesignated as rural transport. Many costly Clean Air Act requirements, including nitrous oxide (NO_x) and volatile organic compounds (VOC), reasonably available control technology (RACT), lowest achievable emissions rate (LAER), and offsets, would be eliminated from those attainment areas which are opted-out (and nonattainment areas redesignated to attainment).

In 1992 and in 1994, the Legislature reviewed proposals to opt out of the Ozone Transport Region and chose not to pursue the matter. DEP, as well as the governor, also chose not to pursue this option.

As a result of EPA's failure to complete the urban airshed model (UAM) modelling and provide guidance to states on how to opt-out, Maine businesses are already having to expend money on Clean Air Act controls and at least one significant project, Louisiana-Pacific's expansion, has been blocked due to the offset requirements. Even if Maine were to request opt-out, EPA has up to 18 months to complete review of the request and make a determination. During this time, it is likely that Maine businesses would have to continue to spend money on controls and face offset problems.

DEP believes staying in the OTR will be beneficial to the State of Maine by allowing the state to retain a critical vote in developing a regional approach to control the northeast ozone problem. Maine's unique geographical position makes the case for 'having a say'. Without Maine in the OTR, Maine will have little influence on the level of controls to the south of us. In addition, more stringent controls will be mandated by EPA if Maine doesn't reach attainment.

The Bureau of Air Quality Control is actively pursuing the redesignation process with EPA. In a short period of time, it will be known what Maine will have to do in order to redesignate a particular non-attainment area to attainment status. It will involve more than just a review of the previous year's monitoring data; it will also include the development of a maintenance plan to assure the maintenance of the attainment status.

To lessen the financial impact on Maine businesses pending EPA action on an opt-out request, the state should also pursue a NO_x waiver for attainment areas. A NO_x waiver could exempt attainment areas of the state from certain Clean Air Act requirements including NO_x RACT, new source review (NSR) and NO_x offsets until opt-out is acted upon by EPA. In anticipation of both NO_x waiver and opt-out, Maine should work to protect its businesses from undue financial burden.

DEP is currently planning to ask EPA for NO_x Waiver for the northern half of the state, which will include a waiver for the NO_x offset requirements. Present modeling shows that the state can make a strong case for the waiver. It is expected that the state will go forward with its waiver request sometime in early spring of 1995.

e. Emissions Banking & Trading

In areas of the country designated as moderate nonattainment for ozone, any company constructing a major new source of VOCs and/or NO_x, or constructing an expansion to an existing plant involving a significant increase in emissions of VOCs and/or NO_x, must first obtain offsets at a 1:1.15 ratio.

Offsets are reductions of emissions from the source needing the reductions or another source. Offsets are only available to the extent that VOC and/or NO_x emission reductions go beyond federal VOC and NO_x control requirements. Thus, a company must control emissions beyond what is required by federal law to create offsets. Therefore, the requirement to obtain offsets prior to construction poses two hurdles to investment by paper companies: 1) the ability to find a source that is able to reduce its VOC and/or NO_x emissions, and 2) the additional cost to pay for those reductions.

Under the Clean Air Act, the offset requirements apply everywhere in the Ozone Transport Region, regardless of whether a particular area in which the new business/expansion is to be located is actually designated nonattainment. Therefore, the additional hurdles to economic growth posed by the offset requirements are imposed everywhere in Maine, regardless of whether the area in question attains the ozone standard.

Governor McKernan established the Governor's Committee on Emission Trading to examine options to facilitate offset trading within the state, and perhaps regionally. The committee is comprised of representatives from state government, the private sector (including the pulp and paper industry), and environmental groups. The committee plans to submit a white paper detailing its recommendations for establishing an offset trading program by February, 1995.

f. Water Quality Standards

All mills in all states are required to meet the same federal technology based standards as a minimum requirement. However, the limiting factor on wastewater discharges from Maine pulp and paper mills is usually water quality standards. The complexity of comparing water quality standards between states on an individual receiving stream basis was beyond the scope of the Jaakko Poyry study; however, there are several areas of concern with Maine's application of water quality and technology-based standards.

(1) Temperature Limitations

Maine regulations impose a temperature limitation of 0.5 F above background (when the ambient temperature is 66 F or greater). This limitation will be established in licenses as they are renewed. For many mills, this temperature limitation cannot be met, even with significant financial expenditure.

As a result of the regulation, DEP has received several applications for extended temperature mixing zones. DEP has not acted on these applications nor has it acted to amend the temperature regulation. DEP is establishing a group to work with the paper industry on this issue.

(2) Fish Advisory Levels

Maine DEP consistently acts on levels that are far more stringent than those established by EPA or Food and Drug Administration. Recent examples are dioxin and mercury for which the advisory levels used by Maine DEP are significantly lower than those used by other states or federal agencies. The advisories have an adverse regulatory effect since waters with advisories are considered to be violating their classification.

(3) Site-specific Criterion Development

The State of Maine has adopted EPA's "Gold Book" recommended criteria and utilizes a conservative 10^{-6} risk level for carcinogens.

In addition, Maine, unlike other of the competitive states (Wisconsin), will not independently review the EPA's basis for criteria development when evidence suggests that the national criteria are not scientifically defensible or applicable to Maine waters. One exception is dioxin where Maine sought to develop a more conservative criterion. Maine also requires more stringent site-specific study requirements than those contained in EPA guidance.

3. Recommendations:

Because extended and costly project review and permitting impacts the ability of the state to attract new investment:

- (a) Maine should opt out of the Ozone Transport Region and simultaneously pursue other means of reducing the impact of the Clean Air Act amendments such as obtaining NO_x waivers for attainment areas and developing a workable banking and trading policy.

- (b) the governor should form an environmental regulation task force to study pollution standards and duplicate project review, the Site Location Law, and the public participation process. This group should include the DEP, DECD, EPA and industry members.

In terms of standards, the group should determine which pollution standards and reporting requirements currently exceed the federal.

In terms of duplicate review and permitting issues the group should identify, thoroughly study and make recommendations to eliminate all duplicative reporting. Areas of study should include:

- (1) Duplicate review when municipality has certified plan.
 - (2) Having parallel, rather than sequential review.
 - (3) Duplicate review between the state and federal programs such as NPDES and wetlands.
 - (4) Duplicate review between activities reviewed by the Land Use Regulation Commission and the permitting requirements under the Natural Resources Protection Act.
 - (5) Duplicate reporting under the new emissions inventory reporting rule.
 - (6) Duplicate reporting under TURA.
 - (7) Notice requirements for malfunctions/exceedances.
 - (8) Hazardous waste storage inspection and reporting requirements.
 - (9) Duplication between NRPA and Clean Water Act.
- (c) The state should create a provision for non-enforcement environmental audits.
 - (d) The state should obtain NPDES delegation.

G. HUMAN RESOURCES AND LABOR

1. Findings

- (a) The commission found Maine has an adequately sized, skilled, and productive work force relative to the current needs of the paper industry.

This finding is supported by the CEO survey which identifies the existing high quality of a professional and hourly work force as a competitive advantage for the paper industry in Maine.

- (b) The commission found that Maine has made significant progress in addressing the issue of workers compensation, but that workers compensation costs in Maine remain too high.
- (c) The commission believes there are opportunities for the companies to enhance their competitive positions through the use of new, innovative labor/management systems such as joint cooperative programs. (described in part 2.C)

2. Issue Identification and Analysis

- (a) Human resource/labor issues considered by the commission include availability, skill, and cost. The CEO survey identified two human resource issues which they perceive to be critical success factors to the health and vitality of the pulp and paper industry in Maine.

- (1) The existing high quality professional and hourly workforce. (This factor is discussed in detail under the education and training topic heading).

- (2) The cost of workers' compensation insurance.

Labor issues, i.e. availability, skill, and cost, were the number one site selection criteria in the three studies which the commission reviewed.

- (b) Comparative labor data (Appendix T)

- (1) While salaries in all industry in Maine are lower than in the other five paper states, they are higher than any of those states for workers in the paper industry. The Jaakko Poyry report presents 1994 operating personnel cost data which conflicts with staff research on this regard. (See page E-14)

- (2) While Maine is not generally a unionized state, it is heavily unionized in the paper industry.

- (3) Both staff analysis of federal data and Jaakko Poyry analysis show Maine's paper industry productivity to be lagging due most significantly to mill scale.

(c) Workers' Compensation (Bib. 92-A)

It has been more than 21 months since the 1992 workers' compensation reforms went into effect and Maine Employers' Mutual Insurance Company ("Employers' Mutual") became operational on January 1, 1993. Because workers' compensation rates are determined on a historical basis, however, it will take several more years, at a minimum, for the effect of the reforms to be fully reflected in cost reduction. Although it is still too early to draw definitive conclusions as to the impact of the 1992 reforms, a preliminary assessment demonstrates that Maine's workers' compensation system is improving.

The following objective evidence is offered to support this conclusion:

(1) Costs are Coming Down

On average, the cost of workers' compensation insurance in Maine is being reduced.

- a. Reduction in Employers' Mutual's capital contribution requirement by 33 percent from 15 percent to 10 percent effective January 1, 1994;
- b. Bureau of Insurance National Council on Compensation Insurance (NCCI) approval of 3.8 percent reduction in loss costs filing effective March 1994. A reduction of 12.9% has been proposed for 1995;
- c. Recent rate filings by independent carriers reflecting varying, but significant, rate reductions; and
- d. Reduction in Maine Employers' Mutual's average statewide rate level of 3.4 percent effective October 1, 1994.

(2) Losses are Being Reduced

Reductions in losses translate to a reduction in premium. While sufficient experience with Maine's new system to produce a comprehensive analysis of losses is lacking, there is sufficient data to indicate a downward trend.

The single best means of reducing workers' compensation losses is to reduce or eliminate workplace injuries. Maine is working safer. Maine is also working smarter, with fewer injuries and thus higher productivity. There is objective evidence supporting these conclusions.

- a. NCCI's most recent "lost cost" filing, approved by the Bureau of Insurance, reflects a 3.8 percent reduction in the cost of losses in Maine.
- b. The number of first reports of injury to the Workers' Compensation Board are down approximately 22 percent from 1993 levels (adjusted to the same maturity) and approximately 39 percent from 1992 levels.
- c. The average loss ratios reported by all workers' compensation carriers to the Bureau of Insurance have been trending significantly downward.

(3) The System is Working

In addition, the system itself is beginning to function more efficiently and to dispose of cases more expeditiously.

- a. Formal petitions for 1993 injuries and 1994 injuries (annualized) at the Workers' Compensation Board were down an estimated 70 percent from 1992 levels.
- b. For the first 15 months of the new system's operation, over half of cases referred to claims resolution specialists were resolved at that level or through mediation without formal hearings.
- c. The average number of days from filing to disposition continues to drop.

(4) The Future

Workers' compensation costs in Maine remain too high. Maine is dedicated to reducing those costs. That process has already begun with two filings in 1994 reducing both capital contribution and average premium rates. Realizing the full benefit of the 1992 reforms and driving the cost of workers' compensation down will, however, take real discipline on all fronts. That discipline includes:

- a. Continued vigilance on the part of Employers' Mutual to hold down internal costs while providing superior service to the Maine market;

- b. Continued progress at the Worker's Compensation Board toward operating an administratively efficient, streamlined system;
- c. Continued dedication by employers and employees alike toward the creation of safer work environments and the elimination of workplace injuries; and
- d. Legislative discipline to avoid the well intentioned urge to change Maine's system to accelerate the pace of improvement.

(d) Labor/Management Cooperative Systems

The commission heard that:

- (1) Labor/Management cooperative systems have been responsible for significant improvement in safety, uptime, yield rates, production, and quality.
- (2) At least six states have given or have considered giving priority in their economic development strategy to firms utilizing high-performance practices. Some of these highly successful programs include:
 - a. The Jamestown, NY community where significant change occurred when an active labor management council was developed. Labor and management joined forces to stem the tide of businesses leaving the area and were successful in inducing new enterprises to locate there.
 - b. In Ohio, centers of labor management cooperation were created under state statute and funded through the Ohio Department of Economic Development. Union and company representatives come together to receive education and training about the creation and administration of inside-the-plant joint action practices.
 - c. In Pennsylvania, funding is made available to such organizations as the Northeastern Area Labor-Management Council. The state also provides financing for projects through its MILRITE (Making Industry and Labor Right in Today's Economy) Council. It promotes programs through in-plant third party assistance, workshops, seminars, and informational training programs.

- d. New York State has established an Industrial Cooperation Council. The council brings together leaders from New York's business and labor communities to discuss mutual problems. Such as:
 - 1. Industrial Productivity
 - 2. Competitiveness
 - 3. Adaptation to new technology
 - 4. New approaches to financing industrial innovations and expansions
 - e. Other labor-management councils have been formed in:
 - 1. Indiana (The Indiana Labor Management Council)
 - 2. Muskegon and Kalamazoo, Michigan
 - 3. Lansing, Michigan
 - 4. Northern Michigan University which has produced an orientation and training manual for work-site labor-management cooperation.
- (3) Some of the programs that have been successful have been introduced and taught by universities in paper producing states, such as:
- a. Cornell University in New York
Industrial Relation Department
 - b. Michigan State University
School of Labor and Industrial Relation
 - c. University of Alabama - Birmingham
Center for Labor Education and Research

3. Recommendations

The Commission recommends that:

- (a) The governor convene a series of statewide conferences yearly on innovations in labor/management systems, with emphasis on joint cooperative programs, utilizing the Bureau of Labor Education and the College of Business Administration at the University of Maine as coordinators and facilitators.
- (b) The Bureau of Labor Education and The College of Business Administration institute programs in the field of joint labor/management cooperative programs.

- (c) The DOL produce and distribute training materials relative to any new regulation prior to its effective date, to assist in meeting Occupational Safety & Health Administration (OSHA) regulation requirements and doing so in a cost effective manner.
- (d) MTCS and DOL educate firms about the importance of standards for product and service quality and help them seek certification against such standards. The commission recommends that the standards of the International Standards Organization known as ISO-9000 be considered in this regard.

H. RESEARCH & TECHNOLOGY

1. Findings

- (a) Maine is ranked 50th based on university R&D expenditures and 44th based on federal R&D expenditures. Maine is one of only four states without a federal research center. (Appendix S-1)
- (b) Maine receives approximately \$25mm in outside funding for institutional R&D, of which forest products, science, and engineering receive \$.6mm. The forest products money comes from the National Science Foundation, the Department of Agriculture, and Industry. (Bib. 42)
- (c) It should be noted, however, that industry ranks college graduates as the most important university attribute and ranks faculty research and access to laboratories sixth & seventh in importance. (Appendix S)

2. Issue Identification and Analysis

(a) Funding

In order for Maine to receive more federal research and development funding, and to be among those states which will experience future economic growth, it is critical the state make a long-term investment in science, research, and technology transfer. Federal funding programs such as the EPSCoR program require a state funding match commitment. A long-term state investment is key if the State is ever to improve its Corporation for Enterprise Development Report Card rating. Those who seek to fund new business in the state, expand - or even maintain current economic commitments in Maine - use the "report card" indicators as one measure of the state's commitment to a strong economic future. There is no doubt these ratings impact the decision of a paper company to make capital investments in Maine.

In addition to the critical importance of state funding for leveraging additional federal funds, the paper industry itself must be willing to support university research. In fact, the paper industry provides significant support to the university through the Chemical Engineering Department, the Pulp and Paper Pilot Plant, the Pulp and Paper Foundation (scholarship support) and through individual contracts for proprietary research and technology transfer through the Department of Industrial Cooperation.

(b) Science & Technology Foundation

The foundation is a statutorily created private, non-profit organization. The foundation currently has the following paper related initiatives in progress:

- Wood Chemistry - Chemical Modification of High Yield Pulps
- Biotechnology - Biological Wood Degradation
- Wood Engineering - Post-Tensioned Trussed Timber Bridges
- Fibre-Reinforced Plastics/Timber Composites for Structural and Bridge Applications (Proposed)

A Manufacturing Outreach Center (MOC) is to be created in central Maine. It will focus on wood products manufacturing. This MOC is proposed to provide general outreach support to the 600 wood products manufacturing firms in central Maine, and specialized support for the 750 wood products manufacturers statewide.

The Maine Science and Technology Foundation will submit legislation to create and fund the "Maine Science and Technology Investment Fund." The fund would be used to leverage and match science & technology (S&T) initiatives from the federal government, fund S&T activities where Maine is not yet competitive for federal support, and fund State of Maine specific S&T activities where federal support is not available.

An important source of federal funding is the Experimental Program to Stimulate Competitive Research (EPSCoR). EPSCoR is a merit-based national program established by the National Science Foundation (NSF) in 1979 to improve the science and engineering research infrastructure of states which historically have attracted little federal research funding.

In Maine, EPSCoR is administered by the Maine Science and Technology Foundation. The state's EPSCoR steering committee, as authorized by the MSTF board of directors, is the Research Excellence Partnership (REP). The MSTF's responsibility, in addition to a fiduciary one, includes insuring that the activities of the Maine EPSCoR program are consistent with the state's science and technology plan and advocating and seeking the required state and private support to match federal EPSCoR funds.

(c) University of Maine

(1) Research & Public Service at the University of Maine

Federal, state, local, and private external funding for research and special projects in 1994 was approximately \$24.6 million, an increase of about 20 percent over funding received in 1993. About 70

percent of the money went for research. Improvements in instruction accounted for 5 percent, and special projects, such as conferences, 25 percent.

Federal agencies supported about 75 percent of the research and projects. State and local governments, business and foundations contributed the rest.

(2) The University's Research Related to the Paper Industry

Although it is difficult to clearly delineate the research and special projects which have a direct impact on the paper industry, in the last fiscal year at least \$348,000 in grant awards were dedicated to research projects with a direct relation to the industry. This figure does not count the substantial research the university is doing related to improved utilization of the forest resource base (such as growth and yield research). This figure also does not count all proprietary research undertaken for an individual industry member. By agreement with those who fund proprietary research, the university does not disclose information about those projects.

