

Hopping Green & Sams

Attorneys and Counselors

Renewable Energy Update

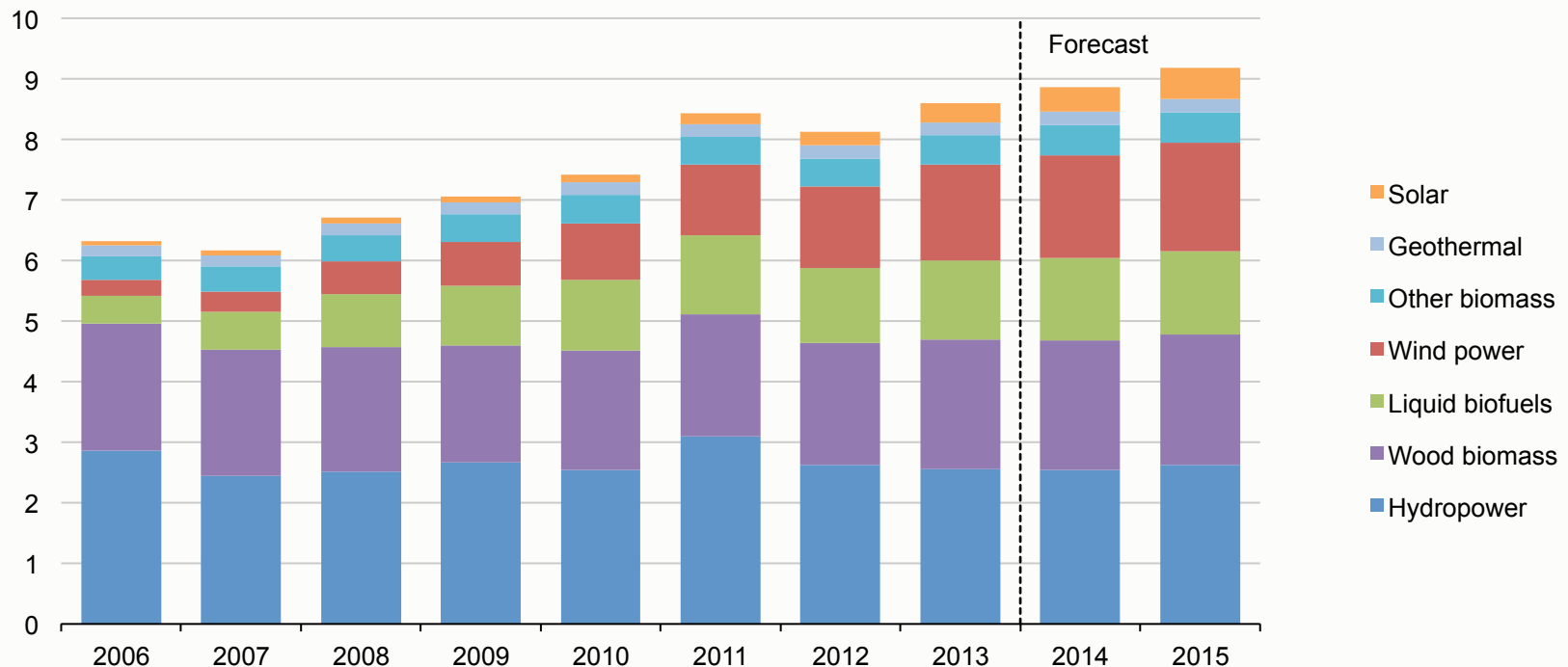
28th Annual Environmental Permitting Summer School

July 24, 2014

Current Climate and Outlook for Renewable Energy

U.S. Renewable Energy Supply

quadrillion British thermal units (Btu)

