

Meeting National Goals: Pulp and Paper Industry-A Major Partner

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The Pulp and Paper Industry (PPI) can play a major role in addressing three national issues our nation is currently confronting:

- jobs,
- energy independence, and
- the health of our forests.

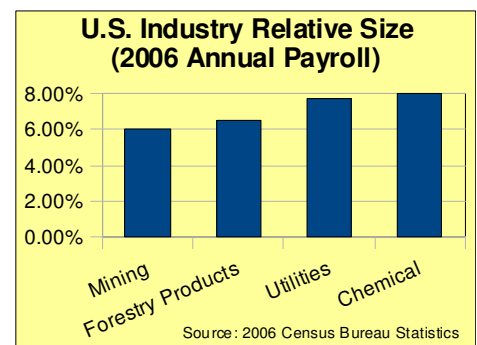
If we, as a nation, are serious about these issues, then industry leaders from PPI and the government should work together as partners to jointly establish strategies to retain and create high paying jobs, reduce energy usage, produce energy at the highest efficiencies, and develop economically competitive cellulosic biofuels and biopower in a sustainable manner. The PPI is a logical industry to work with and has a lot to offer to a partnership. It can be a “win-win” for the nation and the industry.

Why PPI is a logical Industry?

Jobs:

The Forestry Products Industry provides about 1 million high paying jobs with a \$40 billion annual payroll and is the third largest industry in the U.S.¹ The PPI is a major part of this industry with almost 600,000 employees and an annual payroll of \$22 billion.

It is generally recognized that one manufacturing job will support 6 to 9 indirect jobs. At the current 9.6% unemployment rate (Sept., 2010), the U.S. needs to provide about 14.8 million jobs.² Using the 6 to 9 multiplier, focused efforts to add 1.5 to 2.5 million jobs to the existing 11.7 million employed in the manufacturing sector would provide the jobs needed for full employment.³ Serious action to increase jobs must be focused on manufacturing because service jobs have a low multiplier.



Most helpful for manufacturing jobs would be to assure that offshore industries do not put domestic industries to an unfair disadvantage. Permitting, for instance, can take 6 to 24 months and drive industries to build plants offshore. In addition, the

cost of the many U.S. regulations makes products non-competitive with many imports.

Energy Independence:

The Pulp and Paper Industry has already demonstrated its capability to substantially reduce its energy consumption and produce its own sustainable biopower. For example, the PPI has not only reduced combined fossil fuel and purchased electricity usage by 56% in the past 34 years, it has increased its self-generation from 50% to 64%, an increase of 28%.

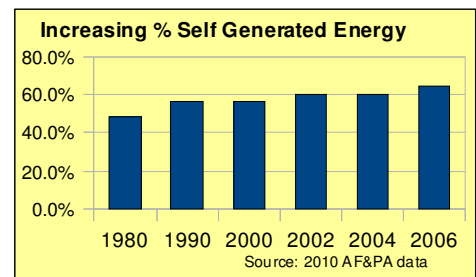
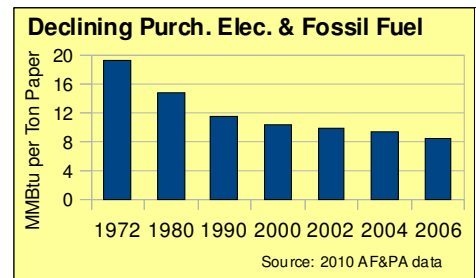
In addition, the PPI not only generates more biopower than all other industries combined, 77% of nation's biomass energy⁴, through the burning of wood waste and pulping residuals (black liquor), it produces it at high thermal efficiencies. By the use of a combined steam cycle (CHP) in its mills, biopower will be produced at efficiencies of 70 – 80% versus 20 to 30% for standalone utilities.

In an effort to reduce energy intensity in manufacturing, the U.S. Department of Energy (DOE) has launched a *Save Energy Now* Leader

initiative to reduce energy intensity by 25% in 10 years. A number of leaders from PPI have already signed a pledge with DOE to meet this goal. As the country works to become energy independent, it is important to ensure that energy usage is continually reduced and that renewable energy is produced at the highest efficiencies to get the most from valuable resources, a real key to sustainability.

The PPI not only has the potential to achieve 100% power self-generation, but also to provide high efficiency electricity back to the grid. The Nation must recognize that electricity needs to be generated at the highest efficiencies available. The government must keep in mind this extremely important point as it develops programs and provides incentives as the nation strives for energy independence.

