The Florida Senate

COMMITTEE MEETING EXPANDED AGENDA

COMMUNICATIONS, ENERGY, AND PUBLIC UTILITIES
Senator Benacquisto, Chair
Senator Smith, Vice Chair

MEETING DATE: Tuesday, February 8, 2011
TIME: 2:00 —4:00 p.m.
PLACE: *Toni Jennings Committee Room,* 110 Senate Office Building

MEMBERS: Senator Benacquisto, Chair; Senator Smith, Vice Chair; Senators Altman, Bogdanoff, Diaz de la Portilla, Evers, Fasano, Flores, Joyner, Lynn, Margolis, Negron, and Sachs

TAB	BILL NO. and INTRODUCER	BILL DESCRIPTION and SENATE COMMITTEE ACTIONS	COMMITTEE ACTION
1		Presentation by the Commissioner of Agriculture (Farm-to-Fuel Renewable Energy Program)	
2		Presentation by Space Florida	
3		Presentation by Florida Energy & Climate Commission	
4		Presentation by the Governor's Energy Office	

Florida's Farm to Fuel® Initiative

Senate Committee on Communications, Energy, and Public Utilities

February 8, 2011

FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

COMMISSIONER ADAM H. PUTNAM

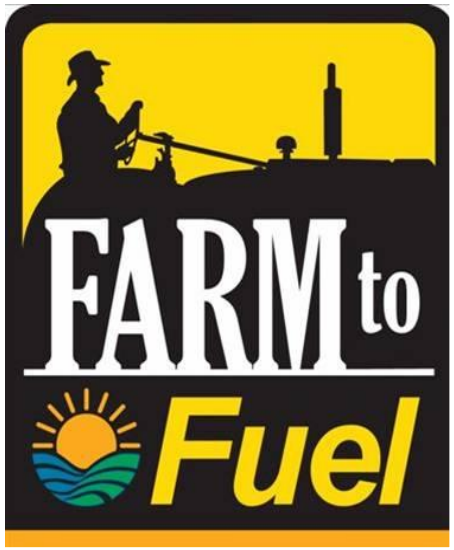
25x'25 Vision

By the year 2025, America's farms, ranches and forests will provide 25 percent of the total energy consumed in the U.S. while continuing to produce safe, abundant and affordable food, feed and fiber.

Farm to Fuel® Initiative

s. 570.954, Florida Statutes

The department may develop a farm-to-fuel initiative to enhance the market for and promote the production and distribution of renewable energy from Florida-grown crops, agricultural wastes and residues, and other biomass and to enhance the value of agricultural products or expand agribusiness in the state.



Benefits of Farm to Fuel®

- increased farm income
- added value uses for crops and agricultural residues
- new markets to maintain the viability of agriculture
- major impact on rural development with job opportunities
- maintain green space
- more productive use of marginal land

Biomass Sources in Florida

- 40,000 farms and ranches
- 16+ million acres of timberland, with 10+ million acres in private ownership
- 10 million acres cropland
- 3.4 million acres of pastureland

- fast-growing trees and crops
- agricultural residues
- forest debris, thinnings, and undergrowth
- leftover materials from the wood products industry
- animal manures
- urban wood waste
- invasive species
- algae





