

Reinhold Environmental Ltd.



2010 NO_x-Combustion Round Table & Expo Presentation

February 8 & 9, 2010

Chattanooga, TN

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Issues in Biofuel Feedstock Supply



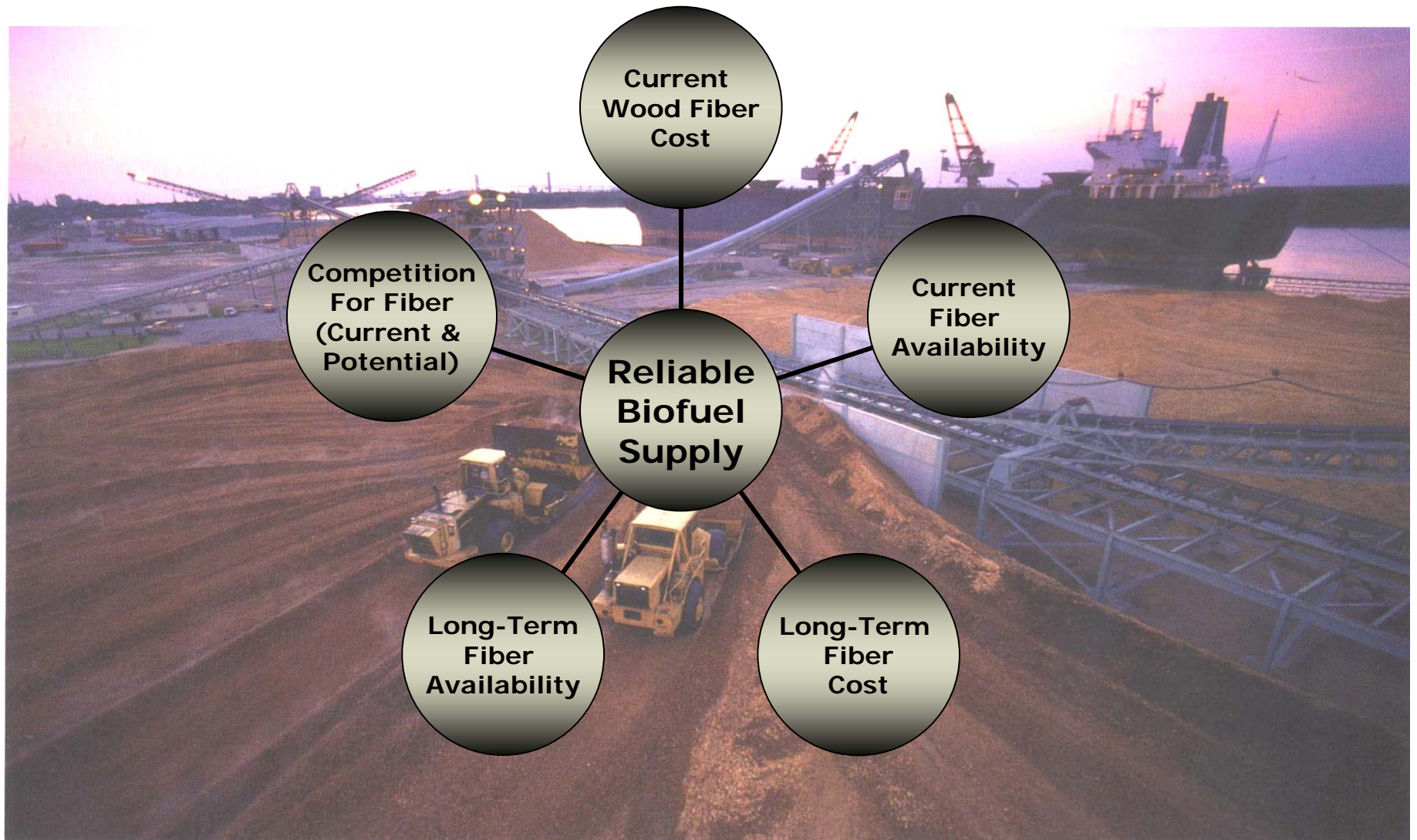
Reinhold Conference, Chattanooga, TN

February 9, 2010

Jordan Solomon, Managing Director & CEO

Ecostrat Inc.

