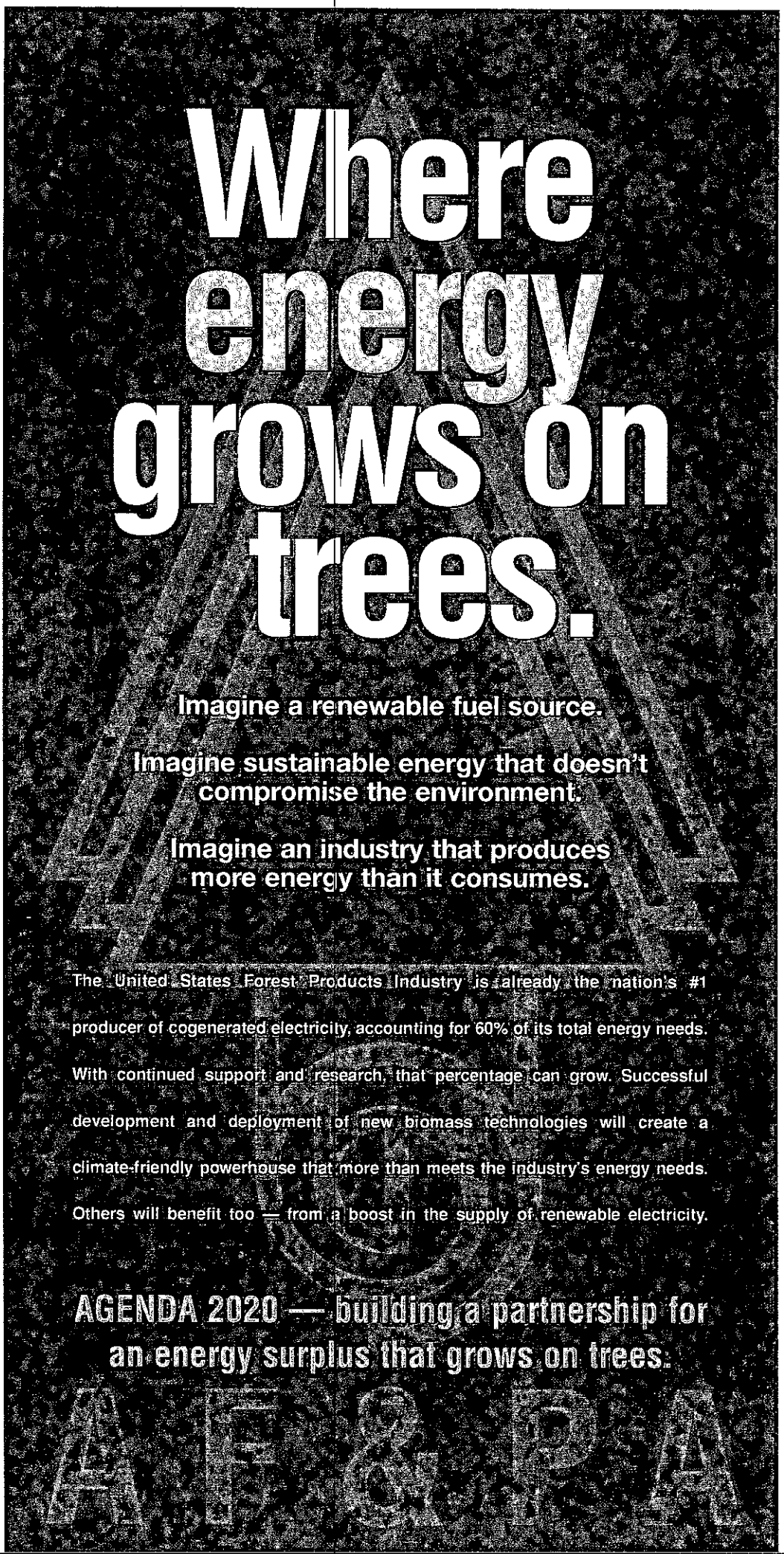
Agenda for Action

Air, Climate & Energy

AF&PA®

American Forest & Paper Association
1111 19th Street NW, Suite 800
Washington, D.C. 20036
www.afandpa.org


Where energy grows on trees.
Imagine a renewable fuel source.
Imagine sustainable energy that doesn't compromise the environment.
Imagine an industry that produces more energy than it consumes.
The United States Forest Products Industry is already the nation's #1 producer of cogenerated electricity, accounting for 60% of its total energy needs. With continued support and research, that percentage can grow. Successful development and deployment of new biomass technologies will create a climate-friendly powerhouse that more than meets the industry's energy needs. Others will benefit too — from a boost in the supply of renewable electricity.
AGENDA 2020 — building a partnership for an energy surplus that grows on trees.

AMERICA'S FOREST & PAPER INDUSTRY: INNOVATORS OF SUSTAINABLE ECONOMIC GROWTH

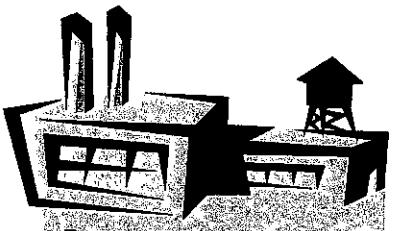
THE FOREST AND PAPER INDUSTRY'S GLOBAL ECONOMIC COMPETITIVENESS AND HISTORY OF ENVIRONMENTAL INNOVATION ARE SEVERELY THREATENED BY EPA'S CONFUSING AND COUNTERPRODUCTIVE NEW SOURCE REVIEW PROGRAM.