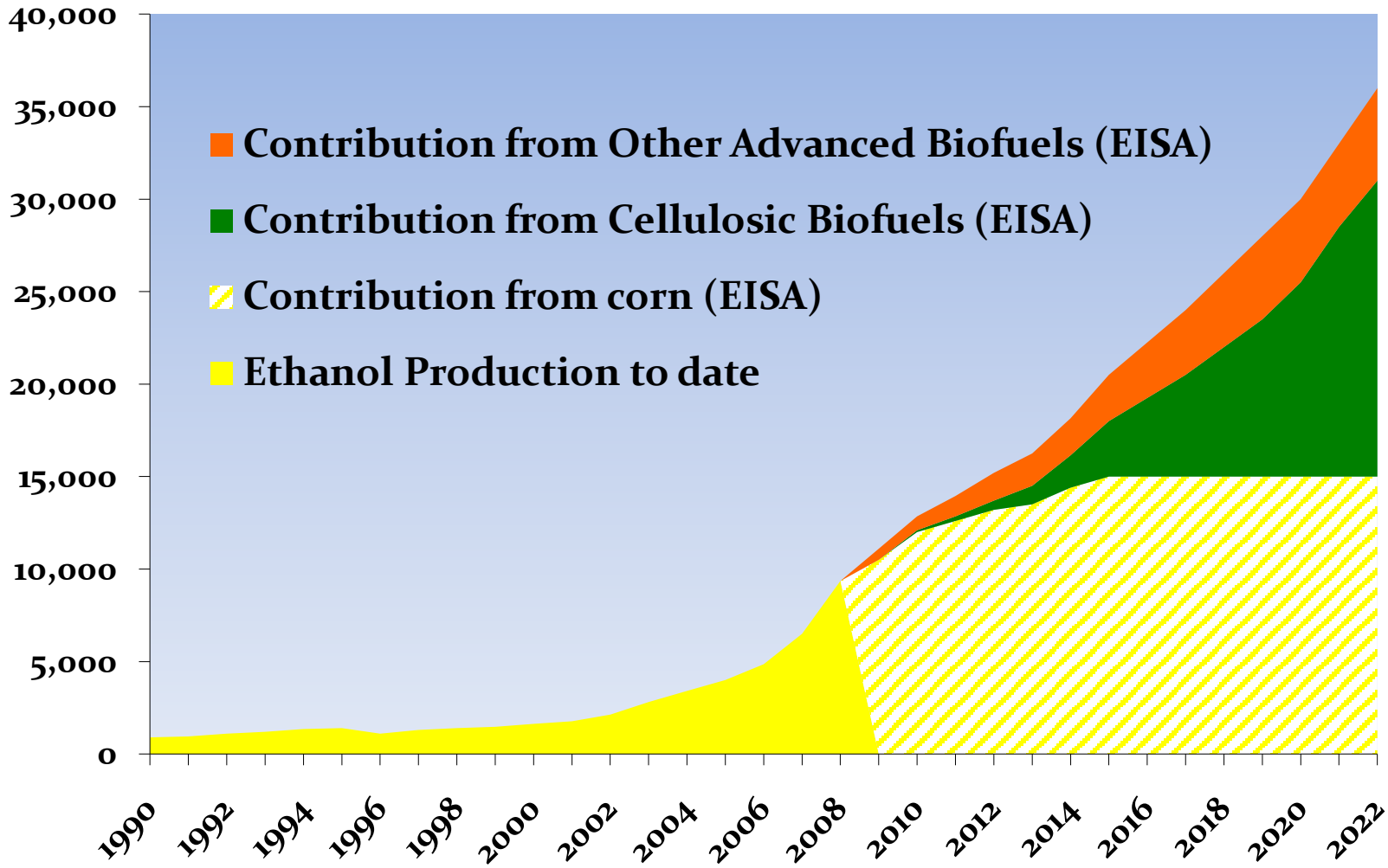

Potential Ethanol Feedstocks

Corn		300-400 gal/acre
Sugar Cane		600-800 gal/acre
Sweet Sorghum		200-600 gal/acre
Woody Biomass, Grasses		1000 gal/acre?
Bagasse (1 mil tons)		80-100 mgy

Potential Biodiesel Feedstocks

Soybean		60 gal/acre
Jatropha		200-300 gal/acre
Algae		2,000+ gal/acre
Camelina		100 gal/acre

Renewable Fuel Standard



(million gallons/year)

Biofuels Strategic Production Report

- Advanced biofuel mandate – 21 bgy
  - 14.6 bgy – dedicated energy crops
  - 4.6 bgy – crop residues
  - 3.0 bgy – woody biomass
- Additional investment - 527 new biorefineries totaling $168 billion investment
  - 263 biorefineries costing $83.8 billion in the SE region