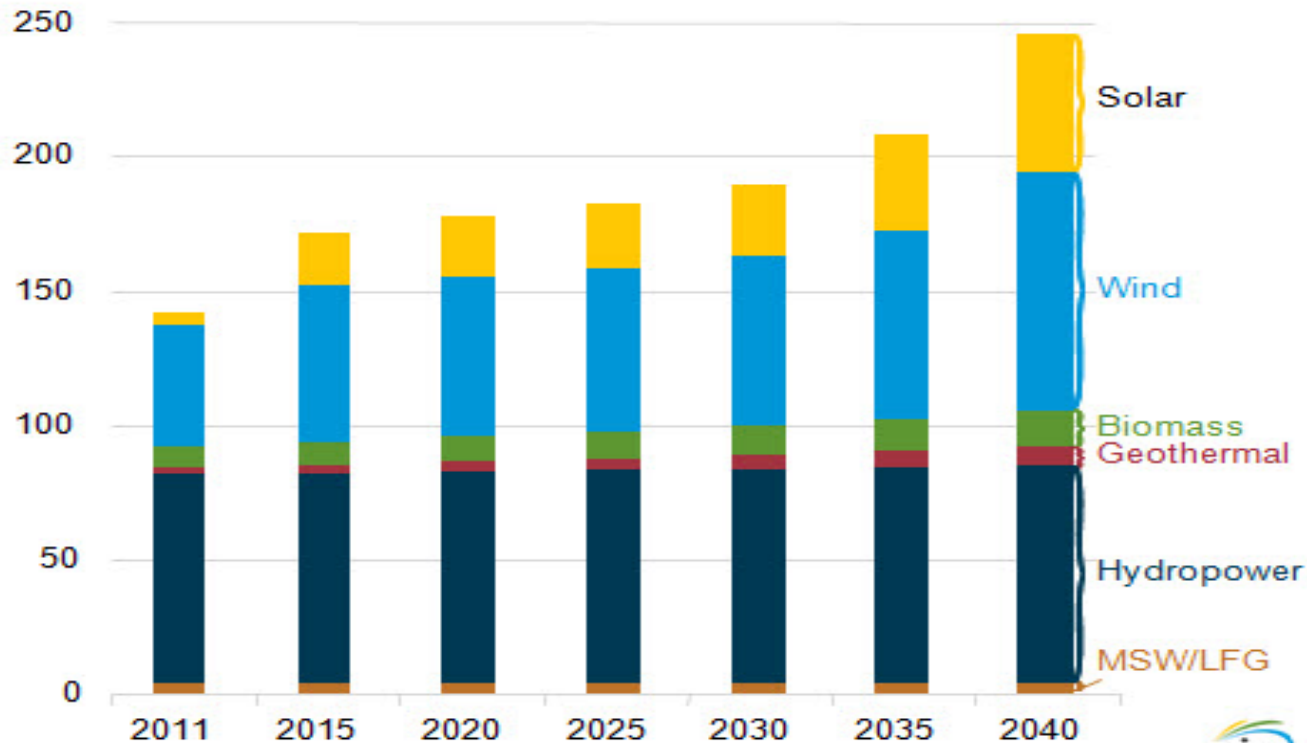


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: Short-Term Energy Outlook, July 2014.

Current Climate and Outlook for Renewable Energy

Figure 82. Renewable electricity generation capacity by energy source, including end-use capacity, 2011-2040 (gigawatts)



State of Florida - Existing Renewable Resources - 2013

Renewable Fuel Type	Summer Net Capacity (MW)
Land Fill Gas	40
Municipal Solid Waste	466
Biomass	415
Solar	178
Hydro	63
Waste Heat	308
Wind	0
Total	1,470