The 5 Questions of Biofuel Supply



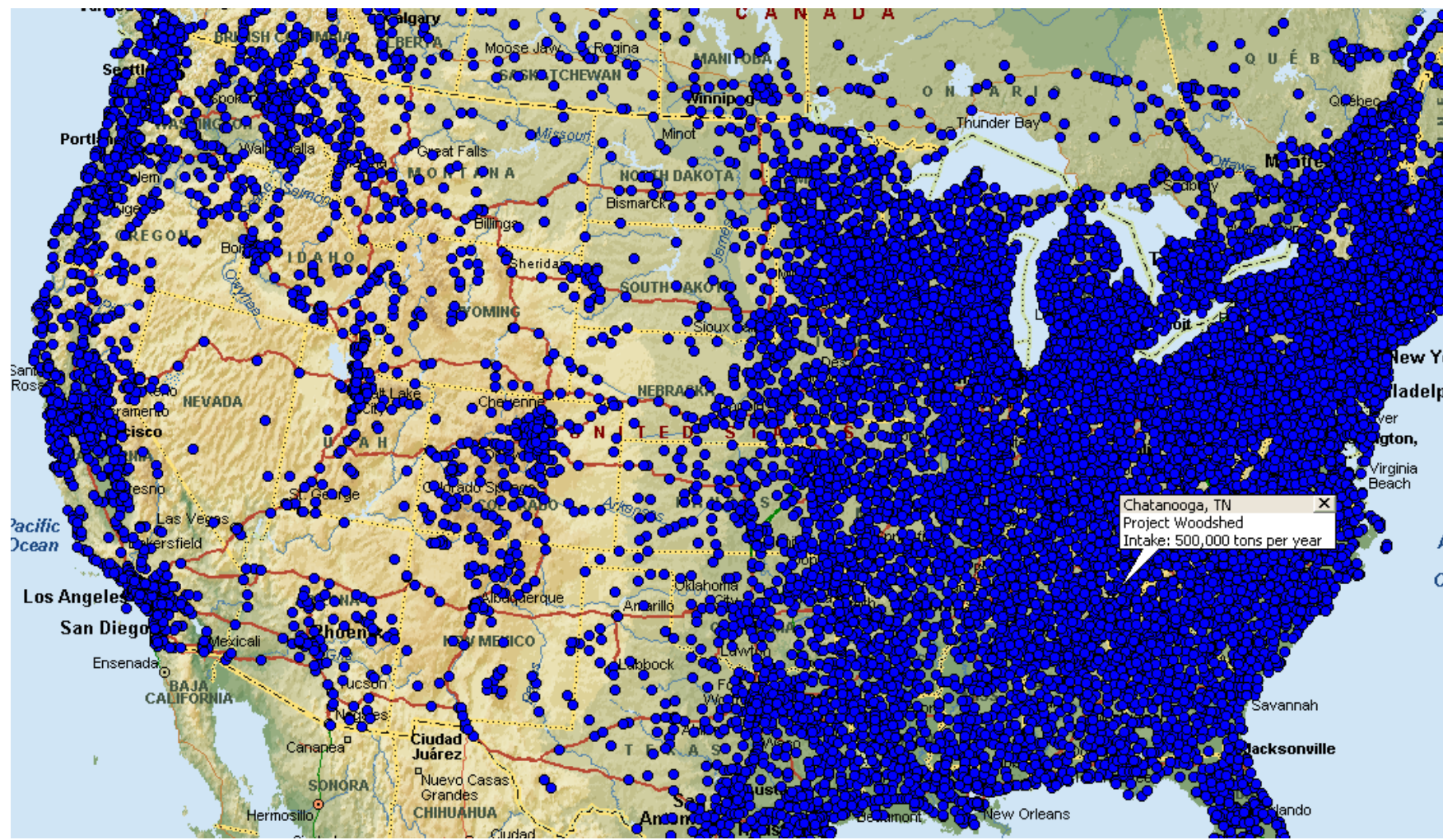
Issues of Biomass Feedstock Supply

- Many, small fragmented sources of supply.
- Lack of credit depth of suppliers.
- Rapidly-evolving woodsheds:
 - Many competitors leads to instability of supply.
 - Strong incentive to breach, especially for small – medium sized suppliers.
