




GDS Associates, Inc. Presentation to the City of Gainesville on Supply-Side and Demand-Side Options

March 21, 2006

GDS Associates, Inc.
Engineers and Consultants

Overview of GDS Presentation

1. Demand Side Policy Recommendations to the City Commission
2. Supply Side Factors Considered by GDS
3. Recommendations






Demand-side Policy Recommendations

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GDS Findings On the ICF DSM Analysis

- GDS has updated our review to reflect the DSM findings in the ICF Final Report of March 1, 2006 (see handout)
- ICF analysis is a good start
- ICF did not examine many cost effective measures
- Applicability factors are too low
- ICF did not examine demand response options
- ICF did not examine the industrial sector
- Conclusion: there is much more cost effective DSM and demand response savings

#1 – Adopt a Policy to Use the Total Resource Cost Test (TRC) for DSM

- The Total Resource Cost Test (TRC) compares supply-side and demand-side measures on a level playing field
- A DSM option has a TRC benefit/cost ratio greater than 1.0 if it is less expensive than generation options
- Need to pass a policy mandating the use of the TRC test for the City
- As Commissioner Nielson said, need to “move full bore on implementation of DSM”

#2 – Adopt a Policy to Assess Additional Load Reduction from DSM & Demand Response Programs

- **City Commission needs to consider new policies to help reduce future electric load growth (and adopt where appropriate)**
- **ICF DSM study is a good foundation, but range of demand-side options examined is too narrow.**
- **There is more load reduction potential from demand response programs (not examined by ICF)**
  - Time-of-use rates (Mr. Pickles said that good price signals are important)
  - Interruptible rates
  - Real time pricing
- **Solar water heating can be cost effective (Mr. Pickles said on March 6th that he does not know why Lakeland finds this option to be cost effective)**
- **Refrigerator and room A/C "Buyback" programs not examined by ICF**
- **Many other DSM technologies not examined by ICF (high efficiency pool pumps, etc.)**
- **Mr. Pickles stated in his March 6th presentation that he is sure that there are additional DSM measures that would have an incremental benefit (at 1 hour 13 minutes of DVD of presentation). He also noted that they may not have always selected the best technology.**

#3 – Adopt a Policy for GRU to Pursue Maximum Achievable Cost Effective DSM & Demand Response

- City needs to complete examination of cost effective DSM and demand response measures not examined by ICF, and examine ICF's applicability factors
- Commission needs to approve a policy to pursue the maximum achievable cost effective DSM & demand response programs
- GRU then needs to develop a plan to achieve this goal of achieving maximum DSM savings
- Pursue maximum achievable demand response savings (time of use rates, inverted block rates, interruptible rates, hook-up fees, etc.)
- GRU then needs to implement this plan

#4 – Adopt a Policy to Determine Avoided T&D costs for DSM and Demand Response Programs

- ICF said in March 6th presentation that it is appropriate to include avoided T&D costs in DSM benefit/cost analyses
- ICF said that this was a legitimate point for GDS to raise in our review
- GRU said there are likely no T&D avoided costs
- Other Florida utilities recognize avoided T&D costs

#5 – Adopt a Policy to Include Portfolio Diversification & Water Savings Benefits of DSM & Demand Response

- In economic analysis models, explicitly consider benefits of DSM and demand response programs to account for non-energy benefits:
  - Reduced power plant emissions
  - Lower risk with dispersed DSM investments throughout residential, commercial and industrial buildings
  - Reduced water use due to postponement of new generation
- Many utilities use a non-energy benefits adder to capture these benefits
- Adopt a policy to add 15% to energy savings benefits to account for these additional non-energy benefits