Some examples of paper industry related research areas include:

- a. Chlorine-free, Sulfur-free High Yield Pulps from Northeastern Hardwood Species
- b. Pulp and Paper Mill of the Future: An Information Exchange
- c. Wood Fiber Composites Utilizing Paper De-inking Sludge
- d. Wood Chemistry: Chemical Modification

The pulp and paper research program is focused in the Department of Chemical Engineering, but includes many other academic departments in the College of Engineering, the College of Natural Resources, Forestry and Agriculture, and the College of Sciences.

The Wood Science and Engineering Research Cluster at the University of Maine has been involved in NSF EPSCoR since 1992. It was one of three research clusters at the university involved in the 1992-1995 program.

During the cluster's first round of participation in EPSCoR, research efforts focused on basic scientific problems in three areas.

- a. Wood and Paper Chemistry
focused on the inhibition of yellowing in papers produced from lignin-rich pulps

- b. Wood Biotechnology: Biodegradation of Wood
focused on the role of certain byproducts of fungi
in oxidation of lignocellulose
- c. Wood Engineering: Timber Bridge &
Infrastructure Initiative
development of wood construction technology
and demonstrations of application

Through contributions of more than 140 paper related companies, the university has a modern pilot pulp and paper plant able to stimulate most aspects of pulping and paper making, from chipping to coating. The university's strategy is to keep the pilot plant modern by reinvesting some of the income it generates.

This state-of-the-art facility, affiliated with the Department of Chemical Engineering, offers pulping and bleaching, hand-sheet making, a pilot paper machine, coating on and off machine, and comprehensive testing facilities. The pilot plant can provide analysis of process chemicals, fiber and non-fiber materials, and properties of pulp and paper.

The Pulp and Paper Foundation was started in 1950 in response to a continuing need for technically skilled people in the pulp and paper and related industries. The foundation supports the industry by recruiting superior high school students to apply to the University of Maine to study engineering. The foundation begins its relationship with prospective students through several high school recruitment activities. Their efforts had some role in the decision of 113 entering students to study engineering. The foundation financially supported more than 125 students (both graduate and undergraduate) with scholarships last year. These students also are given industry exposure through summer co-op employment.

The scholarship endowment is currently \$5.0 million. The foundation also has solicited over \$3 million in individual donations, equipment, services, and gifts to equip the university's pulp and paper laboratories, which are among the most modern and comprehensive in the United States.

Graduate students in chemical engineering receive tuition and support from the Pulp and Paper Foundation's Research Support Fund. These students work on funded research projects of importance to the pulp and paper industry. Some examples include:

- a. Adhesion and Cohesion in Coated Paper
- b. Flotation De-inking
- c. Kinetics of Soda-Oxygen Pulping
- d. Specific Bond Strength of High Yield
Pulps

e. Multi-Fuel Power Boiler Predictive Modeling

In 1993, more than 45 of the Pulp and Paper Foundation's scholarship recipients took paper-related jobs following graduation.

Funded research provides the financing needed to maintain graduate programs throughout the university. The university's state-funded teaching assistantships have declined with recent budget reductions. It now relies on research assistantships to help support the graduate students. The university has a serious need to increase the amount and number of graduate stipends.

Figures on 1993 graduate student enrollment figures are in Appendix K).

3. Recommendations

The commission recommends that:

- (a) Maine's Congressional delegation make efforts to obtain a federally funded research facility for Maine. While this subject should be studied further by UM and the Science & Technology Foundation, the following are suggested as subjects for that facility:
 - (1) Sustainable forest management
 - (2) Environmental performance
 - (3) Improved capital effectiveness
- (b) The Science & Technology Foundation expand its Manufacturing Modernization Program to include the paper industry and more aggressively seek funding for research to support the pulp and paper industry.
- (c) UM support surface science research for value added products for the paper industry.
- (d) UM aggressively pursue research on producing faster growing trees to support Maine's pulp and paper industry.

I. TAXATION

1. Findings

- (a) The commission finds that the personal property tax on manufacturing machinery and equipment is a strong disincentive to investment in our state's manufacturing facilities. Paper mills are extremely capital intensive operations, requiring continual investments to maintain and improve a mill's capabilities. This finding is supported by the CEO survey which indicates Maine's high tax burden is a discouraging factor when considering investments in Maine.
- (b) The commission finds the Maine personal property tax reflects poor tax and economic policy for the following reasons:
 - (1) The tax must be paid regardless of profitability; therefore, the business faces the risk of paying substantial personal property tax even when the investment is not turning a profit.
 - (2) Personal property tax is a tax on the investment in productive capacity. Ideally, a tax system should reward, not penalize, investment in productive assets.
 - (3) Personal property tax burdens businesses unfairly. Businesses that are not capital intensive pay very little personal property tax, while capital intensive businesses such as paper manufacturing facilities, pay significant personal property taxes as well as other taxes paid by all businesses.

2. Issue Identification and Analysis

- (a) Maine's personal property tax assessed on manufacturing machinery and equipment has been identified by the State Tax Assessor and in two previous studies as a particularly burdensome tax. The two studies are the 1990 Report of the Select Commission on Comprehensive Tax Reform and the 1993 Report of the Maine Economic Growth Council.
- (b) Many states exempt in whole or in part manufacturing equipment from property tax. For example, in the Northeast, manufacturing equipment is not subject to property tax in New Hampshire, Massachusetts, Rhode Island, New York, New Jersey, Pennsylvania, and Delaware. The State of Vermont offers a 10-year exemption on a local option basis.

Minnesota and Illinois exempt manufacturing equipment, while Michigan has a 50% exemption. In Wisconsin, substantially all manufacturing facilities are exempt from the personal property tax.

Still other states, such as Louisiana, exempt personal property for a term of 10 years after installation. Some states, such as New Jersey and Illinois, have historically taxed manufacturing equipment, but recently have chosen to eliminate it for competitive reasons.

Meanwhile, in other states where the personal property tax is not exempt, the burden is often significantly less than in Maine because tax rates are lower, or the equipment is assessed at substantially less than full fair market value, or the taxing jurisdiction may employ valuation methods that produce assessed valuations that are significantly less than faced by mills in Maine.

- (c) **Income tax.** The state assesses a corporate income tax on the profits of corporations doing business in Maine. The current top corporate income tax rate is 8.93%.

In addition, however, the state allows income tax credits and other incentives to encourage certain activities by companies. The incentives that might be used by the paper industry include:

- (1) **Jobs and Investment Tax Credits** for taxpayers who invest at least \$5 million in machinery and equipment. Taxpayers who invest at least \$5 million in machinery and equipment over a 24-month period, thereby qualifying for IRS Investment Credit provisions, and who expand the work force by 100 employees may claim a one-time 10% tax credit. Meeting these conditions qualifies the taxpayer for a state corporate income tax credit equal to the federal investment credit, but not to exceed \$500,000 or the amount of the tax otherwise due. The unused portion of a tax credit may be carried forward for a period of six years for a maximum seven-year tax credit of \$3.5 million. Public utilities are not eligible. Retailers must demonstrate that they will not adversely impact other firms in the state. This credit will only be available if a company adds at least 100 jobs. In most instances, it is more likely a paper company's investment will be made to preserve existing jobs.
- (2) **Manufacturing Machinery and Equipment Tax Credit.** An investment tax credit is available for manufacturing machinery and equipment acquired after December 31, 1988 and placed in service for the first time in Maine. Credit is 1% of federal tax basis for each of five years (total 5%). The annual limit is \$25,000 plus 75% of corporate income tax liability in excess of \$25,000.

- (3) Investment Tax Credit for Waste Reduction, Reuse, and Recycling. This program provides a financial incentive for businesses that purchase waste reduction, reuse and recycling equipment. The incentive is a state corporate income tax credit equal to 20-30% of eligible capital expenses for qualified purchases made after January 1, 1993. Applications are available through the Maine Waste Management Agency.
- (4) Tax Increment Financing (TIF). Local governing bodies in Maine may designate areas within their municipalities as development districts in order to facilitate redevelopment activities. Public financing, usually in the form of bonds, is used to provide necessary public improvements, and developers obtain financing to carry out the major redevelopment. The public debt is retired with the increase in property taxes generated by the area's reevaluation. The results are incentives for development, improved neighborhoods, and increased revenues to the community (after the public debt has been repaid). Of course, taxes on the property in the TIF district which would otherwise be part of municipal revenues must be collected with respect to other property in town. When a company comprises a large percentage of value in the town, TIFs are not nearly as valuable because the company still pays a large portion of the shifted tax.
- (5) State Tax Increment Financing (STIF). In addition to utilizing tax increment financing, Maine municipalities are allowed to share in the benefits of economic growth through the use of State Tax Increment Financing. Under this program, municipalities can receive up to 25% of both state sales tax and personal income tax revenues, which are generated by designated businesses within their State Tax Increment Finance Districts. (These state revenues must be dedicated to debt retirement).
- (6) Pulp and Paper TIF/STIF. In 1994, the legislature enacted this provision to allow industry an ability to obtain local tax increment financing for projects enhancing environmental protection.
- (7) Tree Growth Tax Law. Since 1971, the State of Maine has had a current use tax law covering property tax treatment of productive forest land. Known as the tree growth tax law, property taxes on productive forest land are reduced to reflect the current use of the land and the fact no income is being derived from that land until wood is harvested. The statute requires that municipalities be reimbursed by the state for a portion of the delayed revenue.

(8) **Sales Tax.** In 1991, the State of Maine increased its sales tax rate from 5% to 6%. Paper companies pay these rates both directly to the state for retail purchases made, and indirectly through contractors, who have included their sales tax in their contract price. Over the past 25 years, the state has made an effort to clarify what items are appropriately assessed a sales tax, and what are not, by enacting exemptions from the sales tax. Those exemptions that apply to the paper industry include purchases of:

- a. Machinery and equipment used in manufacturing, and parts thereof.
- b. Energy used in manufacturing.
- c. Pollution control facilities
- d. Raw materials and other items consumed in the manufacturing process.

3. Recommendation

The commission recommends the state proceed to develop a process to eliminate the personal property tax on manufacturing machinery and equipment.

J. TRANSPORTATION

1. Findings

The commission finds that the state is deficient in all three basic modes of transportation; i.e. highways, rail, and ports. The commission finds that:

- (a) Rail should be the number one priority for state action in that it offers safety, economic, and environmental advantages over highways, could be accomplished with the least state funding, and is currently the most lagging.
- (b) The number two priority should be improved highways, particularly to support the ports. Highways are an intermodal necessity to support rail and ports and offer access, together with rail, to inland markets which continue to be the prime markets for the state's paper industry.
- (c) The ports of Eastport, Portland, and Searsport are number three priority. Limited intermodal support exists and the ports function to the limits of their capacity. Ports are essential for a global distribution, but rail is necessary for the very existence of the industry.
- (d) Greater trailer capacity is a recommended priority only if the state is unable to noticeably increase rail service.

2. Issue identification and analysis

Maine's pulp and paper industry, more than any other segment of the state's economy, is critically dependent on an integrated transportation network to become and remain competitive. Whether it is trucking fiber to mill, shipping finished paper rolls to the midwest by rail, exporting wood pulp to the far east by ship, or having a critical part flown to the state to bring a machine back on line, the state needs dependable, quality transportation services. And, because there is no facility in Maine with immediate access to a runway or a seagoing maritime port, interconnection of our infrastructure components is needed.

(a) Rail

Railroads are vitally important to Maine paper mills. All Maine mills are on rail lines and depend upon rail, particularly to deliver certain raw materials to mills. In addition, some manufacturers depend upon rail to ship product, especially those manufacturers producing commodity grades.

Some Maine producers face an uncertain supply of rolling stock and some of the rolling stock supply is inadequate to the task. Rail cars that do not provide adequate protection from the elements (rail cars with non-functioning doors, structural deficiencies, etc.) are among the problems encountered by Maine shippers.

Maine railroads are, to varying degrees, dependent on out-of-state sources for rail car supply. The Maine Department of Transportation should study using the proceeds of a bond issue to purchase a fleet of rail cars, dedicating those rail cars to meet the needs of Maine's paper industry shippers and suppliers. As an added benefit, the rail cars could be painted in such a way to promote some of what Maine has to offer, either in manufactured products, or in tourism.

Portions of the Maine rail network are limited to the speeds in which trains can travel. Some portions of the Maine rail system are limited to 10 m.p.h., including some sections representing major routes to markets along the eastern seaboard. This slow speed adds considerable transit time, and the track bed condition, which requires such slow speeds, is believed to be a contributor to damage products may incur in transit. The poor condition of some track and rail beds are conducive to derailments and increased damage claims on shipped goods. Maine needs to continue an aggressive posture toward matching public resources with private resources. Recent federal developments (most notably passage of the Intermodal Surface Transportation Efficiency Act (ISTEA)) provide greater amounts of federal funding for efforts like these, than had previously been available.

Unlike Maine's policy towards ports (to have 3 viable ports) or Maine's highway policy (to have a designated primary and secondary system to feed the Maine Turnpike and interstate), there has been no clearly articulated policy for railroads in Maine. Instead, there have been huge sums of money committed to restoring passenger rail service to compete with privately operated passenger motorcoach service, and state resources are being used in "warehousing" abandoned rail lines, waiting for an operator to step forward and reestablish operations.

Three of Maine's paper mills are served by the Bangor and Aroostook Railroad, and the remainder are served by Springfield Terminal, a subsidiary of Guilford Transportation, Inc. The St. Lawrence and Atlantic Railway, connecting with the Canadian National Railway, provides alternative and competitive access to rail routings to the west of Maine. The Bangor and Aroostook Railroad is presently for sale and an offer by the Iron Road Railway is pending.

Maine transportation planners must make the same level of commitment to rail service as has been made to other modes of transportation in the region. The state must demonstrate its commitment to preserving rail service by working as hard to preserve and improve freight service to and within Maine, as it has shown in trying to lure AMTRAK to Portland. The state must develop a partnership whereby rail operators in the state can work with transportation and industry officials to develop common strategies to achieve a modern, safe, economic, and efficient rail system. Investment of public dollars in rail infrastructure, whether moneys from Maine bond referenda or moneys from ISTEA, must be done on a coordinated basis and with the participation of private interests involved.

The movement of freight by intermodal means will continue to grow at a healthy rate and Maine must support and facilitate such growth. Prudent public investment in intermodal facilities is occurring and must continue. Care is needed, however, that Maine not develop "too many" intermodal facilities, thereby diluting the amount of business available and causing certain locations to close.

Because rail service wholly within Maine is of limited value to this industry, actions must be coordinated on a regional and national basis. Most significant policy impacting railroads is made at the federal level. Maine's Congressional delegation should continue its support for changes which make the railroad industry ore competitive.

(b) Highways

Maine mills are most dependent on highways. Every facility in Maine sees dozens of trucks daily either bringing some raw materials in, or taking finished product out. More than 90% of the workforce comes to work using Maine's highway system. Maine's pulp and paper industry is not unlike most other Maine manufacturing in its dependence on highways.

The Maine Turnpike and the interstate network in Maine (i.e. I-95, I-295, I-395 and I-495) stand as the central artery in the state, with the primary and secondary highways acting like blood vessels and capillaries going into the body of Maine. Being physically removed from many markets presents challenges and problems, some of which can be helped through changes in how the highways are accessed.

Maine has a north-south, four-lane, controlled access highway for almost 300 miles. Over the past 30 years, significant economic development has occurred along the "I-95" corridor, and every mill in Maine benefits from this

quality infrastructure piece. Transportation of an east-west nature on highways is more problematic. No controlled access, east-west highway across Maine (nor New Hampshire and Vermont) exists, and the resources in place vary from highways with 12 foot travel lanes, 10 foot paved shoulders and truck passing lanes, to highways with travel lanes less than 10 feet and 4 foot gravel shoulders. Vehicles passing east-west must travel through cities, towns, and villages and travel over bridges, some of which are structurally deficient and/or functionally obsolete. A regional approach toward upgrading east-west highways 9 and 2, New Hampshire's Route 2 and Vermont's Route 4 is called for. Such a highway could provide a needed highway link to interstate highways to Buffalo, Detroit, Chicago, Montreal, and Toronto, as well as allowing sectors of the economy such as tourism, to grow.

There needs to be expanded access of double 28-foot trailers to the primary and some secondary highways in Maine. At the present time those twin trailers need special permits to cover specific routes while transiting to and from the Maine Turnpike or interstate highway. Easing restrictions on where twin 28-foot trailers can travel could reduce overall highway congestion, while at the same time reducing operating costs. Maine should also explore with its neighbors, expanded use of "turnpike doubles" (i.e. two, 48-foot trailers). The Massachusetts Turnpike and the New York Thruway allow turnpike doubles between Boston and Buffalo. Allowing such a combination on controlled access, 4-lane highways in Maine and New Hampshire, while expanding use in Massachusetts to include I-495 would have a significant savings in transportation costs for some products.

Several mills in Maine use 53-foot trailers. Yet as other parts of the country were beginning to use 57-foot trailers, Maine facilities were experiencing difficulty because of the refusal of the Massachusetts Turnpike Authority to allow such vehicles to use the Massachusetts Turnpike. Better regional coordination is called for.

Finally, while time is money, virtually all mills face delays in getting product into and out of the state because of congestion on the Maine Turnpike. An attempt to widen the Maine Turnpike was soundly rejected by Maine voters in 1991. The commission, nonetheless, believes improvements to the turnpike to increase capacity and improve safety are necessary.