Source: 2013 FRCC Regional Load & Resource Plan, TYSP Utilities Data Responses

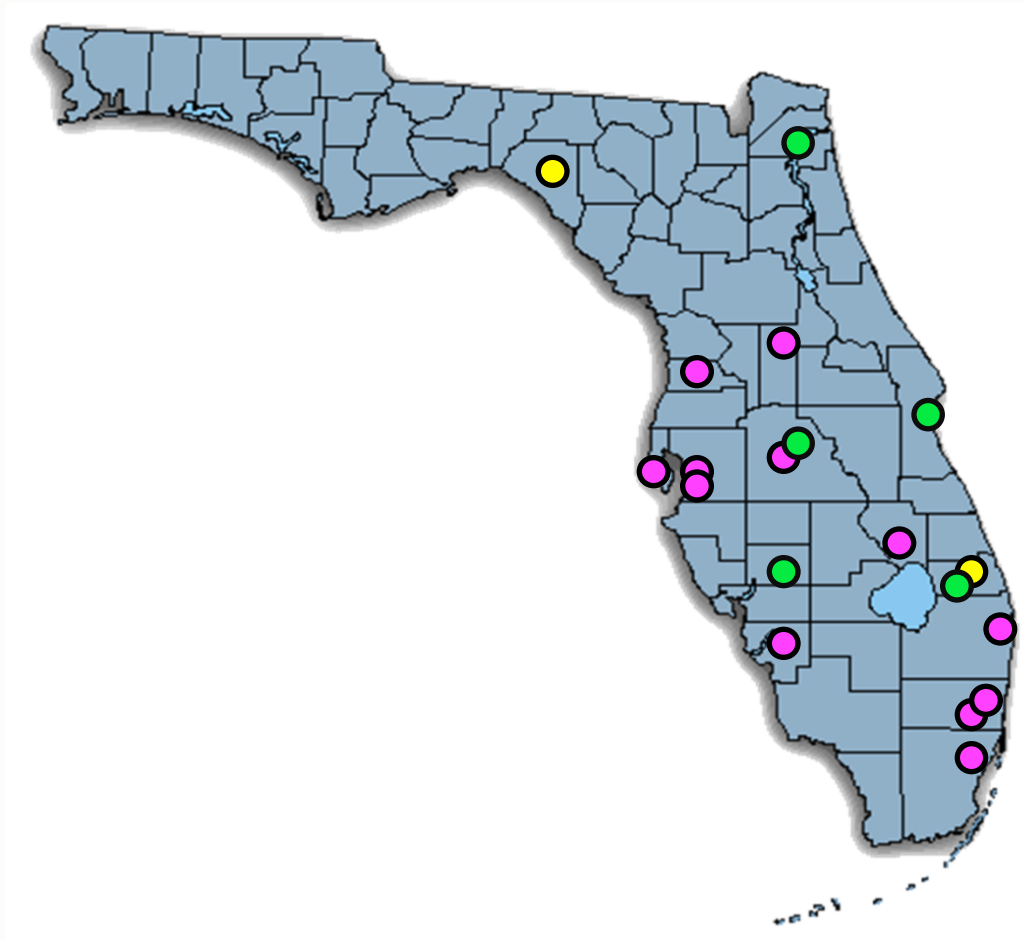
State of Florida - Planned Renewable Resource Additions - 2023

Renewable Fuel Type	Summer Net Capacity (MW)
Land Fill Gas	12
Municipal Solid Waste	125
Biomass	470
Solar	359
Hydro	0
Waste Heat	0
Wind	0
Total	966

Source: 2013 FRCC Regional Load & Resource Plan, TYSP Utilities Data Response

Established Renewable Energy Projects

- Biofuel
- Biomass
- Solar



Established Renewable Energy Projects:

Examples- Solar

- FPL's DeSoto Solar Energy Center

- 25 MW Capacity
- Opened in 2009 as largest solar photovoltaic plant in the country
- 90,500 solar panels