America's forest and paper industry is a significant contributor to the United States' economy:

- RANKS among the top 10 employers in 42 U.S. states
- EMPLOYS 1.5 million people, has a payroll of $40.8 billion
- REPRESENTS eight percent of total U.S. manufacturing output
- MANUFACTURES products valued at $230 billion with exports of $23 billion annually

We are committed to meeting America's demand for quality paper and forest products while promoting sustainable forestry and environmental practices within our industry. Over the years, the industry has demonstrated its commitment to environmental stewardship and progress:

- The forest products industry has reduced total energy consumption per ton of paper produced by 30%. We are the largest user of co-generated heat and power, and are recycling leaders, recovering nearly half of all the paper and paperboard Americans use each year
- AF&PA's Sustainable Forestry Initiative℠ received the 1999 National Award for Sustainability. Managed forests remove and sequester 17% of U.S. greenhouse gas emissions.
- We were the first industry to form a voluntary partnership with EPA to develop the innovative "Cluster Rule," and are investing more than $2.8 billion in environmental upgrades to implement this comprehensive program governing air and water quality.
- We are active participants in pilot programs to promote environmental stewardship, such as EPA's "Project XL."
- AF&PA worked closely with the Department of Energy to develop Agenda 2020—a partnership between industry, government, and the scientific community to accelerate the research, development and deployment of new technologies aimed at cutting energy use, minimizing environmental impacts, and improving productivity.



FOREST & PAPER INDUSTRY EMISSION REDUCTIONS

SO_2 EMISSIONS DOWN 65% (1980 TO 1999)

NO_x EMISSIONS DOWN 23% (1980 TO 1999)

TRS EMISSIONS DOWN 67% (1980 TO 1995)

AMOUNT OF CHLORINE USED IN BLEACHING DOWN 89% (1988 TO 1994)

BIOCHEMICAL OXYGEN DEMAND DOWN 84% (1975 TO 1999)

HARNESSING THE CARBON CYCLE

FOR PROGRESS ON CLIMATE CHANGE

THE AMERICAN FOREST AND PAPER INDUSTRY IS AN INCREASINGLY IMPORTANT PART OF THE SOLUTION FOR REDUCING GREENHOUSE GASES BECAUSE OF THE UNIQUE ABILITY OF FORESTS, AND THE WOOD AND PAPER PRODUCTS THAT COME FROM THEM, TO REMOVE GREENHOUSE GASES FROM THE ATMOSPHERE AND STORE THEM. THE RENEWABLE NATURE OF FOREST RESOURCES, THE RECYCLABILITY OF FOREST PRODUCTS AND THE INDUSTRY'S STRONG RELIANCE ON BIOMASS FUELS CONTRIBUTE TOWARD THE SOLUTION AT EVERY STAGE OF THE CARBON CYCLE.

FORESTS, WOOD AND PAPER PRODUCTS HELP REMOVE AND STORE CARBON DIOXIDE

In the effort to reduce greenhouse gas emissions from industrial, commercial and transportation sources, the world's forests – and the wood and paper products that come from them – stand alone in their ability to remove greenhouse gases from the atmosphere and store them.

ACCORDING TO A STUDY RELEASED BY THE U.S. DEPARTMENT OF STATE, MANAGED FORESTS CURRENTLY REMOVE 300 MILLION METRIC TONS OF CARBON EACH YEAR – EQUIVALENT TO ABOUT 17 PERCENT OF TOTAL ANNUAL U.S. GREENHOUSE EMISSIONS.

- The world's 3.5 billion hectares of growing closed-canopy forests sequester and store many billions of tons of carbon above and below the ground. Known as "carbon sequestration," this process begins when growing trees uptake carbon dioxide (CO_2) from the atmosphere and emit oxygen. Managed forests, productivity improvements, and the creation of new forests around the world are increasing the amount of CO_2 being removed from the atmosphere.

- Because carbon is sequestered in growing trees, the most economically sustainable and environmentally responsible course of action is to manage forests for long-term productivity and sustainability. The American forest and paper industry is leading the way toward sustainable forest management through practices, principles and standards that promote the management and conservation of forest resources.

- Like the forests they come from, wood and paper products also store carbon. Because they are used and reused by society for long periods of time in many different ways, forest products constitute a net growing store of carbon – an expanding reservoir of carbon being removed from the atmosphere. On average, one ton of paper contains some 1.33 tons of carbon equivalent CO_2. In fact, wood and paper products act as carbon sinks which hold roughly the equivalent of 10 percent of current worldwide carbon dioxide emissions.

Energy-Efficient Processes and Biomass Fuels Help Reduce Greenhouse Gas Emissions

Renewable biomass fuels constituted nearly 60 percent of the industry's total energy use in 1999. Conversely, fossil fuel use per ton of paper produced has dropped 53 percent.

- Between 1990 and 1999, the paper manufacturing sector of the industry reduced greenhouse gas emissions 28 percent per ton of product through the use of more energy-efficient manufacturing processes, lower carbon-emitting fuels and the increased use of biomass fuels, which are CO_2 neutral. These declines came on top of the substantial reductions in greenhouse gas emissions achieved by the industry in the 1970s and 1980s.
- Because they are CO_2 neutral, the increased use of biomass fuels, along with more energy-efficient processes, such as combined heat and power (CHP), or cogeneration, hold great potential for additional reductions of greenhouse gas emissions by the industry.

Paper and Wood Recycling Avoids Greenhouse Gas Generation

Recycling is another part of the industry's operations that helps reduce greenhouse gas emissions. Recycling used paper, instead of landfilling it, avoids the generation of methane, another greenhouse gas. In addition, recycled wood fibers and papers extend the life of sinks of CO_2.

