Business Risks and Opportunities Related to Climate Change

Helen A. Howes
Vice President, EH&S
Exelon Corporation

Presentation Outline

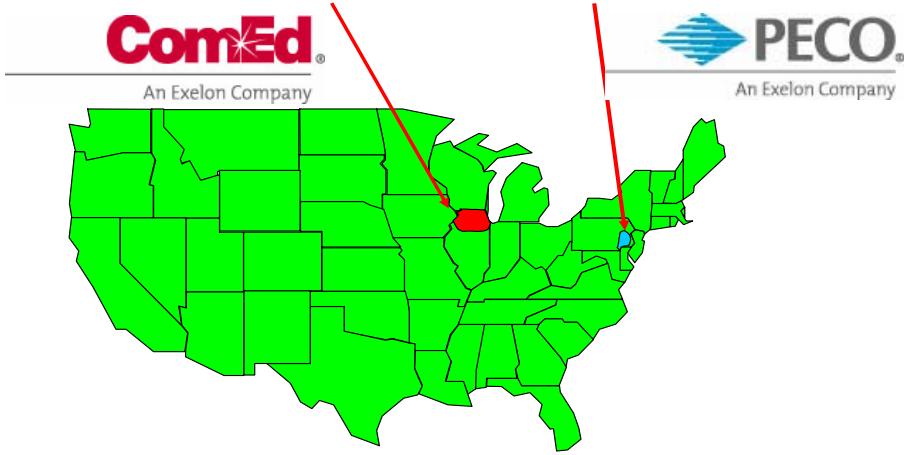
- ✓ Exelon Background
- ✓ Position on Climate Change Legislation
- ✓ Voluntary GHG Goal
- ✓ Business Opportunities

Exelon®

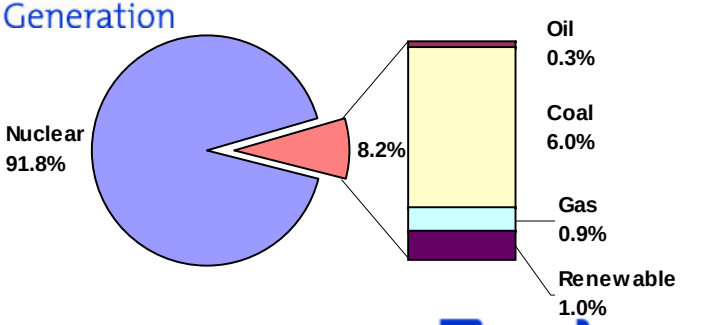
Exelon At A Glance

- **One of the nation's largest integrated electric utilities**
  - NYSE Ticker: EXC
  - 2006 Total Assets: $44.4 billion
  - 2006 Revenues: $15.6 billion
  - Employees: 17,500 (approx.)
  - Customers: 5.2M electric, 480K gas
  - Generating Assets: 38,000MW, including owned
    rm contracts

Formed in 2000 from the Merger of ComEd (Chicago) & PECO (Philadelphia)