(c) Ports

- (1) For the past decade, Maine has adopted a 3-port strategy, with ports in Portland, Searsport, and Eastport. This strategy would appear to represent a reasonable approach toward addressing any shipping needs for manufacturing facilities in Maine, granted that it is dependent on the availability of investment for road and rail support, and ongoing analysis of the economic viability of each port justifying state investment. However, it becomes necessary that the state look beyond the borders of Maine if it is to develop an approach that will truly meet the needs of industry. Port facilities in Montreal, Saint John, Portsmouth, and Boston are among ports that are within easy shipping distance for our manufacturers. Just as LTL (less than a load) carriers have become popular in trucking, there are emerging opportunities for LTL loads in shipping. Smaller, and generally higher value, products are in need of inexpensive transport across the seas. Intermodal shipping is one obvious solution to the LTL question, yet Maine has no competitive container port. While Portland has made great strides toward developing container business, its facilities cannot be compared to container facilities existing in Saint John or Boston. Sears Island, stalled for nearly fifteen years, appears to be the state's best hope for a container port. Fifteen years is a long time to wait. At some point the state needs to seriously address the question, "will a port be developed on Sears Island, and what alternative plans are being developed to handle containers at Maine's other ports or in other regionally available ports?"
- (2) Additionally, the state needs a serious assessment of the capacity of highways and rail facilities to access its ports, especially access to the interstate highway system. Eastport is a bulk cargo port, more than 100 miles from Interstate 95 and 50 miles from the Trans-Canadian Highway. Further, Eastport is approximately 30 miles from the nearest active rail connection. Eastport has excellent deep water, but there also exist high tides that present certain challenges in loading freight. In addition, the current facility -- an extended breakwater -- is in the middle of the City of Eastport, posing traffic problems, as trucks maneuver into the downtown Eastport area. Eastport is about 40 miles from one paper facility (Georgia-Pacific), but the next closest is more than 100 miles away (Eastern Fine Paper).

- (3) Searsport's Mack Point is a bulk cargo and petroleum facility that currently has rail access of limited quality (speed restrictions) provided by the Bangor and Aroostook Railroad. Substantial investment will be required to upgrade this line. The port has good water access and it is a half mile from U.S. Route 1. The facility is, however, 30 miles south of Interstate 95 for freight traveling from the north and 50 miles east of Interstate 95 for traffic coming from the south and west. Both routes from the interstate travel through several towns and villages in some relatively built up areas. The closest paper facility to Searsport (excepting Champion International which is separated by the Penobscot River from Searsport) is Eastern Fine Paper, about 35 miles away. Statler Tissue, Keyes Fiber, and Scott Paper are approximately 45 miles away and there are several mills within 100 miles of the port.
- (4) Portland has a public port facility and a private port facility. Both are served by rail (although access to the public facility is difficult) and both are in the immediate proximity of interstate highways. Portland's public facility is attempting to develop itself as a container facility, while the private facility services mostly bulk cargo. Portland also has several active petroleum terminals. Portland is lacking in access to intermodalism. The public port is somewhat constrained by lack of additional space for container staging and storage. In addition, direct ship to rail transfer is not currently possible, necessitating the need for trailering containers from rail to the ship. This means two lifts, as opposed to a single lift, additional equipment, time, and personal resources. S.D. Warren is five miles from the port and approximately nine facilities are within 100 miles.

Maine is lacking a "ro-ro" (roll on, roll off) facility and although this type of vessel is somewhat unique, Maine must have a full range of shipping options available for shippers.

(d) Airports

A discussion of transportation issues facing Maine's industry would not be complete without discussion of air service. Every mill depends on air service to bring corporate executives, outside consultants, and spare parts into the state each day.

Only a fifth of Maine's mills are within 15 miles of scheduled jet air service, yet all but three are within 20 miles of airports with a published instrument approach procedure. Access to an all-weather airport, and reasonable proximity to an airport providing scheduled air service are important.

The current system seems to be working. Every mill would like to have scheduled jet service a few minutes away but there is recognition such service is not realistic. Maintenance of current facilities, upgrading of those facilities, and addition of electronic navigational aids are necessary for this component of the state's transportation infrastructure to stay current.

(e) Regional Approach Needed

Because of the interrelationship of various modes of transportation, all actions must be taken in the context of an overall plan. The state needs to develop regional resources and even regional facilities. For example, it makes no sense to have two multi-million dollar port facilities separated by only a few dozen miles (and perhaps a state or national border) competing for a limited amount of freight. We have to put aside certain prejudices and look at these issues in a regional context, doing what is the right thing for a region, not a particular city, town, or state.

Traditionally, trading patterns for Maine producers have been with partners to our south, but passage of the US/Canada Free Trade Act and passage of the North American Free Trade Agreement will mean greater opportunities to develop trading partnerships with partners to the north, east, and west. Further, uncertainty with political developments in Quebec could spell opportunity for those with access to new markets that could be created.

(f) Regional Transportation Advisory Committees (RTACs)

In 1991, through the passage of a citizen initiated referendum, the Sensible Transportation Policy Act (23 MRSA §73) was enacted. This Act required the MDOT to develop a public participation process in which the public has timely notice and opportunity to identify and comment on their concerns related to transportation planning decisions, capital investment decisions, and project decisions. The department had one year from the date of passage of the act to develop a rule which would implement its intent. In April, 1992 the department called together over sixty diverse transportation, economic, environmental, municipal, and alternative mode interest groups to assist in the development of the Sensible Transportation Policy Rule (STPR). On December 20, 1992 the Sensible Transportation Policy Rule was unanimously adopted by this diverse group which had come to be called TPAC (Transportation Policy Advisory Committee).

As an outgrowth of the STPR, the department created eight RTACs encompassing the entire state. The RTACs were created to provide the MDOT with early and effective input

on its plans and programs. They are part of a new "from the ground up" planning process whose input is integrated throughout the department. These RTACs work in cooperation with the state's four MPO's where they coexist. Each RTAC has a membership of between 16 and 21 private citizens who applied for membership based upon their interests in transportation. Each RTAC has representatives from municipal, environmental/land use, business, and alternative mode interests as well as the general public. They work under a consensus model and sometimes meet as often as once a week to discuss transportation issues and concerns. The results of these efforts are eight regional transportation advisory reports. The RTACs will continue to work with the department on a number of issues including the consideration of potential projects for the STIP as well as an update of this plan.

(g) Comparative State Ranking

Twelve percent of Maine's highways are considered deficient, ranking it 44th among the states. Thirty-eight percent of the bridges are considered deficient, ranking Maine 37th in that regard. (Appendix W)

Other than the above, it has been generally held to be impossible to validly compare states on the matter of transportation. (Bib. 88)

(h) Funding

The department's \$8mm bond issue, which was to be matched largely by private funds and to be used on rail bed maintenance and upgrading, was turned down by the voters in November, 1994. Since virtually no money is available for rail from the general fund, the department is reconsidering how to provide this necessary financial assistance.

3. Recommendations

The commission's recommendations in priority order are:

- (a) The state and the industry should make a commitment to improve freight rail and develop common strategies to achieve a safe, modern, economic, and efficient rail system. The paper industry should become involved in RTAC regional councils.
- (b) The state should upgrade east-west highways Routes 9 and 2 to meet federal primary road standards.
- (c) The state should improve highway and rail access to Eastport and rail and space availability at Portland and develop a container port.
- (d) Use of twin trailers and 53' flat trailers should be expanded if significant rail improvements are not made.

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#286STUDY

APPENDIX A

APPROVED

APR 15 '44

BY GOVERNOR

CHAPTER

75

RESOLVES

STATE OF MAINE

IN THE YEAR OF OUR LORD
NINETEEN HUNDRED AND NINETY-FOUR

S.P. 773 - L.D. 1996

Resolve, to Establish a Commission on the Future of Maine's
Paper Industry

Emergency preamble. Whereas, Acts and resolves of the Legislature do not become effective until 90 days after adjournment unless enacted as emergencies; and

Whereas, the paper industry has served as a mainstay of the State's economy for over 100 years, directly or indirectly providing vital employment to thousands of families in the State; and

Whereas, the health of the paper industry nationally is in doubt and recent production declines within the State have brought into question the industry's long-term ability to remain a major part of the State's economy; and

Whereas, these developments threaten the paper industry's historic role as a major employer in the State, creating the potential for a devastating ripple effect throughout the State's economy; and

Whereas, the continued health and vitality of the paper industry in the State is an issue of vital concern to the entire State and deserving of immediate study to determine what problems the industry is facing and what, if any, actions the State may take to assist the industry; and

Whereas, in the judgment of the Legislature, these facts create an emergency within the meaning of the Constitution of Maine and require the following legislation as immediately necessary for the preservation of the public peace, health and safety; now, therefore, be it

Sec. 1. Commission established. Resolved: That the Commission on the Future of Maine's Paper Industry is established; and be it further

Sec. 2. Commission membership. Resolved: That the commission consists of 8 members:

1. Four members appointed by the Governor;
2. Two members appointed by the President of the Senate; and
3. Two members appointed by the Speaker of the House of Representatives.

In making these appointments, the appointing authority shall consider the appointment of persons with expertise and experience in economics, business or finance. One member must represent the interests of the environment and one member must represent the interests of labor; and be it further

Sec. 3. Appointments; meetings; chair. Resolved: That all appointments must be made no later than 30 days following the effective date of this resolve. The Executive Director of the Legislative Council must be notified by all appointing authorities once the selections have been made. When the appointment of all members is complete, the Chair of the Legislative Council shall call and convene the first meeting of the commission no later than June 15, 1994. At the first meeting, the commission shall select a chair from among its members; and be it further

Sec. 4. Procedure. Resolved: That in conducting the study, the commission may:

1. Seek and receive private and public funding to finance all or portions of the study;
2. Meet at convenient times and locations;
3. Hold informational sessions for discussions with knowledgeable persons;
4. Conduct, summarize and analyze the results of a literature search;

5. Conduct, tabulate and analyze the results of a survey of the public or affected persons and groups;

6. Procure and analyze relevant data;

7. Conduct legal research and prepare opinions on legal questions within the scope of the study; and

8. Determine and summarize the legislative actions or governmental programs undertaken in other jurisdictions related to issues within the scope of the study; and be it further

Sec. 5. Duties. Resolved: That the commission shall study all issues related to the future of the paper industry in the State, which may include the following:

1. Determination of the effect of the domestic paper industry on the State and local economies;

2. The expected future trends for the industry;

3. The effects of international competition;

4. The effects of competition from other states;

5. The effect of the State's taxation policies;

6. Workforce levels in the domestic paper industry;

7. Current or potential market niches for paper products;

8. The adequacy of existing transportation services, including the utility of rail service;

9. The effects of state environmental regulations on the domestic industry and the effects of changing technology and manufacturing processes on environmental issues;

10. Possibilities for alternative or ancillary production processes at existing domestic paper mills, such as cogeneration or the manufacture of wood products other than paper;

11. An examination of the paper industry's investment policy in the State as compared to investment in facilities located elsewhere;

12. An evaluation of the continued viability of the domestic paper industry and effects that current state policies have on the evaluation, along with any recommendations for alternative policies that may encourage the continued viability of the domestic paper industry; and

13. Any other issues that the commission believes are relevant.

In conducting the study, the commission shall perform an in-depth study and analysis of 2 domestic paper mills that have experienced recent workforce or production declines as case examples of the domestic paper industry; and be it further

Sec. 6. Confidential information. Resolved: That for the purposes of the Maine Revised Statutes, Title 1, chapter 13, the commission, by majority vote, may designate as a confidential record any material that is of a proprietary nature, disclosure of which could adversely affect the interests of the party that supplied the information; and be it further

Sec. 7. Assistance. Resolved: That the commission may request staff assistance from the Legislative Council. Upon request, all agencies of State Government shall cooperate fully with the commission in providing assistance or data to facilitate the commission's work; and be it further

Sec. 8. Reimbursement. Resolved: That members of the commission who are Legislators are entitled to receive the legislative per diem as defined in the Maine Revised Statutes, Title 3, section 2 for each day's attendance at commission meetings; and be it further

Sec. 9. Report. Resolved: That the commission shall submit its report, together with any necessary implementing legislation, to the First Regular Session of the 117th Legislature, to the joint standing committee of the Legislature having jurisdiction over housing and economic development matters and to the Maine Economic Growth Council as established under the Maine Revised Statutes, Title 10, section 929-A no later than January 15, 1995.

Emergency clause. In view of the emergency cited in the preamble, this resolve takes effect when approved.

In House of Representatives, 1994

Read and passed finally.

..... Speaker

In Senate, 1994

Read and passed finally.

..... President

Approved 1994

..... Governor

APPENDIX B

**COMMISSION ON THE FUTURE OF MAINE'S
PAPER INDUSTRY
(Chapter 75, RESOLVES OF 1993)**

MEMBERSHIP

Appointments by the Governor

Edward Fox
RR 66-17
Harborside, ME 04642
(H) 326-4039
(F) (603) 646-1308
Dean Emeritus, Tuck School of
Business, Dartmouth College
Former President Student Loan
Marketing Association (Sallie Mae)

Kenneth E. Gordon
Box 2030
Mountainview Drive
Woodland, ME 04694
(H) 427-6052
(W) 427-3311
(F) 427-3034
Georgia Pacific,
Manager of
Environmental
Safety & Health

Glen D. Foss, Commission Chairman
2 Country Way
Waterville, ME 04901
(H) 872-9220
(W) 696-1126
(F) 696-1104
Madison Paper, Director
Employee Relations

Robert Carroll
48 Courtland Circle
Bangor, ME 04401
(H) 945-0944
(F) 947-2285
Champion - Retired
Mill Manager &
Comptroller

Appointments by the President of the Senate

Raymond Hinckley
RFD #1, Box 1625
Hampden, ME 04444
(H) 234-2717
(F) None
UPIU International Rep.
Northern Maine Region

Bruce Curley
Boise Cascade Corp.
130 Middle Street
Portland, ME 04101
(H) 883-6278
(W) 828-1812
(F) 828-1845
Sales & Marketing
Manager, Oxford Papers

Appointments by the Speaker of the House

Andrea Cianchette Maker
P.O. Box 2769
Augusta, ME 04338
(H) 846-4425
(W) 623-0099
(F) 623-0081
Champion Paper, Director of
Public Affairs

Gordon Roderick
Trafton Road
Waterville, ME 04901
(H) 873-5051
(F) 873-7550
UPIU International
Representative
Central Maine Region

Revised September 20, 1994

APPENDIX B-1

**MAINE STATE LEGISLATURE**

Augusta, Maine 04333

Commission to Study the Future of Maine's Paper Industry

August 31, 1994

The Honorable Dan A. Gwadosky
Speaker of the House
Maine Legislature
State House Station #2
Augusta, Maine 04333

Dear Speaker Gwadosky:

As you may remember, Chapter 75 Resolves requires that 1 member of the Commission on the Future of Maine's Paper Industry must represent the interests of the environment.

At its second meeting on August 5, the Commission discussed this issue as directed by Representative Gwadosky, the convening authority, and determined its desire to have such a member. This was conveyed to Representative Gwadosky and he made a request of the Natural Resources Council of Maine.

In a discussion that I had with the Council they declined the opportunity to appoint a representative for the stated reason that they were unhappy with our current consensus decision-making policy, which calls for the report to present both sides of areas of dispute, with no recommendations to be made.

The Commission has now had four meetings and feels increasingly strongly that the presence of an environmental representative is essential, both for the consensus building approach that it is strongly committed to, and for greatly enhancing the likelihood that its recommendations will receive serious consideration before the Legislature.

While we have had 4 meetings, we believe that a new member can fairly easily catch up with us and I am willing to dedicate such time as is necessary to accomplish this.

We respectfully request the appointment of an environmental member at the earliest possible date. Our next meeting is September 12.

Your early attention to this important matter will be greatly appreciated.

Respectfully Submitted,

Glen D. Foss
Chairman

APPENDIX C

COMMISSION WITNESSES

Steve Adams, Director of State Planning Office

George Adler, Managing Director, Smith Barney Shearson

Michael Aube, Commissioner, Dept. of Economic & Community Development

Judith Bailey, Vice President, Research & Public Service, University of Maine

Sue Bell, Director of the Maine Forest Service

Brenda Birney (R) - Member, Housing & Economic

Henry Bourgeois, President, Maine Development Foundation

Jack Chinn, Chairman, Madison Paper Co.

Michael Cline, Director, Northern Forests Project, Maine Audubon Society

Charles Colgan, Muskie Institute of Public Policy & Management

Dana Connors, Commissioner, Department of Transportation

Walter & Deborah Couples, The Crugers Group

Yvonne Damborg, Executive Director, Maine Council on Vocational Education

Sen. Donald Esty (D) - Bill Sponsor

Gary M. Faulkner, International Development Representative Alabama Development Office

John Fitzsimmons, President, Maine Technological College System

Deborah Garrett, Acting Commissioner, Dept. of Environmental Protection

Joseph Genco, Chair, Dept. of Chemical Engineering, University of Maine

James Giffune, Vice President-Operations, Fraser Paper Co.

Robert Kidd, President, Maine Science & Technology Foundation

Michael Kocurek, Executive Director, The Herty Foundation Research & Development Center

Ronald Kreisman, General Council, Natural Resources Council
of Maine

John LaFaver, Director, Bureau of Taxation

Former Rep. Edward Pineau (D) - Bill Sponsor

Deborah Richards, Acting Commissioner of Environmental
Protection

Owen Stevens, Chairman, Board of Environmental Protection

Thomas Welch, Chairman, PUC

APPENDIX D

Financial Contributors to Commission's Activities

Abington Constructors, Inc.
Allen-Bradley Company, Inc.
Asten Group, Inc.
Bancroft Contracting Corporation
Bangor and Aroostook Railroad
Bangor Hydro-Electric Company
BASF Corporation
Beloit Corporation
E.D. Bessey & Son
BETZ Industrial
Boise Cascade Corporation
Buckman Laboratories, Inc.
Canteen Service Company
Champion International Corporation
Cianbro Corporation
Dow Chemical Company
Dry Branch Kaolin Company
Engelhard Corporation
Engineering Design of Maine
Fraser Paper Ltd.
Georgia-Pacific Corporation
Great Northern Paper Company
Holtra Chemical Manufacturing Company
International Business Machines
International Paper
Irving Oil Corporation
James River Corporation
Johnston Dandy Company
The Chinet Company
Kone Wood International, Inc.
Lacasse & Weston, Inc.
Lincoln Pulp & Paper Company, Inc.
Madison Paper Industries
Maine AFL-CIO
Maine Chamber of Commerce and Industry
Maine Labor Council of the United Paperworkers
International Union
Nalco Chemical Company
National Starch & Chemical Foundation, Inc.
Otis Specialty Papers, Inc.
Pierce, Atwood, Scribner, Allen, Smith & Lancaster
Portland Rubber Company
Prentiss & Carlisle Management Company, Inc.
Sedgwick James of Maine, Inc.
W. H. Shurtleff Company
Sprague Energy Corporation
Springfield Terminal Railway Company
Stowe Woodward
Sullivan & Merritt, Inc.
United Paperworkers International Union
Verrill & Dana
Robert Wardwell & Sons
Willette Welding, Inc.