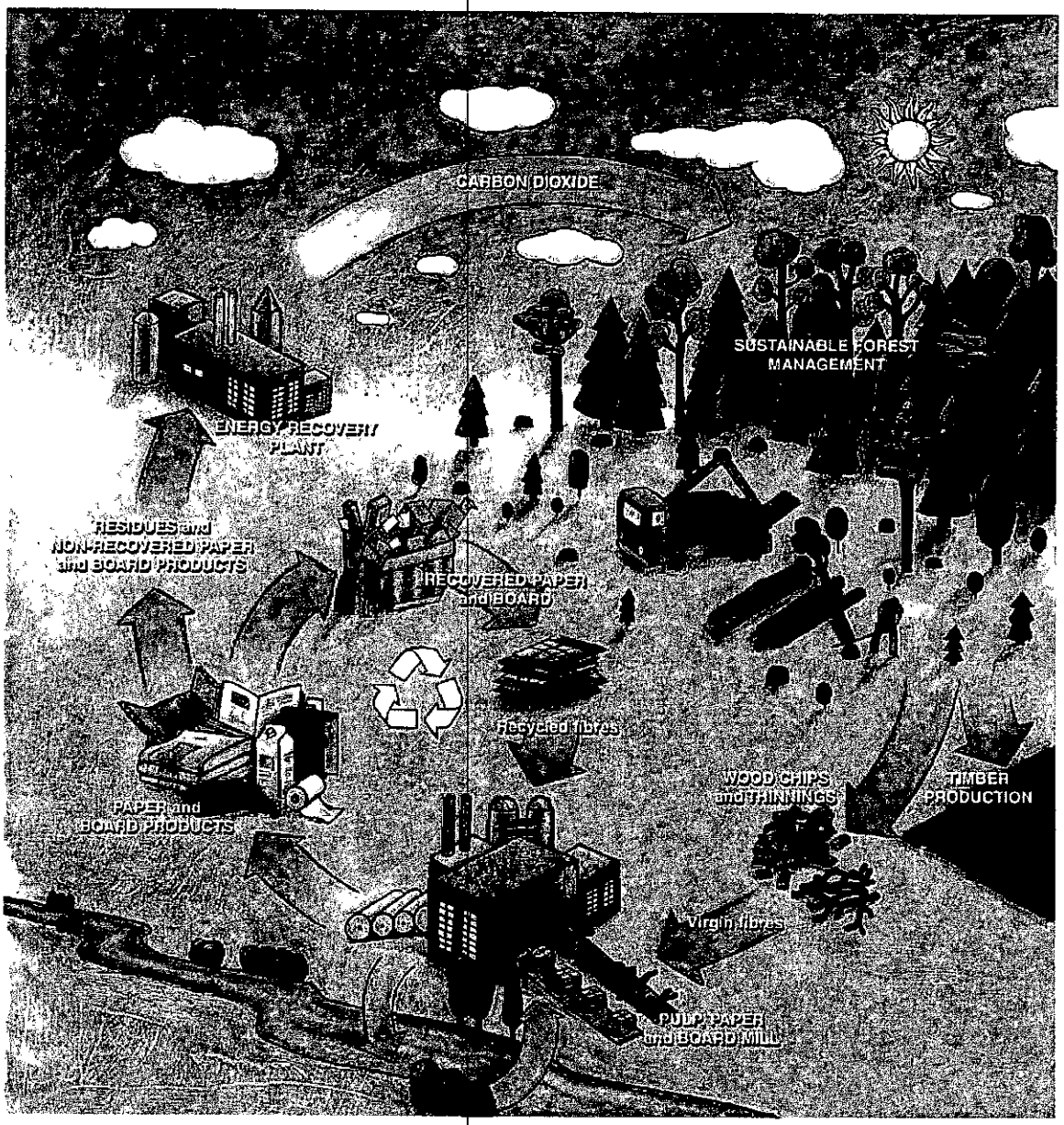
The forest products industry is on the verge of meeting its voluntary goal to recover 50 percent of the paper used in the United States for recycling.

The Forest and Paper Industry is a Productive and Unique Extension of the Natural Carbon Cycle

The industry's ecocycle is a unique extension of the natural carbon cycle. The sun drives the forest and paper ecocycle: With water, nutrients and carbon dioxide, photosynthesis transforms solar energy into wood fibers in growing trees. During the growing process, trees take up carbon dioxide from the air and emit oxygen. Once paper products are consumed, they start a new life when collected as a secondary raw material or used as biofuel. This process means that the forest is a renewable source of raw material as well as energy. In this way, the forest and paper ecocycle is closed and balanced.

The forest and paper industry strongly believes that any potential climate change policies for the sector should be based on this carbon cycle approach.

The operations of the forest and paper industry are well-integrated into the carbon cycle.



Meeting the Challenge of Climate Change

- The forest and paper industry is a vital and growing part of the U.S. economy, generating annual sales of $230 billion and ranking among the top ten employers in 42 states – with some 1.5 million employees.

- Trees, wood and paper products are natural, renewable and recyclable resources that help reduce greenhouse gases by removing and storing CO2 from the atmosphere and providing CO2-neutral sources of energy. They are part of a natural cycle that can be managed to benefit both the environment and the economy in a fully sustainable manner and help meet the challenge of global climate change.

