New Nuclear Generation

What's Driving

New Nuclear Generation?

Nuclear Generation Drivers

- Economics
- Environment
- Growth and Demand

Economics

Fuel	Generation Costs (National Average)
• Nuclear	- 1.72 Cents/kWh
• Coal	- 2.21 Cents/kWh
• Gas	- 7.51 Cents/kWh
• Oil	- 8.09 Cents/kWh

Economics (Energy Comparisons)

- 1 Uranium Fuel Pellet is Equivalent to:
  - 1,780 Pounds of Coal
  - 149 Gallons of Oil
  - 17,000 Cubic Feet of Natural Gas
- 1 Pound Uranium = 3 Million Pounds Coal

Environment

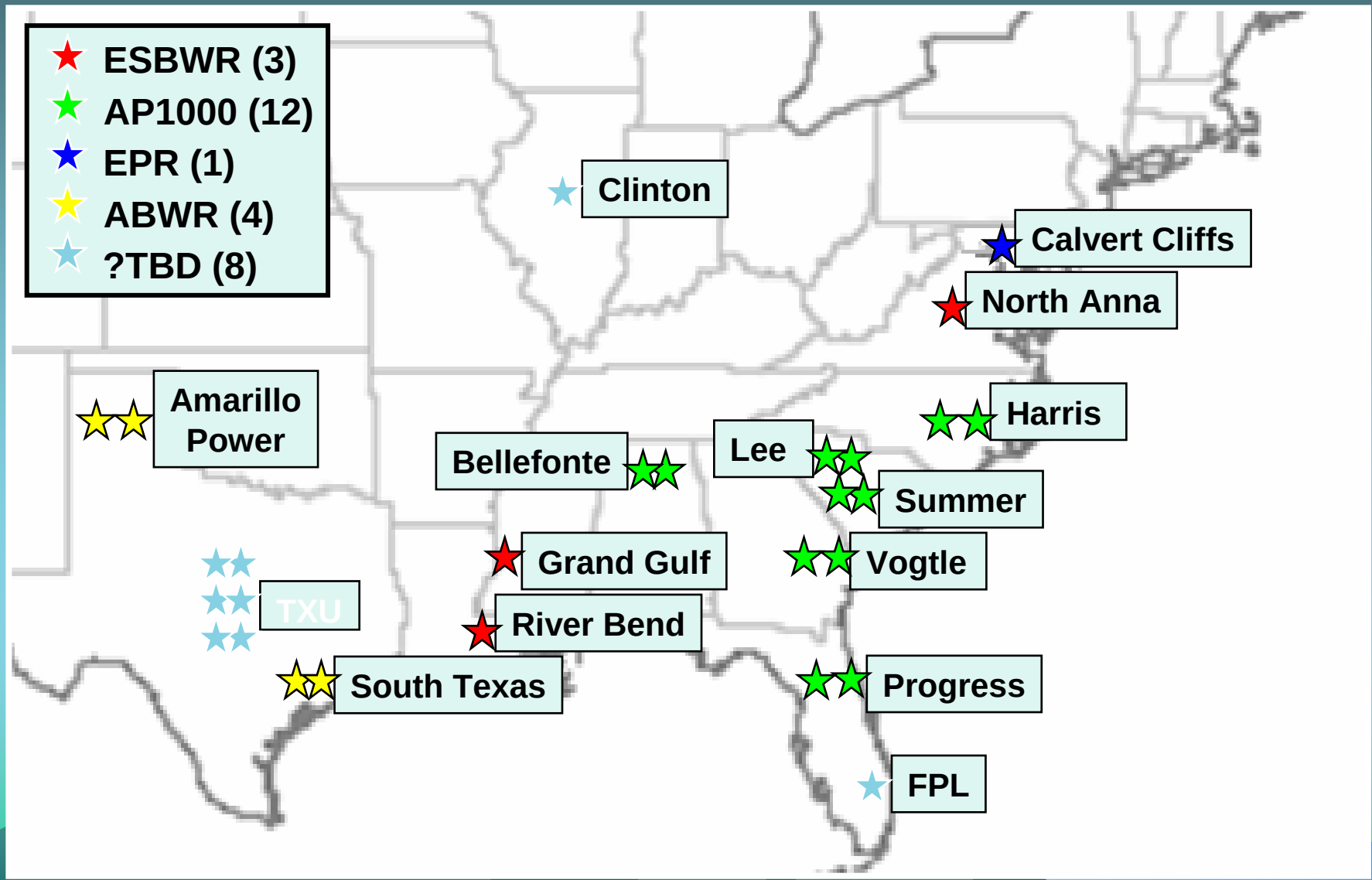
Environment

- **Svante Arrhenius** – Swedish Chemist
- Lived in Sweden from **1859 – 1927**
- Predicted **Global Warming** in 1898
- Recognized Need to **Reduce Greenhouse Gasses**

Growth and Demand

- **DOE Forecast**
  - 50% Growth and Demand in Southeast
  - 75% Growth and Demand in Florida
  - Residential Growth
  - Industrial Growth
  - Commercial Growth
- **NEI Forecast**
  - Need 50,000 Mwt New Generation by 2020

New Nuclear Project Announcements



Early Site Permit (ESP) Status

- Dominion Nuclear – North Anna
  - ESP Submitted Sept., 2003
  - Final SER Issued June, 2005
  - Supplemental SER Issued August, 2006
- Exelon Generation Company - Clinton
  - ESP Submitted Sept., 2003
  - Final SER Issued in May, 2006
- Entergy – Grand Gulf
  - ESP Submitted Oct., 2003
  - Final SER Issued in April, 2006
- Southern Nuclear – Vogtle
  - ESP Submitted August, 2006
  - Final SER Expected By 2009

Combined Operating License (COL) Schedules

- North Anna - 3rd Qtr 2007
- Summer - 3rd Qtr 2007
- Calvert Cliffs - 4th Qtr 2007
- Harris - 4th Qtr 2007
- Bellefonte - 4th Qtr 2007
- South Texas - 4th Qtr 2007
- Grand Gulf - 1st Qtr 2008
- Vogtle - 1st Qtr 2008
- Lee - 1st Qtr 2008
- River Bend - 1st Qtr 2008
- TXU - FY 2008

COL Review Scheduled for 2.5 Years

Schedule

- ESP – 2 to 3 Years
- COL – 2.5 Years
- Construction – 3 to 4 Years *
- Startup – 6 Months
- Total – 8 to 10 Years

* Japanese Built a New Generation Plant with Modular Construction in 36 Months

Process Improvements

- Standardized Design
- Standardized Licensing Process
- Modular Construction

Standardized Designs

- AREVA
  - Evolutionary Power Reactor (EPR)
- General Electric
  - Advanced BWR (ABWR)
  - Economic Simplified BWR (ESBWR)
- Westinghouse
  - Advanced Passive (AP600)
  - Advanced Passive (AP1000)