ENERGY & UTILITIES POLICY COMMITTEE

Wednesday, January 13, 2010
1:30 PM – 5:00 PM
Morris Hall

MEETING PACKET

Larry Cretul
Speaker

Stephen Precourt
Chair

The Florida House of Representatives

General Government Policy Council

Energy & Utilities Policy Committee

Larry Cretul
Speaker

Stephen L. Precourt
Chair

AGENDA

January 13, 2010
1:30 p.m. – 5:00 p.m.
Morris Hall (17 House Office Building)

Opening Remarks by Chair Precourt

Presentations from Interested Parties on Suggested Goals and Priorities to Develop a State Energy Policy:

- Dave Cartes, Ph.D., Director, Institute for Energy Systems, Economics and Sustainability, Florida State University
- Eric Draper, Executive Director, Audubon of Florida
- Adam Babington, Esq., Legislative Counsel, Florida Chamber of Commerce
- John D. Wilson, Director of Research, Southern Alliance for Clean Energy

Closing Remarks by Chair Precourt

Adjournment

303 House Office Building, 402 South Monroe Street, Tallahassee, Florida 32399-1300
(850) 487-1342

Florida House Energy & Utilities Policy Committee

Energy Policy Steps

Morris Hall (17 HOB)
1330-1700 January 13, 2010

David Cartes, Ph.D.
Director

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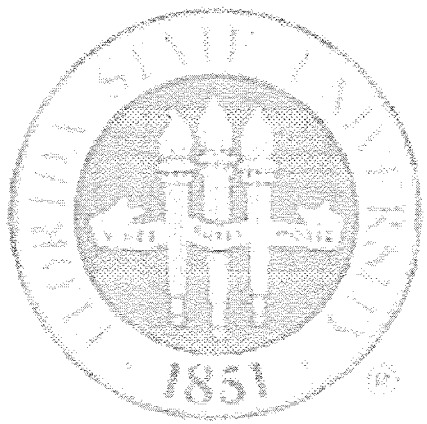
Today

- Introduction of IESES
- Background on Energy Policy Necessity
- Some thoughts on Policy Goal Setting



What Is Sustainable Energy?

Candidate Definitions for Sustainable Energy

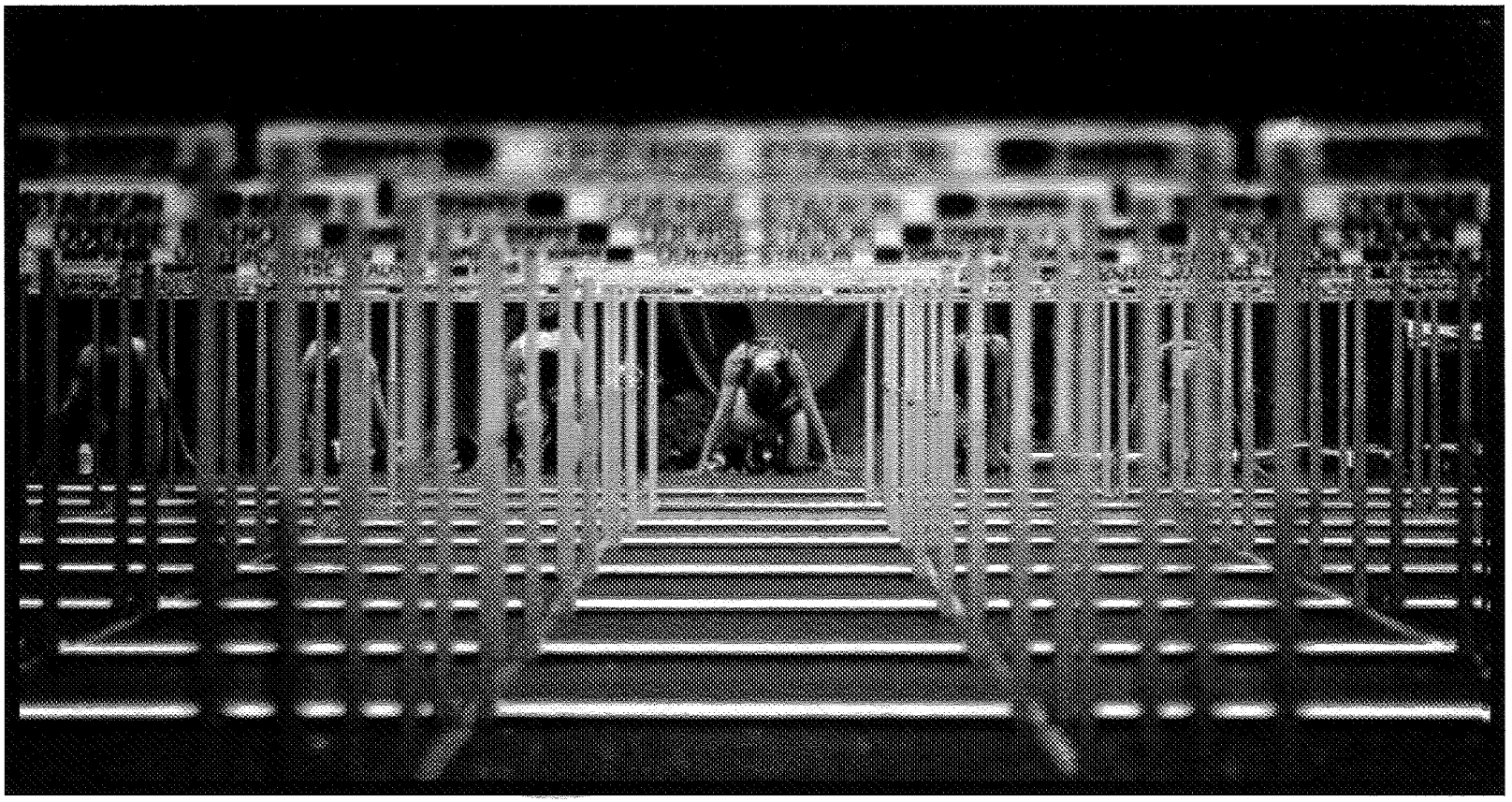
A living harmony between the equitable availability of energy services to all people and the preservation of the earth for future generations.
(*Sustainable Energy*, Tester et al, 2005)

--or--

Making sure my grandchildren, and my grandchildren's children receive the same or more satisfaction from energy and the environment as I do.
(Cartes)

Florida State University Sets a New Bar for THE Sustainable Energy Economy

Does creating a sustainable energy economy feel like this?



Honest Brokers, Pointing the way to Florida's Sustainable Energy Economy

The Institute for Energy Systems, Economics and Sustainability

Our Vision…

- A sustainable energy economy for Florida, the nation and the world
- To lead in creating technological, environmental and economic benchmarks

We are a public resource…

- Carry out scholarly basic research and analysis in engineering, science, infrastructure, governance and the related social dimensions
- Unite interdisciplinary researchers to address sustainability and global climate change

Our Goal…

- Informed governance
- Informed economics
- Informed decision making

GOVENMENTS & ENERGY SUSTAINABILT

Energy Sustainable Florida Communities

MEASURING ENERGY SUSTAINABILITY

A index of energy sustainability that measures local government activity in the following dimensions:

- **Energy & Climate Policy**
- **Comprehensive Plans & State and Federal Policy**
- **Zoning Regulations Subdivision Regulations and Permitting**
- **Land Use and Open Space**
- **Housing and Green Building**
- **Transportation**
- **Economic Development**
- **Energy Cost Reduction by Government**
- **Organization and Intergovernmental Relations**
- **Investing in Energy & Climate Change Competencies and opportunities**

RESEARCH QUESTIONS

Energy Implementation Local Government

What explains variation among governments' implementation of energy policy?

What role do governments play in fostering energy efficiency, conservation and renewable energy?

Adoption and Diffusion of Energy Policy & Innovation with Scientific Discovery

How do society's economic and environmental conditions influence innovation?

How do political Institutions and interest groups influence innovation?

How do Neighboring Government Initiativ influence innovation?

Significant Global Energy Events

Photo: Jerry Gay, Seattle Times, 1974

OPEC Sets 55 percent Minimum Tax Rate (1970)
U.S. Institutes Price Controls (1971)
Arab Oil Embargo Against U.S. (1973)
Kissinger Announces "Project Independence" (1974)
EPCA Authorizes Strategic Petroleum Reserve (1975)
Windfall Profits Tax (1980)
Iran/Iraq War – Oil Prices Doubled (1978-1980)
World Oil Glut - *$29 BBL* Oil – U.S. Synfuels Shutdown (1983)
Chernobyl Nuclear Accident (1986)
Alaska's Prudhoe Bay Production Peaks (1988)
Iraq Invades Kuwait – Prices Soar ($36 BBL) (1990)
Clean Air Act – Changes Gasoline & Diesel Fuels (1990)
U.S. Imports More Oil & Refined Product Than It Produces (1993)
Asian Financial Crisis – Oil Prices Plummet (1997-1998)
German Government/Utilities Agree to Phase Out of Nuclear Power (2000)
U.S. Petroleum Consumption – All Time High (19.7 Million BPD) (2001)
Terrorist Attacks on the U.S. (2001)

Recent Global Energy Events

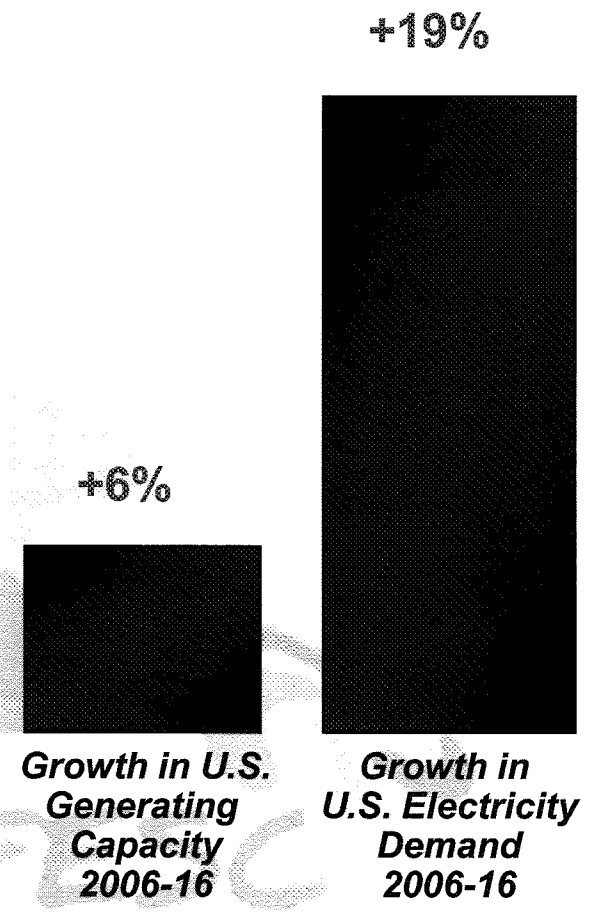
Foreign Oil Dependence Rises to 65 percent (2004)
Northeast Blackout Leaves 50 Million People in the Dark
Natural Gas Prices Triple from 1990 Levels
Oil Passes $50/Barrel
Gasoline Exceeds $3/Gallon
Hurricanes Damage Oil/Gas Rigs
Russia Halts Natural Gas to Ukraine
Venezuela Moves to Nationalize Resources
Oil Breaks $75/Barrel
Nigeria Kidnaps Oil Workers
Bolivia Secures Oil Fields
Experts State Oil Production May Have Peaked
Iran Threatens Nuclear Capabilities
Saudis Talk of Propping Up $55 Oil
Chad Orders Chevron to Leave
BP Forced to Repair Pipeline Leaks
China Extends Credit to Oil Nations
Iran, Russia, Others Discuss Gas OPEC
Texas Utilities Cancel 8 of 11 Coal Plants
Oil Breaks $83/Barrel
Recession Hits
Green Job Bubble Burst in Spain

2007

2009

North American Electric Reliability Council Finds More Power Is Needed – WHY?

