

## **Sandoval County Regional Biomass Working Group**

Friday, May 25<sup>th</sup> 2018

### **Action Items:**

- Next RBWG Meeting Friday, June 22<sup>nd</sup> (Sandoval County Complex)
- Forest Restoration Rates/Obstacles Small Group Meeting Friday, June 8<sup>th</sup> (Sandoval County Complex)
- Develop Soil Amendment Supplement comparing Biochar and Compost as a soil amendment taking into account cost to produce and expected soil benefits
- Upload Meeting Minutes, Meeting Dates and Taos Wood Waste Study on Sandoval County Website
- Work with Land Management Partners to estimate available feedstock and barriers to expanded forest restoration efforts
- Determine the feasibility of establishing allied wood industries

### **Status of Action Items from April 13<sup>th</sup> meeting**

- TNC and RBWG will peer review final report, report will be compared to Taos Wood Waste Study establishing a baseline for similar studies throughout NM
- Lynn presented case for a carbon cycle model of biomass utilization, taking excess carbon from the forest and bringing it to the land as a soil amendment
  - o 80 ac of chips are available near Pena Blanca and could be put to use on the Coronado SWCD, all equipment is available, process could possibly be free including transportation
- Renewable Chemical Analysis Complete

### **Summary and Discussion of 40% Report and Current Progress**

- Goal to look at the economics of potential processes and technologies from an economic feasibility, social return on investment and job creation and forest management perspective
- RBWG Report will follow a similar format as Taos Wood Waste Study, expansions include:
  - o In-depth product/process analysis
  - o Carbon Credit Feasibility Analysis
  - o In-depth siting analysis
  - o Social ROI/Community Benefits Analysis
- Transportation Cost Analysis is Complete
- Market Analysis 2/3 Complete, pending additional processes/products + in-depth analysis of selected products
- Siting Analysis almost complete, 60% report will include utility development estimations
- Final Site Selections: Cuba Fair Grounds, Jemez Pueblo, Santa Clara Pueblo
  - o County Landfill Site will not be developed for 10 years
  - o San Pedro Site lacks utility access, likely public opposition
- Final Products Considered: Fuel Bricks, Wood Plastic Composites (potential additions pending)
- Feedstock Competition Analysis almost complete

- Pellet and fuel brick production identified as only manufacturing processes using low/now value biomass
- Walatowa Timber Industries and Mt Taylor Manufacturing identified as potentially using feedstock resources initially delegated for use within BUFS
- Limited impact due to distances and small scale of pellet production
- Developed maps highlighting the location of local wood products manufacturers

**Missing Pieces: What Additional Information is Needed to Ensure the Accuracy and Utility of the BUFS.**

- Need to identify obstacles to increased forest restoration efforts, (NEPA, etc.)
- June 8<sup>th</sup> Meeting with local land managers within Carson, Santa Fe, Cibola NF, BLM, SWCD and NM State Forestry
  - Will Supplement Taos Feedstock Analysis
  - Cibola info is biggest gap
  - Zuni mountain site is just outside of 75-mile radius but forest service may be able to supplement in order to make transportation feasible
- Need to look at long term feedstock plans including federal policy and directives
- Need to look into the potential for allied wood industries

**Bio-based Chemicals: the technical and economic viability of manufacturing chemicals from biomass**

- 22 Potential Bio-based Chemicals were analyzed
- Major obstacles
  - Significant feedstock requirements 100,000 BDT annually, outside of range of available feedstock
  - Potential viability if feedstocks were accessed from outside the 75-mile boundary region
  - Significant Capital requirements to establish a facility
  - Weak market for bio-based chemicals, subsidies would likely be required
  - Lack of market regionally, products would need to be exported to major manufacturing centers
- No bio-based chemicals are projected to be feasible
- What is the local support for large scale chemical plant?
  - Education is important
  - Depends on site locations
  - Are there allied industries that could be paired with a bio-chemical plant?

**Emerging Technologies: potential application within Sandoval County.**

**JR Ford: Biochar and Fuel Brick production in Pagosa Springs Region**

- Began as real estate venture within the Pagosa Springs area
- Need for fuel mitigation around properties lead to the establishment of a lumber mill within the region
- Utilizes small feedstock region to remain profitable, 35-mile boundary
- Currently investing in a pyrolysis boiler and fuel brick equipment
- Sole source contract for biochar equipment in the united states
  - Biochar equipment is well suited for small scale production
  - Potential difficulty securing equivalent equipment within Sandoval County

- Currently lacks a strong market for biochar
  - o Sold as is to local food producers as a soil amendment
  - o “Build it and they will come” model anticipating a growth in demand for biochar as a result of increased production
  - o Potential FDA certification of biochar as an animal feed supplement would expand the market for biochar
- Adequate regional market for fuel brick
  - o Supplies local retailers
  - o Estimates competition from Sandoval County facility would drive down the price, potentially impacting both operations
- Little present opportunity for collaboration with JR Ford

### **PJ Woodlands: Atree and Althin, Wood Plastic Composite**

- PJ Woodlands produces a unique Wood Plastic Composite product
  - o First product to utilize wood fiber extruded into a sheet
  - o Utilizes wood fiber versus wood flour for alternative WPC processes
  - o Other WPC producers produce boards used for decking, furniture
  - o WPC is lined with an aluminum mesh to increase rigidity
- Based off extrusion process first developed by Phil Archuleta in Mountainair
- Atree product initially slated for use as an aluminum road sign replacement
  - o Reduced cost compared to aluminum signage, sign producers can utilize Atree without retooling
  - o Water resistant, life expectancy over 20 years
  - o Reduced vulnerability to theft and vandalism including bullet damage
  - o Pending contracts with forest service and local signage companies
- Potential use within HUD housing, shipping pallets, DOD applications
- Utilizes two differing facilities and companies, Atree and Althin
  - o Althin is sited close to feedstock resources
  - o Utilizes dirty chip including bark, needles, etc.
  - o Fiber is processed, kiln dried and transported to the Atree facility located near available workforce and transportation infrastructure
  - o Atree utilizes a 50-50 mix of Woodfiber and virgin HDPE plastic, patented extrusion process produces a 4' wide sheet which is supplied to sign manufacturers
- Estimated Jobs produced:
  - o Atree: 24 Full Time Positions – 39 Full Time Positions by year 4
  - o Althin: 9 Full Time Positions – 9 Full Time Positions by year 4
  - o All positions receive “middle class” wages with full benefits
- Looking to develop first facility within the NM, AZ region
  - o Potential to develop within Sandoval County