Environmentally Friendly Chemistry

The Pine Chemistry sector produces environmentally friendly products that are important to our everyday lives. Pine Chemistry uses natural, renewable products as raw materials to make some of the most basic, yet necessary, items. The Pine Chemistry industry relies on raw materials from the forestry sector (wood, pulp and paper processes). These co-products include crude tall oil, black liquor soap, crude sulfate turpentine and sawdust. The use of these co-products is a classic example of efforts to make the most efficient use of resources by literally trying to utilize every part of a tree that is harvested.

Here are some of the many ways in which Pine Chemistry touches our lives every day:

- **Roads and sidewalks.** Pine Chemistry is used to make asphalt, concrete and cement, which are important in building and construction and allow for the creation of roads, highways, sidewalks and buildings.

- **Air and water purification systems.** The activated carbon produced from sawdust serves as a natural filter to clean air in everything from auto emissions to drinking water.

- **Paints and coatings.** Pine chemicals are used in the production of paints and coatings, which help with renovating homes and painting rooms and offices.

- **Soaps and detergents.** Pine Chemistry is an important ingredient in natural soaps and detergents, two items that are a necessary part of any home.

- **Adhesives.** Pine Chemistry is used in making adhesives, which are used in everything from book binding, box labels, name tags and many other applications.

- **Hoses, conveyors and tires.** Pine Chemistry is used as additives in the production of rubber hoses, belts, conveyors and tires, making it an essential part of automobiles and trucks.

**Environmental Benefits**

Pine Chemistry has valuable environmental benefits. Here are just a few of the many ways Pine Chemistry helps support our environment:

- **Environmentally friendly applications.** The sap taken from trees, also called crude tall oil, after being extracted from the pulp and paper process, can be used in products as an alternative for petroleum-based products in many applications.

- **Creates its own bioenergy.** All pine chemical biorefiners capture the residue of their own processes as bioenergy. This secondary use maximizes utilization of the original natural resource.

- **Saves energy and reduces emissions.** Sawdust, one of the co-products of Pine Chemistry, can be used as a natural absorbent to remove gases, corrosion and odor, including prevention of vehicular gas emissions, which saves one billion gallons of gasoline annually.¹

¹ Calculations based upon the expected performance of certified evaporative emissions control equipment used by the total U.S. automobile fleet.
Protect a Renewable Resource

While the Pine Chemistry sector supports the use of renewable energy, policies regarding biomass or renewable resources should not disadvantage the Pine Chemistry sector. In the context of energy policy, there are efforts to mandate or incentivize renewable energy sources, which could include burning biomass to create energy. The forestry sector can be an important biomass source; however, it is imperative that state and federal policies regarding biomass or renewable resources not directly or indirectly disadvantage the Pine Chemistry sector’s materials. Diverting these Pine Chemistry resources as fuel will likely waste a renewable resource, and could hurt an important part of the existing biorefining manufacturing infrastructure in the U.S. Unfortunately, government incentives that encourage the burning of biomass for bioenergy may deplete the supply of these valuable materials and prevent the Pine Chemistry sector from utilizing these environmentally friendly and important co-products.

The following are critical factors to consider about biomass energy policies:

- It does not make social, environmental or economic sense to incentivize the indiscriminate burning of biomass materials that can have uses of more value to the economy. Doing so could negatively impact the Pine Chemistry sector, which could directly and indirectly impact thousands of jobs and impact an industry that produces environmentally friendly and affordable co-products that are used in a number of applications. Efforts to establish subsidies or mandates can distort efficient use of resources and create inequities in the marketplace.

- It is particularly critical that the definition of biomass or renewable resources not include Pine Chemistry feedstocks – specifically black liquor soap, crude tall oil, turpentine, and sawdust.

- Pine Chemistry is a renewable resource that should be used to make essential goods. Pine Chemistry co-products have a higher value as a renewable raw material than as a fuel. Generally speaking, raw materials should be used to their highest potential.

- Market forces, not government subsidies or mandates, should determine the use of Pine Chemistry materials. There should be a level playing field for the use and application of Pine Chemistry feedstocks. The Pine Chemistry sector relies on these materials. Inappropriately diverting these renewable resources for fuel could have devastating consequences for the Pine Chemistry sector.