 - Increasing demand on fixed fiber supply puts fiber suppliers in a power position.
 - Spot fiber prices have increased by 30% in certain woodshed over 2 yrs.
 - Long-term fiber supply contract are increasingly difficult to obtain.

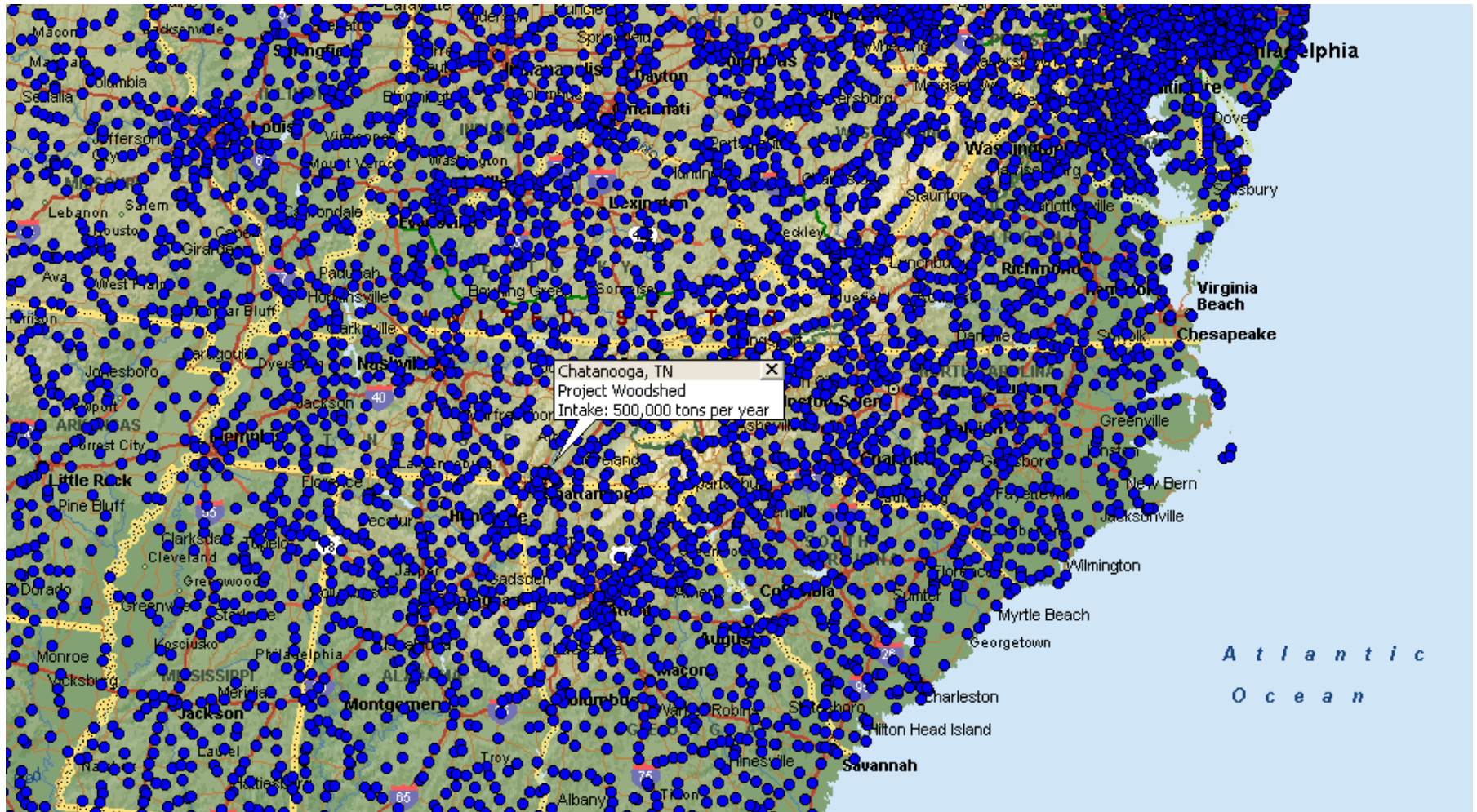
Traditional Approach to Fiber Procurement