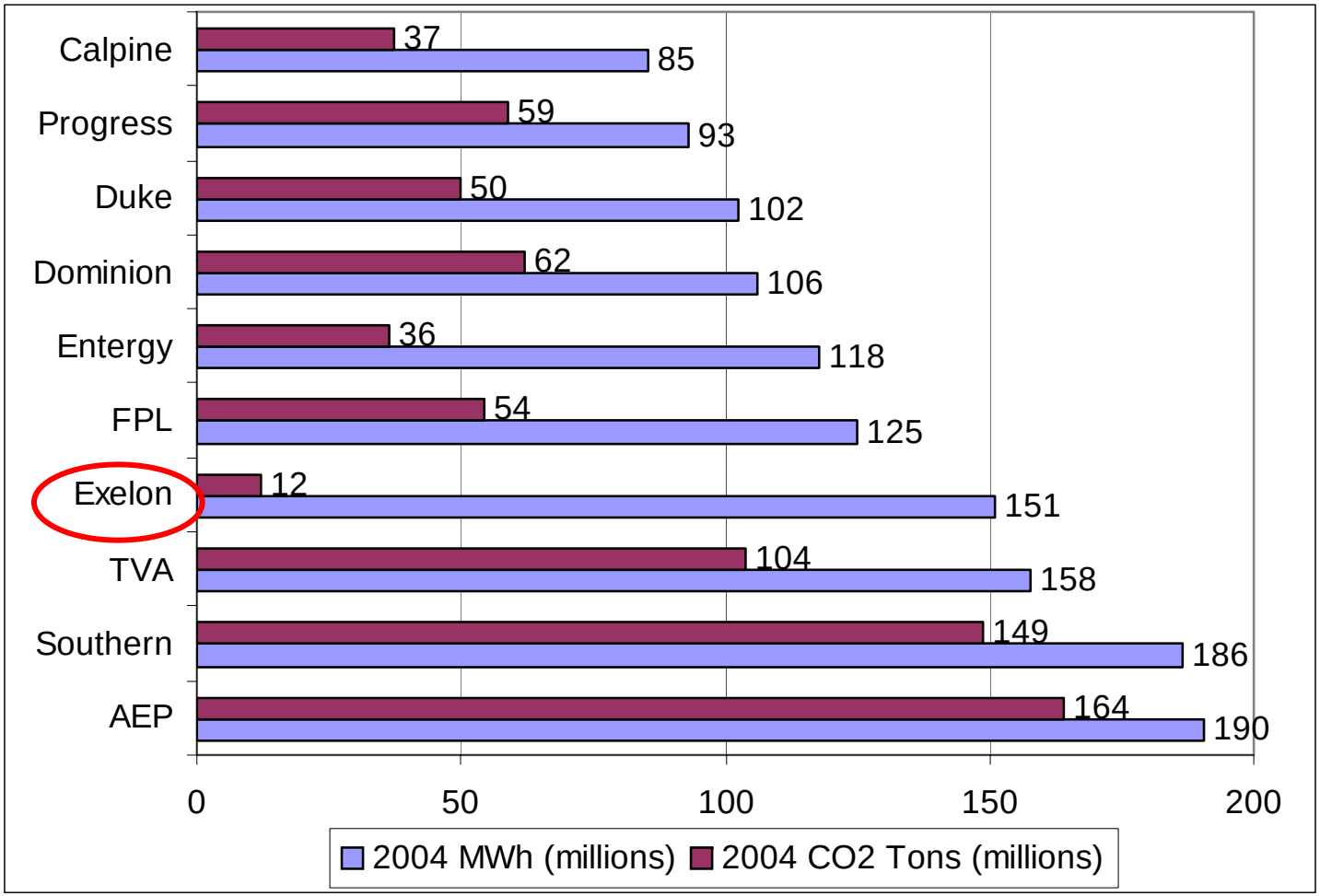


2006 Generation Output Mix Equity Owned



Exelon

Electric Output vs. CO2 Emissions – Top 10 U.S. Generators*



- ✓ Exelon Generation is the 4th largest power generation company in the U.S.
- ✓ Exelon's generation CO2 emissions in 2004 were about 12 million tons; the lowest out of the nation's top 10 electric generation companies

Exelon®

* "Benchmarking Air Emissions," CERES, NRDC, PSEG, April 2006

Exelon and Federal Climate Change Legislation

- ✓ Actively involved in the climate debate in Washington, D.C.
  - Member U.S. Climate Action Partnership (USCAP) and Pew Business Environmental Leadership Council (BELC)
  - CEO co-chair National Commission on Energy Policy (NCEP)
- ✓ Lobbying in favor of enacting legislation that is *national*, *mandatory* and *economy-wide*
- ✓ Support cap-and-trade system
- ✓ Believes that any allocation scheme should include allowances for distribution companies to help offset the cost of carbon for the end-user
  - Need carbon price signal to drive efficiency and low carbon technologies. Allowances to distribution companies will help customers offset costs without blunting the needed carbon price signal
- ✓ To limit near-term economic impacts, supports a “safety valve” for cost of carbon that needs to increase over time

Exelon®

Improving the efficiencies of our operations

✓ Examples from meeting our voluntary GHG goal - 8% by year-end 2008 from 2001 baseline

- **Fossil plant retirement** (oil and gas steam units)

- **Energy and process efficiency**
  - Fugitive emission reductions: SF_6, gas distribution
  - Recycling and investment recovery
  - Fleet fuel efficiency and alternative vehicle fuels

