



Connecticut's Energy Vision: Creating a Local Biofuels Industry

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Policy Context

Governor Rell's *Connecticut's Energy Vision:* *20% by 2020*

- Range of low-interest loans/grants to farmers for biofeedstock production
- Incentives to promote construction of biofuel production facilities
- Low interest forgivable loan pool for alternative vehicle fuel pumps
- Ban on exclusivity agreement provisions that limit access to renewable fuels
- Mandate 10% use of biofuels by state vehicle fleet by 2012
- Recommit state to renewable goals established in Exec. Order 32
- Maintain CT leadership in use of alternative energy sources
- Leverage CT intellectual resources to bring business and university assets together to facilitate economic growth



Focus Efforts on Creating a Connecticut Biodiesel Production Industry

Biodiesel Potential:

- Positive Energy Ratio Balance
- Reduction in Particulate Matter, Carbon Monoxide, Sulfur Dioxide & Hydrocarbons
- Accommodated by Existing Technologies

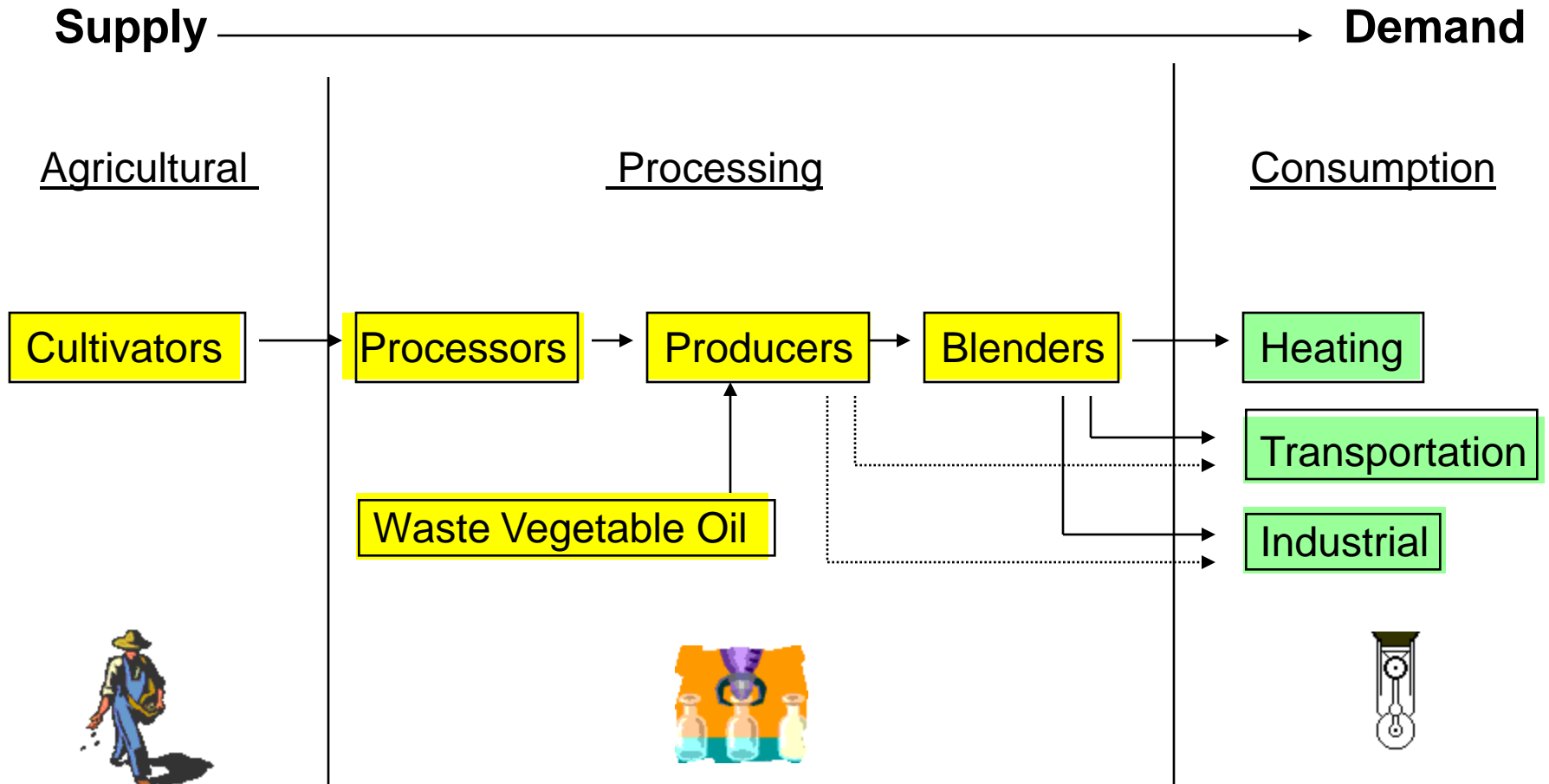


Potential Market

- Residential Heating Oil
 - ✓ 2003 Connecticut sales of 642.5 million gallons
 - ✓ Sales value of \$922.9 million
- Transportation – Diesel Engine
 - ✓ 2003 Connecticut distillate sales of 219 million gallons
 - ✓ Sales value of \$359.7 million
- Industrial Commercial
 - ✓ 2003 Connecticut distillate sales of 218 million gallons
 - ✓ Sales value of \$240.4 million
- B20 Blended Bio-Petroleum
 - ✓ Need for 215.9 million gallons of biodiesel annually
 - ✓ Value in 2003 dollars of \$304.6 million
 - ✓ Potential for transportation sector growth