- **Understand the woodshed dynamics.**
- **Secure contracts with multiple class A suppliers in the woodshed.**
- **Carry a large BAM (Biofuel Availability Multiple).**

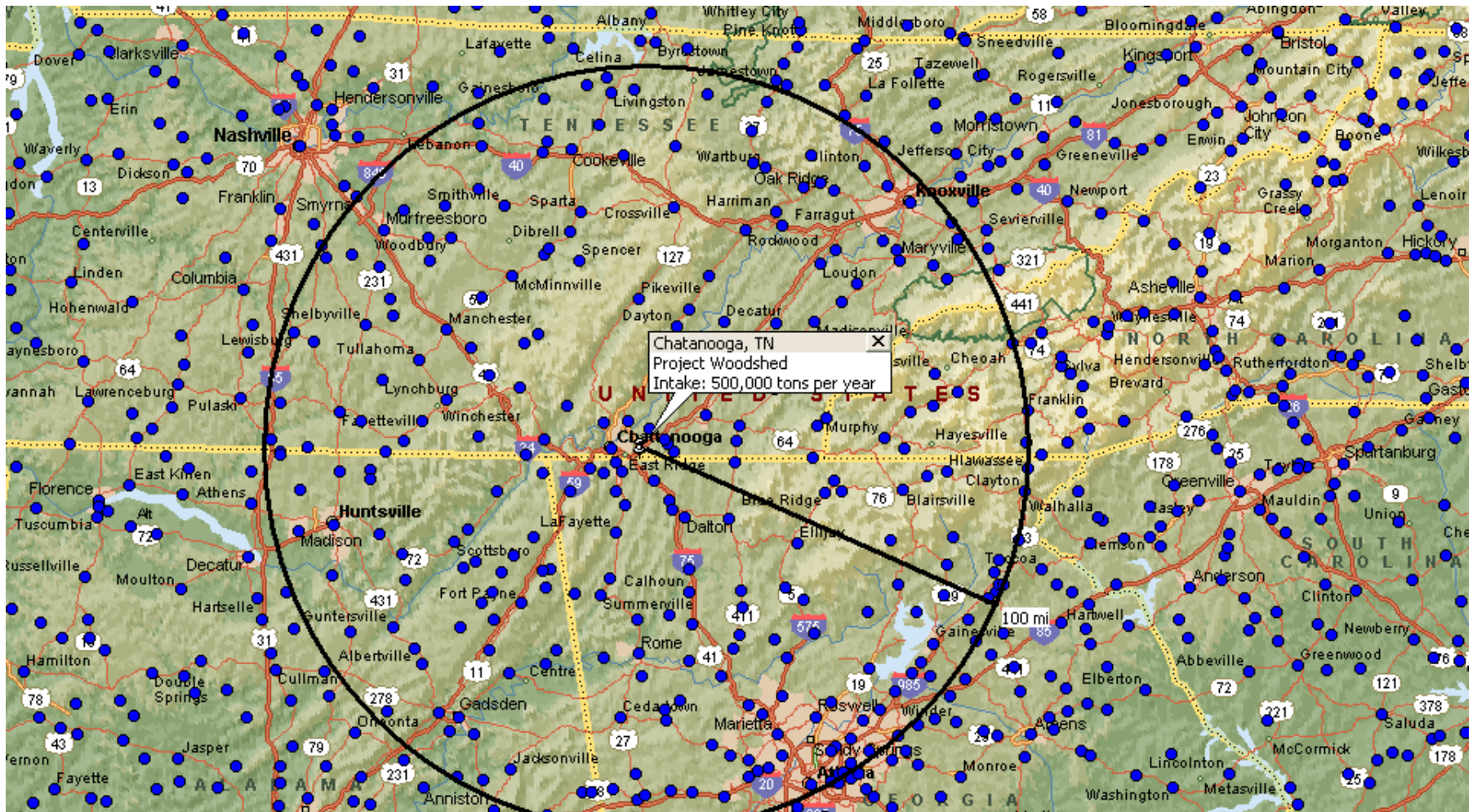
The Biofuel Supply Network[®]