APPENDIX E

RECIPIENTS OF COMMISSION SURVEY

Jack Creighton, CEO
Weyerhaeuser (WA)

Craig McClelland, CEO
Union Camp (NJ)

Steve Mason, CEO
Mead Corp. (OH)

George J. Harad, CEO
Boise Cascade Corp. (ID)

Anthony Gammie, CEO
Bowater/Great Northern (SC)

John Wasserlein, President
Fraser Paper, Ltd. (ME)

Pete Correll, CEO
Georgia-Pacific

John Georges, CEO
International Paper (NY)

Bob Williams, CEO
James River Corp. (VA)

Jack E. Chinn, CEO
Madison Paper Industries (ME)

Charles Miller, President
Otis Specialty Papers (ME)

Albert Dunlap, CEO
Scott Paper Co. (PA)

Richard Leaman, Jr., President
S.D. Warren Co. (MA)

Joseph H. Torras, President & CEO
Eastern Fine Paper, Inc. **AND**
Lincoln Pulp & Paper Co., Inc. (MA)

Alex Schuit, CEO
Keyes Fiber Co. (ME)

Leonard Sugarman, CEO
Statler Tissue Co. (MA)

Dan Sparler, CEO - PA) **AND**
Joseph W. Emerson, Jr., Mill Mgr.-(ME)
Yorktowne Paper Mills of Maine, Inc.

Andrew C. Sigler, Chairman and CEO
Champion International Corporation (CT)

#6342NRG

APPENDIX F



UNIVERSITY OF MAINE

Land Grant University
Sea Grant College

**MARGARET
CHASE SMITH
C•E•N•T•E•R**

for Public Policy

5715 Coburn Hall
Orono, ME 04469-5715
207-581-1646
Fax: 207-581-1266

November 23, 1994

TO: John Knox

FROM: BJ. Nicoletti

SUBJECT: Summary of Paper Manufacturer Chief Executive Officer Survey

Dear John,

Here is another copy of the analysis of the survey responses, including a brief summary. This draft includes the last survey you sent via fax. We are glad to have been able to respond to your request for some assistance with this matter. However, as we discussed, we do not feel comfortable going beyond this technical assistance since we have not been involved in the previous stages of the research. If the Center had been responsible for the validity of the data collection and analysis, then we would be willing to consider making further conclusions and policy statements.

Finally, as you yourself are aware, it is our perspective that the instrument and the resulting responses are fairly limited in regard to informing policy. First, the responses do not provide much depth to the policy issues identified. Depth and detail can be achieved by follow-up phone interviews or perhaps a focus group of local paper industry leaders. Second, the responses reflect the *perceptions* of the respondent. It is critically important to factor perceptions into public policy debate. However, it is necessary to complement perception data with quantitative data (systematically and objectively collected over an adequate time period) that reflects appropriate monitoring of the impact of recent public policy efforts (e.g., the impact of recent Workers Comp reform).

John, please call me if you have any questions. In assisting with the analysis, we are confident we have made a contribution to your work. We hope you can continue to help the Commission understand our position. Please know that we are available for research efforts in this policy area. We also are interested in being involved beginning in the earliest stages of future efforts by the Commission.

Sincerely,

Barbara Jean Nicoletti,
Research Associate

**SURVEY OF PAPER MANUFACTURER
CHIEF EXECUTIVE OFFICERS
OPEN-ENDED RESPONSES
Draft**

Submitted to

**John Knox
OPLA**

by

Margaret Chase Smith Center for Public Policy

Summary

This report contains the analysis of responses provided by the Chief Executive Officers of thirteen of the eighteen paper manufacturing companies with representation in the state of Maine. A survey questionnaire was sent by the Commission to the eighteen paper industries; thirteen of the eighteen responded (72%).

The questionnaire was composed of eleven open-ended questions intended to solicit respondents' perceptions and initial information about the following:

- how decisions to invest capital dollars are made;
- factors considered when making decisions to invest in production related expenditures;
- the amount of total capital expenditures over the last seven years on environmental quality products statewide, nationally and internationally;
- which states have marketed themselves to these paper manufacturers, and the marketing strategies that were used;
- the encouraging as well as the discouraging factors which influence decisions to invest in Maine;
- suggestions to Maine state government for improving the business climate in Maine for the paper industry;
- the extent to which these manufacturers would support an active partnership between representatives of paper company management and labor, environmental organizations and state government to address the problems of paper manufacturing operations in Maine;
- how Maine can best position itself to ensure a healthy forest products industry in the future; and,
- the level of interest in further informing the work of the Commission.

Question One: Responses indicate that investment strategies are the result of many inter-related components. The greatest emphasis was placed on the expected return of investment and maximizing shareholder value within the context of strategic growth and profitability. The second significant emphasis was on the necessity to invest in order to meet regulatory requirements. The next most frequently mentioned factors were the need to maintain/improve upon the existing mill infrastructure and market proximity as measured by location and access to necessary and competitively priced transportation means.

Question Two: The matrix presented on pages five through seven depicts the broad array of responses provided for each production-related expenditure category. As presented, this question did not yield useful responses. The density of the responses and the respondents' use of language made it nearly impossible to categorize and count in a meaningful way. Qualitatively, the following quote from one respondent summarizes the theme of the combined responses:

"A myriad of factors are considered including relationship with strategic plans, marketing, technological, economic, and risk considerations. Attention may also focus on availability of labor, raw materials, transportation and similar factors as well as internal constraints such as affordability and competing investments."

Question Four: Ten out of twelve respondents indicated that states had "marketed" themselves to their company for investment dollars. A total of twelve states or areas were identified. One respondent was approached by four states. Three respondents were approached by two states/areas. It is difficult to use the data to say which states are marketing themselves most aggressively to paper industries in Maine. The strategies the respondents described varied, but typically included information on the cost of doing business in that state/area, the extent to which the state had a pro-business attitude, and the incentives the state/area was willing to provide. When indicated by respondents, the offers/approaches were typically made through the mail. The governor and/or other key leadership were usually associated with the effort.

Questions Five, Six, Seven and Eight: The overwhelming perception of the majority of the respondents was that Maine has an unfavorable business climate. At best, from their perspectives, Maine's attitude toward business/industry is only "slightly improving."

Most respondents indicated that Maine offered one particularly unique and encouraging aspect to paper manufacturers, its natural resources rich location. However, several of these respondents noted that this was a threatened asset. Six respondents identified Maine's "quality labor force" as another asset.

The perception of excessive environmental standards/regulations (duplicative, ineffective, and costly), Worker's Compensation policy, and punitive and inefficient regulatory processes continue to be the most discouraging factors. The respondents identified several possible government activities with four emerging as most clear and most frequently stated. Their responses were not very specific, tending to be sweeping remarks identifying broad categories. Their primary suggestions for government included --

- Government should work toward streamlining the environmental permitting process.
- Government should continue to reform/study/improve upon Worker's Compensation.
- Government should develop a more pro-business attitude and work more aggressively toward marketing itself to industry.
- Government should "...adopt a more definitive and balanced approach to environmental legislation," which will help Maine be more competitive nationally and globally.

Question Nine: Eleven of the respondents would support an active partnership between representatives of paper company management and labor, environmental organizations and state government to address problems of paper manufacturing in Maine. Only three of the respondents are currently engaged in any such partnerships.

Question Ten: All respondents indicated a value for the Commission's approach to systematically identify, become knowledgeable about, and address the factors that are negatively influencing the paper industry at a local, state and national level. In addition, respondents emphasized the importance of keeping natural resources available. Otherwise, their responses to questions five, six, seven, and eight implicitly suggest strategies or directions for ensuring a healthy forest products industry in the state.

APPENDIX G

University of Maine Funding Priorities for Initiatives to Benefit the Paper Industry

I. New Faculty Position in Forest Resource Economics

The University of Maine requests that the Commission support funding for a new faculty position in Forest Resources Economics, at the Assistant or, preferably, Associate Professor level. There is a great deal of research that such a person could accomplish that is not now being done due to a shortage of qualified personnel. Three specific research projects would be:

- ° Adaptation of existing global forest products trade models to focus specifically on the place of Maine manufacturers in future world trade.
- ° Econometric model of future roundwood prices under alternative sustainable timber supply scenarios.
- ° Analysis of the impacts of forest practices regulations on the contributions of the forest products industries to the general economy of Maine.

While Dr. David Field in the Department of Forest Resource Economics is well-qualified to do this research, he currently has a full load of teaching and research commitments and could not accomplish the above additional work in a timely fashion.

An annual amount of \$100,000 would be the minimum necessary to support the salary, benefits and research support needs (equipment, graduate student) for this new faculty position.

II. Department of Chemical Engineering

III. Paper Industry Labor/Management Relations Proposal

The University of Maine requests that the Commission support funding for a new program of education and research on Maine's paper industry and unions.

In today's highly competitive global economy, innovations in labor/management cooperation, job design, and work organization are continually evolving. It is extremely important for employees, workers, and their unions to be both open and responsive to these innovations. As the U.S. Department of Labor's Commission on the Future of Worker-Management Relations reported recently:

These innovations are helping American employers be competitive on world markets. A number of unions have initiated broad ranging partnerships with employers that extend from the workplace to the highest levels of decision-making in an effort to enhance both enterprise performance and democracy at the workplace. (U.S. Dept. of Labor, Commission on the Future of Worker-Management Relations, Fact Finding Report, May, 1994, p. 139-140)

Maine's paper industry faces formidable international challenges. The University of Maine is well positioned to enhance the competitiveness of the paper industry through

labor and management educational programs, applied research, and direct consultation provided by both the Bureau of Labor Education and the College of Business Administration. The program would focus on joint labor/management cooperation programs - looking at what works, what doesn't and why (enclosed is a fact sheet that provides an example of the Bureau of Labor Education's research on this subject). By providing state-of-the-art education, research, and information on joint cooperative ventures, the Bureau can assist labor and management practitioners in the industry who are currently engaged in joint participation programs, as well as those considering their adoption in the future.

To develop, implement, and maintain the education and research capacities of this new program, it is estimated that between \$125,00 to \$150,000 per year would be needed over the next three to five years. Specifically, this resource funding would be targeted in the following areas:

- ° acquisition/maintenance of relevant education and resource materials, periodicals, and references;
- ° organizational and operational costs (including travel) associated with the implementation of joint labor/management educational programs;
- ° research, printing, and production of educational resource materials; and
- ° costs associated with the implementation of direct consultation services.

Submitted by: Judith Bailey
Vice President
Research & Public Service
University of Maine

APPENDIX H

BANGOR HYDRO-ELECTRIC COMPANY
33 STATE STREET
P.O. Box 932
BANGOR, MAINE 04402-0932

ROBERT S. BRIGGS
PRESIDENT

(207) 945-5621
(Direct dial 941-6607)

October 27, 1994

John B. Knox, Legislative Analyst
Office of Policy and Legal Analysis
Room 101/107/135
State House Station 13
Augusta, ME 04333

RE: Commission on the Future of the Paper Industry

Dear John,

Thanks for your letter of October 5, and our follow-up telephone discussion.

I'm amazed to think that my brief, extemporaneous remarks at the Governor's Economic Development Conference would have inspired anyone to contact me about anything. Malcolm Forbes Jr. is a tough act to follow, especially when you're supposed to comment on what he said without the benefit of knowing beforehand what he was going to say.

I believe what prompted your Commission members to seek my input was my remark to the effect that, in all the enthusiasm about advancing small business development or information technology or more tourism as strategies for expanding our State's economy, we shouldn't forget the basic mainstay of our economy, the forest products industry - the most important component of which is the paper industry. Moreover, I think I said that "we" (meaning the entire spectrum of State policy makers) seem to be doing our best to make things difficult for the paper industry.

I did not mean to suggest that I had some innovative suggestions for resolving the paper industry's concerns about the relatively high electric cost component of their total energy costs. My thoughts for easing the burden of high electric rates are more generic than that.

As a beginning observation, it's necessary to point out that, in some areas, the paper companies are part of the problem. I'm referring to those that are cogenerators, and have the benefit of selling their electric output to their utility at one of the now-infamous, high cost "first generation" of non-utility generator contracts. The high-cost NUG contracts are by far the largest single cause of today's high electric rates; absent these contracts, our rates would have retained our State's historically

low-cost competitive position in the Northeast. The only NUG's that are cogenerators (as opposed to standalone "small power producers") are in CMP's system. One way of looking at those paper companies that are cogenerators with high-cost NUG contracts is that, as a total enterprise, they already have whatever relief from high electric rates that they could reasonably expect.

The strategy for getting electric rates down for all of our customers, including the paper industry, is this:

- Reduce or eliminate the high-cost NUG's. That effort is ongoing, as everyone is well aware.

- Eliminate the costs of social program agendas from electric rates. This involves difficult decisions about sustaining such existing programs as low income subsidies and mandates for demand-side management.

- Make sure our other costs are under control, and increase efficiency. We're all doing that. Wholly aside from the historic type of regulatory pressure to do so, we now see competition overtake regulation as a factor in inciting us to get our costs under control.

- Most importantly, increase sales. The electric component of the energy marketplace is very much underexploited in Maine. That is the result of a deliberate policy strategy that now clearly needs to change. The existing pricing policies that discourage greater use are contrary to "real world" economics. Greater electric sales and an increasing electric energy market share - at a profit over the marginal cost of serving such increased sales - would be a certainty if only utilities were allowed the flexibility to compete. This potential for increased revenue and bottom-line profit is the best opportunity we have to hold down electric rates for all of our customers - especially those "core customers" who do not have a competitive alternative to electricity for their particular energy needs.

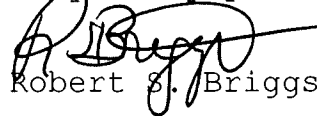
The greatest opportunity for meaningful action on the part of the Legislature, and all other parties interested in the issue, is to help in the process of altering the policy and attitudinal barriers to implementing the changes necessary in order for Maine's electric utilities to compete and grow their market share. The contrary notions are, unfortunately, very deep-seated. Consequently, opportunities for economic growth and increases in efficiency and environmental quality improvement are being foregone. The Legislative and regulatory changes necessary to removing the barriers are happening very slowly and with great reluctance. Since these are not specific to the paper industry, it's probably not of interest to your Commission that I detail the efforts to date. I think, though, one recommendation from

the Commission might be to suggest to the Legislature that the efforts on the part of utilities in the area of having the flexibility and authority to increase sales and market share would be a positive development for the paper industry as well. I'd be pleased to go into this subject in more detail with the you if you think it is within the Commission's charge.

Another possible action that the Legislature could take would be to specifically charge the Public Utilities Commission with favoring the paper industry in it's rate-design determinations. The Legislature has done this before (for example, with low income customers). This leads, of course, to cross-subsidization among utility customers that might not otherwise occur. As attractive as such direction might be to the paper industry, I wouldn't recommend it. History suggests that greater Legislative involvement in the utility regulatory process is not likely to result in reduced costs, and the Public Utilities Commission is already supposed to be basing rate designs for the various classes of customers on the costs of serving such customers. Moreover, as competition replaces cost-plus regulation in the utility price-setting process, such Legislative mandates (and, indeed, many regulatorily-established rate designs) will become increasingly irrelevant (at best) or counterproductive (at worst).

Let me know if you'd like me to expand on any of this as your Commission deliberates.

Very truly yours,


Robert S. Briggs

APPENDIX I



United States
Department of
Agriculture

Cooperative
State Research
Service

Natural Resources,
Food and Social
Sciences

Washington, D.C.
20250-2200

August 1, 1994

Mr. John Knox
Office of Policy and Legal Analysis
State House Station 13
Augusta, Maine 04333

Dear Mr. Knox:

Attached are materials relating to the pulp and paper industry that I had promised to you earlier.

The first table, I, is a time series of Gross State Product (GSP) data for the industry by states for the years 1997-1990. The data are compiled by the Department of Commerce. The data are in real (1987 dollars identified as "0") and current (identified as "100"). For Maine, the industry has grown in real terms by 26 %, slightly less than the national average of 29%. A few other large pulp and paper states like Georgia and Minnesota have experienced faster industry growth, but a number of other states with large pulp and paper industries (California, Illinois, Louisiana, Wisconsin, and Washington) haven't performed much better if any better than Maine.

Table II compares pulp and paper with wood products and several agricultural industries for the New England States. Note that Maine's GSP increased 54.9% in the 1997-1990 period, twice as fast as the pulp and paper industry (SI Code 52260). However, the pulp and paper industry still accounts for 5.7% of the state's total GSP. The industry is still very important to the state's economy, especially to the rural, in-land areas, although other parts of the state's economy are growing faster. We have this information on the other components of the state's GSP if you would like them.

An argument has been made that Maine's wood products industry may be competing more effectively against the pulp and paper industry. But, the GSP for wood products (SI Code 51240) shows only an increase of 10.7% over the 1977-1990 period with a decline since the mid-eighties. Consequently, this industry does not pose as a threat to the pulp and paper industry for labor or raw material, at least up through 1990. Wood products is experiencing considerable growth now to meet pent up demand for housing and other uses here in the U.S. and abroad.