NSR
NEEDS SERIOUS REFORM

THE NEW SOURCE REVIEW (NSR) PROGRAM NEEDS SERIOUS REFORM. OVER THE PAST 20 YEARS, IT HAS EVOLVED FROM A 20-PAGE RULE INTO 4,000 PAGES OF CONFUSING AND COUNTERPRODUCTIVE INTERPRETATIVE GUIDANCE. IN ITS CURRENT FORM, NSR NOT ONLY HAMPERS GLOBAL COMPETITIVENESS, IT ACTUALLY DISCOURAGES ENVIRONMENTAL IMPROVEMENTS AT 22,000 INDUSTRIAL FACILITIES ACROSS THE COUNTRY.

NSR – EPA's Ever-Expanding Rule

First established under the 1977 Clean Air Act Amendments, New Source Review/Prevention of Serious Deterioration (NSR/PSD) is a pre-construction permitting program for large industrial facilities. Implementation of the program has strayed far from the rule's original intent to prevent significant emission increases that could result from major expansions or modifications of the facility.

- Companies affected by the program struggle to understand and comply with the regulations that stem from more than 4,000 pages of confusing and, often, conflicting "interpretive guidance" that seems to extend NSR to cover virtually anything the industry does to expand or improve operations and meet environmental requirements – even when these changes reduce emissions and improve efficiency.

THE COMPLEXITIES OF THE PROGRAM AND ITS RELATED BURDENS CREATE SIGNIFICANT DISINCENTIVES FOR NEW INVESTMENT IN MORE EFFICIENT AND CLEANER TECHNOLOGIES AND PROCESSES.

- The NSR program is the most complicated regulatory program administered under the Clean Air Act. It was cited as a prime candidate for reform under the Clinton Administration's 1992 National Performance Review. Although a reform process has been underway for several years, the job is not yet finished and there are still many outstanding issues that need to be addressed.

- Even more troubling, despite admitted problems with the NSR program over the past few years, EPA's Enforcement Office moved forward with a nationwide initiative aimed at pursuing alleged NSR violations and overturning permits originally reviewed or approved by the state or Agency, based on the *retroactive* application of "interpretive guidance" to the program.

NSR – Keeps the Old Economy Old

- If there is one lesson to be learned from the explosive growth of the New Economy in recent years, it is the importance of speed. But the critical difference between the New Economy and the old-line manufacturing economy is regulation. Old Economy players must carry the full weight of the federal government on their backs at the same time that they struggle to compete with foreign firms unencumbered by such regulations.

- The forest products industry recognizes and supports the goals of the Clean Air Act – voluntarily committing $2.8 billion toward the implementation of the "Cluster Rule," which set limitations and guidelines for bleached pulp and paper mills. Yet compliance with NSR has become counterproductive and burdensome. No company competing in a dynamic global marketplace can afford to wait 18 months to replace a pump, make minor improvements in its processes or grab hold of a new market niche. Total quality management demands constant retooling to increase efficiencies and, in many cases, to cut emissions. Companies simply cannot wait for EPA's bureaucracy to approve each step – nor should they have to, if their actual emissions are within permitted levels.

NSR – Conflicting Views Between EPA and Congress

- Congress was clear with respect to its intent for industrial facilities when it enacted NSR in 1977. NSR was designed to hold the line against emissions increases, not to aggressively pursue broad emission reductions. Other sections of the Clean Air Act already have that mandated purpose. NSR requirements would apply only to the construction of new facilities or to the major modification of existing facilities.

- Despite Congressional intent, the NSR program has been implemented in a way that requires all industrial emission sources to be regulated as new sources, regardless of any potential environmental benefit.

NSR – Impedes Progress on Environmental Priorities

EPA guidance over the years expanded the NSR program to include virtually any plant maintenance or improvement activity. The confusion surrounding these interpretations of the original rule have begun to inhibit the use of new technologies and forestall attempts to enhance environmental performance and energy efficiency.

- In many cases, companies that were already operating within permitted emissions levels could have adopted new technologies that would have increased productivity and improved environmental performance and energy efficiency. Yet many firms had to shelve such projects for fear that the planned modifications would trigger a burdensome 18-month permitting process, or risk the possibility of large fines if future "guidance" overturned an approved permit.

- NSR has prevented industry from using voluntary measures to address CO_2 emissions, since any modification to a major source (including modifications that reduce emissions) potentially became subject to NSR review and control. This command-and-control approach has impeded innovative solutions and locked industry into incineration technologies that burn natural gas and generate more CO_2 and NO_x.

EPA receives about 20 applications for NSR/PSD permits each year. Even at this rate, the Agency can take as long as two years to process each permit. And in recent years EPA has asserted that virtually everything beyond sweeping the floor should be subject to NSR.

There are 22,000 major source facilities in the U.S., each making thousands of engineering changes a year. Under recent EPA interpretations, any one of those revisions might trigger NSR. EPA doesn't have the resources to handle the flood of questions and permit applications. States don't have the resources to make the determinations and companies don't have the manpower to do all the paperwork.

- NSR has also slowed attempts for a fast-track implementation of the Cluster Rule, putting industry into a "deep freeze" because companies, not knowing what rules they were operating under, have been forced to run every operational change through their legal offices. Companies also have had to prove to state permitting authorities and to EPA that programs used to implement the Cluster Rule are beneficial to the environment.

NSR – Essential Repairs for a Broken Program

In order to effectively implement reform of the NSR program, EPA rules must be consistent, follow Congressional intent, and actually improve air quality. Proposals developed by the forest and paper industry provide a structured, programmatic approach to NRS reform that would simplify the permitting process, provide greater certainty for companies in determining compliance requirements, reduce the "turnaround time" for processing applications, and promote faster deployment of energy-efficient and environmentally friendly technologies.