- **Energy Efficiency**
  - Corporate HQ remodel certified to LEEDS Platinum
    - Only 5 percent cost premium
    - Investigating certification of other Exelon facilities
  - Business units have set internal electricity usage reduction goals

CLIMATE LEADERS
U.S. Environmental Protection Agency

Exelon®

Business Case for Renewables

- ✓ Exelon Generation sells RECs in response to RPS legislations
  - Sell into voluntary and compliance markets
  - 153 MW of wind power under long-term contract
  - Recently announced 3 MW solar PPA for Fairless Hills, PA location
- ✓ Until recently, most wind RECs have traded in the voluntary market ($15-$25/MWh range)
- ✓ Compliance market starting to get active ($21-$23/MWh range for years 2008/2009)
- ✓ Customer-based programs like PECO Wind 37,000 customers
  - 100% wind product @ $2.54 per 100KWh
  - Ranked 5th largest program in country in 2006 by NREL

Exelon®

Energy efficiency programs for customers

✓ ComEd

- Filed a three-year plan on Nov 15 with regulator to deliver energy efficiency programs to customers:
  - Residential lighting
  - Appliance recycling
  - Residential Multi-family builders
  - Nature First Demand Response
  - Commercial/Industrial lighting, motors, HVAC

✓ PECO

- Smart Returns demand reduction programs (large C&I customers)
- 20% discount on energy efficiency products on PECO website
- Low Income Usage Reduction Program (LIURP) Weatherization program (8,000 customers/year)

Exelon®

Nuclear – Operational Excellence

- ✓ Exelon continues to operate its nuclear units at world class capacity factors (93.9% fleet average in 2006)
- ✓ Exelon ranked first for two-year average capacity factor when compared to the other 12 nuclear fleets in the U.S. (93.6% 2005-2006 fleet average)
- ✓ Exelon ranked 2nd for the 2006 INPO Index when compared to the other 12 nuclear fleets (93.9 points)
- ✓ Approximately $2.3 billion has been invested in the nuclear fleet from 2000 to 2005 for power uprates and sustained high capacity factors
- ✓ An additional $2.5 billion is expected to be spent between 2007-2011 on plant component upgrades/improvements to sustain reliability and performance

Exelon®

NRC Operating Licenses - Renewals

Status of Exelon-Operated Nuclear Plant Licenses				
Station	**Unit**	**In-Service Date**	**Current License Expiration**	**NRC License Renewal Received?**
Braidwood	1	1988	2026	
	2	1988	2027	
Byron	1	1985	2024	
	2	1987	2026	
Clinton	1	1987	2026	
Dresden	2	1970	2029	Yes
	3	1971	2031	Yes
LaSalle	1	1984	2022	
	2	1984	2023	
Limerick	1	1986	2024	
	2	1990	2029	
Oyster Creek	1	1969	2009	
Peach Bottom	2	1974	2033	Yes
(50% ownership)	3	1974	2034	Yes
Quad Cities	1	1973	2032	Yes
(75% ownership)	2	1973	2032	Yes
Three Mile Island	1	1974	2014	

- ✓ Exelon has 40-year NRC operating licenses for each of its plants
- ✓ Exelon has received 20-year license extensions for six units
- ✓ 48 U.S. reactors have been re-licensed to date
- ✓ 12 additional U.S. reactors have filed for license renewal
- ✓ 22 more U.S. reactors expected to apply for renewal