Per the International Energy Agency (IEA), a cooperative association of 28 countries, in its "International Energy Outlook 2010,"⁵ "World energy consumption will increase 49% in the next 25 years, driven by rapidly developing countries such as China and India...". IEA, who provides global energy statistics, estimates that oil prices, which are now hovering around \$70 per barrel, will average \$133 by 2035.



The nation is addressing the energy independence issue through the Energy Independence & Security Act of 2007 (EISA 2007) and the resulting EPA regulations, the Renewable Fuel Standard (RFS). The 2010 edition of RFS2 raised the prior target of 7.5 billion gallons of renewable fuel to a continually growing target of renewable biofuels reaching 36 billion gallons of renewable fuel by 2022. Of that volume, the cellulosic fuel portion is targeted to grow from 1 billion gallons in 2013 to 16 billion gallons by 2022. The PPI has the capability to supply up to 44% of the target or about 7 billion gallons.⁶

While, technologies exist to produce a significant portion of the 16 billion gallons of cellulosic biofuels through gasification, pyrolysis, Fischer-Tropsch, and fermentation, these technologies need to be developed and proven at a commercial scale to be cost competitive with fossil generated fuels and power without any future government subsidies.

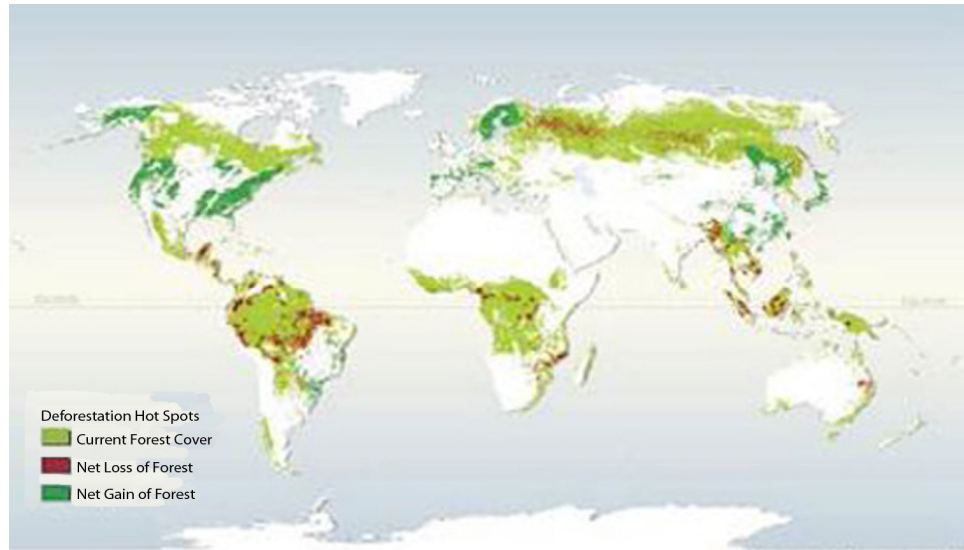
The Health of Our Forests

The PPI in the United States has deep roots in cellulosic biomass. There are 260 wood yards at pulp mills, typically located near biomass. A typical mill has large infrastructures for harvesting, processing, and storing biomass. The PPI is currently processing 150 million dry tons of biomass per year, plus 80 million tons per year of harvest trimmings, waste, fiber residuals.⁷ Very importantly, the PPI has existing contracts with wood, chip, fiber suppliers and several companies have large timberland holdings and forestry partnerships with private landowners.



The PPI knows more about handling biomass and producing energy from biomass than any other industry. As the bioenergy industry builds, it is important to recognize that PPI is serious about sustainability. It is logical that caring for the forests is essential and inherent to the success of the industry. Nobody takes care of things like those who are dependent on them for continued existence. The PPI is dependent on trees and healthy forests for its existence like no other industry.

The world map shows where forests are being depleted and where there is net growth. Those in the PPI understand why there is a net growth of trees in the United States and in Scandinavia, where the Pulp and Paper and Wood Products Industry is important. Since 1900, forest area in the U.S. has remained statistically steady at 745 million acres +/-5%, with the lowest point in 1920 of 735 million acres. U.S. forest area in 2000 was about 749 million acres.⁸ In contrast, there is a net drain or no growth in South America and most other countries in the world.



Sustainability is inherent to the health of the PPI. If the industry grows in the production of biofuels and biochemicals, this inherent recognition of the need of sustainability will continue. Other industries or standalone companies should use the sustainable forest management practices of the PPI as a model for their own sustainability initiatives.