- **U.S. baseload generation capacity *Electricity Demand is Far Outpacing Generation Growth* reserve margins have greatly declined**
  - 30-40% in early 1990s
  - 17% in 2006
- **Generation capacity to grow just 6% in the next 10 years while demand grows 19%**
  - 2006 North American Electric Reliability Council study

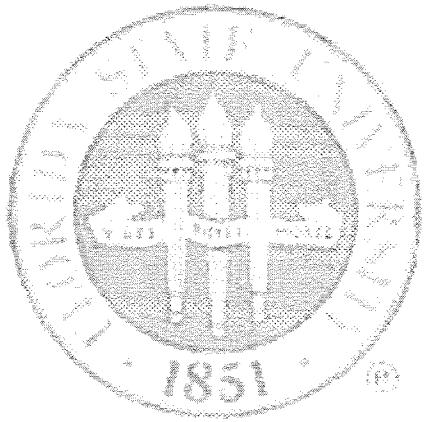


Courtesy: Peabody Energy, 2007

Steps in Creating Energy Policy

Step One: Define Clear STRETCH GOALS
Step Two: Develop Measurable Objectives Based on Valid Assumptions
Step Three: Integrate the Four "Ts" into the Strategic Plan (Policy)

- Targeting – FDLE vs. NGO
- Tools – Education vs. Regulation
- Timeline – Aggressive vs. Wait-and-See
- Tone – Buy-in vs. Authority&Compliance



An Example:
Energy Forms Face Limits in Supply & Price – Do We NEED Diversity?

ENERGY EFFICIENCY/DEMAND-SIDE MANAGEMENT/CONSERVATION

An important resource but insufficient to power the future

OIL

Consistently above $50/barrel; declining reserves; risky sources

NUCLEAR

Valuable but constrained due to safety and waste disposal concerns

HYDRO

No growth in supply

WIND

Limited availability; grid disruptions; erratic supply

ETHANOL

Clean but energy inefficient; strains food supplies; cellulosic key

NATURAL GAS

Consistently above $6/mcf; declining reserves; risky sources

COAL

Faces GHG, climate change, regulators, environmental organization challenges

Another: Energy Technology "Train Wreck" – State or Federal Solutions?

- Electricity rates – 19% increase over past 3 years
  - Maryland – 72% increase
  - Delaware – 60% increase
- Cost of new power plants
  - Coal - $3-7 billion
  - Nuclear - $4-8 billion or (MORE?)
- Rising costs = higher rates
- Life cycle costs – CO_2 and greenhouse gases
- Rates will increase for new baseload plants
- Congressional Inaction

Questions That Need to Be Asked NOW?

If you ask yourself why you are asking these, you will hopefully know your goals.

- What are Florida's Priorities? Economic Security? Secure Energy Sources? Reliable Grid? Public Health? Global Warming? Growth Management? Something Else?
- What are the roles of the PSC, DEP, Florida Energy & Climate Commission, Enterprise Florida, etc.?
- What is the base load prediction geographically?
- What are the total electric needs projected geographically?
- What are our drinking/gray/waste water needs? now, 15 years and 30 years?
- What are the land-use, environmental, and economic (competing food and forest product) implications of a massive energy crop industry in the state?
- What are our bio-fuel production capabilities?
- What are our Efficiency and Conservation capabilities?
- What is the impact of our carbon stream on industry? Jobs? GHG?
- How much of the total problem solution can come from biomass?
- What are the constraints to implementing the plan?
- How do we develop financial incentives within the Florida tax system to increase conservation of energy and water?
- Now you are ready to tackle: Sustainable &/or Renewable Energy Portfolio, Cap & Trade v. Fee (Tax)?

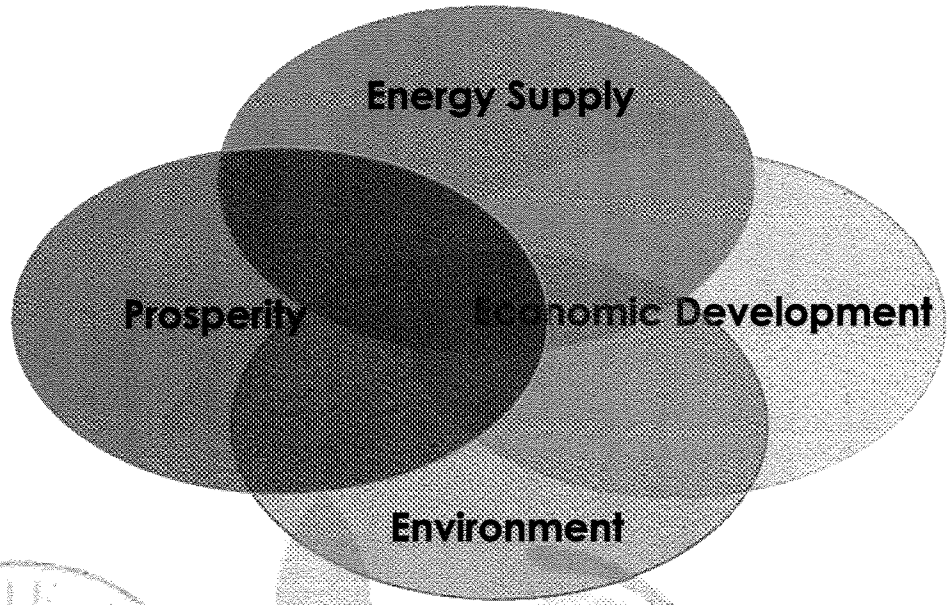
Path Forward

What are the policy STRETCH-GOALS at federal and state levels

- Invest in Advanced Technologies?
- In/Out state mix of Financing/Investment?
- State v/ Regional solutions?
- Capital Flight?
- Purchase Power?
- Regulatory certainty/uncertainty?
- Market Development?
- Workforce revitalization?
- Reliability?
- Energy Security?
- Nuclear vs. Renewables?

Path Forward - Summary

- Thank-you



Eric Draper

Audubon OF FLORIDA

Energy Policy and Environmental Security


Photo by Terry Brashear

Eric Draper
(850) 222-BIRD

Florida Energy Policy Has Much to Gain by Building on Already Established Goals

Strengthening Renewable Energy and Energy Efficiency Policy will contribute to all the goals:

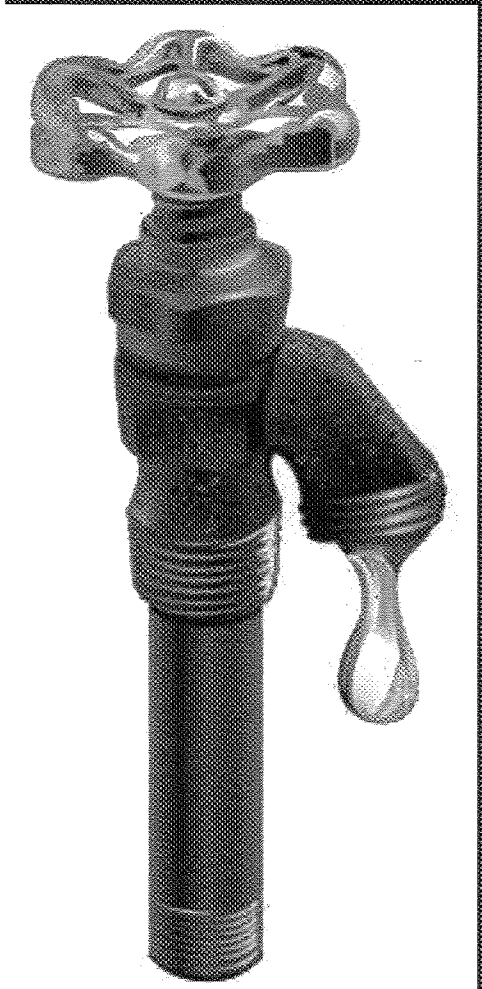
- **"To diversify the state's energy supplies"**
- **"To lessen dependence on foreign oil"**
- **"To reduce" and "mitigate the effects of climate change" and "improve environmental conditions"**
- **To improve economic conditions "encourage investment"**

State Energy Supply Diversity Objectives

- Reducing use of fossil fuels
- Reducing pollution related to fossil fuel use
- Reducing use of water resources related to cooling and production
- Reducing consumer exposure to price volatility and high fuel costs.

Note: Solar has no fuel costs/water use

Energy Policy Should Strengthen Energy & Water Efficiency Standards



Water and energy conservation are complementary.

Water movement and treatment demands huge energy inputs.

Energy production demands huge amounts of water.

Energy Independence Objectives

- Decrease the need to lease Florida's coastal waters for energy production.
- Reduce dependence on foreign oil.
- Provide economic stability from fluctuating international markets and volatile production areas.

