

State Is Fertile Ground For Biofuels Revolution

By RICHARD PARNAS

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Imagine an agriculturally based energy industry in Connecticut.

The increasing cost and geopolitical uncertainty of petroleum is driving changes in world energy markets. Many states are beginning to invest in new, homegrown energy alternatives, such as biofuels.

Regions of the nation that have historically been at the end of the energy pipeline - such as Connecticut, which imports 100 percent of its energy - need to participate in this new energy economy.

Biofuels are usually produced by fermenting the sugars in corn, beets, cane or other crops into ethanol, which is then blended with gasoline. A more energetic biofuel is biodiesel, which is produced from vegetable oils such as soy, canola or restaurant waste oil. Biodiesel is often blended with petroleum fuels for use in home heating and diesel transportation engines, and can also be used directly. When biodiesel is used, harmful emissions such as soot, sulfur and hydrocarbons are greatly reduced.

The University of Connecticut Biofuels Consortium produces 50 gallons of biodiesel a week from restaurant waste oil for use in UConn vehicles. We estimate that 15 percent of the state's imported petroleum fuels could be displaced if 10 percent of Connecticut's land were devoted to the cultivation of energy crops, and those crops were converted to fuels such as ethanol and biodiesel.

That is with existing technology. We estimate that the displacement of petroleum could surpass 25 percent on the same amount of land as new agricultural technologies are developed in the next decade.

Acting on this opportunity would enable us to preserve open spaces, generate jobs, reduce respiratory illness, bolster our farming sector, reduce global warming and contribute to geopolitical stability. We have a once-in-a-lifetime chance to start something new, important and beneficial in the state.

Most states are exploring these ideas. Connecticut has been active through several legislative and executive branch task forces. But it's imperative that we make the investment and act now. The steps forward could include tax, agricultural and market development incentives, as well as research support and public education.

If we fail to act, the jobs will go to other states and we will miss an opportunity to establish our own measure of energy freedom right in our backyard.

The second UConn Biofuels Symposium was Jan. 11. The 230 attendees, from state government and the business, farming and academic communities, explored the economic, scientific and environmental aspects of biofuels. Many of the presentations are on our website, biodiesel.engr.uconn.edu.

Presentations by plant scientists illustrated the high-yield energy crops such as willow, poplar and algae that will make possible the replacement of large amounts of petroleum fuels. Fuel cell scientists explained the connections between biofuels and highly efficient energy utilization technologies. Engineers discussed activities that are leading to the creation of biofuel production facilities in other states.

Most encouraging was the panel discussion with elected leaders indicating the high priority biofuels now enjoy in the General Assembly, and the possibility of meaningful legislation this year.

Connecticut can do more than simply imagine it. We have all the pieces needed to move forward - it is a matter of bringing them together.

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