State Grant Funding 2006-2008

	Renewable Energy Technologies	Bioenergy	Total
2006-07	$10 million	$5 million	$15 million
2007-08	$12.5 million	$25 million (Farm to Fuel)	37.5 million
2008-09	$7 million	$8 million	$15 million
Total	29.5 million	$38 million	$67.5 million

Farm to Fuel® Grants Program

- Established to provide renewable energy matching grants for demonstration, commercialization, research, and development projects relating to bioenergy.
- Key factors for consideration:
  - Use of Florida-grown biomass
  - Enhance the value of agricultural products or expands agribusiness
- $25 million appropriated (FY 07-08)
  - $22 million commercialization
  - $3 million R&D and demonstration

Sugar-to-Ethanol BioRefinery

- United States EnviroFuels, LLC
- Highlands County
- Award: $7,000,000
- Cost Share: $40,000,000
- Payments: $105,519.13
- Objective: Construction of a 20 mgy sugar-to-ethanol biorefinery which uses sweet sorghum as a primary feedstock. Finished products are low carbon ethanol, green renewable power, bio-fertilizer, beverage grade liquid carbon dioxide, and treated water for process recycling and irrigation.

Bioenergy Plantation

- Highlands Ethanol, LLC (Vercipia Biofuels)
- Highlands County
- Award: $7,000,000
- Cost Share: $16,651,925
- Payments: $1,515,291.73
- Objective: Establish a 15,000 acre commercial energy plantation for the production of dedicated energy crops to support a 36 mgy cellulosic ethanol plant.

Biodiesel Production

- Agri-Source Fuels, LLC
- Pasco County
- Award: $2,500,000
- Cost Share: $10,728,741
- Payments: $1,831,807.58
- Objective: Increase output of the Dade City biodiesel production plant 60 mgy and the construction of a BQ-9000 certified laboratory and glycerin refinery.

Biogas Production

- Waste Energy Solutions, LLC
- Lafayette County
- Award: $5,500,000
- ~$18,637,000
- Payments: $0
- Objective: Construct a biogas plant that will produce renewable energy in the form of methane gas utilizing dairy and food waste using an anaerobic digestion process. The project includes installation of manure separation equipment on area dairies.

R&D Projects

- Fischer-Tropsch Conversion of Florida Woody Biomass Generated Syngas to Biodiesel
- Bioenergy and Agricultural Products from Animal Waste
- Thermochemical Conversion of Biomass to Liquid Hydrocarbons as Substitutes for Petroleum-Based Fuels
- Production of Biofuels and Animal Feed from Microalgae
- Conversion of Crop Oils to Biofuels
- Development of Floating Algae/Biodiesel Production System in Quarry Lakes Utilizing Fish Production Effluent as the Nutrient Source
- Assessment of Jatropha Curcas for Biodiesel Production
- Enhancing Conversion of Grass Biomass to Ethanol
- Green Gas from Green Gas

2011

Farm to Fuel Summit

August 3-5

Rosen Shingle Creek

Orlando, Florida

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FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

COMMISSIONER ADAM H. PUTNAM

Senate Testimony

Communications, Energy, and Public Utilities Committee

Frank DiBello, President
Space Florida

February 8, 2011

Launch Systems and Support

OVERVIEW TOPICS

- *Role in Economic Development*
- *Vision 2020 – Goal / Strategies*
- *How Space interfaces with Energy*
- *Recent Initiatives / Achievements*

Adventure Tourism

SPACE FLORIDA

STRUCTURE AND ROLE

Legislatively Chartered Public Corporation
&
Independent Special District of the State

Reports to the Office of the Governor &
Serves as an Agent of the State
for Aerospace Economic Development

Governance through an independent board of directors, the Legislature and the Governor

