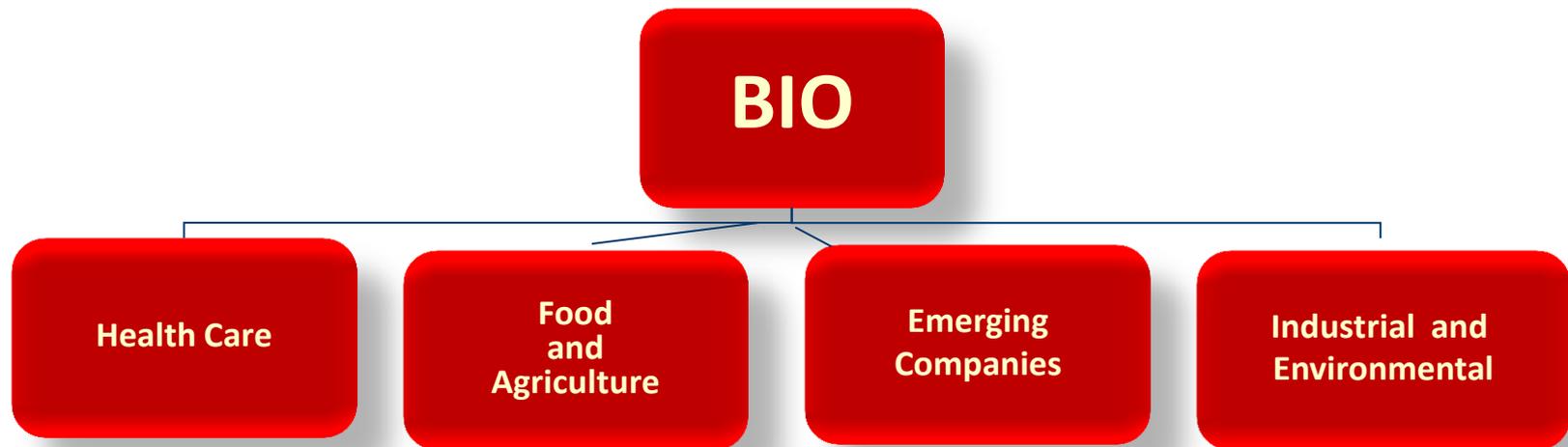


Bioenergy Coast-to-Coast: State Strategies for Accelerating Advanced Biofuels

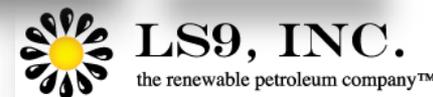
Stephanie Batchelor
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Biotechnology Industry Organization
DOE Biomass Conference
July 10, 2012

BIOTECHNOLOGY INDUSTRY ORGANIZATION (BIO)

- Trade association based in Washington DC
- Over 1,100 member companies
- Members in U.S. and 31 other countries



Some Industrial and Environmental Section Members



INDUSTRIAL BIOTECHNOLOGY

KEY ENABLING TECHNOLOGY

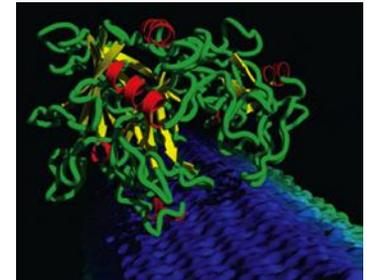
Biofuels



Biobased Products



Bioprocessing



- Application of life sciences to traditional manufacturing and chemical synthesis...
 - Using micro-organisms (bacteria, fungi) and enzymes (specialty proteins) to improve manufacturing processes...
 - ...and to make new renewable chemicals, biobased products and materials from renewable feedstocks.