- Regulatory Flexibility. The forest and paper industry is willing to accept the challenge of meeting tougher emissions standards to further enhance ambient air quality. However, EPA must first remove the cumbersome barriers that hinder progress toward achieving these goals. Industry needs greater regulatory latitude in plant and equipment upgrades and new facility construction using the most cost-effective and energy-efficient means.

- Expedited Energy Efficiencies. The industry needs streamlined permitting on two fronts: (1) for those plant improvements and modernizations that increase energy production, but do not significantly increase emissions and (2) for any plant improvements and modernizations that decrease energy use and also do not significantly increase emissions.

- Emissions Accounting. As currently applied, EPA's actual-to-potential test yields near-universal NSR applicability for changes to existing facilities, relying on a false assumption that any change or improvement will result in increased emissions. EPA should make clear that only those changes that would result in significant increases in actual emissions would trigger NSR.

- Definition of "Routine Maintenance, Repair and Replacement." EPA should establish definitive and workable policies on "routine maintenance, repair and replacement" that clearly articulate the tests that facility managers and state permitting authorities can understand and apply.

- Fair Enforcement. It is fundamentally unfair to proceed with Notices of Violation (NOVs) based on retroactive application of interpretive guidance to a rule that is actively being rewritten. Once the rule is finalized, enforcement should be applicable from the time of publication.

NSR – A Path Forward

As demonstrated in the past, America's forest and paper industry is strongly committed to working closely with EPA and other stakeholders to develop a reasonable and workable NSR/PSD rule that clearly defines when existing units should be required to upgrade to a new pollution-control technology standard. Laying that foundation will help U.S. industry further achieve air quality goals, yet still be able to innovate and quickly respond to opportunities in the competitive global marketplace.

- REVIEW THE FUNDAMENTALS. The National Academy of Public Administration (NAPA) is in the process of conducting a comprehensive review of current regulations, guidance and enforcement policies. We encourage the new Administration to work with NAPA and examine the critical definitional issues on the table that must be addressed before a new rule goes forward. Resolving these issues will require the kind of give-and-take that resulted in the successful Pulp and Paper Cluster Rule.

- CREATE A NEW FRAMEWORK. EPA and stakeholders have spent an inordinate amount of time over the last ten years seeking reforms to the evolving and badly broken NSR program. It is time to think anew and look at alternative approaches that protect and enhance air quality, simplify regulatory programs and sustain and improve U.S. manufacturing productivity. Flexibility, predictability, timeliness and accountability should lie at the core of this new approach. Such a framework could be developed within existing authorities or be embraced through legislative action as is being considered with various "multi-pollutant" initiatives. However, while considering a new framework may be necessary, it is essential to fix quickly the most flawed aspects of the current program so businesses can get on with making business decisions.

- ENGAGE INDUSTRY IN THE PROCESS. We also would encourage EPA to keep the multi-stakeholder negotiations open. Conversations with EPA under the previous Administration have been almost entirely one-sided: the regulated community would offer proposals and express concerns, but failed to receive a response or feedback. The new Administration should strive for a more balanced dialogue to address the concerns on routine maintenance and emissions accounting.

A WASTE OF ENERGY

SKYROCKETING COSTS AND INCREASING DEMANDS FOR ENERGY ARE PLACING TREMENDOUS BURDENS ON AMERICAN COMPANIES AND CONSUMERS. YET CURRENT ENVIRONMENTAL REGULATIONS ARE STYMYING INVESTMENT IN CLEANER, MORE EFFICIENT TECHNOLOGIES THAT WOULD ALLOW MANUFACTURERS TO USE LESS ENERGY AND, IN SOME CASES, PROVIDE SUPPLEMENTAL ELECTRICITY THAT COULD BE CHANNELED TO AREAS IN DESPERATE NEED OF POWER.

First established under the 1977 Clean Air Act Amendments, the New Source Review (NSR) program is a pre-construction permitting program for large industrial facilities, such as power plants, steel mills, chemical plants, paper mills and other heavy manufacturing operations. NSR is intended to prevent significant deterioration of air quality by requiring that major new industrial plants or substantial expansions of existing facilities include the best available pollution control technology. The complexities of the program and its related burdens create significant disincentives to new investment in energy-efficient and environmentally friendly technologies and processes, ultimately hindering U.S. competitiveness, job stability and economic growth.

STALLING EFFICIENCY UPGRADES

Companies affected by the NSR program are struggling to understand and comply with its regulations, which stem from more than 4,000 pages of confusing and often conflicting "interpretive guidance" that seems to extend NSR to cover virtually anything industry does – even the routine maintenance and repair activities that allow a facility to continue to operate safely and efficiently.

In many cases, companies that are operating well within permitted emissions levels could adopt new technologies to both increase energy efficiency and improve environmental performance. Yet many companies are shelving such projects for fear that NSR, as interpreted by EPA, would apply -- triggering a burdensome 18-month permitting process and risking the possibility of retroactive fines of up to $27,500 per day if future "guidance" overturns an approved permit.

TO EASE ENERGY DEMANDS, A WISCONSIN PAPER MILL RECENTLY PROPOSED MODIFYING ITS PRODUCTION TIMETABLE TO RUN SOME OF ITS MOST ENERGY-INTENSIVE PROCESSES AT NIGHT, WHEN OVERALL POWER DEMANDS ARE LOWER. HOWEVER, THIS SIMPLE SCHEDULING CHANGE REQUIRED A MODIFICATION OF THE PLANT'S FEEDER SYSTEM, A CHANGE THAT WOULD TRIGGER THE NSR PROCESS, EVEN THOUGH ACTUAL EMISSIONS FROM THE PLANT WOULD NOT BE AFFECTED.