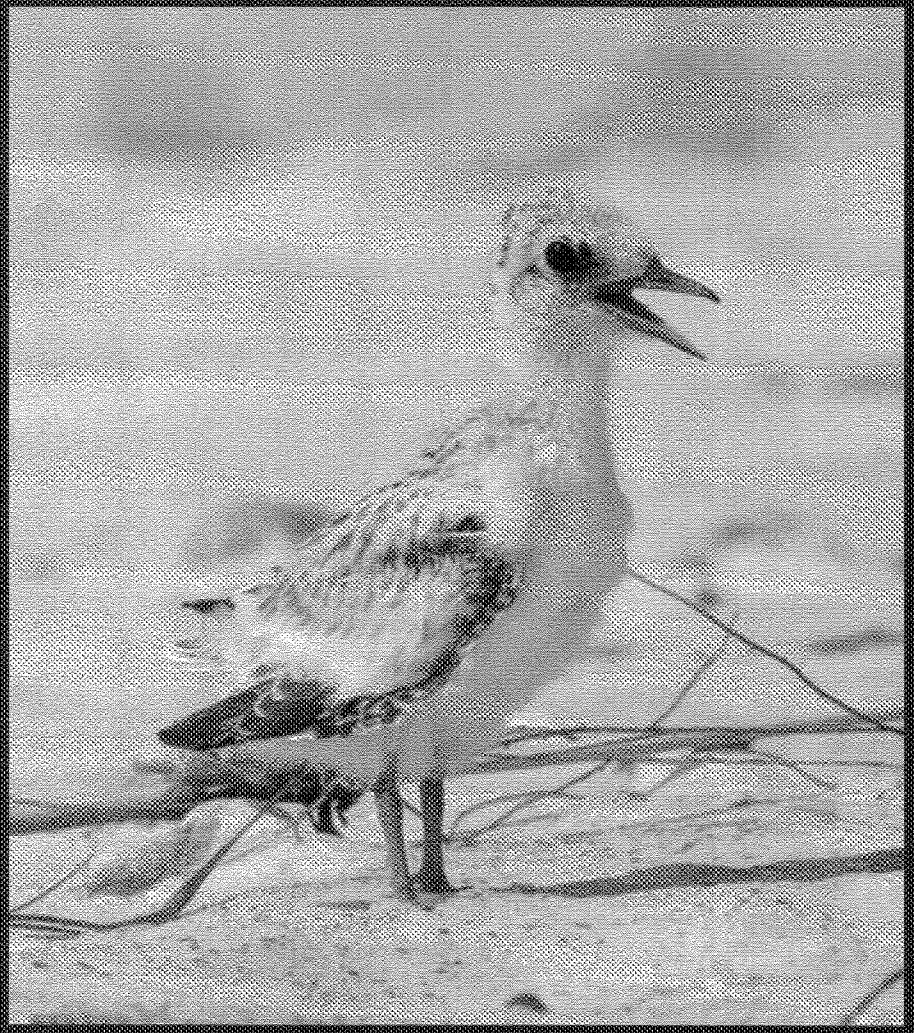
Climate Change Mitigation Objectives

- Reduce vulnerability to the impacts of climate change including sea level rise and extreme weather.
- Make Florida a leader in reducing greenhouse gases. The state is the third largest GHG emitter in the nation.
- Reap the economic benefits from leadership on climate and clean energy.

Climate change poses the greatest threat to biological diversity in human history

Photo: Mottled duck and brood on beach by C Laab

Protecting Florida



Least Tern chick on Fort Matanzas beach by Linda Martino

Florida is blessed with more than 1,200 miles of coastline and almost 4,500 square miles of estuaries and bays. 77% of Florida's population live in coastal counties.

Florida's low-lying coastal habitats and human populations will be increasingly at risk of sea level rise, erosion, extreme weather patterns, droughts, fires, increased invasive exotic species, and increased storm intensity and storm surge damage.

Sea Level Rise

Florida scientists who comprise the Miami-Dade Climate Change Task Force, led by University of Miami Chair of Geology Hal Wanless, have found:

"With what is happening in the Arctic and Greenland, [there will be] a likely sea level rise of **at least** 1.5 feet in the coming 50 years and a total of **at least** 3-5 feet by the end of the century, possibly significantly more. Spring high tides would be at +7 to +9 feet.

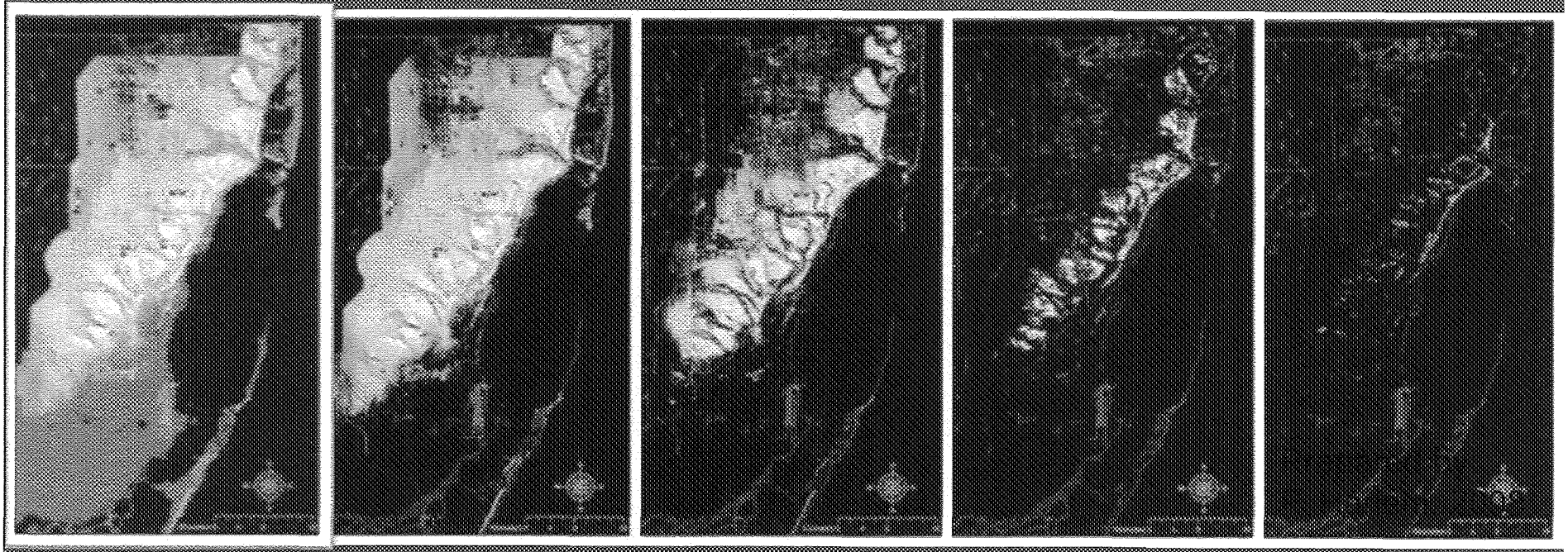
"This does not take into account the possibility of a catastrophically rapid melt of land-bound ice from Greenland, and it makes no assumptions about Antarctica."

"The projected rises will just be the beginning because of further significant releases from Greenland and possibly Antarctica."