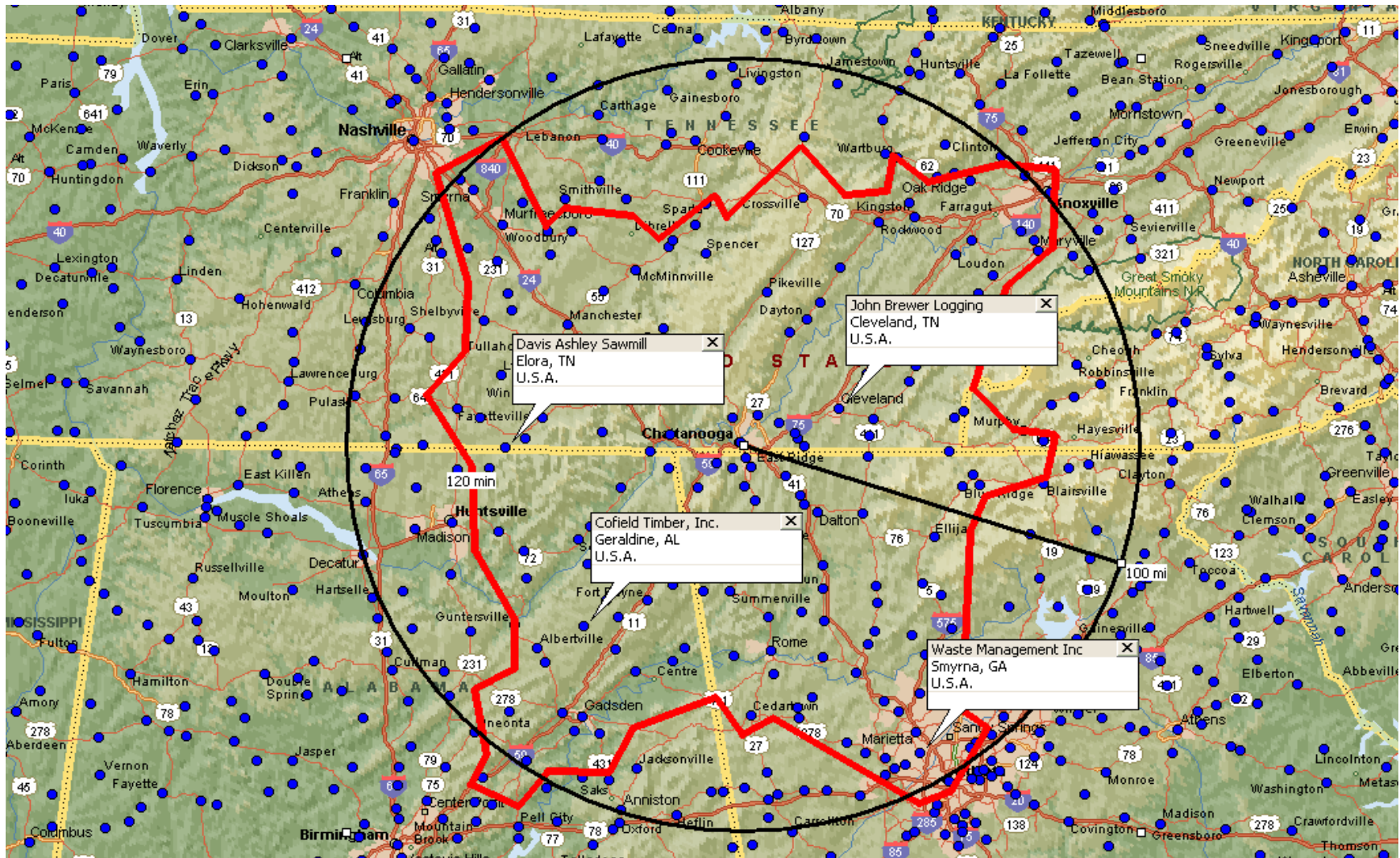
The Biofuel Supply Network[®]



