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## **Pilot Program Opportunity for SFPA Members!**

With over 30 years' experience in the wood products industry and previous successful demonstrations, [Captis Aire](http://www.captisaire.com) brings SFPA members the opportunity to generate a new source of revenue from selling turpentine! Captis Aire was recently selected to negotiate a [\\$2 Million](#) award from the Department of Energy. With this funding, Captis Aire is excited to offer a demonstration of this opportunity – **and they're giving SFPA members this opportunity!**

Mills manufacturing products from southern yellow pine could utilize this [\\$2.0 million award from the Department of Energy](#) to demonstrate the ability to collect turpentine from drying green southern yellow pine wood.

### **Benefits**

- \$25,000 compensation to host site
- Learn the value of the turpentine you could collect and sell and demonstrate operational efficiency.
- Future potential for awards to provide funding to scaleup to the first full- size commercial module.

**Production Requirements:** Site can produce softwood plywood, solid wood, oriented strand board, wood pellets, equine bedding, etc.

**Feedstock:** Green southern yellow pine roundwood (logs)

**Impacts on site production:** None! Captis Aire will provide the system installation and operation. There will be no impact on production, as Captis Aire will take a small amount of air out of the process exhaust air coming out of the dryer.

Captis Aire will need to know interested parties by April 30. The Department of Energy will want to know the host site as part of their due diligence. Hence, they will need a host site identified during this negotiation period, which may extend beyond April. The exact cutoff date is uncertain.

For more information on this program, check out these links:

- [Technical overview of program and equipment](#)
- [\\$2.5 million Award from DOE for Potential Demonstration](#)
- [Turpentine \(Terpenes\) being collected directly from the condenser](#)
- [How the Technology Works](#)
- [Turpentine – Sustainable Aviation Fuel](#)
- [Activated Carbon Beads fluidized in trays](#)
- [Award from Oak Ridge National Lab](#)

Contact Kim Tutin, founder and CEO of Captis Aire, at [kim@captisaire.com](mailto:kim@captisaire.com) or (404) 580-2795!

## Demonstration to Collect Turpentine with \$2 Million from the Department of Energy

### The Capture Technology, the Fluidized Bed Concentrator, enables operators to:

1. Generate revenue by selling turpentine.
  2. Reduce operational expenses by reducing energy usage, i.e. natural gas.
  3. Improve process sustainability characteristics by reducing greenhouse gases
- Previous successful demonstration completed at a commercial oriented strand board (OSB) manufacturing facility. System was on-line for >1700 hours over 6 months. This novel patent pending Capture Technology, Fluidized Bed Concentrator (FBC) technology treats organics in the air by adsorbing (capturing) them. The FBC has never been commercialized in wood drying but has been commercialized in multiple other applications. The continuous process works via four unit operations. 1) The adsorber utilizes the specialized Bead Activated Carbon media fluidized in a series of trays to capture the organics including turpentine from the air. 2) The desorber heats the activated carbon to release the organics in vapor form, 3) The condenser cools to convert the organics to liquid organics including valuable turpentine bioproducts from wood that are sold. 4) The Side Stream Reactivator removes accumulated organics to maximize capture efficiency and enable Bead Activated Carbon media to be reused.



### Pilot Equipment – the Fluidized Bed Concentrator (FBC):

- **Performance:** >90% Turpentine (volatile organic compounds) captured per 2 certified independent testing companies
- **Installation and Commissioning:** Experienced preferred installation personnel included
- **Operators:** Experienced system operations personnel included for 6 months of operation
- **Adsorber:** 300 acFM. Stainless steel.
- **Desorber:** 30 lb/hr, Electrically heated plate system. Stainless steel.
- **Condenser/Chiller System:** Temperature down to 32°F. Stainless Steel condenser.
- **Side Stream Reactivator:** Simulated via intermittent bead activated carbon additions
- **Byproduct for wood drying:** Turpentine (Terpenes)
- **Turpentine Product Recovery:** ~0.1 lbs/hour or more (Actual is site specific)
- **Turpentine Collection Drum:** Stainless steel
- **Controls:** Allen Bradley PLC. HMI system with AVEVA remote monitoring and data historian capability
- **Nitrogen:** Nitrogen skid with 16 nitrogen cylinders, i.e. from NexAir, with supply manifold/controls.
- **Oxygen Analyzer:** SERVOMEX SERVOTOUGH Oxy, Oxygen Gas Analyzer
- **Process Fan:** Cincinnati Process Fan HP-8E23. Multispeed with variable speed control.
- **Storage Hopper for Bead Activated Carbon:** Stainless steel with interconnecting pipes for carbon transport
- **Maintenance:** Internally mounted spray nozzle and pump for periodic cleaning
- **Overall Dimensions:** 10 Ft Wide x 35 Ft Long x 25 Feet Tall fully assembled.
- **Weight:** 10,400 pounds
- **Concentration:** 20:1 volumetric turndown
- **Media:** Bead Activated Carbon. 200 pounds new media. 200 pounds used media.
- **Electrical Requirements:** 300 amp service and wiring to skid
- **Ductwork:** 6" or 4" spiral galvanized duct in either 24 or 26-gauge as needed