What South Florida May Experience

Miami-Dade County – land above high tide with sea level rise

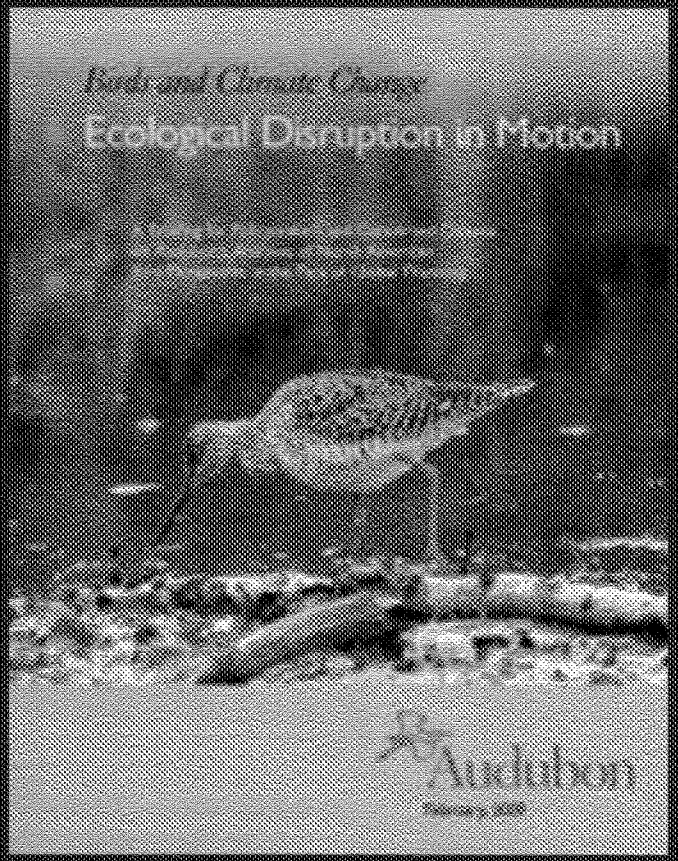
0 ft + 3 ft + 6 ft + 9 ft + 12 ft

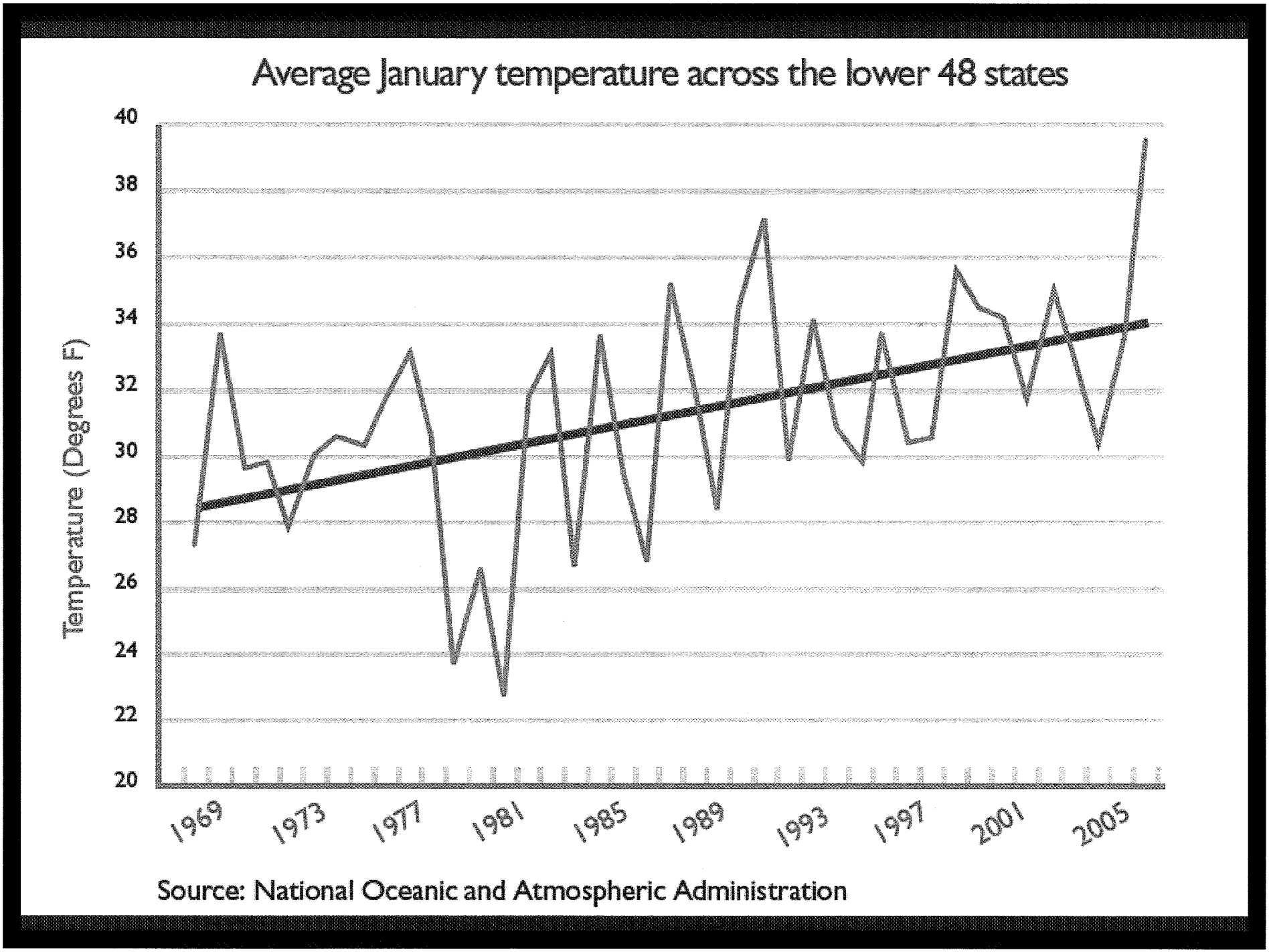


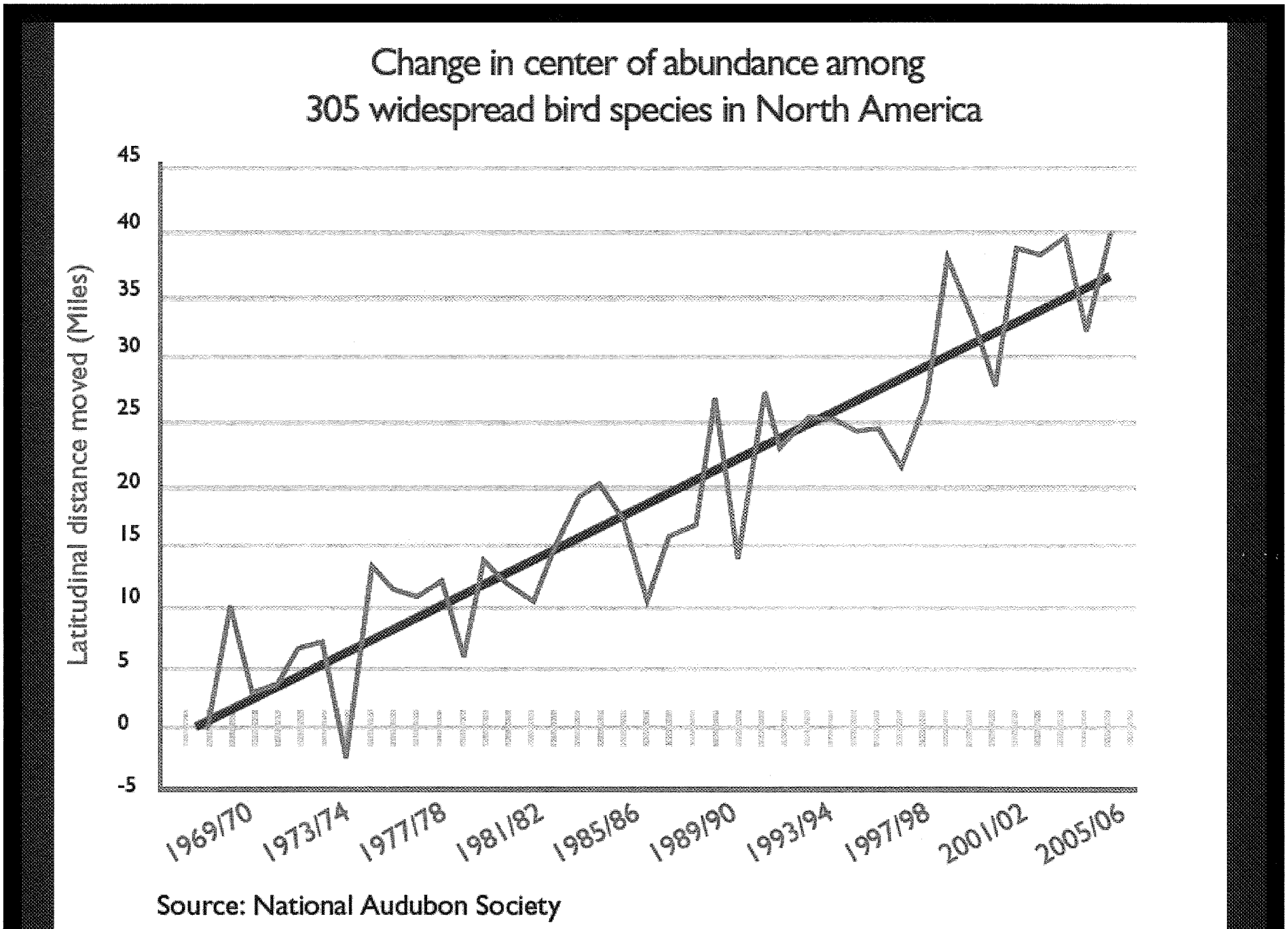
As presented by Hal Wanless at the Everglades Coalition Conference—January 2010

Climate Change Effects are Happening Now

Audubon's scientific analysis of 40-years of Christmas Bird Count data and winter temperature patterns in January demonstrated a 4.5 degree Fahrenheit increase over the 40-year period and found that nearly 60% of the 305 species found in North America in winter are on the move, shifting their ranges northward by an average of 35 miles.




Average January temperature across the lower 48 states
Temperature (Degrees F)
40
38
36
34
32
30
28
26
24
22
20
1969
1973
1977
1981
1985
1989
1993
1997
2001
2005
Source: National Oceanic and Atmospheric Administration

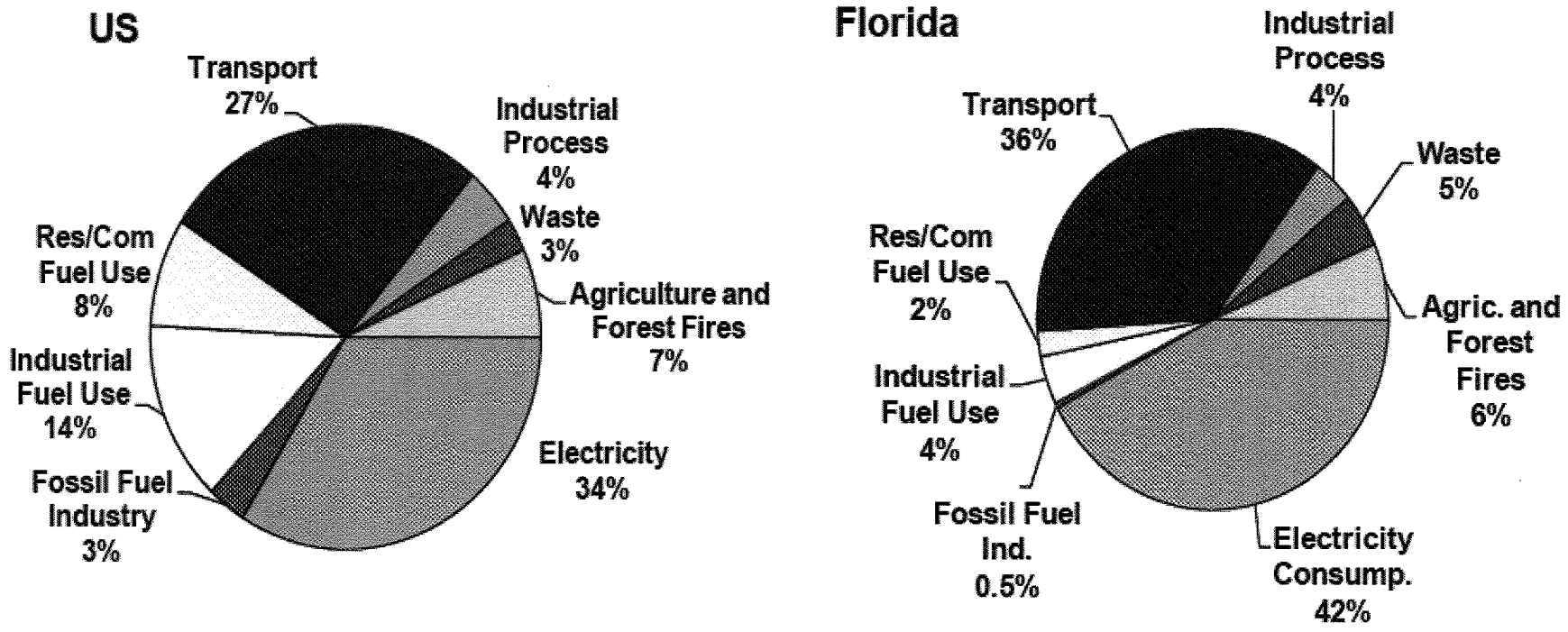

Change in center of abundance among
305 widespread bird species in North America
Latitudinal distance moved (Miles)
45
40
35
30
25
20
15
10
5
0
-5
1969/70
1973/74
1977/78
1981/82
1985/86
1989/90
1993/94
1997/98
2001/02
2005/06
Source: National Audubon Society

Economic Objectives

- FS. 377.601 "implementation of alternative energy technologies can be a source of new jobs and employment opportunities for many Floridians."
- Renewable policy that establishes a renewable energy market in Florida will provide business with a level playing field and security needed to invest in the state.
- Efficient and renewable energy is a means of creating clean, green energy jobs in Florida for manufacturers, trades and innovators.