Also attached are several printouts of pulp and paper research on-going in the land-grant university as reported to our Current Research Information System. Note this is not complete list. A large amount of foundation money from the industry that goes to these universities is not reported to our system. However, note that a relatively few of the land-grant universities account for the research that is reported. There is considerable duplication among these printouts.

To the best of our knowledge, the pulp and paper industry conducts much of its research in-house for proprietary reasons. It isn't likely that university conducted research has much influence on the economic growth of the industry. But, it would be appropriate to ask the industry what their

research needs are and how can the university research base assist in carrying out the program.
Next question is do the universities, Maine and others in the region, have the capacity to carry out such a program.

The industry's problems probably relate to competitiveness in an increasingly global and environmentally sensitive marketplace. How can the industry in Maine enhance its competitiveness? Industry representatives should be able to identify strategies to reduce costs, improve product quality, and identify potential markets. It sounds like the industry is going to have to make major structural changes including shutting outmoded plants, reducing employment and thereby increasing productivity, reducing wage rates, softening environmental impacts with new or better techniques, cutting input (pulp, energy, transportation, recyclable materials) costs, and reducing regulatory costs such as worker's compensation and many others.

The proposed study should identify many of the problems and strategies for addressing them. How much can be accomplished by the industry, industry-state-environmental partnerships, and pure government intervention remains to be determined.

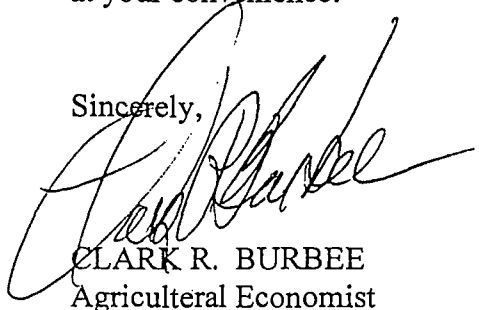
We are attempting to obtain some additional research data and results about the industry from the School of Forestry at the University of Washington, Seattle. The school has an excellent conference on this industry each year in September with excellent industry participation. You may want to attend.

I just had a conversation with Dr. Joseph Buongiorno at the University of Wisconsin. He has an econometric model that is useful for assessing the impacts of technologies and other factors upon the competitiveness of the pulp and paper industry. Please contact him regarding his findings pertaining to the industry in your region. I believe that he would make additional computer "runs" if you have special needs to evaluate. His telephone number is 608-262-9975.

Joe indicates that a problem now is the abundant supply of fiber for newsprint either from recyclable or natural sources and the regulatory requirements to include minimum amounts of recycled newsprint. This is having a major adverse impact on newsprint mills located in eastern Canada and could result in relocation to the southern U.S.

If we can be of further assistance, please contact Dr. Wayne Murphey (202-401-4089) or myself at your convenience.

Sincerely,



CLARK R. BURBEE
Agricultural Economist

Attachments

APPENDIX J



T H E C R U G E R S G R O U P , I N C .

**Report to the Commission on the
Future of Maine's Paper Industry
by
The Crugers Group**

October 17, 1994

**The State House
Augusta, Maine**

P. O. B O X 1 7 0
HAMPDEN, ME 04444
207 • 862 • 6137

Who We Are:

The Crugers Group, Inc., of Hampden, Maine was represented by Walter Cupples and Deb Phillips-Cupples. Combined, they have 29 years experience in organization development, have worked with 14 industries nationwide, and have worked 28 years with the paper industry.

Our Goal:

To seize the opportunity of impacting key leaders in Maine about the value of worker participation as a means of enhancing the future of Maine's paper mills.

We realize the Commission was looking for hard data. In our search of the literature we came across a paper which finally documents the impact of different Human Resource systems on productivity.

The second draft of the paper is dated July 21, 1993 and is entitled: "The Effects of Human Resource Management Practices on Productivity." The paper is a study of the steel industry and is recognized in academic circles as the only truly comprehensive work of its kind. It takes all major variables into account, such as: age of equipment, start up time of new equipment, etc. It was written by:

- Casey Ichniowski
Graduate School of Business
Columbia University
- Kathryn Shaw
G.S.I.A.
Carnegie Mellon University
- Giovanna Prennushi
Carnegie Mellon University & World Bank

During the course of this study, they identified four levels of Human Resource Management systems. Following are the characteristics of each of those four levels:



HRM System 1 "Very Innovative"

- Carefully selected, oriented and trained new employees
- Formal training for all operators in:
 - technical line operations
 - statistical process control
 - team problem-solving techniques
- Multi-attribute gain sharing pay plan
- Paid on a salary basis with levels determined by employees' skills
- Employment security pledge
- Regular contact between workers, union officials and the few managers at the line

HRM System 2

- Headway in some or all of these areas:
 - expanded task definitions
 - multi-attribute gain sharing
 - established regular communication channels

HRM System 3

- Headway in one or two of these areas:
 - some shop floor flexibility
 - an incentive pay plan based on quantity and quality
 - some form of team work or employee involvement

HRM System 4 "Traditional"

- A Tayloristic approach to work practices:
 - strict work rules and responsibilities
 - incentive pay based on quantity only
 - minimal worker involvement feedback and labor-management communication
 - virtually no screening procedures to select workers
 - on-the-job training



People at the University of Maine who we talked to in our preparation who support this proposal are:

Business School

Stanley Devino, Dean
Carol B. Gilmore, Professor

Bureau of Labor Education

John R. Hanson, Director
William C. Murphy, Assistant Director



APPENDIX K



UNIVERSITY OF MAINE

Department of Chemical Engineering

4 November, 1994

5737 Jenness Hall
Orono, Maine 04469-5737
207/581-2277
FAX Number 207/581-2323

Mr. John Knox
State of Maine
Office of Policy and Legal Analysis
Room 101/107/135
State House Station 13
Augusta, Maine 04333

Subject: *Commission to Study the Future of Maine's Paper Industry*

Dear John:

I am writing in response to your request dated October 11 to Kathleen Stoll for information regarding the Chemical Engineering Department and for priorities discussed during my October 31 testimony before the Commission.

Statistics of the Department. Table 1 summarizes selected statistics for the Chemical Engineering Program at the University of Maine.

Education and Research Priorities. As I indicated during my testimony, the educational infrastructure is the obligation of the state and thus recommended priorities reflect this obligation.

Priority No. 1. Expand Graduate Chemical Engineering Education. Expanding graduate education would increase the number of M.S. and Ph.D. engineers available to the pulp and paper industry. I would recommend increasing the current graduate student population from 34 to 60. To accomplish this the following additional resources would be needed.

<u>Item</u>	<u>Anticipated Cost</u>
Add 3 new faculty to ChE Department	\$225,000/year
@ \$75,000/year each	
Add 6 new graduate fellowships	\$90,000/year
@\$15,000/year each	
Total Additional Cost	\$315,000/year

Faculty would be expected to support 3 graduate students for each new graduate fellowship provided. Currently, the Department supports 27 students on research funds, the University provides 3 graduate assistantships, and the University of Maine Pulp and Paper Foundation supports 5 students each year -- for a total of 35 students in the population.



Priority No. 2. Establish the Maine Consortium for Technological Competitiveness in the Pulp and Paper Industry. Here I would suggest creating a Maine analog to the Georgia Consortium for technological competitiveness of the paper industry. Establishment of a Pulp and Paper Competitiveness Center would, most likely, require a state appropriation. Scientists within the University of Maine System would work on problems of common interest to the Maine paper industry! Areas of interest that the Center could focus on are:

- Expanding the Fiber Supply (Silvaculture)
- Effluent Reduction through process modification,
- Advanced pulping technology,
- Advanced papermaking, coating and finishing,
- Recycling of Paper Products,
- Improved Life Cycle of Paper Products,
- Reduced capital intensity,
- Energy optimization, and
- Process sensor development and process control for productivity improvements.

Emphasis would be put on processes that reduce capital intensity, improve productivity and technology for high value added grades that can be produced in the state. The Pulp and Paper Competitive Center would be composed of a Program Office with a Director and support staff and a budget to fund research on problems of interest to the industry. A Pulp and Paper Research Committee would oversee the Center. The Director would be responsible to the Committee of industrial representatives and representatives appointed by the Governor, State Legislature and the University of Maine. Anticipated cost would be:

Directors, Staff and Office	\$175,000/year
Budget for Research	\$1,500,000/year
15 Projects @\$100,000/year	
Total Additional Cost	\$1,675,000/year

Priority No. 3. Expand the University of Maine Pulp and Paper Pilot Plant for Educational Outreach. Currently the University of Maine performs about \$400,000 per year in technical service work (contract basis) for the U.S. Pulp and Paper industry; about half of this sum comes from companies within the state of Maine. We have identified a private donor who has designated the University of Maine Paper Program to be the recipient of funds to expand the Jenness Hall pilot plant facilities by about 30%. The additional space could be used for improved education for paper mill personnel. This expanded facility could be used to increase educational outreach in the form of:

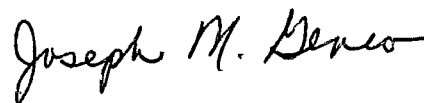
- Short Courses for Managers and Engineers
- Technical Training for Paper Mill Workers
- Environmental Education

The office would generate income from sale of educational services but would require a base budget. Education on environmental issues is particularly relevant to the paper industry in order to develop rational public policy and support the burden of increasing environmental mandates. Additional cost would be:

Additional Staff	\$150,000/year
Director (\$85,000/Year) and one Engineer (\$75,000/Year) plus Secretarial (\$24,000/year) and Operating Funds (\$16,000/year)	
Total Additional Cost	\$200,000

I hope these comments and priorities prove of value to the Commission. I enjoyed working with the Commission and wish them well in this very important work.

Sincerely yours,



Joseph M. Genco
Professor and Chair
Department of Chemical Engineering

cc: Kathleen Stoll
Judith Bailey
Stanley Marshall



UNIVERSITY OF MAINE

SEP-09-'94 08:50 R

Department of Chemical Engineering

10 March 1994

Governor John R. McKernan, Jr.
Executive Department, Office of the Governor
State House Complex
Augusta, Maine 04333

Post-It™ brand fax transmittal memo 7671		# of pages ▶
To John Knox	From Joseph M. Genco	
Co. State of Maine	Co. University of Maine	
Dept. Paper Industry (onius)	Phone # 581-2284	
Fax # 287-1275	Fax # 581-4174	

Dear Governor McKernan:

I am writing to you to express my concern for the economic future of the pulp and paper industry here in the state and the implications to our citizenry. As you know, the paper industry is among the largest and most productive in the state, making major contributions to its economy. The paper and allied products industry is a leader in average employee compensation and in Maine, employed 16,483 tax-paying individuals. Unfortunately, in my opinion, the business climate for the paper industry in Maine is becoming increasingly unfriendly. This represents a major, long term problem for the state since the paper industry requires heavy capital investment.

I have enclosed a recent journal article on the industry, for your information. It focuses only on the Great Lakes area, but there is a lot of overlap with issues here in Maine. Please notice that in the Table on page 23, Maine did not make the list of top ten states in capital expenditures. If this statistic is correct, it has serious, long term implications for the state since paper industry executives will only invest in regions that they feel are economically viable in the long term.

Sincerely,

Joseph M. Genco
Interim Chair, Department of Chemical Engineering
Director, UM Pulp & Paper Pilot Plant and Laboratory

cc. Don Esty, Senate Majority Leader
Pamela Cahill, Senate Minority Leader
Stanley Marshall, Exec. Dir., UM Pulp and Paper Foundation
Frederick Hutchinson, President, University of Maine



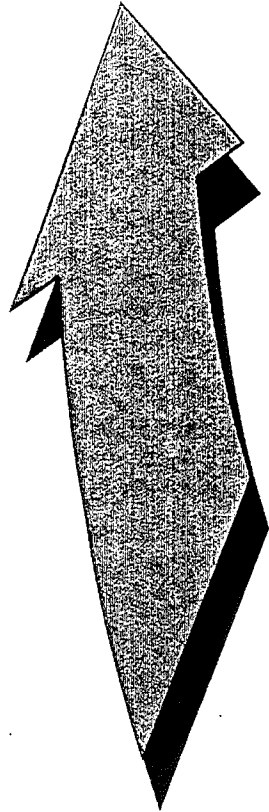
APPENDIX L

Presentation to
Commission to Study the Future
of Maine's Paper Industry

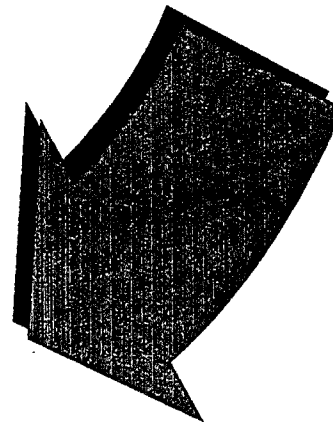
by

James Giffune
Vice President - Operations
Fraser Paper Company
October 3, 1994

PERSPECTIVE



PERCEPTION



REALITY

CONTENTIOUS ISSUES

- **INDIAN LAND CLAIMS**
- **LAND OWNERSHIP ISSUES - PUBLIC VS PRIVATE**
- **TAXATION POLICIES**
- **LIBERAL ENTITLEMENTS**
- **EDUCATION / ASPIRATION**
- **PUBLIC LOTS CONTROVERSY AND SETTLEMENT**
- **FOREST PRACTICES**
 - **BUDWORM MANAGEMENT**
 - **CUTTING RIGHTS ON PUBLIC LANDS**
 - **SCIENTIFIC VS AESTHETIC FOREST MANAGEMENT**
 - **"JUNK FORESTRY", ETC...**
- **LABOR MANAGEMENT CONFRONTATION**
- **O.S.H.A.**
- **MANAGEMENT LIABILITY**
- **WORKERS COMPENSATION**
- **EXPORTING FOREST PRODUCTS**
- **LAND LOST TO PRODUCTIVITY**
- **NON UTILITY POWER GENERATION**
- **ENVIRONMENTAL ISSUES, ZERO DISCHARGE, DIOXIN, ETC...**

GOVERNMENT ENVIRONMENTAL CONTROLS

CANADA

UNITED STATES

FEDERAL

Laws/Acts	24
Regulations	96
Parts, Subparts, Sections	1-10/Reg.

FEDERAL

Laws/Acts	24
Regulations	85
Parts	696
Subparts	10-100/part
Sections	5-10/subpart

TOTAL (EST.): 500

TOTAL (EST.): 267,960

PROVINCIAL

Laws/Acts	12
Regulations	19
Parts, Subparts, Sections	1-25/Reg.

STATE

Laws/Acts	27
Regulations	86
Parts, Subparts, Sections	10-200/Reg.

TOTAL (EST.): 400

TOTAL (EST.): 8,600

GRAND TOTAL (EST.): 900

GRAND TOTAL (Est.) 276,560

Employees:

N.B. Dept. of Environment	100
Environment Canada	5,000
Total	5,100

Employees:

Maine D.E.P.	425
U.S. Env. Protection Agency	25,000
Total	25,425

PROJECT ENVIRONMENTAL APPROVAL

NEW BRUNSWICK

- 1) MEET NBDOE PLANNING
BRANCH**
- 2) PROJECT COORDINATOR
ASSIGNED**
- 3) COORDINATOR SETS
SCREENING COMMITTEE**
- 4) SCREENING COMMITTEE
ADVISES PROPONENT OF
PERMITS AND LICENCES
REQUIRED**
- 5) SCREENING COMMITTEE
IDENTIFIES AREAS OF
CONCERN**
- 6) REGISTRATION DOCUMENT
COMPLETED AND FILED**
- 7) COMMITTEE MAKES
SCREENING DECISION**
 - NEEDS FULL EIA**
 - SCREENED OUT**
 - PROJECT PROCEEDS**

MAINE

- 1) SITE LOCATION PERMIT**
- 2) HIRE ATTORNEY AND
PRINCIPAL CONSULTANT**
- 3) MEET DEP. LAND BUREAU**
 - PRE-APPLICATION**
- 4) HIRE INDIVIDUAL
CONSULTANTS**
 - HYDRO-GEOLOGY**
 - ENDANGERED SPECIES**
 - WET LANDS**
 - WATER SUPPLY**
 - TRAFFIC**
 - WILDLIFE AND FISHERIES,
ETC.**
- 5) IDENTIFY ALL ADDITION
PERMITS (PROPONENT/
ATTORNEY/ CONSULTANT)**
- 6) OBTAIN AND COMPLETE
PERMIT APPLICATIONS**
- 7) ENSURE ALL RELATED FACI-
LITIES ARE IN COMPLIANCE**
- 8) FILE SITE LAW APPLICATION
AND ALL ASSOCIATED
APPLICATIONS**

APPENDIX M

Commission to Study the Future of
Maine's Paper Industry

Minutes

October 31, 1994

Absent: Roderick

I. The Commission heard from the following speakers:

A. George Adler, Managing Director, Smith Barney, Inc.

Mr. Adler made the following points:

1. 1989-1993 was a terrible time for the paper industry. 1994 has seen a spike, the likes of which hasn't been previously seen.
2. Maine is not friendly to the paper industry. The industry is a polluter. Mills do pose a problem. There must be a compromise.
3. Maine has certain inherent problems such as location and energy costs, the age of the mills and their inability to be adopted to the larger equipment. With these problems, the state must double its efforts in other areas.
4. Maine has the advantage of its spruce trees vs. southern fiber in their ability relative to the value-added product of coated paper. He doesn't know whether technology will allow the duplication of the qualities of spruce.
5. Maine also has disadvantages that it inflicts on itself.
 - a. Particularly, excessive environmental regulation. Why does the state feel it needs to exceed federal standards? Why is the permitting process so lengthy?
 - b. Very combative labor unions. Maine always seems to have strikes when other states don't. The union pushed the situation at IP in Maine when they had already given in in the South.
6. Paper is, on balance, the most capital intensive industry and has meager margins.

There has been 1 new mill in Maine in the last 20 years. Prior to 1989, there were proposals to make major tissue and a coated ground wood investments. Now these have been canceled and an uncoated 3 sheet machine will be added in the South.