Actions Policymakers Can Take

Public policymakers can take the necessary steps to make sure that the Pine Chemistry sector continues to be an important industry. Policymakers can take action to ensure a level playing field for the Pine Chemistry sector, as well as for those groups that wish to burn tree co-products for energy. Policymakers can learn more about this issue by visiting ACC’s Pine Chemistry Panel website at pinechemistry.americanchemistry.com.

Resources

ACC’s Pine Chemistry Panel:
pinechemistry.americanchemistry.com

For more information on Pine Chemistry contact:

Kevin Moran
Director,
The American Chemistry Council

Phone
202-249-6731
About Pine Chemistry

What is Pine Chemistry?
Pine Chemistry refers to the co-products from the papermaking process that are upgraded into crucial ingredients in a variety of goods important to our everyday lives. This whole process ensures that the papermaking process is efficient and its co-products are not wasted.

The raw materials, crude tall oil and crude sulfate turpentine, are derived from evergreen, cone-bearing trees during the pulping process and are vital to the Pine Chemistry industry. The trees yield cellulose to make paper, and two co-products in the sap are further refined and upgraded to be used in ink, paints and coatings, adhesives, soaps and detergents, fragrances, chewing gum, and pine oil disinfectants. Other co-products, such as sawdust, are also used by the industry in environmentally friendly ways, including as a natural filter for everything from auto emissions to drinking water.

Is this a new industry?
No. In fact, the Pine Chemistry industry has been around for over 80 years. It is a stable industry with a long history of contributing to goods used across the country and around the world. It is a long-standing example of bio-based chemistry or biorefining in that it utilizes natural, renewable products as raw materials.

The Environmental and Economic Impact
How is it used in environmentally friendly ways?
Pine Chemistry utilizes natural, renewable products as raw materials to make some of the most basic, yet necessary, items. The sap taken from trees (called crude tall oil), for example, is used in many products as a substitute for petroleum-based materials. And sawdust plays a crucial role in lowering automobile gas emissions.
The Threat to the Pine Chemistry Sector

Aren’t there initiatives to have the government incentivize the burning of renewable materials from the papermaking process to create energy?

Yes. There are policies being proposed in some states and at the national level that would classify these co-products as renewable biomass. This classification could lead to tax credits that provide an incentive to burn them for energy instead of allowing the existing Pine Chemistry industry to upgrade these products and use the renewable resources to their fullest potential without incentives from public funds. These government incentives potentially threaten the viability of the Pine Chemistry sector because they could tip the balance in the favor of bio-based energy. That is why we need to maintain a level playing field, where success depends on economic competition, not government incentives.

What is the impact on the Pine Chemistry sector when tree co-products are burned to create energy?

Government incentives that encourage companies to burn these important co-products from the papermaking process could trigger a market-distorting demand on the already scarce Pine Chemistry supplies. Since pine trees are not harvested for co-products, supply is inelastic, which means more demand will not lead to a greater supply. This could impact the goods that consumers frequently use and lead to greater reliance upon imported and fossil-based substitutes. Government incentives could subsidize the burning of these co-products as opposed to utilizing this renewable resource to make essential goods.

But this does not have to be the case. Policymakers should make certain there is a level playing field, which means companies are not incentivized at the expense of the Pine Chemistry sector and existing U.S. jobs.

If the Pine Chemistry sector suffers because of incentivized burning of its feedstock, what would the likely consequences look like?

There could be a number of likely consequences. Policies that incentivize the burning of Pine Chemistry co-products could waste a renewable resource, and potentially hurt a sector that is important to the economy. Without Pine Chemistry, American businesses could have to use other ingredients that may not be environmentally friendly as Pine Chemistry. Furthermore, this impact to the healthy, domestic Pine Chemistry sector could result in the loss of jobs over many years for workers across the country. In many cases, those jobs may not come back.

While the Pine Chemistry industry is not opposed to providing energy incentives for new technology using underutilized biomass, it is opposed to establishing subsidies or mandates for scarce resources, such as Pine Chemistry, that could create inequities in the marketplace. That is why it is important to allow the market to determine the use of various raw materials.

Resources

ACC’s Pine Chemistry Panel:
pinechemistry.americanchemistry.com

For more information on Pine Chemistry contact:
Kevin Moran
Director,
The American Chemistry Council

Phone
202-249-6731