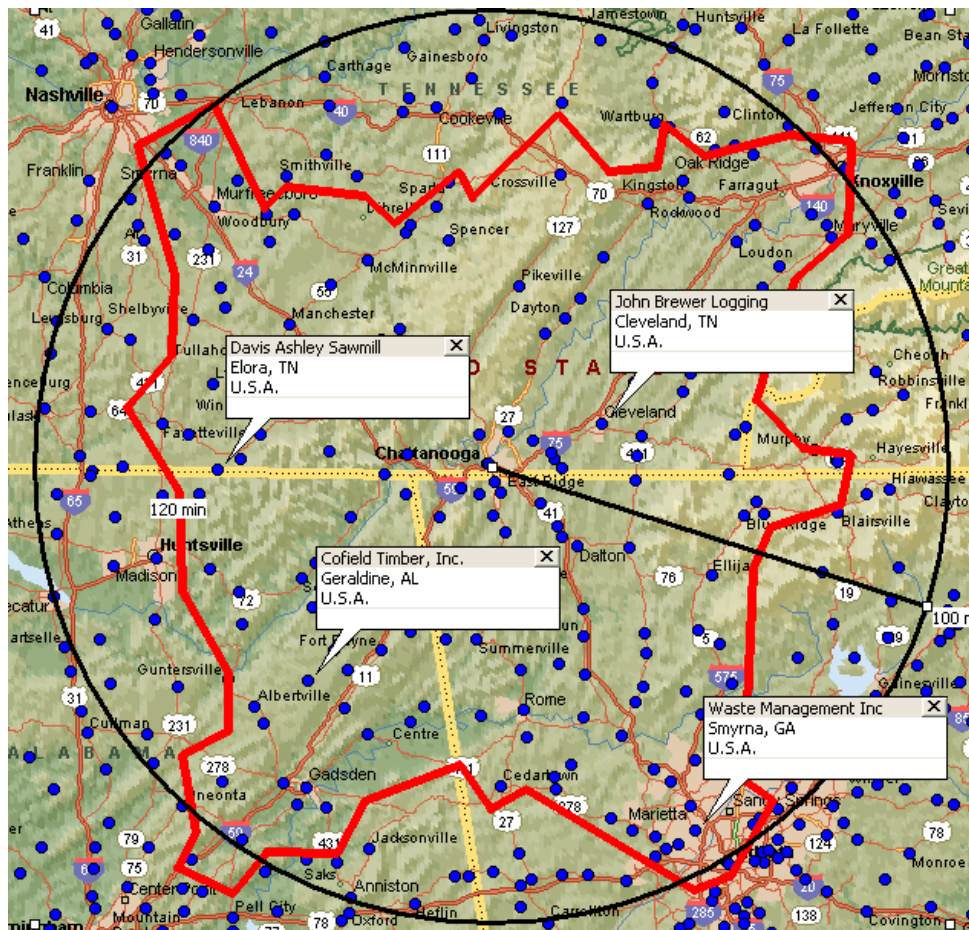
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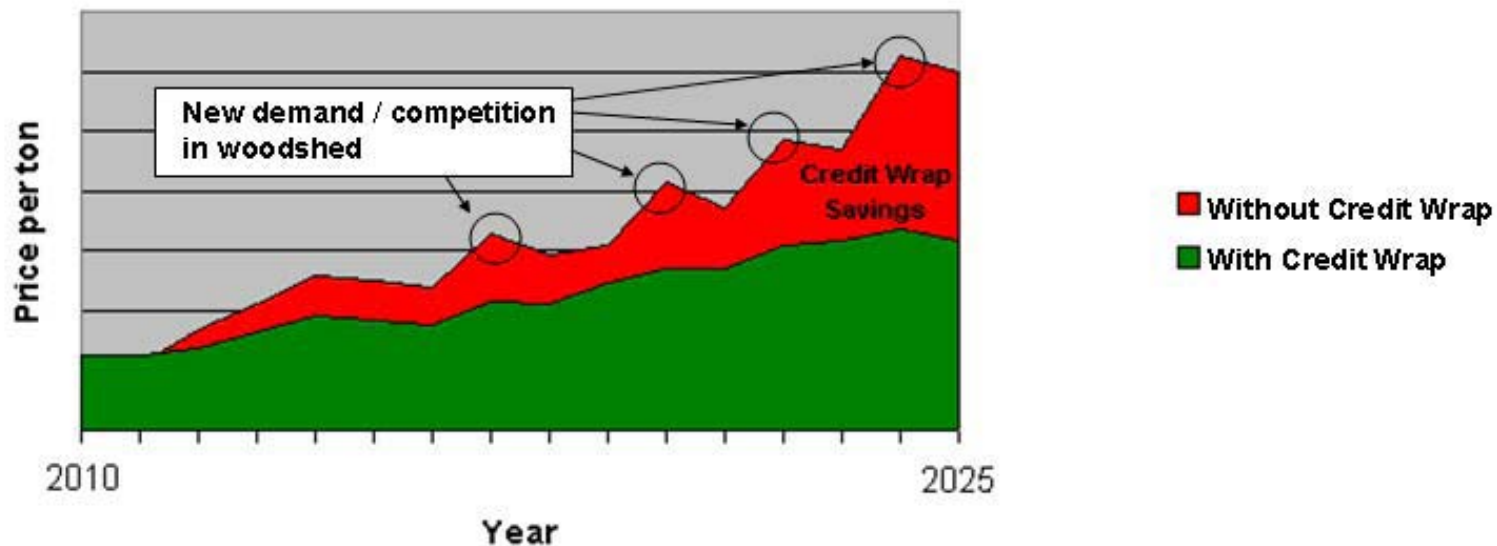
Traditional Approach to Fiber Procurement