7. The decision of the commission to contract with an industry consultant was a great idea. It is important to get into industry costs. A top-to-bottom study is needed with the goal of showing objectively where Maine stands.
8. Mr. Adler reported on phone calls made to senior executives asking them to compare Maine with other states.
 - a. Wood - three responses
 - (1) softwood \$33 per ton, higher than in South
hardwood \$19 higher
 - (2) softwood \$30 higher
hardwood \$ 5 higher
 - (3) Fiber 13% higher
 - b. Labor - three responses
 - (1) Workers comp - Has improved but not as good as elsewhere
Trying to make it tougher again
Some bad decisions
 - (2) Machine labor 8% lower in Maine
Operating labor 1% lower in Maine
Workers' comp 20¢ in Maine vs. 8¢ in South
 - (3) Labor in Maine \$10 per ton higher
 - c. Taxes - three responses
 - (1) \$9 per ton higher than in South
 - (2) Personal property tax 86% higher than average in other states
 - (3) Maine is 2nd highest of the 11 states in which they operate

d. Environment

He received "terrible statements." Respondents seemed very upset. Maine seems to take perverse delight in having the most stringent rules. Why not stay with EPA standards?

e. Energy

Maine is at a natural disadvantage. Not much can be done.

- (1) Power costs 6.1 per kwh, 27% higher than other states 4.8.
- (2) Power costs 50% higher than average, but only 3% above the next state.
- (3) Purchased electricity is 78% higher than at other locations.

f. Outbound freight - 90% higher than in other Northern states

- 9. The poor situation in Maine has been going on 20-30 years and it won't improve competitively, though the state will share in industry upswings. Cluster rules will knock out the marginal mill. If environmental expenditures are necessary, they will be made in the good mills. Millinocket is a very serious problem.
- 10. Not many new mills are being built anywhere, because it is difficult to meet the environmental requirements and even when you can the process is a tremendous ordeal. Maine won't get the recycling facilities because it doesn't produce the material to be recycled.

APPENDIX N

Goldman, Sachs & Co. | 85 Broad Street | New York, New York 10004
Tel: 212-902-3305

DEC-03-'94 18:36 R

John Chrysikopoulos
Vice President
Investment Research Department

**Goldman
Sachs**

December 3, 1994

Mr. John B. Knox
Legislative Analyst
State of Maine
Office of Policy and Legal Analysis
Room 101/107
State House Station 13
Augusta, Maine 04333

Dear Mr. Knox:

According to the most recent American Forest and Paper Association Survey (December 1993), the total paper and paperboard capacity represented by the New England states (Maine, Vermont, New Hampshire, Massachusetts, Connecticut, and Rhode Island) has declined over the past 12 years and is expected to decline further over the next four. More specifically, in 1980, New England represented 8.1% of the total paper and paperboard industry capacity while in 1992 it represented only 7.0% and in 1996 is projected to represent 6.8%.

According to the companies in the industry the following reasons can be sighted for the aforementioned declines and the industry's unwillingness to increase and/or expand its presence in the New England region.

- **Higher fiber costs.** Due to climatic and soil conditions, it takes on average 50-70 years for trees to fully mature in New England versus 20-30 years in the Southern part of the United States. Lack of fiber availability has also been sighted as another reason for the higher wood costs. The quality of northern wood fiber, however, is superior to the southern fiber (it is stronger).
- **Higher labor costs.** Total labor costs including benefits are meaningfully higher in Maine than the Southern states (no specific details have been made available to me). In addition, labor is unionized in Maine unlike non-unionized in the South. Moreover, it appears that the labor in the South is better educated than in Maine or it appears more willing to adapt to the changing environment - new methods of production, new computerized control systems, etc.
- **Higher energy costs.** Due to the colder weather conditions, energy costs are higher than in the Southern region.
- **Higher transportation costs.** Due to the lack of major, efficient, and reliable transportation systems transportation costs tend to be higher than other parts of the country for domestic shipments.

Goldman, Sachs & Co. | 85 Broad Street | New York, New York 10004
Tel: 212-902-3305

DEC-03-'94 18:36 R

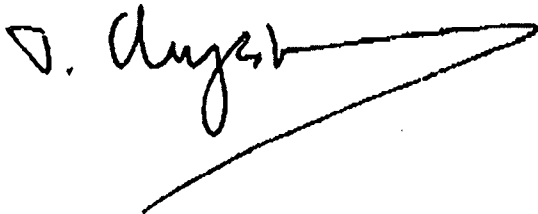
John Chrysikopoulos
Vice President
Investment Research Department

Goldman
Sachs

- Higher maintenance costs. Most of the mills in Maine tend to be older, smaller, and less efficient than those in the south. As a result, maintenance costs tend to be higher in Maine (or the Northeast region in general).
- Lack of tax incentives or business credits. Other states, especially those in the south have offered numerous incentives over the past years and continue to do so in order to attract investments, increase employment, encourage further investments, etc. Other taxes have also been sighted as another reason for the lack of major expansions in New England.
- More stringent environmental regulations. It appears that the State of Maine has more stringent environmental requirements than other states (no specific examples have been cited).

New environmental regulations, in my opinion, will lead to additional shifts of capacity additions or lack of any expansions from the New England region to the southern region. Most of the facilities in New England tend to be small, old, and not as efficient as those that have been installed in the south. Small and old mills on average will require substantially more capital (measured as dollars per ton of installed capacity) to comply with new/additional environmental regulations than the new and efficient mills.

Sincerely,



APPENDIX O

**DIGEST OF PHONE CONVERSATION
WITH LAWRENCE A. ROSS
FIRST VICE PRESIDENT
PAINE WEBBER INC.**

Mr. Ross is the senior research analyst for the pulp and paper industry. He has been asked to speak twice at the University of Maine.

In Mr. Ross' opinion, the major problem facing the industry is the proposed EPA cluster rules. He suggests that the first step be for the industry, perhaps with UMO assistance, to attempt to determine if that these rules are too severe and then to lobby for their change.

In terms of what makes Maine unique within the industry he offered the following:

1. Maine is much more dependent on bleach in producing the paper that it makes than are the southeastern states and is a major player in that segment of the industry. It is bleaching that is the EPA's main pollutant concern.
2. Maine being in one corner of the country has a freight problem. (To a lesser extent, it would appear to me that this could also be said for the southeast and northwestern states and Maine is closer to population centers.)
3. With a limited population density, Maine would appear to have less of a problem with pollution. (However, maintaining a pristine environment is probably more important to Maine's success in competing with others states than it is to those states in their competition.
4. There is no other state that has a university program devoted to pulp and paper that matches the University of Maine. He would guess that the majority of the chemical engineers in the industry were educated at Orono.

6482LHS

APPENDIX P

ENVIRONMENTAL PROTECTION

1. Pollution Standards¹

The American Lung Association, in conjunction with the State Air Pollution Program Administrators, in 1993 surveyed the states as to those that exceeded federal standards on air pollutants or had standards for pollutants for which there was no federal standard. Twenty five states responded, which means at least 25 states met one of these criteria.

<u>Pollutant</u>	<u># States Exceeding</u>	<u>Maine Exceeds</u>
Carbon monoxide	6	No
Particulate matter	7	Yes
Nitrogen dioxide	4	No
Ozone	6	Yes
Lead	6	Yes
Sulfur dioxide	11	Yes

Maine has standards for the following where there are no federal standards:

	<u># of States Having</u>
Hydrocarbons	4
Perchloroetheylene	1
Toluene	1

There are 13 pollutants for which at least 1 state has standards and for which Maine hasn't a standard.

2. Pollution expenditures - State Rankings²

	<u>Average Expenditure Per Mfg. Industry 1991</u>	<u>1991 Per Capita Enviromental & Natural Resource Expenditures</u>	<u>Env. Exp. As % of State Budget 1991</u>
Wisconsin	35	23	24
Maine	17	16	18
Alabama	40	40	38
Washington	5	6	21
Louisiana	9	15	13
Michigan	43	38	40

3. Pollution results - Rankings

a. Total Emissions, Ozone & Acid Rain

	Emissions ³ to Jobs Ratio (1991)	% of Pop. ⁴ With Air Violating Ozone Standards (1987-89)	Acid ⁵ Rain (1990)	Per Capita ⁷ Industry Toxic Chemical Releases & Transfers low=bad (1991)
Wisconsin	25	26	17	28
Maine	35	38	50	33
Alabama	8	25	41	9
Washington	29	15	16	32
Louisiana	1	19	10	1
Michigan	10	35	32	18

4. Pollution Policy - Rankings

	<u>Ranking</u>		<u>Rating (10 = good)</u>		
	(A) Environmental ¹⁰ Policy Record	(B) Pollution ¹¹ Subsidy vs. Invest. (1994) (low=good)	Drinking ¹² Water Policy (1988)	Energy ¹³ Pollution (1988)	Energy ¹⁴ Conservation (1987)
Wisconsin	3	7	7	9	9
Maine	9	2	10	8	8
Alabama	47	40	2	4	2
Washington	15	10	3	5	3
Louisiana	34	49	1	3	1
Michigan	10	21	5	8	3

(A) A composite of 75 indicators from the 1991 Green Index

(B) Based on capital expenditures for pollution control made by industry compared to national average for similar chemical emissions.

4. Pollution Policy - (Cont.)

<u>Have State Policy - 1991-1992</u> ¹⁵					
	<u>Promotes Cuts in Toxic Emissions</u>	<u>Requires Toxic Wastes Plan & Report of Cuts</u>	<u>Ozone Protection</u>	<u>Wetland Protection</u>	<u>Least Cost Energy</u>
Wisconsin			X	X	X
Maine	X	X	X	X	X
Alabama	X				
Washington	X				X
Louisiana	X	X			
Michigan				X	X
Total #	16	13	15	16	17

¹ State & Local Ambient Air Quality Standards, American Lung Association, March, 1994

² Resource Guide to States Environmental Management, The Council of State Governments, 1993

^{3,7,10,11} Gold & Green, Institute for Southern Studies, 1994

^{4,5,12,13,14,15} The Green Index, Institute for Southern Studies, 1991-92

APPENDIX Q

Revised 12/27/94

ENERGY DATA

1. Costs

	<u>Average Industrial¹ Electrical Rates 1992</u>	<u>Cost of Energy² Per Million BTU All Consumers 1990</u>
Maine	6.91 ¢ per kwh	\$9.54
Wisconsin	4.03	8.27
Alabama	4.31	7.92
Washington	2.31	7.39
Louisiana	4.21	6.05
Michigan	5.89	8.17
National		8.43

2. Consumption- Percent by Fuel Source - 1990 - All energy used, including that used to refine other products

3

	<u>Coal</u>	<u>Natural Gas</u>	<u>Petroleum</u>	<u>Nuclear</u>	<u>Hydro Electric</u>
Wisconsin	29%	23%	35%	9%	2%
Maine	2	1	66	14	15
Alabama	43	16	34	8	7
Washington	4	7	40	3	45
Louisiana	6	47	41	4	0
Michigan	29	31	33	8	-4

3. Spending - 1990 - Per Million BTU - All Consumers

4

	<u>Electricity</u>	<u>Natural Gas</u>	<u>Petroleum</u>	<u>Coal</u>
Wisconsin	\$ 15.77	\$ 4.56	\$ 8.63	\$1.41
Maine	22.42	6.05	7.04	2.72
Alabama	16.46	4.07	7.91	1.83
Washington	10.03	3.60	7.12	1.65
Louisiana	17.77	2.11	6.89	1.68
Michigan	20.85	4.36	8.42	1.63

¹ EEI Statistical Yearbook² Source: State Ranking 1993, from U.S. Department of Energy report, 1990³ States in Profile, U.S. Data on Demand, Inc., and Social Policy Research, Inc. 1994⁴ State Fact Finder, Congressional Quarterly, Inc., 1994

APPENDIX R

Revised 1/3/95

TAXATION DATA**I. Per Capita Taxes-1992**

1

	<u>Personal Income Per Capita</u>	<u>Sales Per Capita</u>	<u>Property Per Capita</u>	<u>Corporate Income Per Capita</u>	<u>All Taxes Per Capita</u>
Wisconsin	\$580.81	\$392.22	\$798.07	\$ 87.75	\$1,915.60
Maine	\$478.55	\$463.93	\$795.78	\$ 56.57	\$1,751.84
Alabama	\$290.98	\$265.39	\$170.74	\$ 40.99	\$ 764.40
Washington	\$ 0.00	\$976.58	\$625.36	\$ 0.00	\$1,590.59
Louisiana	\$202.78	\$344.23	\$276.02	\$ 52.09	\$ 887.85
Michigan	\$408.89	\$335.97	\$893.16	\$162.51	\$1,800.53

II. Presence of Individual Taxes

2

	<u>Tax Exemption or Moratorium on Land;Capital Improvements</u>	<u>Accelerated Depreciation on Pollution Equipment</u>	<u>Statewide Uniform Property Tax Evaluation Law</u>
Wisconsin	No	Yes	Yes
Maine	No	No	No
Alabama	Yes	Yes	Yes
Washington	No	No	Yes
Louisiana	Yes	Yes	Yes
Michigan	Yes	Yes	Yes
All States	36	33	41

III. Taxes related to income would seem to be perhaps a more valid way to compare states - FY 91 data

IV. Fiscal Stability and Balanced Revenue Sources

3

	Rank
Wisconsin	11
Maine	32
Alabama	12
Washington	50
Louisiana	38
Michigan	34

Balanced sources and fiscal stability permit the State to provide a stable climate for long-term business investment. Maine's ranking on 3 of the individual components is:

	<u>Rainy Day Fund</u>	<u>Net Operating Carrybacks</u>	<u>Breadth of Sales Tax Base</u>
	% Gen. Fund Appr.	Allowed?	Sales Tax Rec. as % Personal
Wisconsin	0	No	.46
Maine	0	No	.46
Alabama	0	Yes	.46
Washington	1.6	No Corp. Tax	.57
Louisiana	0	Yes	.51
Michigan	.8	No	.46

V. Nine states do not have property tax on machinery and equipment according to the Bureau of Taxation.

VI.

4

Percent Expenditures Per Capita Index
on state services (FY 91 Data)

	<u>Secondary Education</u> % PC	<u>Welfare</u> % PC	<u>Health</u> % PC	<u>Higher Education</u> % PC	<u>Highways</u> % PC	<u>Interest on Debt</u> % PC	<u>Other</u> % PC
Wisconsin	26% 111	16% 116	6% 73	11% 132	8% 112	5% 86	28% 91
Maine	27% 111	20% 142	5% 55	7% 86	9% 128	6% 96	27% 87
Alabama	21% 71	12% 67	17% 151	12% 112	8% 85	5% 75	26% 69
Washington	26% 113	13% 96	8% 95	10% 123	7% 108	4% 79	32% 109
Louisiana	21% 83	13% 86	13% 130	8% 88	8% 107	10% 163	27% 80
Michigan	26% 109	15% 110	10% 115	11% 129	6% 81	4% 69	27% 87

VII.

5

Tax Capacity & Revenue Index (U.S. = 100)
FY 1991

	<u>Commercial/ Industrial/ Property</u>	<u>General Sales</u>	<u>Personal Income</u>	<u>Selective Sales</u>	<u>Corporate Income</u>	<u>All Taxes</u>
	<u>Cap. Effort</u>	<u>Cap. Eff.</u>	<u>Cap. Eff.</u>	<u>Cap. Eff.</u>	<u>Cap. Eff.</u>	<u>Cap. Eff.</u>
Wisconsin	96 92	96 85	90 155	98 105	99 93	90 118
Maine	78 82	110 71	79 138	104 93	89 72	95 102
Alabama	78 116	80 97	71 98	107 107	83 84	81 81
Washington	90 54	102 209	110 --	92 135	98 --	108 99
Louisiana	122 144	92 136	70 62	60 101	85 163	89 89
Michigan	114 103	97 69	99 104	98 71	92 192	94 107

Sources:

1. State Rankings, 1994, Based on 1992 data.
2. Site Selection, Oct. 1993, pp. 1151-1169.
3. Development Report Card for the States, 1994
4. Significant Features of Fiscal Federalism, Advisory Commission on Intergovernmental Relations, 1993
5. State Revenue Capacity & Effort, Advisory Commission on Intergovernmental Relations, 1993

APPENDIX S

Revised 1/3/95

EDUCATION DATA

1. SAT Scores

1

<u>State</u>	<u>% Taking</u>	<u>Score</u>	
		<u>Verbal</u>	<u>Math</u>
Maine	68%	420	463
Wisconsin	9%	487	557
Alabama	8%	482	529
Washington	49%	434	488
Wisconsin	9%	481	530
Michigan	11%	472	537

2.

2

	<u>High School Graduates Per 18 yr. Old Pop.</u>	<u>College Starting Rate of High School Graduates</u>	<u>% of Budget Allocated to Higher Education</u>	<u>Dollars per Higher Education Student</u>	<u>Full Professor Salaries</u>
Wisconsin	83%	62%	8.1%	\$ 5,040	\$44,000
Maine	88%	49%	6.0%	\$ 4,215	\$44,420
Alabama	72%	55%	9.6%	\$ 3,230	\$39,033
Washington	76%	59%	7.5%	\$ 5,161	\$41,475
Louisiana	64%	54%	5.6%	\$ 3,065	\$36,255
Michigan	73%	60%	7.3%	\$ 4,305	\$46,675

3. Graduate students

3

Rank in Graduate Science/Engineer Degrees

Wisconsin	17
Maine	49
Alabama	28
Washington	42
Louisiana	34
Michigan	16

4. University Ranking

4

Quintile Rank
of Total
University
Undergraduate
Program

Wisconsin	2
Maine	5
Alabama	4
Auburn	4
Washington	2
Washington State	4
Louisiana State	4
Michigan	1
Michigan State	3

5

Graduate Engineering
Rank of 209 Universities

	<u>Over-all</u>	<u>Reputation by Academics</u>	<u>Reputation by Engineers</u>	<u>Student Selectivity</u>	<u>Research Activity</u>	<u>Faculty Resources</u>
Wisconsin	13	9	13	22	15	22
Maine	148	129	124	145	144	148
Alabama	107					
Auburn	114					
Washington	29					
Wash. State	102					
LA State	73					
Michigan	7	6	5	29	6	5
Michigan St.	31					

5. College graduates rank 1st in the desired university attributes surveys by industry, while faculty research ranks only 6th.