Tackling the Major Sectors: Transport and Electricity

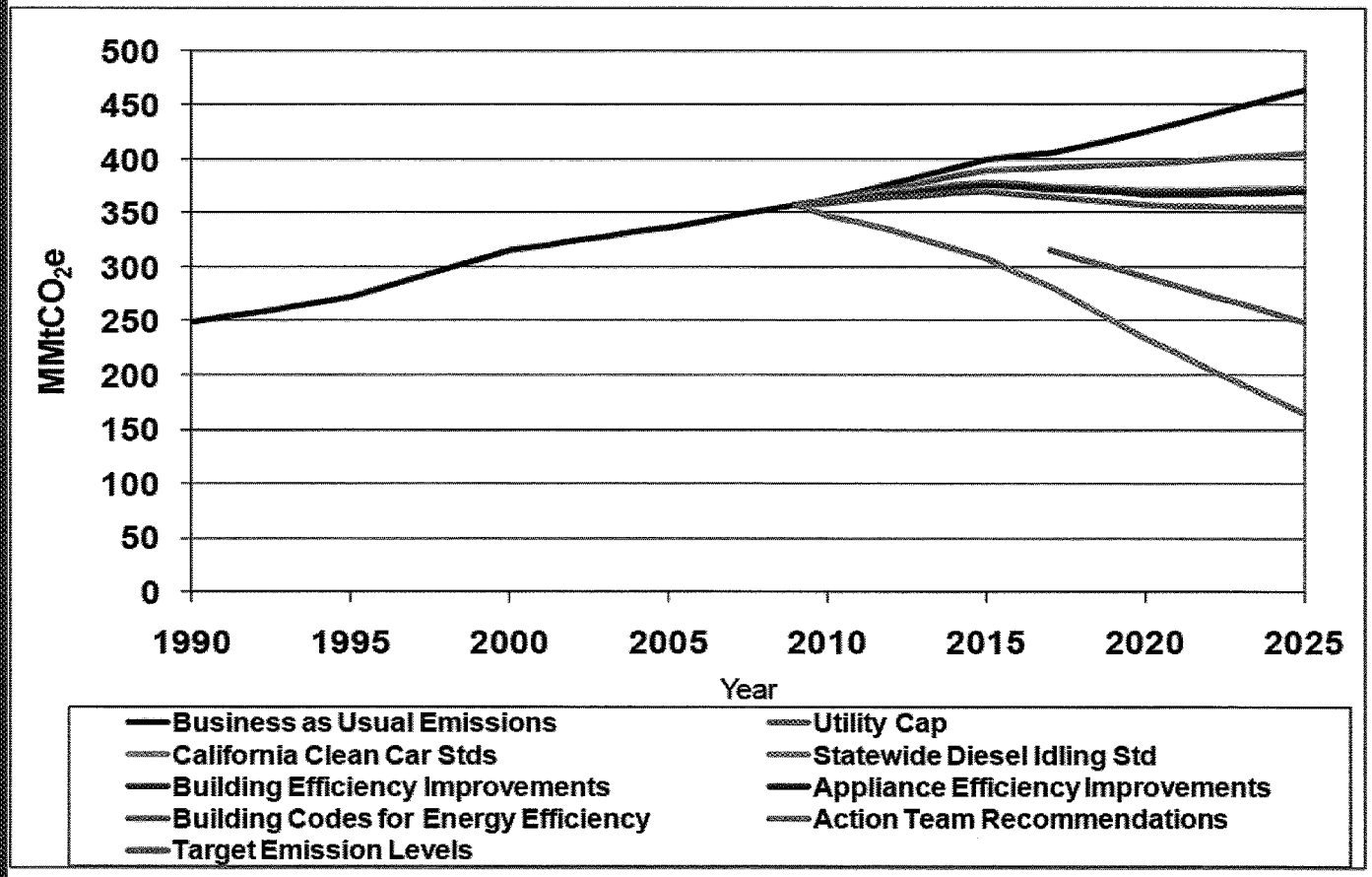
Figure EX-2. Gross greenhouse gas emissions by sector, 2005: Florida and U.S.



Source: Florida's Energy and Climate Change Action Plan, October 2008

Recommendations Exist

Figure EX-3. Annual greenhouse gas emissions: reference case projections and Action Team recommendations (consumption-basis, gross emissions)



MMtCO2e = million metric tons of carbon dioxide equivalent.

Source: Florida's Energy and Climate Change Action Plan of 2009

Regulatory Barriers

- *Affordable* and *Reliable* are outdated as the twin tests of electrical energy policy.
- Affordable has to be viewed in a longer term and weighing the risks of taking no action to reduce GHGs.
- Reliable has to be viewed in the longer term especially with regard to fuel and future regulation.

Audubon OF FLORIDA

Energy Policy Can and Should Provide Environmental Security

Thank you

Florida Energy Policy

House Energy & Utilities Committee

FLORIDA CHAMBER of Commerce

A Business Plan for Florida's Future

1. We are at an **Economic Crossroads** – need to act **Long-Term**

2. We need **One Agenda** for Florida's future

3. Need transparency - **Measure Results** and continuously close gaps

4. We must align and **Focus Resources** (both public and private) to achieve Florida's priorities for the future

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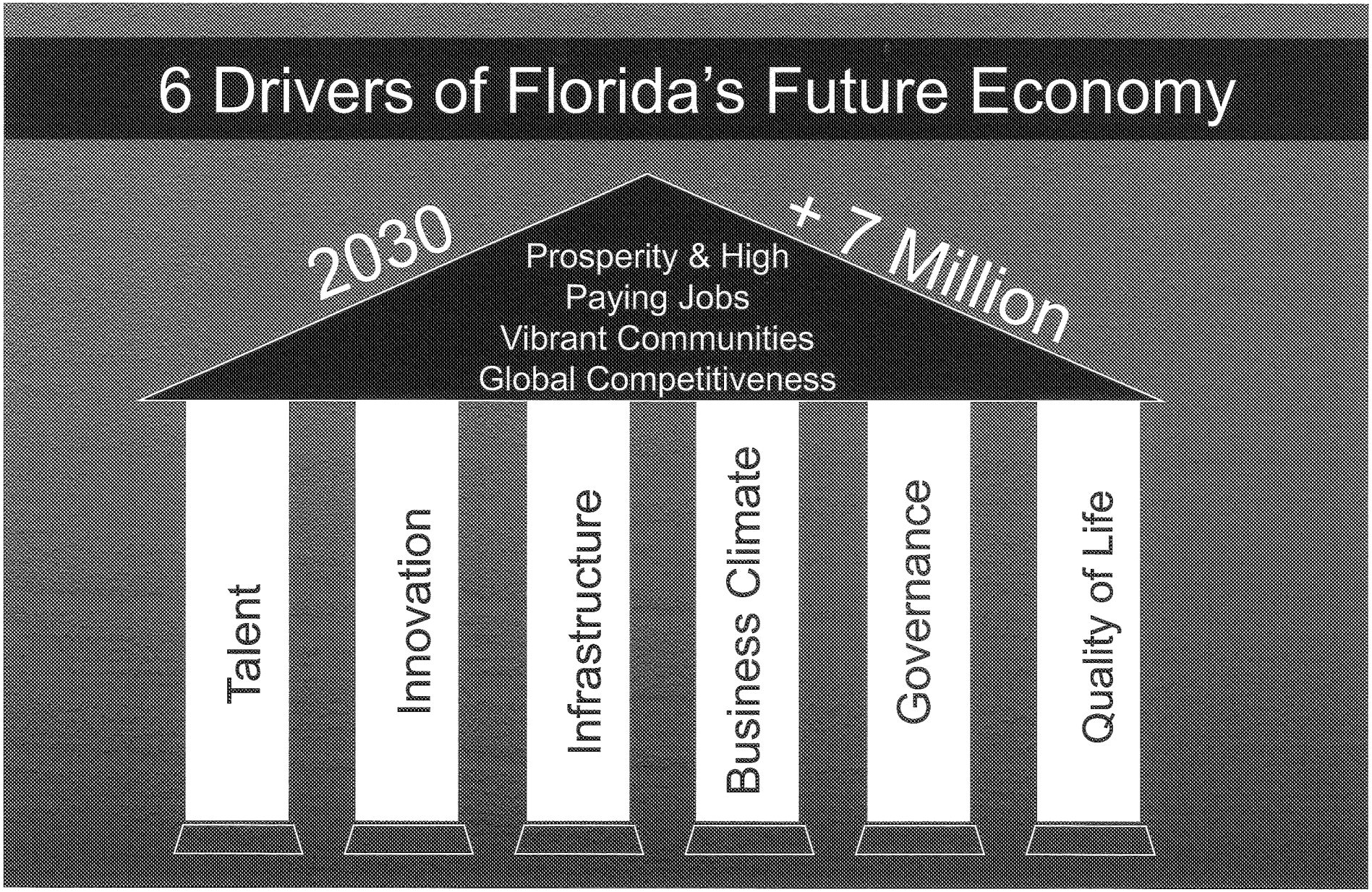
6 Drivers of Florida's Future Economy



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Growth Leadership & Capacity

- Talent*
- Innovation*
- Infrastructure
- Business Climate
- Governance
- Quality of Life

Growth Leadership & Capacity

Transportation
Communications
Housing
Energy
Water
Conservation
Environment
Preparedness

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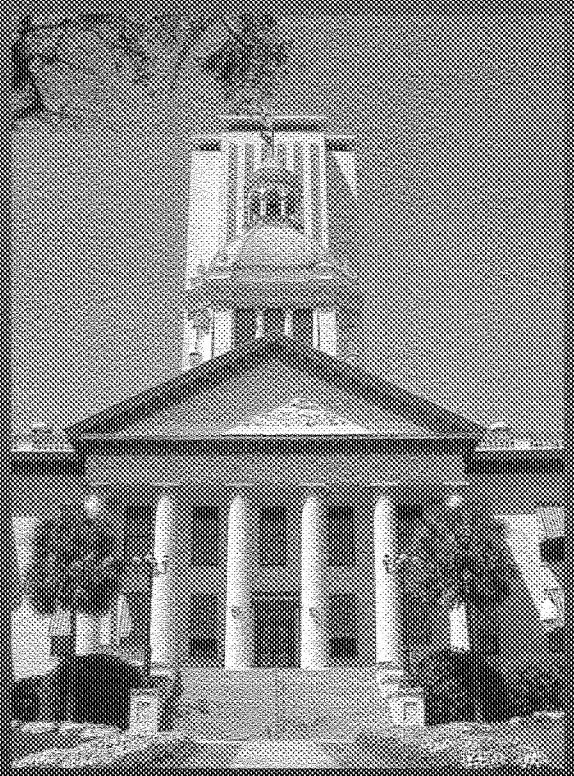
Florida's Business Advocate

Elements of a State Energy Policy

3 Principles:

- **Comprehensive Understanding**
  - 5-year review
- **Comprehensive Vision**
  - 20+ year planning horizon
  - Diversity and stability
- **Cost Consciousness**



Public Service Commission

- Ensure high degree of public confidence in a neutral and detached regulatory process

- Refocus the PSC on its core mission: Economic Regulation

  – Measurable results of effective economic regulation:
    - Reliable service
    - Predictable rates
    - Reasonable cost

Elements of a State Energy Policy

7 Policies:

- Expanded offshore exploration and production
- Investment in renewable energy
- Expedited siting and permitting
- Compatible land use policies
- Support for nuclear and clean coal
- Emphasize energy efficiency
- Oppose federal mandates