DeSoto Next Generation Solar Energy Center



Source: Florida Power and Light Company

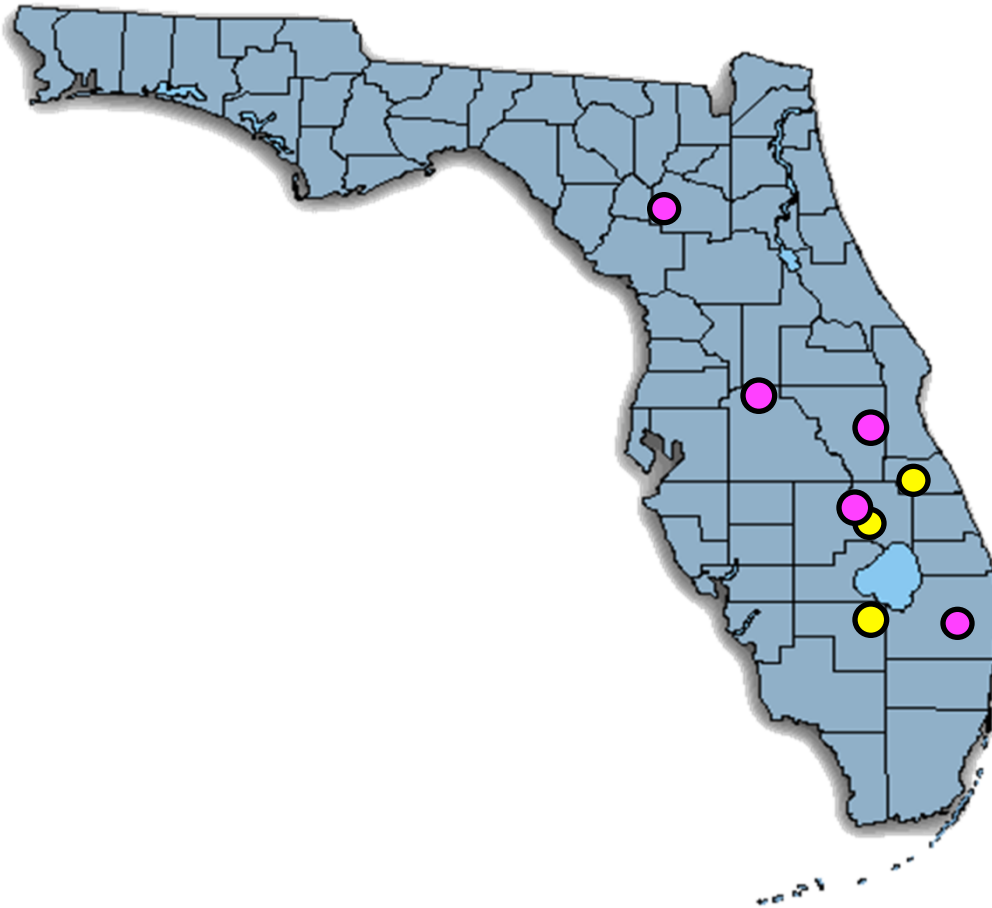
- FPL's Martin Solar Energy Center

- 75 MW Capacity
- Largest Solar Thermal Plant in the East
- First Hybrid Solar Facility to connect to Combined-cycle Natural Gas Plant
- In-service in 2010
- 190,000 mirrors



Recent/Under Development Renewable Energy Projects

- Biofuel
- Biomass



Recent/Under Development Renewable Energy Projects

- Gainesville Renewable Energy Center, Gainesville
- Palm Beach Renewable Energy Facility Number 2, Palm Beach County
- INEOS New Planet Bio Energy, Indian River County
- LS9, Okeechobee County
- Central Power & Lime, Hernando County
- U.S. EcoGen, Polk County
- Harvest Energy Garden, Orlando
- Southeast Renewable Fuels, Hendry County

Current Climate and Outlook for Renewable Energy

- **State Policy**
- Federal Policy
 - 2014 Farm Bill
 - Military
 - Department of Energy
 - GHG and Climate Change Regulation
 - RFS2;
 - PSD and Biogenic CO₂;
 - Electric Utility Regulations
- Market Factors
 - Cost of Renewable Energy vs. Traditional Fuels
 - Demand for increased generation

Florida Renewable Energy Policy

2012 HB 7117

- Added renewable energy factors for the Florida Public Service Commission to consider in evaluating utility 10-year site plans
- Repealed provisions for renewable portfolio standard
- Appropriated \$250,000 for an independent evaluation of the Florida Energy Efficiency and Conservation Act

Florida Renewable Energy Policy

2012 HB 7117

- Reinstated biofuels sales and use tax exemption for four years
- Reinstated the renewable energy production credit
- Reinstated the renewable energy technologies investment tax credit
- Directed DACS to prepare an annual assessment of renewable energy tax credits

Florida Renewable Energy Policy

2013 Legislative Session

- SB 320 – repealed 2008 Renewable Fuel Standard Act that requires most gasoline in the state to include approximately 10% ethanol
- HB 579 – exempted natural gas from fuel tax for five years providing an incentive for natural gas vehicles
- SB 1472 – nuclear cost recovery
- HB 1083 – underground natural gas storage

Florida Renewable Energy Policy

2014 Legislative Session

- HB 7147 –
 - clarifies DACS must promote all forms of renewable energy; not just solar
 - authorizes DACS to appoint representative to Southern States Energy Board
 - provides for DACS to post information on alternative fueling and electric charging stations
 - eliminates Solar Energy Rebate Program (not funded since 2010)
 - provides local governments with access to federal grants through Qualified Energy Conservation Bond program