Exelon®

Announced Nuclear Projects

Applicant	Units	Technology	Site	Type of site	Status
Unistar	1	EPR	Calvert Cliffs MD	Operating	Partial COL submitted; remainder expected in 2007
Dominion	1	ESBWR	North Anna VA	Operating	Reference plant for ESBWR COL application; planned for 2007
TVA/NuStart	2	AP1000	Bellefonte AL	Characterized	COL submitted Oct 2007. Reference plant for AP1000
Entergy/NuStart	1	ESBWR	Grand Gulf MS	Operating	ESP approved; COL February 2008
South Carolina E&G	2	AP1000	Summer SC	Operating	Letter of intent
Progress	2	AP1000	Levy Co. FL	Greenfield	COL July 2008
Duke	2	AP1000	Lee SC	Characterized	Letter of intent
Entergy	1	ESBWR	River Bend LA	Operating	COL May 2008
Southern	2	AP1000	Vogtle GA	Operating	COL 2008
Progress	2	AP1000	Harris NC	Operating	COL Jan 2008
Amarillo Power	2	EPR	Amarillo TX	Greenfield	Letter of intent
NRG Energy	2	ABWR	South Texas Project TX	Operating	COL submitted Sept 2007
Unistar	1	EPR	Nine Mile Pt NY	Operating	Letter of intent
Unistar/Ameren	1	EPR	Callaway MO	Operating	Letter of intent
TXU	2	APWR	Comanche Peak TX	Operating	Letter of intent
Exelon	TBD	TBD	Victoria or Matagorda TX	Greenfield	Letter of intent
DTE Energy	1	TBD	Fermi MI	Operating	Letter of intent
PPL	1	EPR	Susquehanna PA	Operating	Letter of intent
FPL	TBD	TBD	Turkey Pt FL	Operating	Letter of intent
Alternative Energy Holdings	1	EPR	Bureau ID	Greenfield	Announced intent
Fresno Nuclear Energy	1	EPR	San Joaquin Valley CA	Greenfield	Announced intent

21 projects totaling ~39,000 MWs have been announced

Exelon®

New Nuclear – Exelon Position

- ✓ Exelon believes that new nuclear plant is necessary in a low carbon energy future
- ✓ Exelon conditions for investing in new nuclear plants:
  - Cost of new design is competitive with alternatives (i.e. IGCC)
  - Regulatory certainty with respect to licensing new plant
  - Completion of advanced designs that yield further improvements to both safety and economics
  - Resolution of spent fuel disposal issue
    - Could include long-term interim federal storage
  - Public support for new nuclear plant