6

**University
Attribute**

College Graduates	94.8
Degree Programs for Employees	92.4
Access to Libraries and Information Systems	82.7
Faculty Consultants	70.7
Cultural Activities	60.7
Faculty Research Activity	56.1
Access to Laboratories	46.6
Part-time Teaching	
Opportunities for Employees	26.2

Sources:

1. College Board, 1994
2. The Workings of Public Higher Education, Research Associates, Washington, D.C., 1994
3. State Development Report Card, 1994, Measure: Number of Science & Engineer graduate students in doctorate - granting institutions, per one million population. Source: National Science Foundation "Selected Data on Graduate Students & Post Doctorates in Science and Engineering, Fall, 1992"
4. American's Best Colleges, U.S. News & World Report, Sept. 26, 1994
5. Best Graduate Schools, U.S. News & World Report, March 21, 1994 (Plus additional data supplied to staff by phone)
6. Ohio Technology Policy Evaluation, Robert Premus, Wright State University, July, 1991

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Comparison of University Undergraduate Programs

Rank/School	SAT/ACT 25-75 percent	Freshman in top 10% of HS class	Acceptance rate	Faculty with doctorate	Student/ faculty ratio	Education program per student	Alumni giving rate	Graduation rate	Academic reputation rank
University of Maine	870-1100	23%	87%	93%	15/1	\$7,379	N/A	54%	151
University of Wisconsin at Madison	940-1230	36%	73%	96%	15/1	\$11,006	20%	69%	16
University of Alabama at Birmingham	18-24	24%	70%	96%	20/1	\$16,352	16%	32%	107
Auburn University at Main Campus (AL)	973-1197	25%	90%	91%	18/1	\$6,642	18%	66%	76
University of Washington	920-1190	40%	55%	94%	13/1	\$16,527	10%	62%	26
Washington State University	800-1040	31%	89%	87%	18/1	\$10,912	30%	55%	98
Louisiana State University at Baton Rouge	860-1150	29%	83%	87%	17/1	\$6,741	11%	36%	107
University of Michigan at Ann Arbor	1070-1300	66%	68%	98%	22/1	\$14,847	26%	84%	9
Michigan State University	850-1110	23%	83%	95%	17/1	\$10,520	9%	69%	42

Source: *U.S. News & World Report, September 26, 1994*

Doc. Excel/Univ. Comparisons

Table 1
Selected Statistics for the Chemical Engineering Program

• Number of applicants (<i>undergraduate</i>)	115
• % Accepted (<i>undergraduate</i>)	82%
• Number of applicants (<i>graduate</i>)	95
• % Accepted (<i>graduate</i>)	11.6%
• Scores on the Graduate Record Exam	<i>Verbal -- average</i> <i>Math -- well above average</i> <i>Analytical -- well above average</i>
• % Completing the program	60%
• Average number of job interviews (<i>per student</i>)	6-7
• Average number of job offers (<i>per student</i>)	1
• % with jobs accepted before graduation	41%
• % with jobs accepted after graduation	40%
• % that continue on the graduate school	19%
• % Employed in Maine	10%

Note: for the past 5 years, every graduate of the chemical engineering department at both the undergraduate and graduate levels who wanted to be employed did get a job.

• Current faculty size (11 FTE)	
• % of faculty with Ph.D.	100%
• Total public and private research administered	\$ 1,463,526
• Number of faculty engaged in research (<i>faculty = 11</i>)	10
• Undergraduate students	171
• Graduate students	34
• M.S./Ph.D.	17/17

APPENDIX S-1

UNIVERSITY RESEARCH DATA

	<u>Rank</u>	
	1	2
	<u>University R&D</u>	<u>Federal R&D</u>
Maine	50	44
Wisconsin	10	41
Alabama	31	7
Washington	19	11
Wisconsin	33	46
Michigan	26	31

3

**Paths of Idea Transmission from Universities
to High Technology Companies**

Student Recruiting	67.7
University Publications (books, articles, etc.)	47.2
Faculty Consulting	45.5
University Services	39.4
Government Dissemination of the Results of Basic Research	30.8
Corporate Support for Basic Research at Universities	22.4

¹ Development Report Card for the States, 1994, pg. 166, based on National Science Foundation, "Data on Academic Science and Engineering", R&D Expenditures, FY 1992

² Development Report Card for the States, 1994, pg. 166, based on National Science Foundation, "Federal Funds for Research & Development", FYs 1991, 1992, 1993

³ Ohio Technology Policy Evaluation, Robert Premus, Wright State University, July, 1991

APPENDIX T

LABOR DATA

	1	2	3	4	5
	<u>Annual Pay</u>	<u>Hourly Pay</u>	<u>Unionization</u>	<u>Unionization</u>	<u>Value of</u>
	<u>All</u>	<u>Paper</u>	<u>All</u>	<u>Paper</u>	<u>Product per</u>
	<u>Industries</u>	<u>Industry</u>	<u>Industries</u>	<u>Industry</u>	<u>Dollar of Labor</u>
					<u>Paper Industry</u>
Maine	\$21,808	\$16.64	8%	72%	\$ 8.20
Wisconsin	\$23,022	\$14.82	13%		\$10.33
Alabama	\$22,340	\$16.20	12%		\$ 9.38
Washington	\$25,553	N/A	17%		\$ 9.26
Louisiana	\$22,340	\$14.87	6%		\$12.01
Michigan	\$27,463	\$13.43	19%		\$ 8.46
National				37%	

1,2,⁵ Annual Survey of Manufacturers: Geographic Area Statistics, Bureau of the Census, 1993

3,4 Bureau of National Affairs & Maine Department of Labor Data

⁵ Office of Policy & Legal Analysis Computation from Department of Labor Data

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APPENDIX U

TRANSPORTATION DATA

<u>Highway Deficiencies</u> ¹			<u>Bridge Deficiencies</u> ²		
	<u>%</u>	<u>Rank</u>		<u>%</u>	<u>Rank</u>
Wisconsin	5.32	21		29.24	20
Maine	12.66	44		38.11	37
Alabama	10.59	36		37.16	34
Washington	1.62	5		29.08	19
Louisiana	20.83	48		40.06	39
Michigan	10.72	37		34.64	28

¹ The 1994 Development Report Card for the States, pg. 172, based on U.S. Department of Transportation, Highway Statistics for 1992.

² 1994 Development Report Card, pg. 172, from Eleventh Report of Secretary of Transportation to U.S. Congress entitled "Highway Bridge Replacement and Rehabilitation Program, 1993.

APPENDIX V

SELECTED PAPER PRODUCING STATES' REPORT CARDS

	<u>1988</u>	<u>1990</u>	<u>1992</u>	<u>1994</u>
ALABAMA				
Economic Performance	D	D	D	C
Business Vitality	B	B	C	A
Development Capacity	D	D	D	D
LOUISIANA				
Economic Performance	F	F	F	F
Business Vitality	D	F	F	C
Development Capacity	D	F	F	F
MAINE				
Economic Performance	A	B	C	D
Business Vitality	A	A	B	B
Development Capacity	D	D	D	D
MICHIGAN				
Economic Performance	C	C	C	C
Business Vitality	C	C	D	C
Development Capacity	B	C	C	C
WASHINGTON				
Economic Performance	B	C	A	B
Business Vitality	A	C	D	C
Development Capacity	A	A	A	A
WISCONSIN				
Economic Performance	B	B	A	A
Business Vitality	F	D	C	D
Development Capacity	B	C	A	A

APPENDIX W

FINES FOR POLLUTION
(\$000's)

1990-1993

<u>State</u>	<u>Boise Cascade</u>	<u>Champion</u>	<u>Georgia Pacific</u>	<u>International Paper</u>	<u>James River</u>	<u>Scott Paper</u>
Maine	\$648	\$145	\$1176	\$970	\$0	\$1185
Alabama	37	NP	NP	17	NP	NP
Georgia	NA					
New York	NA					
Minnesota	754	0	0	NP	NP	NP
Michigan	NP	16	0	0	0	10
Wisconsin (Air)	NP	NP	0	NP	0	0
Texas	NP	12	8	130	NP	NP
Oregon	6	NP	0	0	NP	NP
Washington	26	NP	167	NP	NP	51

NP = No Plant

NA = No Answer

Source: Various State Environmental Protection Agency responses to
Commission Staff Questionnaire

APPENDIX X

Capital Expenditure History
Paper and Allied Products

	1991		1990		1989		1988		1987		1986		1985		1983	
	Capital Expend. Ratio*	Share of Cap. Expend.	Capital Expend. Ratio	Share of Cap. Expend.	Capital Expend. Ratio	Share of Cap. Expend.	Capital Expend. Ratio	Share of Cap. Expend.	Capital Expend. Ratio	Share of Cap. Expend.	Capital Expend. Ratio	Share of Cap. Expend.	Capital Expend. Ratio	Share of Cap. Expend.	Capital Expend. Ratio	Share of Cap. Expend.
Wisconsin	.05	7%	.06	7%	.06	6%	.04	6%	.04	7%	.06	8%	.06	8%	.04	6%
Maine	.07	3%	.12	5%	.16	7%	.09	5%	.09	5%	.10	6%	.10	5%	.05	3%
Alabama	.16	10%	.23	12%	.07	4%	.07	5%	.04	4%	.10	6%	.11	7%	.08	7%
Washington	.17	8%	.10	4%	.08	4%	.06	4%	.05	4%	.04	2%	.08	4%	.07	5%
Louisiana	.07	3%	.08	3%	.08	3%	.12	6%	.07	4%	.11	4%	.09	3%	.07	3%
Michigan	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
New York	.04	2%	.04	2%	.06	3%	.04	3%	.05	4%	.04	3%	.05	4%	.04	3%
Total U.S. Capital Expenditures (millions)	\$9,009		\$10,809		\$10,067		\$7,211		\$5,753		\$6,084		\$6,276		\$4,705	

Source: U.S. Census Survey of Manufacturers
Prepared by: John B Knox, Committee Staff

* Ratio of capital expenditures to value of shipments

#6168NRG

APPENDIX Y

FACTORS IN SITE SELECTION

	Rank		
	Area Development Magazine 1993	American International College Survey (Governing magazine) 1994	Wright State University 1991
<u>Labor</u>			
Costs	1	-	2
Availability & Skilled Labor	3	1	1
<u>Availability of Financing</u>			
	2	-	-
<u>Transportation</u>			
Highway			
Accessibility	4	4	-
Transportation	-	-	6
Airport	19	-	-
Rail	22	-	-
Port	23	-	-
<u>Costs</u>			
Occupancy or Construction Costs	5	-	-
Real Estate	15	5	-
<u>Energy Availability & Cost</u>			
	6	-	9
<u>Tax</u>			
Exemptions	7	-	-
Corporate			
Income	3	-	-
Property	-	5	-
Personal			
Income	-	8	-
Tax Climate	-	-	3
<u>Incentives</u>	8	-	-
<u>Environmental Regulation</u>			
	10	-	8
<u>Accessibility</u>			
Markets	11	7	7
Raw Materials	17	-	12
<u>Education</u>			
Academic			
Institutions	-	-	4
Public			
Education	-	6	-
Worker/Technical			
Training	16	-	-
Technical			
University	21	-	-

APPENDIX Z

Recommendations Common to 2 or more Economic Development Studies

	Impact of Maine Taxes on Business 1984	Shoe Industry Study 1986	Committee on Economic Development 1987	Business Task Force on the Economy 1990	Permitting Study 1991	Jobs Commission 1992	Economic Growth Council 1993	Total
Correct erroneous perceptions of State as place to do business	X	X	X	X				4
Simplicity, stability & predictability in regulation	X			X	X			3
Eliminate duplicate review and permitting				X	X	X		3
Require DEP to adhere to time schedule					X	X		2
Create 1-stop permitting					X	X		2
DECD to assist in timely environmental permitting			X		X			2
Require cost/benefit analysis of environmental rules				X	X	X		3
Have economic development strategy			X				X	2
No pollution standards more stringent than Federal						X	X	2
Incentive rates for surplus electric capacity						X	X	2

APPENDIX AA

SUMMARY OF EDUCATION/TRAINING INITIATIVES

I. Coalition for Excellence in Education

Purpose: Outgrowth of 1990 MDT Symposium. Had developed 12 visionary-type goals with due dates.

Budget: Will not release budget figures.
Funded by 10/12 businesses of which one is Champion.

Paper industry members among 15 business people on board:

Andrea Maker, Champion International

II. Jobs for Maine Graduates

Purpose: National non-profit corporation to assist disadvantaged youth through a state-supported school-to-work transition system.

Budget: \$1,844,754 from non-governmental sources.

Paper Industry members among 9 business people on board:

None

III. Task Force on Learning Results

Purpose: To assist State Board of Education in setting goals for education in Maine as required by Goal 2000.

Completion
Date: December 1995

Budget: \$495,000 - \$260,000 from state
\$168,000 federal

Paper industry members among one industry member on Task Force:

None

IV. Youth Apprenticeship Program

Purpose: To prepare high school students for world of work through a 3 year work/study program incorporating the last 2 years of high school and first year at a technical college. Yearly salary and free tuition. Administered by the Center for Youth Apprenticeship at Southern Maine Technical College.

Budget: \$3,876,000 of which \$1,200,000 is state money. Approximately 75 companies participate in the program and pay \$5,000 per year per apprentice. Madison Paper will be participating.

Paper industry members among 4 industry members on board:

None

V. Maine Aspirations Foundation

Purpose: To raise the aspirations of Maine youth. Administered by the Maine Development Foundation.

Budget: \$300,000. Funded by contributions. Among 46 contributing businesses are the following paper companies:

Boise Cascade, Lincoln

Paper industry members among 5 industry board members:

None

VI. Center for Educational Services

Purpose: Private, non-profit to assist schools in implementing education reform programs.

Budget: \$1.3 mm. 50% federal, 32% foundations including Scott Paper Co. and 15% fees. Scott funding has stopped.

Paper industry members among 1 industry board member:

Harvey Boatman, Scott Paper Co.

VII. Council on Vocational Education

Purpose: Federally funded policy advisory body with responsibilities to improve vocational education, involve the private sector, and encourage cooperation between education and training organizations.

Budget: \$5,000,000

Paper industry members among 6 industry board members:

None

VIII. State Apprenticeship Council

Purpose: Federally funded and operated in conjunction with U.S. DOL. For those companies that have a registered apprenticeship program this program will provide pre-apprentices who are in high school. Upon graduation they become full apprentices with the company employing them during high school. Company pays all compensation. Currently, 11 boys in program, none from paper industry.

Budget: Minimal

Paper industry members among industry board members:

No Board

IX. Tech Prep

Purpose: Under the administrative direction of the Technical College System, this program teaches an academic curriculum in an applied way. The program has the same value as traditional teaching but it uses different methodology. There are currently 110 high school students enrolled.

Budget: \$529,000

X. Quality Centers

Purpose: Under the Technical College System, to train potential employees for new and expanding businesses in employer designated skills at no cost to the employer.

Budget: \$2.6mm

XI. Private Industry Councils

Purpose: Private Industry Councils are required by the Joint Training and Partnership Act and are to involve the business community in employment and training activities under the JTPA in order to increase private sector employment opportunities for disadvantaged persons and to maintain a business/government partnership that will effectively address the labor needs of business, and contribute to the economic well being of the community.

There are currently 3 PICs:

1. 12 County. Of 13 council members from private sector, none are from the paper industry.
2. Cumberland County. Of 12 council members from the private sector, none are from the paper industry.
3. Penobscot, Piscataquis & Hancock Counties. Of 12 council members, none are from the paper industry.

XII. Job Development Training Fund

Purpose:

1. Assist companies that locate or expand in Maine to help with unusual or unforeseen training costs.
2. Assist existing businesses to upgrade or retrain employees in order to remain competitive.

Budget: \$1mm from Governor's Contingency Account

XIII. Maine Technical College System

Purpose: The Technical College System exists to provide an educated and skilled workforce and to promote economic development by doing so. Six campuses offer 135 degree programs, plus an extensive continuing education function. In 1993/94, 4,305 persons were enrolled and 1,595 graduated. Over 22,000 participated in continuing education.

While recognizing the achievements of the System, the Commission is also aware of the findings of the "Investing in Maine's Workforce" report, 1991 (Bib.) which found that the demand for technical programs for traditional students and those desiring continuing education far exceeds the capacity of the System. The Commission is aware of the current study which is to recommend ways of improving access to the System.

XIV. Pulp and Paper Foundation

Purpose: The Pulp and Paper Foundation was started in 1950 in response to a continuing need for technically skilled people in the pulp and paper and related industries. The Foundation supports the industry by recruiting superior high school students to apply to the University of Maine to study engineering. The Foundation begins its relationship with prospective students through several high school recruitment activities. Their efforts had some role in the decision of 113 students entering this past year to study engineering. The Foundation financially supported more than 125 students (both graduate and undergraduate) with scholarships last year. These students also are given industry exposure through summer co-op employment.

The Scholarship endowment is currently \$5.0 million. The Foundation also has solicited over \$3 million in individual donations, equipment, services and gifts to equip the University's pulp and paper laboratories, which are among the most modern and comprehensive in the United States.