NSR permitting also is confusing and slowing attempts by industry to comply with the historic "Cluster Rule," where the pulp and paper industry has agreed to $2.8 billion in capital expenditures for energy-efficient technologies and new emissions controls. In some cases, facilities managers must "prove" to State and federal permitting authorities that the modifications required to implement Cluster Rule provisions will be environmentally beneficial.

Blocking the Way for Alternative Fuels

As currently applied, EPA standards yield near-universal NSR applicability, relying on a false EPA assertion that **any** change or improvement will result in increased emissions – even a switch to newer, more efficient technologies or cleaner power sources that would have undeniable environmental and energy benefits.

- EPA regulations hinder the ability of facilities to use alternative fuels -- like biomass -- to keep costs down and remain operational during short-term power crises. As natural gas prices skyrocket, the NSR program has become a stumbling block for companies that want to use the most efficient and economical methods for meeting the demands of the competitive global marketplace.

- NSR requirements stand in the way of long-term reforms by hindering companies from making renovations that would allow them to utilize cleaner and more efficient power sources. Even experimental attempts to better utilize alternative power sources would theoretically be treated as emissions increases and delayed by a lengthy review process.

ALTHOUGH CURRENTLY USING NATURAL GAS, AN OREGON PAPER PLANT HOLDS A PERMIT THAT ALLOWS IT TO USE EITHER NATURAL GAS OR COAL TO POWER ITS MILL. FACED WITH MOUNTING ENERGY COSTS, THE PLANT WOULD LIKE TO BEGIN USING MORE COAL, BUT WOULD HAVE TO MODIFY ITS EXISTING EQUIPMENT. ALTHOUGH THE NEW OPERATIONS WOULD KEEP THE PLANT WELL WITHIN PERMITTED EMISSIONS LEVELS, THE PLANT MUST SUBMIT TO A LENGTHY NSR PROCESS – KEEPING PRICES HIGH AND JEOPARDIZING ITS POSITION IN THE GLOBAL MARKETPLACE.

Keeping Electricity Off the Market

Long before the onset of the current energy crisis, cogeneration offered a way for companies to operate cleanly, reduce waste, and provide additional power resources that can be fed back into the community. Cogeneration derives electricity and useful heat from a single energy source, while producing lower air emissions per unit of output.

However, the New Source Review program as currently interpreted hinders conversion to cogeneration processes with unrealistic assumptions, long delays, and expensive permitting processes and pollution control requirements. Yet the environmental and energy benefits could be substantial.

- The practice of cogeneration and the use of biomass fuels (non-fossil plant materials) can make a plant's operations nearly energy self-sufficient. Facilities that are able to produce enough in-house power to fulfill their energy needs free up vital natural gas and electricity resources for consumer use.

- In some cases, cogenerating facilities create excess electricity that can be sold to the grid. These facilities have the potential to significantly expand electricity supplies in the near term, yet NSR stands in the way of virtually every step that could bring this added capacity on-line.

- Cogeneration processes often have other environmental benefits. For example, using wood byproducts as a fuel for cogeneration is a "carbon-neutral" process that helps to reduce carbon emissions and dependence on fossil fuels while helping to reduce greenhouse gas emissions. Also, cogeneration processes using wood waste (such as bark, tree stumps and wooden pallets) and old tires can reduce waste that would otherwise go into our nation's landfills.

Keeping Costs High for Consumers and Companies

Reform of the New Source Review program is essential. The threat of triggering NSR's time-consuming and expensive permitting process forces companies to continue to use fuels that are high in price and short in supply, despite the availablility of much more efficient and environmentally sound alternatives. For those companies willing to make investments in new technology, it can take nearly two years to get a permit. In light of the rapidly changing needs of wholesale power markets throughout the U.S. and the need for companies to remain competitive in a global market, that is far too long.

NSR Reforms for a Sound Energy Policy

As the energy crisis is likely to continue and intensify into the summer months, and signs are pointing to an economic downturn, our nation can ill-afford environmental regulations that are blind to their associated energy and economic trade-offs. Energy and environmental policies should be jointly-formulated to ensure that they meet the power needs of American consumers, keep U.S. companies competitive in the global marketplace and preserve air quality.

A path forward:

- There is clearly an immediate need for NSR reforms that will accelerate – not hinder – projects that will improve energy efficiency and environmental performance.
- NSR reforms should allow for maximum flexibility for facilities whose actual emissions remain within permitted levels to make operating adjustments and explore alternative fuel sources that will help them meet energy needs in the most efficient, cost-effective and environmentally sound manner possible.
- NSR permitting processes should be streamlined to allow for the quick adoption of cogeneration and self-generation technologies that will reduce demand on strained energy resources or supply supplemental electricity to the grid.

EMPOWERING INNOVATION:
PRACTICAL SYNERGY FOR ENERGY AND ENVIRONMENTAL POLICY

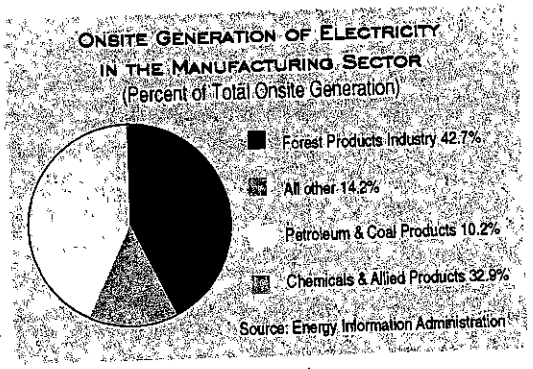
FOR THE NEW ADMINISTRATION, ENERGY IS A "FRONT BURNER" ISSUE. A FOUR-FOLD INCREASE IN NATURAL GAS PRICES OVER THE PAST 12 MONTHS COUPLED WITH ELECTRICITY SHORTAGES AND EXTRAORDINARY PRICES IN THE WEST HAVE HURT RESIDENTIAL AND COMMERCIAL CUSTOMERS AND AS WELL AS INDUSTRY. CONCERNED POLICYMAKERS NEED PRACTICAL SOLUTIONS TO REDUCE ENERGY COSTS AND INCREASE RELIABILITY NOW, WHILE PREPARING TO MEET FUTURE ENERGY DEMANDS.