- **1299 suppliers of wood fiber in the Chattanooga woodshed**
- **52 class A suppliers**
- **1 M tons of committed fiber- 2x BAM**
- **Average contract term 1-5 years.**
- **Long-term reliability of both price and quantity is questionable.**

A New Approach: Biomass Credit Wrap[®]

- New financial instrument developed to mitigate risks inherent in traditional fiber procurement model
- Long-term guarantee of quantity (up to 15 year)
- Long-term guarantee of pricing (up to 15 year)
- Pricing fixed-to-index
- Guarantee backed by public company: Ecostrat / RBS-Sempra
Market Cap \$11B. Sempra Market Cap \$4B



Biomass Credit Wrap[®] Pricing Formula

Base Wood Fiber Price + 4 Escalators + Credit Wrap Fee:

Cost Escalators:

- 1. Gross Domestic Product Implicit Price Deflator (GDP IPD) Adjuster**
- 2. Diesel Fuel Adjuster**
Weekly On-Highway Diesel Prices listed by the DOE
- 3. Distance Adjuster**
- 4. Stumpage Price Adjuster**
- 5. Biomass Supply Chain Management / Credit Wrap Fee :**
~\$5 per ton

Biomass Credit Wrap[®] and Torrefied Wood

- **Guarantees of long-term fuel supply/cost are essential to the commercialization of higher-quality biomass feedstocks such as torrefied wood.**
- **Commercialization of torrefied wood technology by Ecostrat, Biomass Energy Technologies (BET), RBS Sempra, and partners.**
- **Operation of first torrefied wood plant: Q4 2010**
- **Test Quantities 2011: 90,000 – 180,000 tons**
- **CV: 10,300 BTU**
- **Price Ongoing quantities: \$160 - \$180 per ton.**
- **Price Test Quantities: tbd**

Thank You



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