Industry Outline



Supply

- Local cultivation of feedstock

- ✓ Potential for cultivating % of biofeedstock
- ✓ Commitment to farmland preservation
- ✓ Continued research on high yield cultivars

- Waste Vegetable Oil (WVO)

- ✓ U.S. produces 1.4 billion gallons of used cooking oil annually
- ✓ Waste stream that will enhance local production

- Biodiesel Production

- ✓ Regulatory issues - permitting, siting
- ✓ Reliable supply and demand sources
- ✓ Potential Locations – Re-utilize agricultural, industrial & brownfield sites
- ✓ Academic/research projects



Supply (Cont')

Supply Side State Policy

Mix of incentives to stimulate location of large scale biodiesel production facilities In Connecticut. May include:

- low interest loans & grants (farming & production)
- property tax abatement
- corporate income tax credit
- sales tax exemption on machinery and equipment
- clearly defined siting & permitting processes



Demand

- Guaranteed Sales

- ✓ State government most readily available demand market
 - State facilities heating needs
 - State vehicle fleets
 - Mass transit rolling stock
- ✓ Municipal Government

- Motivated Consumer Base

- ✓ Public Education
- ✓ Demonstration projects
- ✓ Corporate sector



Demand (cont')

Demand Side State Policy

Mix of incentives and administrative actions to stimulate demand for biodiesel In Connecticut. May include:

- ✓ Sales tax exemption on motor vehicle fuel tax
- ✓ Clarification that biodiesel utilized for heating purposes is exempt from the sales tax as other fuel for this purpose is.
- ✓ State government contracts for heating fuels to require biodiesel blend
- ✓ State government vehicle fleet to include diesel, diesel/electric hybrids and utilization of biodiesel blend as fuel source



Coordination

Supply —————→ **Demand**

Agricultural

Processing

Consumption

OPM Coordination

Environmental Considerations - DEP

Incentives/Promotion

Incentives/Promotion

Incentives/Promotion

Tax Incentives
DRS

Tax Incentives
DRS

Tax Incentives
DRS

Low Interest Loans
DOAG - DECD

**Business Development,
Retention, Analysis and
Promotion**
DECD

Guaranteed Market
State Facilities – DAS
Mass Transit – DOT
Fleet Vehicles – DAS, DOT
Corporate Contracts
Industrial Contracts

Grants – DOAG

Research
UCONN

Education

Research
UCONN
DOAG
AGR. EXP. STATION



State Agency Roles & Responsibilities

Office of Policy & Management

- ✓ Policy Development & Planning
 - Proposed Biennial Energy Plan
 - Address potential barriers to entry
 - Legislative agenda
 - Coordinate state agency policy, planning & implementation efforts
 - Facilitate Biofuels Working Group
 - Coordinate communication between state, research, academic and business communities
 - Develop and coordinate public education campaign



State Agency Roles & Responsibilities

Department of Economic & Community Development

- ✓ Cost benefit analysis – economic/fiscal effects of tax policies and incentive programs
- ✓ Economic analysis to optimize biodiesel production & distribution
- ✓ Estimate job creation potential
- ✓ Coordinate industry connection with academic & research resources
- ✓ Industry development and retention
 - Review existing grant/loan/tax credit programs for applicability to biodiesel industry development
 - Utilize existing or new grant/loan/tax credit programs to incentivize industry development



State Agency Roles & Responsibilities

Department of Environmental Protection

- ✓ Address environmental concerns associated with the production process
 - proper handling & disposal of chemicals, waste and emissions
- ✓ Study potential for increased NOx emissions associated with biodiesel combustion & potential mitigation measures
- ✓ Clarify state siting and permitting process
- ✓ Coordinate with Municipalities to clarify local permitting requirements

Department of Agriculture

- ✓ Development & implementation of farming grants/loan programs for cultivation of biofeedstock
- ✓ Farmland preservation through the Purchase of Development Rights (PDR) program or other preservation incentives program



State Agency Roles & Responsibilities

Department of Revenue Services

- ✓ Analysis and implementation of tax incentive programs

Department of Administrative Services

- ✓ Contracting for biodiesel blended heating fuel for state facilities
- ✓ Purchase of diesel/diesel hybrid fleet vehicles

Department of Transportation

- ✓ Contracting for biodiesel blended fuel for mass-transit rolling stock
- ✓ Purchase of diesel/diesel hybrid fleet vehicles

Agricultural Experiment Station

- ✓ Research and development of fast growing high yielding cultivars

University of Connecticut

- ✓ Agricultural, biological and chemical research and development
- ✓ Engineering and technology application research and development
- ✓ Demonstration projects (biodiesel production)
- ✓ Education and Training



Keys to Unlocking Connecticut's Biodiesel Economy



Mix of Supply & Demand Side Incentives



Comprehensive Coordinated Approach to Industry Development



Robust Industry Connection to Connecticut's Agricultural, Engineering and Technology Resources



Robust Consumer Education Program