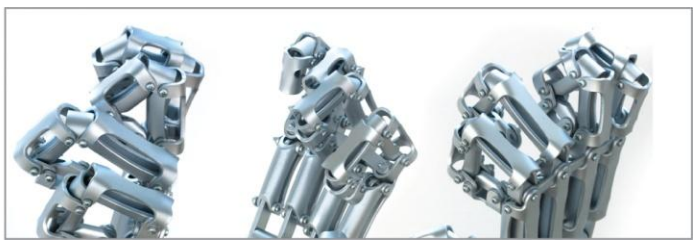
Ground and Operations
Support Systems

SPACE FLORIDA

FLORIDA'S SPACE INDUSTRY

Horizontal Industry … Cuts across many sectors.

- ***Presence is pervasive in our everyday Life***
- ***Heritage defined by NASA and Air Force heritage***
  - ***Now strongly multi-agency and commercial***
- ***Proven technology and Innovation Catalyst***
- ***Spawns thousands of new companies / applications***



STRATEGIES … VISION 2020 PLAN

- ***Diversification - Statewide aerospace business development in 10 focused market sectors - new wealth and job creation***

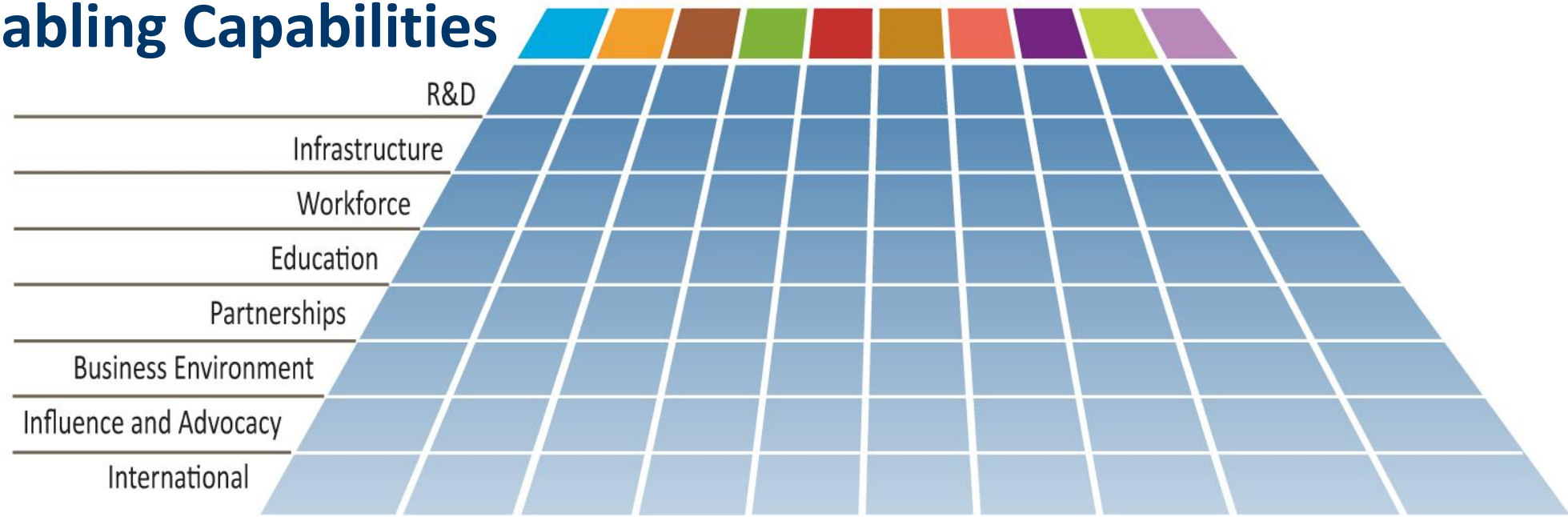
- ***Vertical Integration of the Supply Chain – Expanding Depth and Breadth of the In-state Supplier Base***