AMERICA'S FOREST PRODUCTS INDUSTRY HAS ENERGY ANSWERS

As both a major energy user and a large-scale energy producer, the forest and paper industry understands the value of conservation, efficiency and renewable fuels. On average, the pulp and paper industry self-generates 57 percent of its total energy needs while the wood products industry generates nearly two-thirds of its energy requirement onsite. In fact, the forest products industry leads all other manufacturing sectors in onsite electricity generation, producing nearly 43 percent of our nation's self-generated electricity – primarily from highly-efficient cogeneration processes using renewable "biomass" fuels such as bark, pulping byproducts and non-recyclable paper grades.

THE FOREST PRODUCTS INDUSTRY HAS THE POTENTIAL TO BE A SIGNIFICANT NET SUPPLIER OF ELECTRICITY TO THE GRID.

Cogeneration derives electricity and useful heat from a single energy source, while producing lower air emissions per unit of output. This onsite energy efficiency not only reduces the forest products industry's direct demand for electricity from the grid; it allows many facilities to sell excess electricity to the grid. Cogeneration could be expanded substantially in the near-term, if environmental permitting rules were streamlined to speed the process and incentives were established to facilitate sales to the electric grid.



THE FOREST PRODUCTS INDUSTRY COULD EASE DEMAND FOR SCARCE NATURAL GAS SUPPLIES.

The forest products industry supports a national energy policy that relies on a balanced portfolio of energy sources. Over-reliance on natural gas as well as environmental regulations inhibiting use of other fossil fuels has yielded the current price spikes and long-term supply and deliverability concerns. State and federal regulatory agencies should

allow fuel-switching – the ability of manufacturers to substitute alternative fuels (such as wood, coal, oil, and rubber tire chips) for natural gas as necessary, so long as actual air quality at the facilities does not materially decline.

The Forest Products Industry Could Expand the Market for Renewable Fuels.

Biomass fuels (non-fossil plant materials) are renewable natural resources and are considered carbon-neutral in relation to greenhouse gas emissions when combusted. By utilizing biomass such as bark, wood residuals and wood extractives from pulping, the industry is able to further divert waste from landfills and, at the same time, produce energy for its operations. Biomass fuels should be listed as "Green" or "environmentally preferred" and accorded incentives to promote wider use (e.g., tax incentives, research and development funding, and expedited state permitting processes).

The Forest Products Industry Seeks to Increase Its Own Energy Efficiency.

Efficiency and effective energy management has been a high priority of the forest products industry for decades. Since 1972, the industry has reduced the average total energy usage per ton of paper produced by 30 percent. In addition, fossil fuel usage per ton has been reduced by 53% during that same period. Yet, the industry is hampered in its efforts to make additional modifications that would increase energy efficiency at its plants by complex and burdensome New Source Review (NSR) regulations. As currently applied by the U.S. Environmental Protection Agency (EPA) and state permitting authorities, NSR falsely assumes that any change in operations will result in increased potential emissions – even a switch to newer, more efficient technologies or cleaner power sources that would have undeniable environmental and energy benefits. Once NSR is triggered, it can take up to two years to receive a permit. The uncertainty and the wait involved in complying with NSR regulations are often enough to "kill" beneficial projects. NSR should be reformed or waived in order to accelerate needed energy projects.

To ease energy demands, a Wisconsin paper mill recently proposed modifying its production timetable to run some of its most energy-intensive processes at night, when overall power demands are lower. However, this simple scheduling change required a modification of the plant's feeder system, a change that would trigger the NSR process, even though actual emissions from the plant would not be affected.

The Forest Products Industry Needs Environmental Mandates that Consider Energy Impacts.

There is a clear interrelationship between energy policy and environmental policy. This relationship should be reflected in environmental policy to avoid regulations that mandate high-cost, energy-intensive technologies to eliminate small quantities of relatively mild pollutants despite the potentially disproportionate consumption of energy derived from coal or gas. Development of environmental regulations should include the evaluation of "life-cycle" tradeoffs, including the economic, environmental and resource impacts of energy consumption and efficiency.