Supply-side Findings

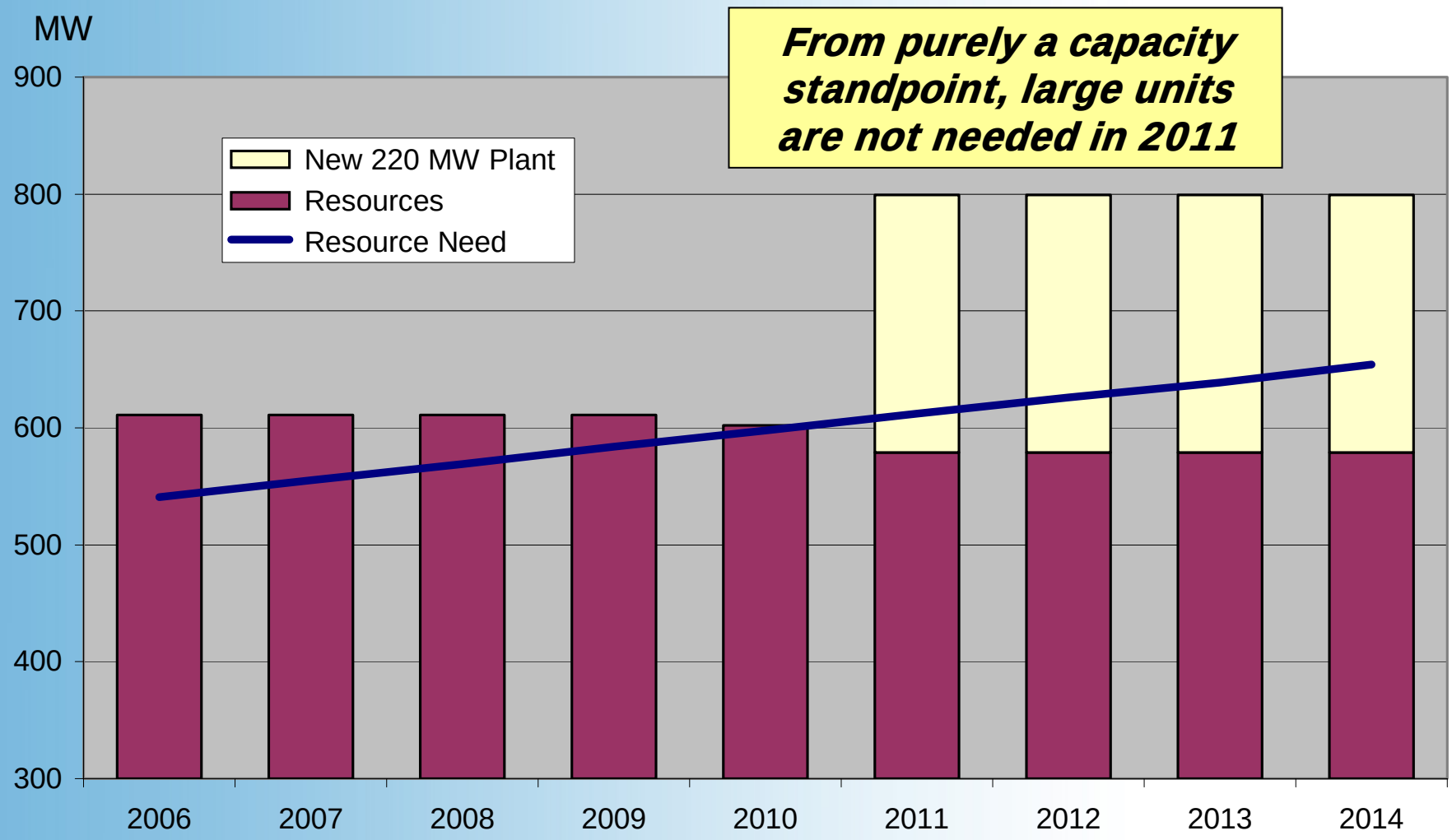
Significant Supply Side Factors Examined by GDS

1. Breadth and Timing of Options Under Consideration
2. Magnitude of Capacity Need
3. Nature of Energy Needs
4. Technology & Operational Risk
5. Market Dependence/Interaction
6. Planning Process

