

## Utilizing Woody Debris from Hurricane Katrina

Yesterday, Vice-President Cheney made the following statement, "We need to figure out what to do with all the debris." Given the volumes of all types of debris, the task will be monumental. This "concept paper" will focus on utilizing the woody component of the "debris" and what role the USDA Forest Service could play.

- I. **In simple terms, there are two primary types of woody debris that need attention. They are:**
  1. **Tree Debris** - debris generated from standing trees, that were alive or dead, now laying on the ground in a variety of forms.
  2. **Construction Debris** - debris from "processed wood," -- wood that was used in houses, buildings, decks, cabinets, furniture, wood packaging materials such as pallets and crating, landscaping timbers, etc.
  
- II. **What are the potential uses/markets for these materials that could consume large volumes, ultimately reducing disposal costs:**
  1. Major uses/markets for Tree Debris:
    - ❖ Feedstock for energy/cogeneration facilities – branches, limbs, logs
    - ❖ Feedstock for pulp/paper facilities – branches, limbs, small diameter logs
    - ❖ Feedstock for bio-liquid fuels
    - ❖ Mulch – branches, limbs, logs
    - ❖ Sawlogs for sawmills – larger diameter, clear boles
  2. Major uses/markets for "clean" **Construction Debris**:
    - ❖ Feedstock for energy/cogeneration facilities
    - ❖ (Potential) Feedstock for bio-liquid fuels
    - ❖ (Potential) Bedding material for poultry and related farm operations
  
- III. **Determine the condition of the woody material and whether it can be converted into usable products?**
  1. Tree Debris:
    - ❖ Species
    - ❖ Moisture content
    - ❖ Amount of sand and grit and other containments
    - ❖ Quality of sawlog material
    - ❖ Economics to convert into usable products
  2. Construction Debris:
    - ❖ Moisture content
    - ❖ What is mixed with it? (paints, plaster, nails)
    - ❖ Content of sand/grit and other containments
    - ❖ Treated material will need to be separated
    - ❖ Can a clean product be generated?
    - ❖ Economics to convert into usable products

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**IV. Determine who could potentially use these types of materials?**

1. What energy or cogeneration facilities are located within a 500 mile radius?
2. What pulp/paper facilities are located within a 500 mile radius?
3. What mulch producing companies are within a 300 mile radius?
4. What sawmills (emphasis on ones that have utilized urban sawlog material in the past) are within a 150 mile radius?
5. Develop a procedure for contacting all of these facilities.

**V. Determine how to convert the woody debris within the hurricane-hit areas into a usable product.**

1. Based on the raw material needs of facilities identified above, need to identify if these raw materials can be generated as a product from the clean-up operations (may need to provide coordination and training to businesses and municipalities).

**VI. Determine transportation options.**

1. Transport by truck up to 150 miles?
2. Transport by train where feasible from 150 miles to 500 miles?

**VII. Determine the need for financial incentives.**

1. If normal economic forces will not work in this situation (due to transportation cost or clean up costs), an option would be to explore what financial or tax incentives could be temporarily created for this situation.
2. Explore the option for a grants incentive program that would assist in creating and/or expanding public/private partnerships and businesses that would assist with clean-up operations as well as future clean-up operations for similar disasters.

**VIII. What is the Forest Service role?**

1. **Coordination:** With lead federal, state, and local agencies responsible for clean-up.
2. **Partnerships:** Utilize existing partnerships (such as state foresters, trade associations, industry contacts) to generate some of the information needs identified above.
3. **Training:** Depending on specific clean-up operations, FS personnel could provide and/or coordinate various types of technical training on topics such as processing woody debris into a specific chip size needed for energy facilities or manufacturing sawlogs from urban trees.

**IX. Cost of Forest Service involvement.**

1. **Small-scale:** Focused technical assistance/coordination/partnerships/training in one specific location such as a mid-size city – estimated cost is \$500,000
2. **Mid-scale:** Focused technical assistance/coordination/partnerships/training within one state – estimated cost is \$1 million
3. **Large-scale:** Multi-state effort – estimated cost is \$2.5 million
4. **Grant incentive program:** Up to \$10 million

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