

Report Out I: Short Rotation Woody Crops– 2012 Target

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A Scenario for Supplying 30% of 2004
Motor Gasoline with Biofuels by 2030

Biomass

Short Rotation Woody Crops : Feedstock

For making *transportation fuel*, the three most important feedstocks are:

- Poplar
- Southern Pine
- Willow
- Other feedstock are eucalyptus, sycamore, sweetgum, and black locust.

Short Rotation Woody Crops : Biofuel

- Ethanol
- Biodiesel
- Butanol
- Hydrogen
- Methane
- Syngas Alcohol

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Short Rotation Woody Crops : Conversion Technology

Some of the conversion technologies that could be used are:

- Biochemical Conversion of Cellulose and Hemi-cellulose
- Gasification to Fischer-Tropsch Catalysis or Syngas Fermentation
- Fast Pyrolysis

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Short Rotation Woody Crops : Barriers – R&D Needs and Infrastructure

- Optimizing Production System/Production Cost
 - » Biology/Yield Improvement
 - » Harvest and Handling
 - » Crop Genetic Productivity Enhancement
 - » Biological Sustainability

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Short Rotation Woody Crops : R&D Solutions for the Identified Barriers

- Biology/Yield Improvement
 - » Effects of soils and climate on yield
 - » Field trials testing
 - » Eco-physiology of forest growth
 - » Site quality issue
 - » Integrated silvicultural regime

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Short Rotation Woody Crops : R&D Solutions for the Identified Barriers

- Harvest and Handling
 - » Feedstock mix consistently available
 - » Low cost transport system

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Short Rotation Woody Crops : R&D Solutions for the Identified Barriers

- Crop Genetics
 - » National Breeding Centers
 - » Best genotype or clone for bioenergy production
 - » Breeding for Site Adaptability

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Short Rotation Woody Crops : R&D Solutions for the Identified Barriers

- Biological Sustainability
 - » Long-term cause/effect research on productivity
 - » Nutrient Recycling
 - » Integrated Pest Management

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Short Rotation Woody Crops : Policy

- Initiated a discussion

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