- ***Targeted Investments - Leveraging key state assets & economic development tools for job creation and industry growth - Statewide!***

Target Market Horizons

- Launch Systems / Support
- Satellite Systems / Payloads
- Ground / Operations Support Systems
- Agriculture / Environmental Monitoring
- Civil Protection/Emergency Management
- ISS / Human Life Sciences
- Com / CyberSecurity / Robotics
- Adventure Tourism
- Clean Energy
- Advanced Materials / New Products

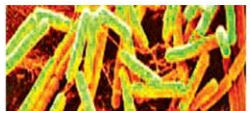
Enabling Capabilities

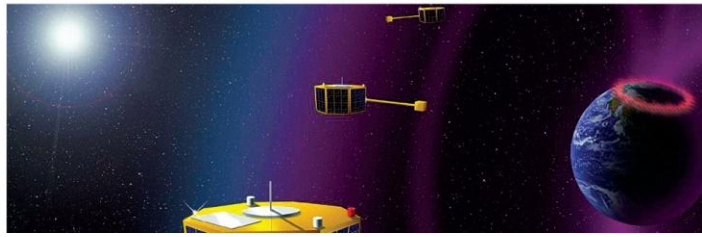


ENERGY PROJECTS/ NEW INITIATIVES

Avera:

- *In August 2010, the Space Florida Board of Directors approved the purchase of a prototype vehicle from Avera Motors*
  - *A Rockledge-based automotive manufacturer*
  - *Ultra-efficient, four-passenger sports car*
    - *developed advanced energy capabilities, hybrid propulsion, alternative fuel utilization and advanced materials research to their new vehicle design –.*
  - *Space Florida will partner with NASA to test the vehicle.*
  - *Project will result in approximately 25 local engineering and business management positions.*
  - *If successful, Avera plans to build additional vehicle models off a shared platform that would employ more than 1,200 people by 2015.*

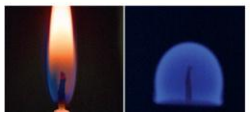



ENERGY PROJECTS/ NEW INITIATIVES

Lighting Science Group:

- *Corporate headquarters and a manufacturing facility in Satellite-Beach, FL,*
- *Lighting Science manufactures environmentally friendly LED lighting products for consumers, municipalities, federal agencies, national retailers and global brands.*
- *As part of an EDA Grant Competition, Space Florida teamed with the City of Titusville submitted a $6 million funding proposal for the construction of an 45,000 s.f. manufacturing facility near Kennedy Space Center.*
    - *We are awaiting official word from the EDA on the proposal*
- *LSG currently employs over 200 people in Florida and anticipates job growth with its recent selection by Home Depot as its lighting supplier. Assisting the company with a larger manufacturing facility would add over 300 jobs and 636 indirect jobs.*

ISS and Human Life Sciences



ENERGY PROJECTS/ NEW INITIATIVES

SebaiCMET, Inc.:

- *A Tallahassee-based minority business enterprise that manufacturers, distributes and sells renewable energy and alternative water systems.*
- *Developed with Florida Institute of Technology*
  - *these systems operate off of subsurface ocean waves and do not use fossil fuel.*
- *Space Florida has facilitated access to capital and helped secure an agreement with NASA for the continued testing and development of the systems.*
- *Brevard County is being considered for a manufacturing site that would employ over 500 people by 2015.*

Launch Systems and Support

ENERGY PROJECTS/ NEW INITIATIVES

PetroAlgea:

- *A Florida-based company that utilizes protein and biomass platform to address the unmet needs of global energy and agricultural markets.*

- *The company uses the capabilities of Space Florida's Space Life Science Laboratory at Kennedy Space Center to control and manipulate environmental parameters, such as…*
  - *climate, temperature, day/night cycles and seasonal cycles to simulate growing conditions for research purposes as well as to understand climate conditions around the world.*

Ground and Operations Support Systems

SPACE FLORIDA

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