Graduate students in Chemical Engineering receive tuition and support from the Pulp and Paper Foundation's Research Support Fund. These students work on funded research projects of importance to the pulp and paper industry. Some examples include:

- a. Adhesion and Cohesion in Coated Paper
- b. Flotation De-inking
- c. Kinetics of Soda-Oxygen Pulping
- d. Specific Bond Strength of High Yield Pulp
- e. Multi-Fuel Power Boiler Predictive Modeling

XV. Cooperative Industry Program

Purpose: Cooperative Education, Internship, and Field Experience at the University of Maine include numerous types of work/learning opportunities that relate to the student's academic major or program while complementing classroom theory. Cooperative education may provide a year or more of practical work experience on a full-time basis by alternating work with semesters of classroom courses. This career-related work may also be completed while working part-time and taking other courses. Students are usually compensated by their employer, a practice which results in an important source of financial assistance.

Certainly, one of the largest and best examples of a Cooperative Education program that gives students hands-on experience working in industry is the Pulp and Paper Foundation and Department of Chemical Engineering effort. It is a model for the rest of campus.

XV1. Maine Maritime Academy Bachelor of Science in Power Engineering Technology

Purpose: The Power Engineering Technology (PET) program at Maine Maritime Academy trains graduates for power plant operation and management positions, as well as other career opportunities in the power generation industry. The completion of this program leads to a Bachelor of Science Degree and the opportunity to take the Maine Third Class Stationary Engineer's examination and the national Engineering Intern certificate.

MMA is known for the "hands on" engineering approach employed by its graduates. In addition to the training the PET students receive during the school year, "hands on" training is emphasized during two cooperative (Co-Op) education periods. With assistance from the Academy, students are placed in a four month employment period in the power industry after their Sophomore and Junior years. Typical Co-Op sites include large utility power plants, paper mills, cogeneration plants and small independent power producers. Additionally, the required Co-Op projects direct the student to become involved in all aspects of their employer's operation.

Prepared by:
John B. Knox, Legislative Analyst
Office of Policy & Legal Analysis
Revised: January 4, 1995

APPENDIX BB

Summary Table III-2

Total State Economic Development Budgets
(Including Attraction, Retention, Small Business, International, Film, Research, and Other)

	<u>Economic Development</u>	
	<u>Budget</u> <u>(\$Thous)</u>	<u>Per Capita</u>
California	\$10,623	0.36
New York	8,567	0.48
Nevada	4,076	3.39
Arizona	3,463	0.94
Washington	9,249	1.51
Oregon	13,502	4.75
Georgia	7,400	1.14
Utah	3,703	2.15
Colorado	2,665	0.81
Texas	5,580	0.33
Massachusetts	3,037	0.50
North Carolina	8,153	1.23
Florida	7,203	0.56
Illinois	13,503	1.18
Ohio	11,470	1.06
New Mexico	4,041	2.67
Maine	6,717	5.50

APPENDIX CC

Submitted by the Commission
to Study the Future of Maine's
Paper Industry pursuant to
RESOLVES 1993, Chapter 75

LR #0450
Sponsor:
Drafted by: JBK
Date: 12/16/94
Doc. #6358NRG

FIRST REGULAR SESSION

ONE HUNDRED AND SEVENTEENTH LEGISLATURE

Legislative Document

No.

STATE OF MAINE

IN THE YEAR OF OUR LORD
NINETEEN HUNDRED AND NINETY-FIVE

RESOLVE, to Require Development of Energy Plans

Whereas, the Commission to Study the Future of Maine's Paper Industry learned that among the leading paper industry states Maine makes least use of natural gas and coal, the lowest cost energy sources, that Maine's costs for electric, natural gas and coal are all the highest and that as a result Maine's energy costs are highest of the leading paper industry states; and

Whereas, Maine law requires the State Planning Office to coordinate the preparation of policies to guide and carry forward the wise and coordinated development of the State's energy resources and to encourage, direct or sponsor projects to develop alternative energy sources; and

Whereas, the existence of high energy costs is a major expense to an industry whose capital expenditures in the State have declined markedly in the last several years; and

Whereas, in the judgment of the Legislature, these facts create an emergency within the meaning of the Constitution of Maine and require the following legislation as immediately necessary for the preservation of the public peace, health and safety; now, therefore, be it

Sec. 1. Energy cost goal. Resolved: By December 1, 1995 the State Planning Office shall develop, and recommend to the Legislature and appropriate state agencies a long-term energy strategy to make the state's energy and electric costs, as measured by the Congressional Quarterly's State Fact Finder or similar publication, more competitive with other states. The office shall set numerical goals and a timetable for their attainment; and be it further

Sec. 2. Hydro dam licensing. Resolved: By December 1, 1995 the State Planning Office shall determine and recommend to the Legislature and appropriate state agencies ways to reduce the cost of hydro dam licensing and to assure that policies and procedures for licensing are consistent, so as to reduce the uncertainty involved in hydro dam licensing; and be it further

Sec. 3. Natural gas. Resolved: Within 30 days of the passage of this resolve, the State Planning Office shall form a commission to develop and recommend to the Legislature a plan of action to increase the availability of natural gas in the state. The State Planning Office is responsible for having the commission plan ready by December 1, 1995; and be it further

STATEMENT OF FACT

This resolve is the unanimous recommendation of the Commission to Study the Future of Maine's Paper Industry. It is one of 4 bills being submitted by that Commission.

This bill directs the State Planning Office, which has statutory responsibility for the development of State energy resources, to take the following action:

1. To prepare recommendations that will result in a decrease of the State's high energy and electric costs.
2. To prepare recommendations to reduce the cost of and to simplify hydro dam licensing.

3. To form a commission to develop a plan to increase the availability of natural gas in the State.

All of these activities are to be completed by December 1, 1995.

APPENDIX DD

Submitted by the Commission
on the Future of Maine's
Paper Industry pursuant to
RESOLVES 1993, Chapter 75

LR #0449
Sponsor:
Drafted by: JBK
Date: 12/16/94
Doc. #6358NRG
2nd Revision 2/13/95

FIRST REGULAR SESSION

ONE HUNDRED AND SEVENTEENTH LEGISLATURE

Legislative Document

No.

STATE OF MAINE

IN THE YEAR OF OUR LORD
NINETEEN HUNDRED AND NINETY-FIVE

RESOLVE, to Establish an Environmental Regulation
Task Force

Emergency preamble. Whereas, Acts and resolves of the
Legislature do not become effective until 90 days after
adjournment unless enacted as emergencies; and

Whereas, the Commission on the Future of Maine's Paper
Industry developed evidence that a number of Maine's
environmental standards exceed those of the federal government;
and

Whereas, the predominant complaint made to the commission
about environmental standards concerned duplicate review and
permitting; and

Whereas, the issues of standards and permitting are very important and immediate ones for the paper industry; and

Whereas, the predominant complaint made about environmental regulation, in general, concerned permit processing time; and

Whereas, the Commission on the Future of Maine's Paper Industry identified the public input as the time consuming aspect of the permitting process; and

Whereas, the cycle in which the paper industry now finds itself is opportunistic for capital investment; and

Whereas, in the judgment of the Legislature, these facts create an emergency within the meaning of the Constitution of Maine and require the following legislation as immediately necessary for the preservation of the public peace, health and safety; now, therefore, be it

Sec. 1. Task Force created and charged. Resolved: That the Task Force to Study Environmental Regulation, referred to in this Resolve as the task force, is created to study state environmental standards and duplicate environmental review and permitting.

Sec. 2. Appointment of members. Resolved: That the task force consists of 5 members. The Governor shall appoint one person from the Department of Economic & Community Development, the Department of Environmental Protection, the federal Environmental Protection Agency and two people from the paper industry.

All appointments must be made no later than 30 days following the effective date of this resolve. The appointing authorities shall notify the Executive Director of the Legislative Council upon making their appointments. The executive director shall contact any appointing authority whose appointments have not been made within the required time period in order to remind the appointing authorities of the deadline for these appointments and that the task force has the right to meet without waiting for all appointments to be made; and be it further

Sec. 3. Convening of task force. Resolved: That the Governor shall call the first meeting of the study commission between the 30th and 45th days following the effective date of this resolve. Should the deadlines for appointments and meeting not be adhered to, the task force may extend the deadline for completion of its work in order to compensate for

the lost days. A quorum for the task force is a majority of the members appointed at the time of the vote; and be it further

Sec. 4. Selection of chair. Resolved: That the Department of Economic & Community Development appointee shall be chair of the task force; and be it further

Sec. 5. Study subjects and tasks. Resolved: The task force shall carry out the following two tasks in the manner indicated.

1. Environmental standards. In terms of environmental standards, the task force shall:

- a. Determine which statutory standards and regulatory standards which relate to the paper industry exceed federal standards.
- b. For those standards that exceed the federal, obtain data to compare them, as a minimum, to the five leading paper industry states.

2. Duplicate review and permitting. In terms of duplicate review and permitting, the task force shall identify and make recommendations for eliminating any duplicate review and permitting in all areas relative to the paper industry, including the following:

- a. Duplicate review when municipality has a certified plan.
- b. Duplicate review between the State and federal programs such as NPDES and wetlands.
- c. Duplicate review between activities reviewed by the Land Use Regulation Commission and the permitting requirements under the Natural Resources Protection Act.
- d. Duplicate reporting under the new emissions inventory reporting rule.
- e. Duplicate reporting under The Toxics Use Reduction Act.
- f. Notice requirements for malfunctions/exceedances.
- g. Hazardous waste storage inspection and reporting requirements.
- h. Duplicate review of landfills.
- i. Duplication between the Natural Resources Protection Act and the Clean Water Act.

3. Public input. The task force shall compare the time taken for public input in Maine with that in other states and, if that time is longer, shall identify if this is caused by opportunities provided by law or by rule or whether the public takes more advantage of the opportunity provided. In exploring this issue, the task force shall determine numbers of public

hearings, number of witnesses at hearings and expenditures by environmental lobbying organizations.

Sec. 6. Staffing. Resolved: That the Department of Economic & Community Development shall provide staffing and and clerical support to the commission; and be it further

Sec. 7. Compensation. Resolved: That task force members shall serve without per diem or expenses; and be it further

Sec. 8. Report. Resolved: That the commission shall submit to the Legislature, with a copy to the Governor, a brief report of its findings and shall make an oral presentation to the committees having jurisdiction over economic development and environmental protection.

The task force shall finalize its conclusions and recommendations by November 1, 1995 and shall submit its report to the Legislature by December 1, 1995.

If the commission requires an extension, it may apply to the Legislative Council, which may grant the extension; and be it further

Sec. 9. Budget. Resolved: That the Department of Economic & Community Development shall administer the commissioner's budget; and be it further

Sec. 10. Funding. Resolved: That the Task Force may seek and accept private or public funding for its activities.

Emergency clause. In view of the emergency cited in the preamble, this Act takes effect when approved.

STATEMENT OF FACT

This bill is the unanimous recommendation of the Commission on the Future of Maine's Paper Industry. It is one of 4 bills being submitted by the commission.

This bill requires establishment of a Task Force to Study Environmental Protection. The Task Force has three specific tasks. First, it is to determine which Maine environmental standards, if any, currently exceed federal standards. Second, it is to identify and make recommendations for eliminating duplicate permit review and reporting requirements. Third, it is to determine if the public input aspect of the permitting process in Maine is more time consuming than in other states and, if so, why.

The task force has 5 members, including representatives from the Department of Economic & Community Development, the Department of Environmental Protection, the federal Environmental Protection Agency and 2 members from the paper industry. Appointments are to be made by the Governor. Staffing is to be provided by the Department of Economic & Community Development. This is emergency legislation and the commission is to complete its work by December 1, 1995.

APPENDIX EE

Submitted by the Commission
on the Future of Maine's
Paper Industry pursuant to
RESOLVES 1993, Chapter 75

LR #0448
Sponsor:
Drafted by: JBK
Date: 12/16/94
Doc. #6358NRG
1st Revision 1/4/95

FIRST REGULAR SESSION

ONE HUNDRED AND SEVENTEENTH LEGISLATURE

Legislative Document

No.

STATE OF MAINE

IN THE YEAR OF OUR LORD
NINETEEN HUNDRED AND NINETY-FIVE

RESOLVE, to Establish a Paper Industry Council

Emergency preamble. Whereas, Acts and resolves of the
Legislature do not become effective until 90 days after
adjournment unless enacted as emergencies; and

Whereas, the Commission on the Future of Maine's Paper
Industry believes any study benefits by a follow up on its
recommendations; and

Whereas, the commission found that nowhere in State
government is there an entity charged specifically with the
welfare of the industry such as exists for blueberries,
lobsters, potatoes and tourism; and

Whereas, the commission would like implementation of its recommendations to receive early attention because of immediate need for some of them to be implemented, in order to take advantage of the attention that the commission's actions has focused on the subject and in order to be part of the emerging priorities of a new Governor and a new Legislature; and

Whereas, in the judgment of the Legislature, these facts create an emergency within the meaning of the Constitution of Maine and require the following legislation as immediately necessary for the preservation of the public peace, health and safety; now, therefore, be it

Sec. 1. Paper Industry Council established. Resolved: That the Paper Industry Council, referred to in this resolve as the Council, is established; and be it further resolved

Sec. 2. Appointment of members. Resolved: That the Council consist of 13 members. The Governor shall appoint one person from the Department of Economic & Community Development, the Department of Environmental Protection, the Department of Transportation, the University of Maine, an electric utility, a railroad, organized labor and the environmental community, and three members from the paper industry. The President of the Senate shall appoint one senator and the Speaker of the House of Representatives shall appoint one representative.

Council members appointed may not act as advocates of the group from which appointed but shall act in the best interest of the State as a whole.

All appointments must be made no later than 30 days following the effective date of this resolve. The appointing authorities shall notify the Executive Director of the Legislative Council upon making their appointments. The executive director shall contact any appointing authority whose appointments have not been made within the required time period in order to remind the appointing authorities of the deadline for these appointments and that the study commission has the right to meet without waiting for all appointments to be made; and be it further

Sec. 3. Convening of study commission. Resolved: That the Chair of the Legislative Council shall call the first meeting of the study commission between the 30th and 45th days following the effective date of this resolve. If the first meeting of the Council is not called within that time period, the Governor shall call the first meeting. A quorum is a majority of the members appointed at the time of the vote; and be it further

Sec. 4. Selection of chair. Resolved: That the member from the Department of Economic and Community Development shall chair the first meeting at the conclusion of which the members shall elect a permanent chair; and be it further

Sec. 5. Tasks. Resolved: That the Council shall accomplish the following tasks:

1. The initial priority is to oversee implementation of the recommendations of the Commission on the Future of Maine's Paper Industry which was created by Resolves 1993, Chapter 75.

2. The Commission's long term task is to recommend to all interested parties ways in which the future of the paper industry may be enhanced, while concurrently enhancing employment, the environment and the State budget. The Council shall oversee the implementation and evaluation of its recommended programs.

Sec. 6. Staffing. Resolved: That the Department of Economic & Community Development shall provide staffing and clerical support to the Council; and be it further

Sec. 7. Compensation. Resolved: That for each day's attendance at meetings when the Legislature is not in session, Council members who are legislators receive the legislative per diem as defined in the Maine Revised Statutes, Title 3, section 2 and reimbursement for travel and other necessary expenses.

Sec. 8. Report. Resolved: That the Council shall produce a written report of its success in accomplishing its task of overseeing the implementation of the recommendations of the Commission to Study the Future of Maine's Paper Industry and shall make an oral report to the joint standing committee having jurisdiction over economic development.

The Council shall submit its report no later than February 15, 1996 and no later than the adjournment date of each session of the Legislature shall determine whether to continue its activities for the next year; and be it further

Sec. 9. Budget. Resolved: That the Department of Economic & Community Development shall administer the task force's budget; and be it further

Sec. 10. Funding. Resolved: That the Council may seek and accept public and private funding to support its activities.

Emergency clause. In view of the emergency cited in the preamble, this Act takes effect when approved.

STATEMENT OF FACT

This bill is the unanimous recommendation of the Commission on the Future of Maine's Paper Industry. It is one of 4 bills submitted by the commission.

The Commission on the Future of Maine's Paper Industry submitted recommendations and legislation to the 1st Regular Session of the 117th Legislature. This bill sets up a council whose initial priority is to follow through on the commission's recommendations and see that they are implemented. Its long term priority is to develop ongoing recommendations to enhance the future of the industry in Maine. The Council consists of 13 members, 11 appointed by the Governor from state agencies and the various interest groups and two legislators appointed by leadership. The Council is to make a report on the implementation of the recommendations of the Paper Industry Study Commission by February 15, 1996 and shall decide annually whether it feels it desirable to continue its activities for the next year. The Council is to be staffed by the Department of Economic and Community Development.

APPENDIX FF

Submitted by the Commission
on the Future of Maine's
Paper Industry pursuant to
RESOLVES 1993, Chapter 75

LR #0447
Sponsor:
Drafted by: JBK
Date: 12/16/94
Doc. #6358NRG
2nd Revision 2/13/95

FIRST REGULAR SESSION

ONE HUNDRED AND SEVENTEENTH LEGISLATURE

Legislative Document

No.

STATE OF MAINE

IN THE YEAR OF OUR LORD
NINETEEN HUNDRED AND NINETY-FIVE

AN ACT to Institute a Yearly Series
Labor/Management Systems Conferences

Be it enacted by the People of the State of Maine as follows:

26 MRSA Chapter 35 is enacted to read:

CHAPTER 35

Labor/Management Systems Conferences

§2201. Labor/Management Systems Conferences

Each year the Governor shall cause to take place a series of statewide conference on labor/management systems. The Governor shall require the Bureau of Labor Education and the

College of Business at the University of Maine to be the organizers, planners, facilitators, and coordinators of these conferences and to assure that maximum value is gained from them. The emphasis of the conferences must be on emerging trends in labor/management relations. The responsible agencies shall see that the conferences are well publicized and all interest groups encouraged to participate and attend.

STATEMENT OF FACT

This bill is the unanimous recommendation of the Commission on the Future of Maine's Paper Industry. It is one of four bills being submitted by the commission.

This bill requires that the Governor convene yearly a series of conferences on labor/management systems and designates the Bureau of Labor Education and the School of Business at the University of Maine as the agencies responsible for putting on the conferences. The conferences are to focus on emerging trends in labor/management relations.