1. Breadth and Timing of the Supply Side Options Considered

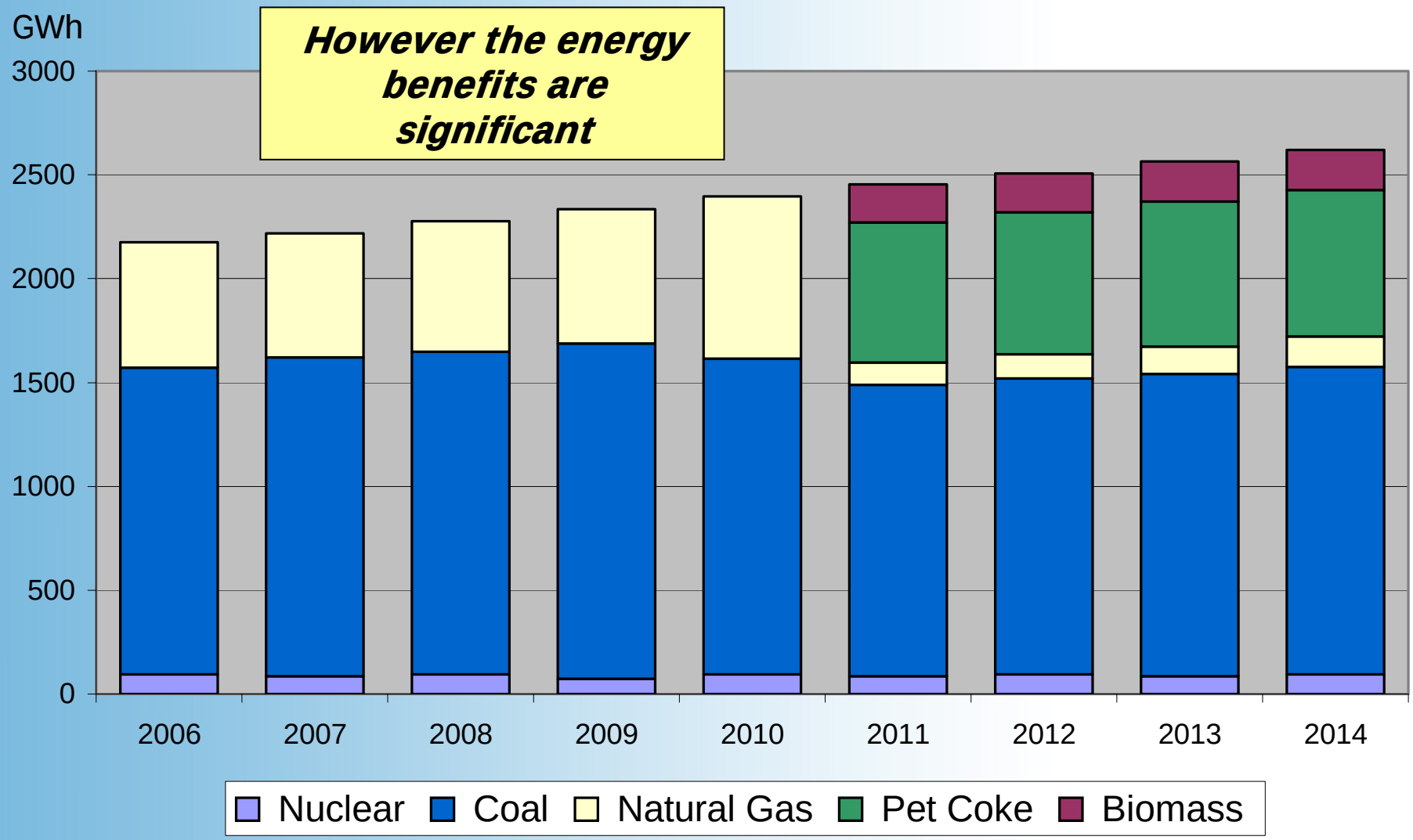
- Several options considered, but only four were fully evaluated
- Study does not pretend to be, nor was it intended to be, a full evaluation of all possible options
  - For example, purchased power options, smaller plants, and joint unit ownerships not evaluated
- Both the size and the timing of 2012 unit additions were hard-wired in the ICF Study
- Important to remember where GRU is in the process and what is the intended purpose of the ICF Study

2. GRU Capacity Needs



From purely a capacity standpoint, large units are not needed in 2011

3. GRU Energy Needs



However the energy benefits are significant

Source: 2005 GRU Ten Year Site Plan

4. Technology & Operational Risks

- None of the 3 supply side options would be considered conventional; i.e commonplace
- Each has technological risk to a varying degree:
  - IGCC — Least proven
  - Large scale biomass — Less proven
  - CFB — Somewhat proven
- Unpredictable operational availability and cost are considerations
- Single shaft risk also a consideration for larger technologies

5. Market Interaction

- ICF modeled GRU largely as an island from a capacity planning perspective, but interchange allowed for energy exchange
- Transmission constraints cited by ICF but solutions were not modeled
- Transmission upgrades to make capacity deliverable may be costly
- Off-system resources may be an economical option
- Energy sales important in large unit build scenarios

6. Planning Process

- For any build scenario in excess of 75 MW, GRU will need siting certification from the Florida PSC
- GRU not required to conduct an RFP but would be well advised to do so
- Current exercise could determine a self-build alternative to be evaluated alongside RFP responses
- Decision does not have to be a final “go or no go” decision at this point

GDS Recommendations

1. Adopt the Total Resource Cost test and pursue all cost effective and feasible demand side measures including demand response, energy efficiency, load management and incentive rate design options. Consider a 15% adder to DSM benefits for the non-energy benefits (environmental benefits, less risk, etc) of DSM resources.

2. Have GRU staff conduct a thorough examination of all DSM options and present a plan to the Commission to develop and implement all cost effective DSM and demand response measures.

GDS Recommendations (cont'd)

3. Move forward with an all source solicitation requesting proposals to meet the balance of GRU's demand and energy needs. This process should take 6-9 months through development of a short list.

4. Alongside the all source solicitation, study a 50-100 MW CFB self build option, a 220 MW CFB self build option, and a 50-100 MW biomass option for ultimate comparison against the RFP responses.

5. Enter into discussions with potential partners in an IGCC plant, including Southern Company and the Orlando Utilities Commission.

GDS Recommendations (cont'd)

6. Investigate other potential joint ownership or unit power arrangements in the state, including the North Florida Power Project.

7. Reconvene and consider the results of steps 1-6 above in 6-9 months to make any needed decisions on supply side/self build options.

Questions?