Florida Renewable Energy Policy

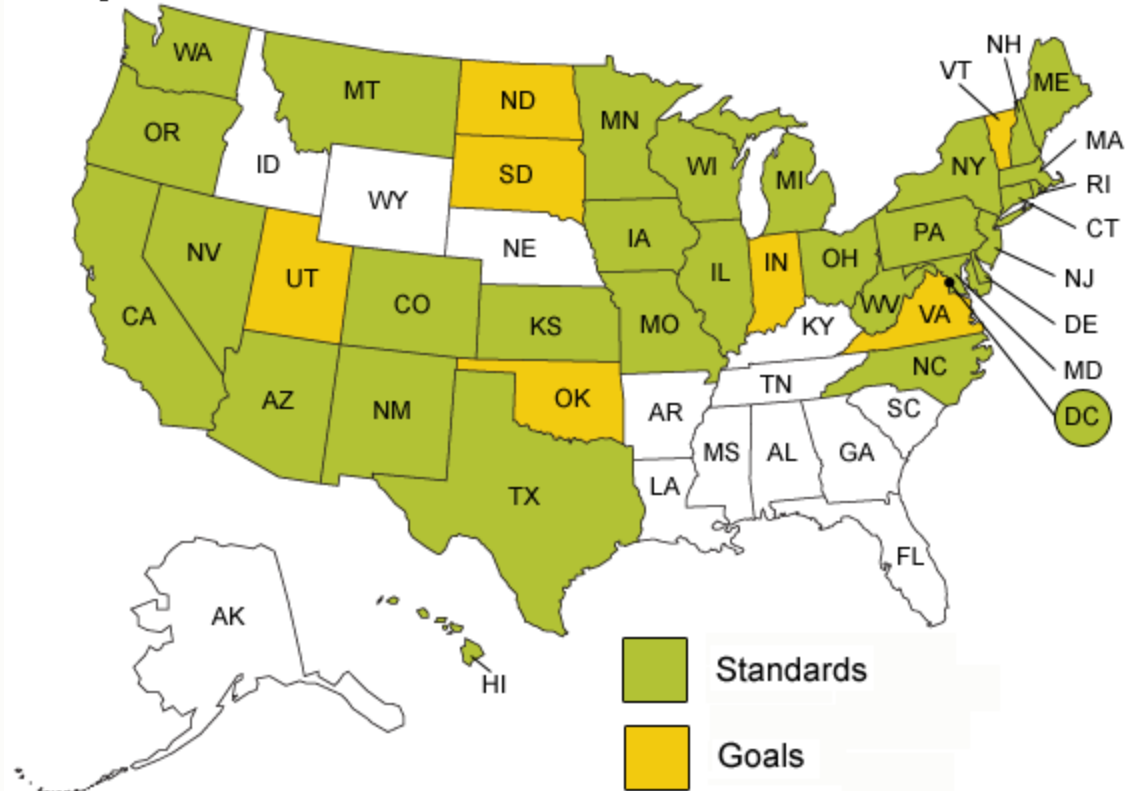
2014 Legislative Session

- HB 825 – proposing tax breaks for businesses that install solar panels; died in subcommittee
- HM 243 – urging Congress to repeal the Renewable Fuel Standard; died in committee
- HJR 695 – proposing constitutional amendment to provide that an entity exclusively producing renewable energy is not a “public utility”; died in subcommittee

Florida Renewable Energy Policy

Most States Have Renewable Portfolio Standards

States with Renewable Portfolio Standards (mandatory) or Goals (voluntary),
January 2012



Current Climate and Outlook for Renewable Energy

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2014 Federal Farm Bill

- Last farm bill approved in 2008; generally expired in September 2012, but Congress passed extensions while unable to pass new bill
- New farm bill finally signed into law in early 2014; generally in place through 2018
- 5-year spending projection is \$489 billion
 - Approximately 99% for nutrition, crop insurance, conservation, and commodity programs
 - Approximately 1% for all other programs, including rural development, research and extension, forestry, energy, and others

2014 Federal Farm Bill

Energy Highlights

- Biorefinery Assistance Program
 - encourages cellulosic biofuel technologies and renewable chemical/biobased product manufacturing
 - \$100 million for 2014 and \$50 million for 2015 and 2016; \$75 million in discretionary funding per year for 2014-2018
- Repowering Assistance Program
 - encourages existing biorefineries to use biomass for heat and power
 - \$12 million for 2014; \$10 million in discretionary funding per year for 2015-2018

2014 Federal Farm Bill

Energy Highlights

- Biomass Crop Assistance Program (BCAP)
 - promotes production of cellulosic biofuels to meet Renewable Fuel Standard mandates; provides funding for crop and woody biomass production and collection harvest, storage, and transportation
 - \$25 million per year; 10%-50% required to be spent for collection, harvest, storage, and transportation (versus production)

2014 Federal Farm Bill

Energy Highlights

- Bioenergy Program for Advanced Biofuels
 - encourages production of advanced biofuels
 - \$15 million per year; \$20 million per year in discretionary funding
- Biomass Research and Development
 - supports advanced research to improve bioenergy
 - \$12 million over five years; \$20 million in discretionary funding per year

2014 Federal Farm Bill

Energy Highlights

- Rural Energy for America Program (REAP)
 - grant process for renewable energy system and energy efficiency projects; process now tiered by cost, higher cost is subject to more comprehensive application and evaluation process
 - \$50 million per year; \$20 million in discretionary funding per year

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- **Market Factors**
 - **Cost of Renewable Energy vs. Traditional Fuels**
 - **Demand for increased generation**



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Questions?