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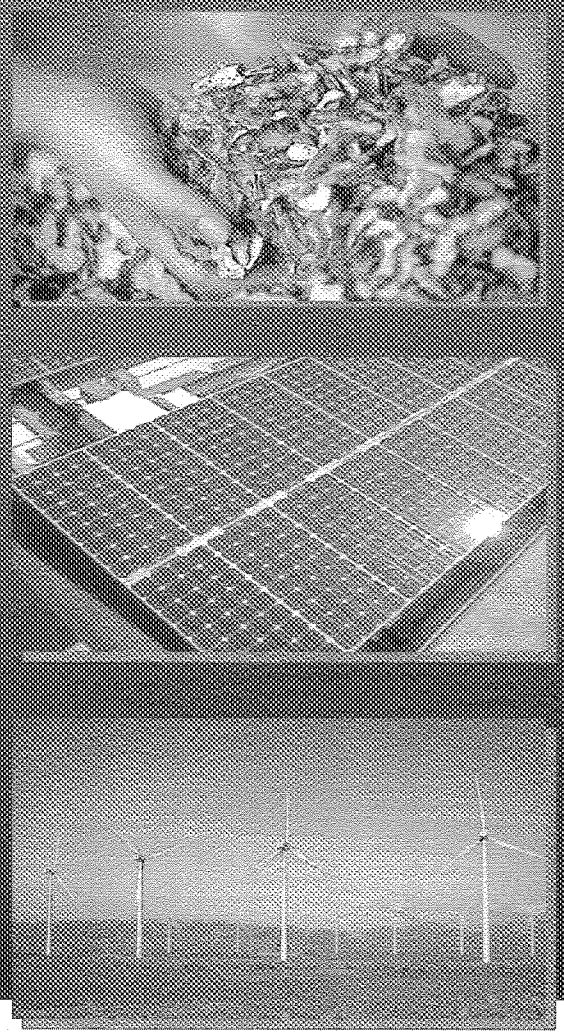
Offshore Energy and Production

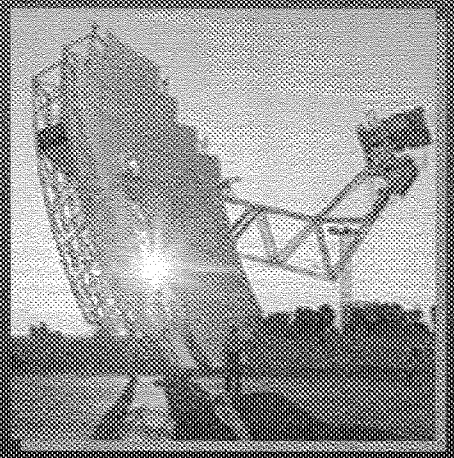
- Greater domestic oil and natural gas exploration and production must be a part of any statewide policy.
- Technology and techniques have evolved over the last 20-30 years; so too should state policy.
- Florida should allow oil and gas production in state waters, as long as:
  - Appropriate environmental safeguards are in place;
  - Drilling operations do not interfere with the military; and
  - Permanent drilling structures are not visible from shore.

Renewable Energy



- Opportunity for economic development through new jobs and new investment
- Available technology and sources must be compatible with state policy
- Cost containment measures to minimize impact on customers must be part of the equation
- Level playing field: Set asides that favor one technology over another should be discouraged
- Goals must be clear: energy independence & security, clean energy, reliability, and affordability

Renewable Energy Ideas



- Examine tools providing greater financial incentives for renewable energy providers
- Provide for cost recovery to generate additional megawatts from renewable energy projects to encourage voluntary investment

Expedited Siting and Permitting

- Allow expedited permitting for projects that result in:
  - Production of biofuels;
  - Construction of biofuel or biodiesel processing facilities; or
  - Construction of facilities generating renewable energy.
- Immediate policy change that would promote job creating opportunities and encourage investment

Compatible Land Use Policies

- HB 697 Rulemaking by DCA
- State and local consistency in objectives
- Pro-active planning needed to anticipate opportunities
- Siting issues:
  - Land use
  - Water supply & discharge
  - Public lands
  - Transmission
  - Public opposition

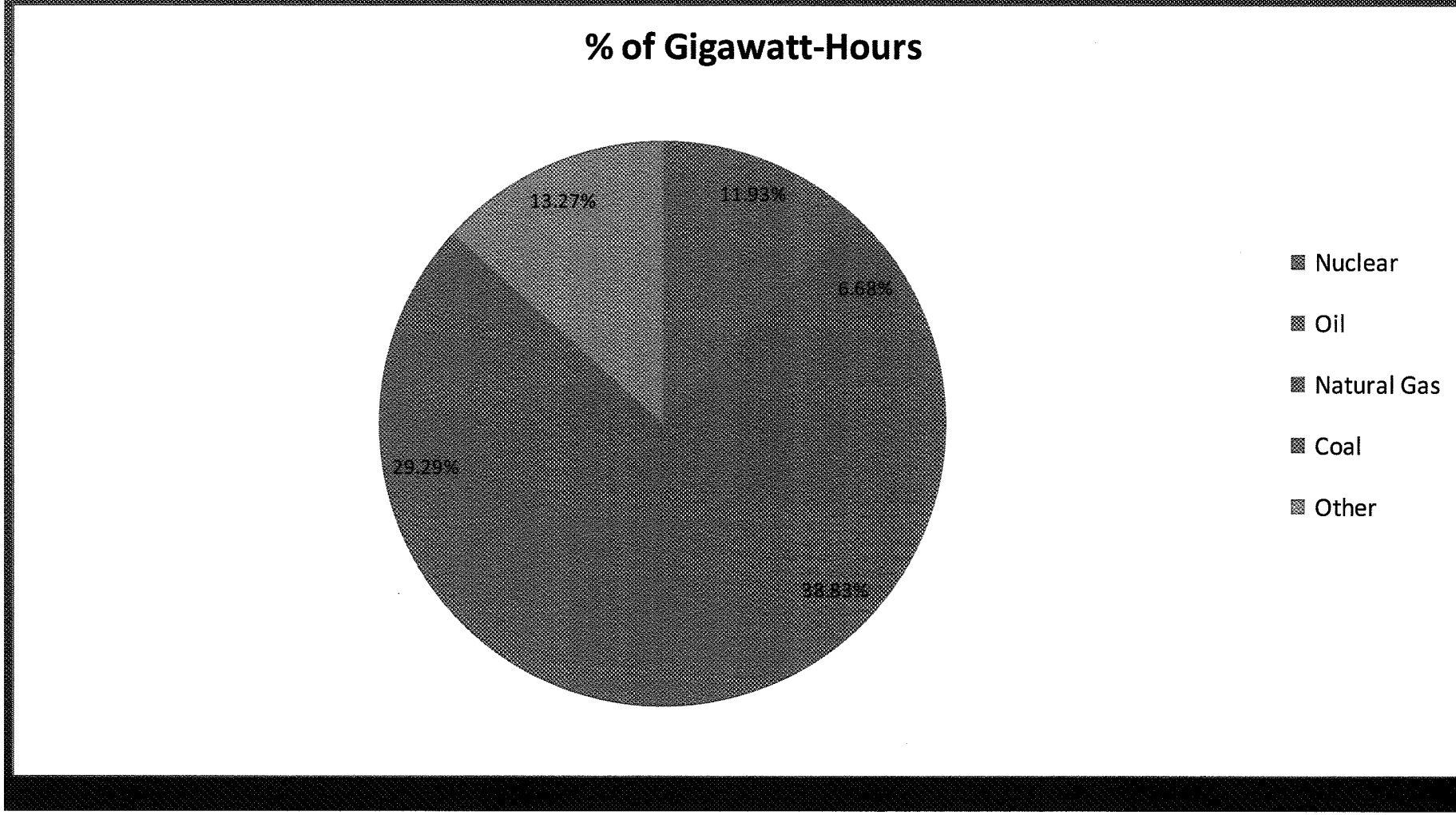
Land Use Issues in Siting Energy Facilities

- Growing population = Less available land
- Siting opportunities limited by local land use designations
  - 17%* of counties have existing zoning/land use categories allowing energy facilities
  - 69%* of counties have existing conditional use or case-by-case approval authority for energy facilities
  - 14%* of counties must revise their comprehensive plans to allow energy facilities (requiring DCA approval)
- Consider classification of energy facilities as "essential services"
- Other considerations
  - Power Parks
  - Proximity to load and transmission lines
  - Preserve open lands for new biomass, solar, and wind facilities

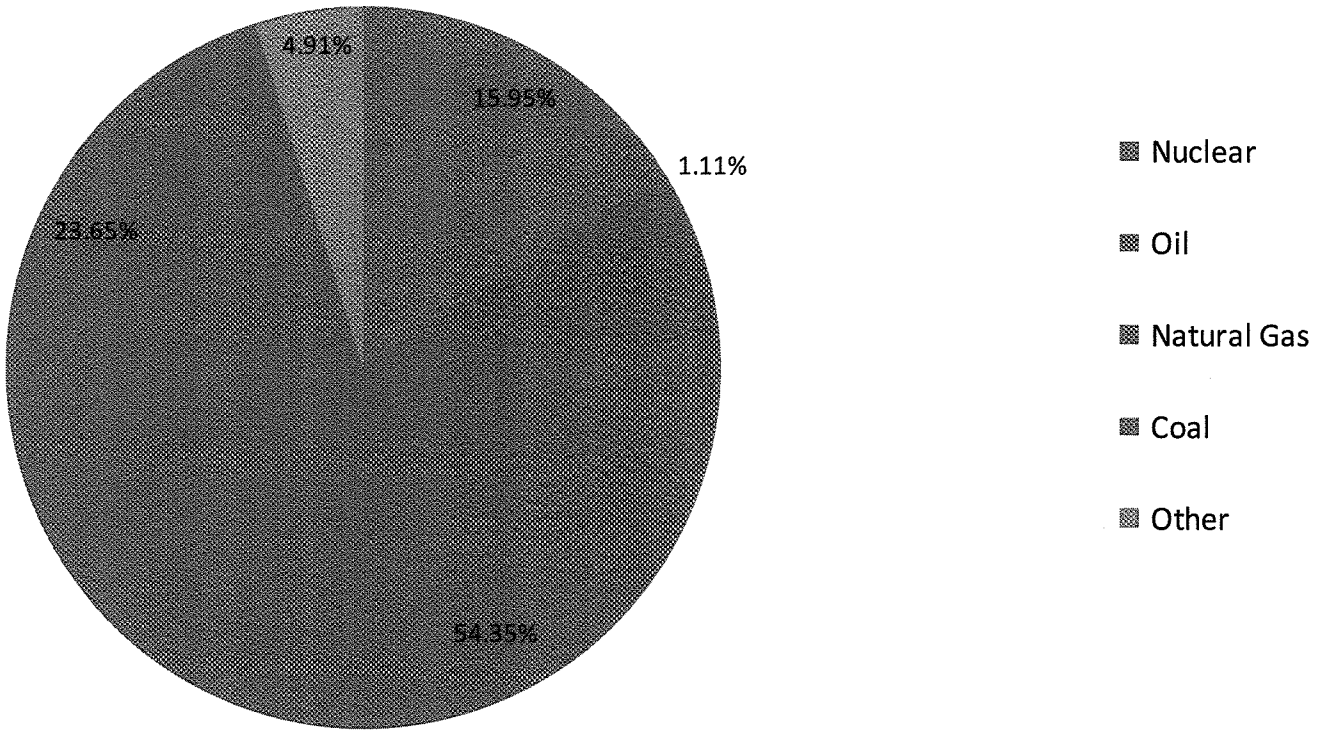
Diversity in Fuel Sources

- Florida needs fuel diversity and the use of all domestic resources, including renewables, natural gas, nuclear and coal.
- Energy, economic and environmental policies are inextricably linked so Florida's policies should be developed with that in mind.
- Energy markets are global:
  - Worldwide NG and LNG demand driving up prices;
  - Executive actions blocking new coal and LNG pipelines;
  - Increased prices putting a strain on Florida consumers.
- Given its abundance, cost, and energy security benefits, additional nuclear and clean coal must be a part of Florida's future energy mix.