State policy recommendations to foster the growth of advanced biofuels

- Biorefinery construction assistance
 - Grants, loans, or loan guarantees for construction of new or retrofit next generation biorefineries
 - Programs to streamline and expedite permitting process for construction
- Feedstock advancement
 - Assistance for PGECs at state level (ie. Grants to growers and farmers)
 - State level crop insurance protection program for PGECs

State policy recommendations to foster the growth of advanced biofuels

■ Procurement preferences

- State agencies give purchasing preference to biobased products (ie. requiring agencies to use biobased alternatives where available)
- State agency procurement and usage of advanced biofuels (ie. requiring all government fleet vehicles to be flex fuel capable, requiring use of renewable fuel in government vehicles capable of use)

■ Tax policy

- Investment tax credit for new or retrofit next gen biorefinery
- Production tax credit for advanced biofuels, renewable chemicals, biobased products and biopower

State policy recommendations to foster the growth of advanced biofuels

- Workforce training, tech transfer, and innovation
 - Educational programs and curricula to facilitate workforce training in industrial biotech sector at colleges and universities
 - Clusters and incubators focused on fostering new industrial biotech companies and tech transfer
- Public education and outreach
 - Campaigns to educate public on availability and benefits of industrial biotechnologies

State example – Florida

Project: INEOS BIO

- INEOS BIO JV, INEOS New Planet Bioenergy (INPB) to open first commercial scale cellulosic ethanol plant in Vero Beach, Florida later this year
- Project granted \$75 million loan guarantee from USDA, \$50 million cost matching grant from the U.S. Department of Energy (DOE) and a \$2.5 million dollar cost matching grant from the State of Florida.

More than just biofuels – Ohio becomes a national leader in biobased products deployment

- In 2010, Ohio passed OH S 131, a bill requiring state entities, along with colleges and universities, to give purchasing preference to bio-based products as long as the products are comparable in price, performance and availability.
- The bill adopted the product standards and approved product lists established by the Federal Biopreferred program and made Ohio the first state ever to create a statewide bio-based procurement program.
- A number of other states have passed legislation establishing various levels of preference for purchasing biobased products. Among them are Arkansas, Illinois, Indiana, Iowa, North Dakota, and South Dakota.

Other state examples

- CA state government investing millions of dollars in grants to train state workers at UCSD.
- IN S 353 biofuels tax credits
- South Dakota-SD H 1192 (Enacted 2010) Incentive grant program for blender pump installation
- Missouri-S 420 (Enacted 2009)
 - Creates a state income tax credit for the purchase of processed biomass engineered fiber fuel
- Massachusetts-Clean Energy Biofuels Act (Enacted 2008)
 - Tax exemption for cellulosic ethanol, biodiesel

Regional collaboration – Sustainable Aviation Fuels Northwest Initiative

- Nation's first regional stakeholder effort to explore the opportunities and challenges surrounding the production of sustainable aviation fuels.
- Launched in July 2010 by Boeing, Alaska Airlines, Port of Seattle, Port of Portland and Spokane International Airport – and Washington State University, a center for advanced biofuels research.
- Stakeholder process includes more than 40 organizations ranging across aviation, biofuels production, environmental advocacy, agriculture, forestry, federal and state government agencies, academic research and technical consultancies.

Current political challenges to implementing state and federal policy support

- The downturn in the economy results in: less VC investment, growing state and federal deficits, and pressure to reduce state and federal spending
- With the ascendancy of the GOP in the U.S. House of Representatives, and the bipartisan recognition of an impending budgetary crisis, federal policies, in particular, supporting renewables and clean tech in 2012 are at a crossroads
- The limits of government policy are more apparent
- Factions and friction in the biofuels sector

Current political challenges to implementing state and federal policy support – Farm Bill Energy Title Programs

- U.S. House of Reps has released draft Farm Bill (Federal Agriculture Reform and Risk Management Act (FARRM)) with no energy title funding allocated
- Senate bill allocates \$800 million to protect vital programs such as:
 - REAP (Rural Energy for American Program) provides grants and loan guarantees to rural businesses to reduce energy bills and boost revenue by improving the energy efficiency of their operations.
 - BCAP (Biomass Crop Assistance Program) project areas provide incentives to eligible landowners and operators to produce biomass crops for energy, including advanced biofuels and biobased products. BCAP project areas have been established in over ten states

Conclusions

- Industrial biotechnology can create thousands of new green jobs and revitalize rural economies
- Supportive, consistent and enduring government policy is necessary to bring the vision of fully integrated biorefineries to reality
- There is more growth and success ahead for industrial biotechnology despite the current political and economic challenges

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