Proposed Path Forward

A jointly developed action plan by PPI leaders and the government officials will be critical to make progress toward meeting our national goals in a timely manner. Early commitments from both industry leaders and government officials are needed. Common sense, openness, and logic need to prevail. Below is a “starter list” of potential commitments and requests to initiate dialogues on how industry and government can partner together to achieve these aggressive goals.

Government Commitments

Energy Efficiency:

- Issue Funding Opportunity Announcements (FOAs) like DOE FOA 44⁹ (50% cost share) which focused on deployment of CHP Systems, District Energy Systems, Waste Energy Recovery Systems, and Efficient Industrial Equipment.

- Extend the loan guarantee to include deployment of energy efficiency technologies that are commercially available and or proven at a pilot scale.
- Establish an interest free revolving loan program to sustain long term initiatives, such as DOE's *Save Energy Now* Leader Program.
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Biofuels and Bio-power:

- Like DOE's *Save Energy Now* Leader Program, establish similar programs for production of biofuels and bio-power: *Produce Biofuels Now* Leader and *Produce Bio-power Now* Leader.
- Like DOE FOA 44, Issue new FOAs (50% cost share) with focus on deployment of cellulosic biofuels and high efficiency bio-power generation specific to "Leaders" program.
- Extend loan guarantee caps to 90% and require only 20% equity for biofuels technologies that have been proven in a fully integrated pilot scale.
- Provide loan guarantees for biofuels productions based on three year off-take contracts. Getting long-term contracts beyond three years are almost impossible.
- Institute long term tax credits for biofuels production so they are "bankable".
- Extend incentives to bio-power generation that is at least 50% efficient, rather than stand-alone utilities generation facilities, at 34% efficiency, that would compete for the same biomass.
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Other Important Considerations:

- Institute a policy of balancing R&D and Deployment Projects to address Leaders short-term and long-term needs.
- Expand the Biofuels Interagency Working Group (BIWG) to include Energy Efficiency in addition to Biofuels and ask Leaders to actively participate. Change BIWG to Energy Independence Working Group (EIWG).

- Expedite the Permitting Process and get EPA involved in job retention and creation.
- Open public forests to wise management including thinnings for use in the forest industry.
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PPI Commitment

- Voluntarily pledge with DOE for their *Save Energy Now* Leader Program and become a *Save Energy Now* LEADER, committing to further reduce energy intensity beyond the 25% in 10 years.
- Voluntarily pledge to additional initiatives modeled after DOE's *Save Energy Now* initiative for advanced biofuel production (*Produce Biofuels Now* Leader) and high efficiency bio-power generation (*Produce Bio-power Now* Leader).
- Commit to serving on EIWG to provide policy directions.
- Advocate to Congress for appropriation of funds to sustain these programs.
- Work with EPA and the states to expedite the permitting process to get capital deployed in a timely manner for meeting the goals.
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The Bioenergy Deployment Consortium (BDC), www.bioenergydc.org, is a non-profit, fact based, results oriented organization dedicated to improving the environment for the deployment of bioenergy facilities while educating and keeping company members abreast of the pertinent technology, processes, and policies. BDC provides biannual conferences to bring together industry leaders to openly discuss leading edge technologies and the latest policy and to see the technology through tours of bioenergy facilities.

¹ 2006 Census Bureau Statistics.

² United States Dept. of Labor, Bureau of Statistics, News Release on October 8, 2010, USDL-10-1393, can access on the internet at: <http://www.bls.gov/news.release/pdf/empsit.pdf>

- ³ United States Dept. of Labor, Bureau of Statistics, Industries at a Glance, NAICS 31-33, "Workforce Statistics, can access on the internet at: <http://www.bls.gov/iag/tgs/iag31-33.htm#workforce>
- ⁴ AF&PA data, 2010
- ⁵ "International Energy Outlook 2010" report on May 25, 2010
- ⁶ "Is the Biorefinery for Real?" B. A. (Ben) Thorp and Masood Akhtar, Bioenergy Deployment Consortium, Paper 360, July/August, 2010.
- ⁷ TAPPI data, 2010, Ken Patrick
- ⁸ USDA Forest Service data, Forest Inventory and Analysis National Program, website, <http://fia.fs.fed.us/>, Trend Data, <http://fia.fs.fed.us/slides/major-trends.pdf>
- ⁹ <http://www.grants.gov/search/search.do?mode=VIEW&opId=47763>