Fuel Sources - 2007



Fuel Sources - 2017



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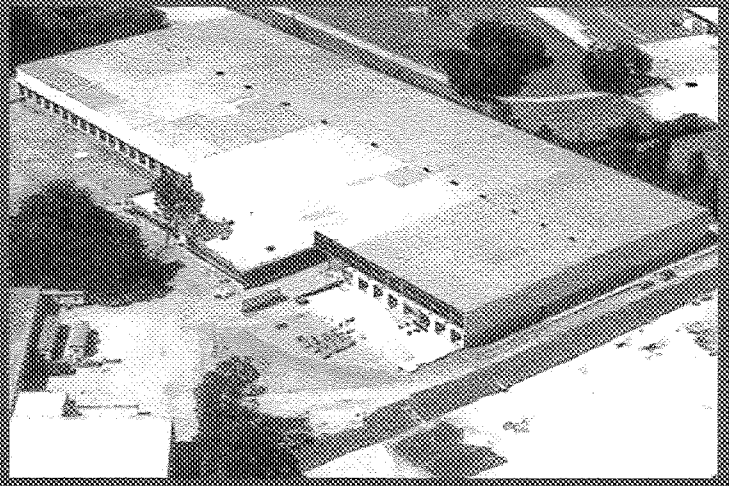
Energy Efficiency

Aggressive campaign for technologies:

- Smart buildings
- Smart appliances
- Smart electric meters and grid
- Smart rates



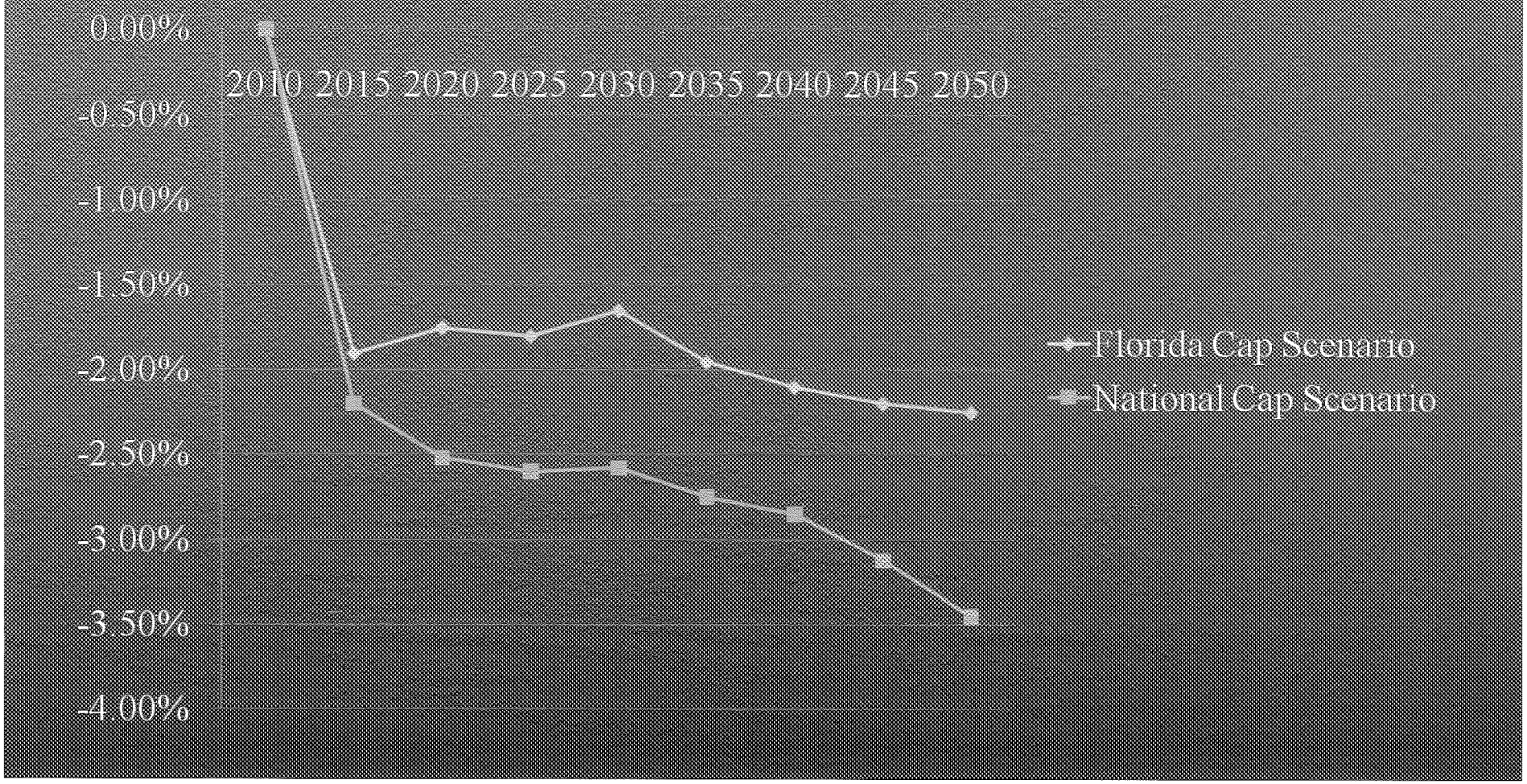
Use of "smart technologies" and new rate designs can:

- Allow consumers to control their energy usage to save money
- Avoid wasting energy
- Control how and when appliance do their jobs
- Help utilities efficiently operate their systems and maintain reliability
- Help keep supply and demand in balance
- Support more efficient use of generating resources

Dangers of Federal Mandates

- Proposed CO_2 Legislation:
  - Estimate 10% - 35% cost increase for residential customers by 2025
  - Forced closure of working assets
- Potential negative impacts on key Florida industries
- Confusion of overlapping regulations
- Lack of international would create a competitive disadvantage for developing nations
- EPA Endangerment finding may impose command and control federal regulations without legislation

Change in State Gross Product



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Goals of Climate Policy

- Protect Florida's economy against one-size-fits-all federal mandates while avoiding unilateral regulations;
- Promote sustainable approaches to reducing global greenhouse gas emissions;
- Preserve and enhance our economic prosperity and energy security; and
- Provide certainty for customers and utilities in providing reliable and affordable energy for our nation.

Questions & Comments

ababington@flchamber.com

FLORIDA CHAMBER of Commerce

cleanenergy.org

Southern Alliance for Clean Energy

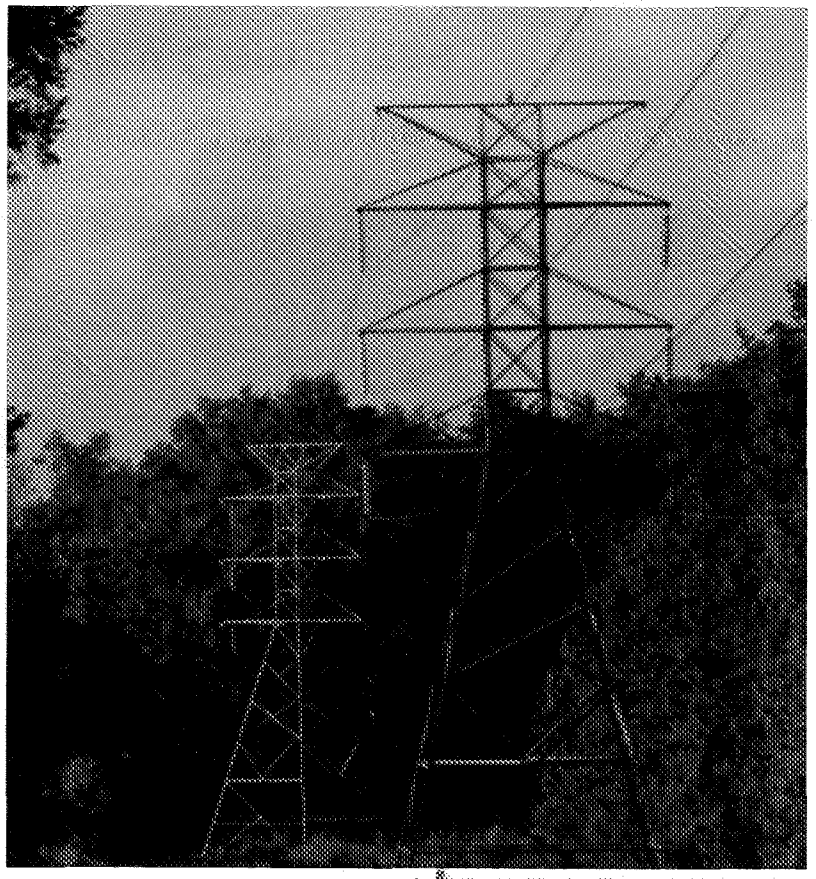
Florida Energy Policy Discussion

Florida House of Representatives
Energy & Utilities Policy Committee

John D. Wilson, Research Director
January 2010

Opening Comments

- **Public utilities – government control over rates to protect public – *as consumers***
- **20th Century – universal service goal met**
- **Gradually, interests of customers more at odds with each other**



Opening Comments

- 21st Century – technological opportunities for public to be *producers* of energy resources
- Florida has some success with accessing distributed (public produced) resources
- Other states and nations are using these resources much more effectively
- New public utility paradigm

State Comprehensive Plan: Energy Goal

- **Florida shall reduce its energy requirements through enhanced conservation and efficiency measures in all end-use sectors and shall reduce atmospheric carbon dioxide by promoting an increased use of renewable energy resources and low-carbon-emitting electric power plants.**
  FLA. STAT. § 187.201(11)(a)

- **10 policies describe how this goal is to be achieved**

- **However, the State Comprehensive Plan is a "direction-setting document" (§ 187.101) and recent experience suggests that it is disregarded in the practice of setting actual policy.**