THE NEWEST RENEWABLE FUEL
BLACK LIQUOR GASIFICATION

THE FOREST PRODUCTS INDUSTRY HAS BEEN WORKING WITH THE DEPARTMENT OF ENERGY'S AGENDA 2020 PROGRAM TO DEVELOP BLACK LIQUOR GASIFICATION AND OTHER BIOMASS TECHNOLOGIES. IF FULLY COMMERCIALIZED, THESE TECHNOLOGIES COULD MAKE THE U.S. FOREST PRODUCTS INDUSTRY TOTALLY ENERGY SELF-RELIANT AND GENERATE A SURPLUS OF 22 GIGAWATTS OF POWER TO THE GRID—THE EQUIVALENT OF ONE-HALF OF CALIFORNIA'S PEAK SUMMERTIME ELECTRIC USE. THE CARBON REDUCTIONS FROM BLACK LIQUOR GASIFICATION COULD BE EVEN MORE DRAMATIC, TRANSFORMING THE INDUSTRY FACILITIES FROM *EMITTERS* OF 24 MILLION TONS OF CARBON EACH YEAR TO A *CARBON SINK* CAPABLE OF ABSORBING AT LEAST 18 MILLION TONS OF GREENHOUSE GAS – BEFORE TAKING INTO CONSIDERATION THE CARBON SEQUESTRATION BENEFITS OF FORESTS! BUT AS GREAT AS THESE BENEFITS ARE, DEVELOPING AND COMMERCIALIZING THIS TECHNOLOGY IS A RISKY BUSINESS. THE CONTINUED PARTNERSHIP WITH DOE IS CRITICAL TO THE SUCCESS OF THESE TECHNOLOGIES.

THE FOREST PRODUCTS INDUSTRY'S R&D HELPS MEET U.S. ENERGY NEEDS USING CARBON-NEUTRAL SOLUTIONS.

Ranking sixth among domestic manufacturing sectors, the forest products industry is the nation's most capital intensive manufacturing industry and one of the country's most energy-intensive. It also is the #1 producer of cogenerated electricity, which is derived along with useful heat from a single energy source – principally biomass. These wood-based fuels are ideal because they can generate power cleanly and efficiently, at a comparatively low cost. Moreover, renewable biomass fuels are considered carbon-neutral in relation to greenhouse gas emissions when combusted.

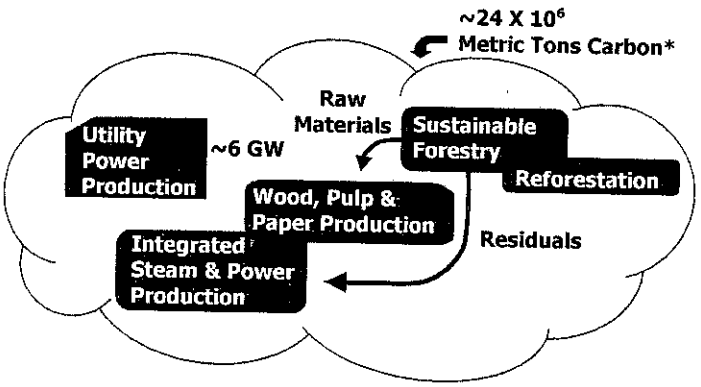
The forest and paper industry already produces more than 41% of the nation's self-generated electricity through cogeneration. It also far outpaces all other manufacturing industries by generating nearly 85% of that onsite electricity from renewable resources. The industry's next goal is to add black liquor gasification to its energy portfolio.

Black liquor is a residue created during the chemical pulping process. Gasification converts this biomass to combustible gases that can be burned like natural gas or converted to synthetic fuels and efficient energy. If fully commercialized, these technologies could produce enormous energy and environmental benefits:

- Black liquor gasification could make the U.S. forest products industry totally energy self-reliant and generate a surplus of 22 gigawatts of power to the grid—the equivalent of one-half of California's peak summertime electric use.

- The carbon reductions from black liquor gasification could be even more dramatic. The forest products industry could go from *emitting* 24 million tons of carbon each year to become a *carbon sink* that will absorb at least 18 million tons of greenhouse gas – before taking into consideration any carbon sequestration benefits from forests.

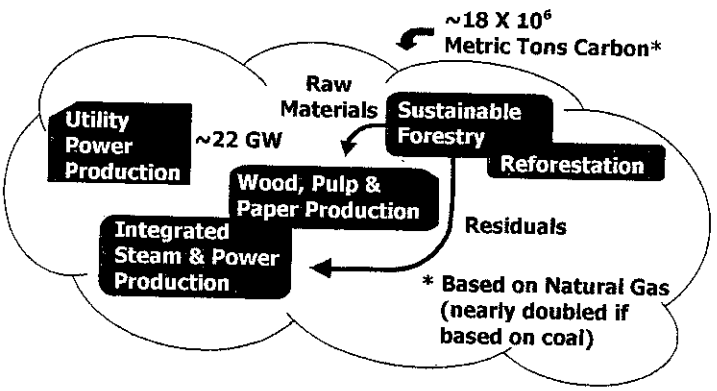
Today's Plant Technology



Utility Grid Power Consumption: 6 GW
Carbon Emissions: 24 MM tons

Total Replacement

(if everyone is able to use the technology)



Utility Grid Power Contribution: 22 GW
Carbon Removal: 18 MM tons

- Gasification could have the positive collateral effects of reducing nitrogen oxides and sulfur dioxide emissions by 80%-90%. Emissions of other pollutants (particulates matter and volatile organic chemicals) from recovery furnaces also could be reduced by 80% to 90% compared with traditional solid or liquid combustion technology.

Continued partnership with DOE is needed to Make the Promise of Black Liquor Gasification a Reality.

As with any investment with great potential for positive return, black liquor gasification research and development is costly and risky. The forest porducts industry is moving forward, but it can't succeed alone. The industry needs a consistent and committed partner to ensure successful commercialization.

The first commercial-scale black liquor plant is being built by Georgia-Pacific Corp. in Big Island, VA. It is slated to go on-line in 2003. Other commercialization tests will continue over the next 10 years, if adequately funded. Industry participants are putting up 50% of the investment capital for these demonstration projects. Continued partnership with DOE is essential to this program.

- The industry has requested $25 milllion in funding from the U.S. Department of Energy to put this promising technology on the fast track. This is a crucial investment in America's energy future.