Public Utility Policy: Statements of General Policy and Intent

- **Florida Statutes Chapter 366, Public Utilities, contains several statements of policy and intent**
  - 366.03 – General duties of a public utility
  - 366.04-5 – Jurisdiction and powers of Florida PSC
  - 366.041(2) – Regarding adequate service
  - 366.81 – Regarding demand-side renewable energy systems and conservation systems
  - 366.92 – Regarding development of renewable energy policy
- **Otherwise, Chapter 366 includes an extensive number of specific provisions**
- **At times, these provisions are interpreted as reflecting general legislative intent**

New York 2009 State Energy Plan: Policy Objectives

- **Assure reliable energy and transportation systems**
- **Significantly reduce greenhouse gas (GHG) emissions**
- **Address affordability concerns and improve economic competitiveness**
- **Reduce health and environmental risks**
- **Improve energy independence and fuel diversity with in-state energy resources**

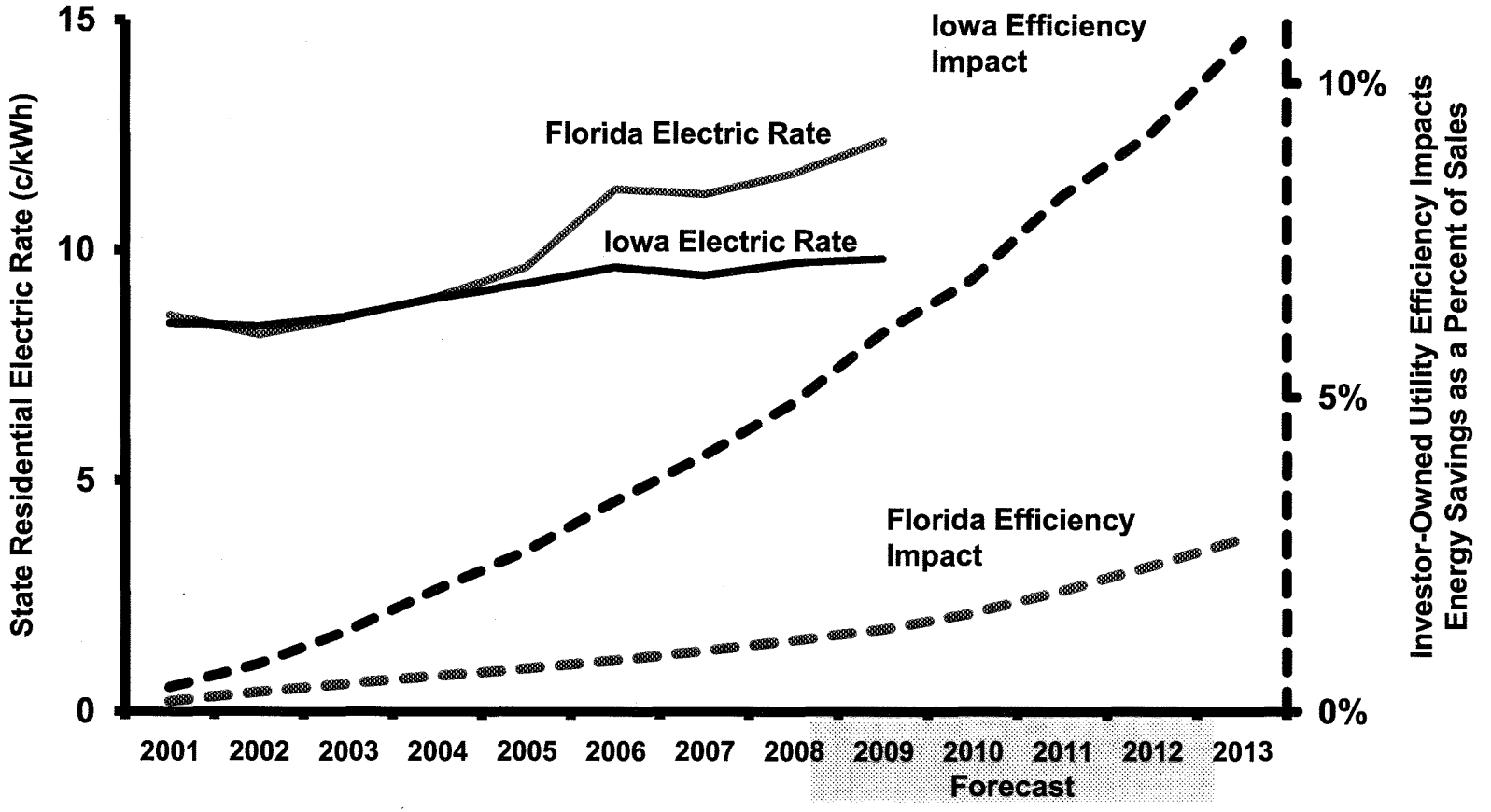
Paraphrased from: State of New York, *2009 State Energy Plan*, executive summary.

State Comprehensive Plan: Economy Goal

- **Florida shall promote an economic climate which provides economic stability, maximizes job opportunities, and increases per capita income for its residents.**
  FLA. STAT. § 187.201(21)

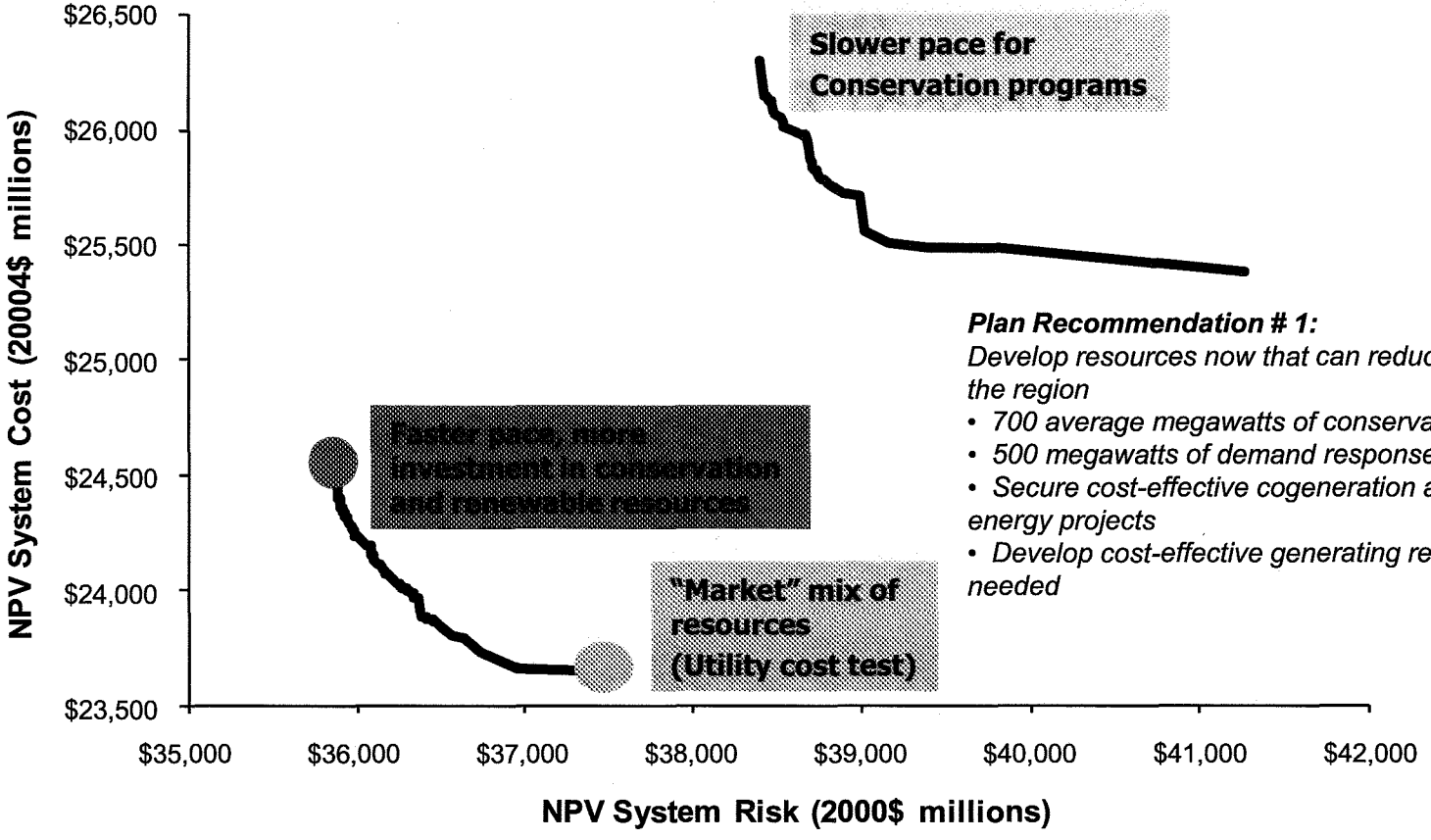
- **Comment: In the context of energy policy, consider:**
  - "Economic stability" → System reliability, reduced risk of price spikes
  - "Maximizes job opportunities" → In-state energy resources are not given any preference in state energy policy
  - "Per capita income" → Focus on rates, rather than bills, is like a focus on hourly wages, rather than total income

Affordability & Economic Competitiveness



Source: Analysis of data from Iowa Utilities Board, Florida Public Service Commission, and the US Energy Information Administration.

Pacific Northwest: Managing Cost *and* Risk



Plan Recommendation # 1:
Develop resources now that can reduce cost and risk to the region

- *700 average megawatts of conservation, 2005 - 2009*
- *500 megawatts of demand response, 2005 - 2009*
- *Secure cost-effective cogeneration and renewable energy projects*
- *Develop cost-effective generating resources when needed*

Source: The Fifth Northwest Electric Power and Conservation Plan, 2005

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Suggested Components of Affordability and Competitiveness

- **Manage and balance:**
  - Customer bills (Rates *and* avoiding waste)
  - Risk of rate spikes
  - Job creation
  - Use of in-state energy resources
- **Ensure system reliability**

One Additional Theme: Utility Commissions are the Regulators of GHG Emissions

Florida Climate Action Team Policies: Share of Potential Emission Reductions	
Renewable energy in electric sector	36%
Energy efficiency in electric and natural gas sectors	24%
Lower emission generation in electric sector (CHP, nuclear, & coal)	5%
Policies within Florida PSC jurisdiction	**65%**
Policies outside Florida PSC jurisdiction	*35%*

Also, consider:

- Electric or plug-in hybrid electric vehicles
- Sustainability of biopower fuels (affects environment, system reliability)
- Water use by power plants (affected by temperature, sea level, drought)

Source: Florida Climate Action Team, Florida's Energy and Climate Change Action Plan (2008).