Exelon®

New Plant Costs

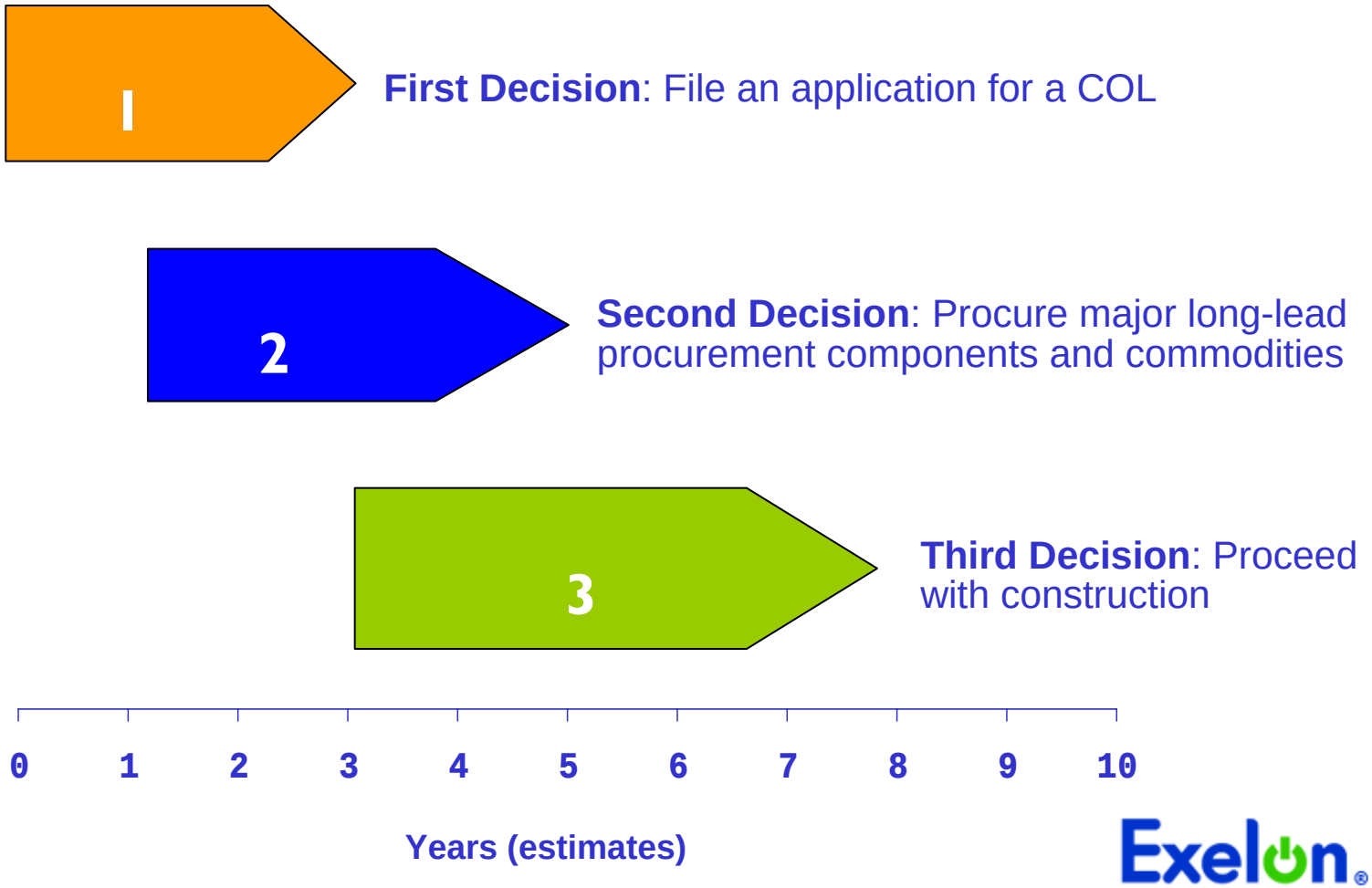
2007 DOE/EIA Annual Energy Outlook Generation Technology Cost Assumptions				
Generation Technology	**Capital Cost** (2005 $/kW)	**Variable O&M** (2005 mills/kWh)	**Fixed O&M** 2005 $/kW	**Heat Rate** (Btu/kWh)
Renewables				
Solar photovoltaic	$4,751	0.00	$10.99	10,280
Biomass	$1,869	2.96	$50.18	8,911
Landfill Gas	$1,595	0.01	$107.50	13,648
Hydro	$1,500	3.30	$13.14	10,107
Wind	$1,206	0.00	$28.51	10,280
Co-firing Biomass with coal	$112 to $257	Maximum 15% biomass		
Conventional				
IGCC with carbon sequestration	$2,134	4.18	$42.82	9,713
Nuclear	$2,081	0.47	$63.88	10,400
Coal Integrated Gasification Combined Cycle (IGCC)	$1,491	2.75	$36.38	8,309
Scrubbed Coal	$1,290	4.32	$25.91	8,844
Combined Cycle - Gas/Oil	$603	1.94	$11.75	7,163
Combustion Turbine - Gas/Oil	$420	3.36	$11.40	10,807

✓ Table includes EIA assumptions around conventional and renewable generation technology costs

Exelon®

Roadmap to Nuclear Commercial Operation

Building a new nuclear plant is not a one-step process or decision: It is a sequence of 3 successive decisions



Source: Exelon estimates.

New Nuclear - Exelon Activities

- ✓ Exelon has not committed to any new nuclear plant. To preserve the nuclear option, we are doing the following
  - Participating in the NuStart consortium. Objectives include
    - Complete the designs for selected technologies
      - Westinghouse Advanced Passive (AP) 1000
      - General Electric Economic Simplified Boiling Water Reactor (ESBWR)
    - Demonstrate "new" NRC licensing process by submitting a Combined License (COL) application
    - Validate assumptions for construction cost and schedule and ongoing operating costs
  - **Illinois**. An early site permit to locate an additional reactor at Exelon's Clinton Station was approved by NRC March 2007
  - **Texas**. Primary and secondary sites in Texas for a new nuclear plant were announced in June 2007. Expect to submit COL application in November 2008

Exelon®

Advanced Nuclear Designs – U.S. Market

Reactor	Vendor	Capacity	Status	Selected in US by:
ESBWR (Economic Simplified Boiling Water Reactor)	GE-Hitachi	1500 MW	Passive safety features, simplified from ABWR design. NRC design certification expected 2010	✓Dominion ✓Entergy/NuStart at Grand Gulf ✓Entergy at River Bend
AP1000 (Advanced Passive 1000)	Westinghouse	1150 MW	PWR, passive safety features, Design certification received December 2005	✓TVA/NuStart ✓SCE&G ✓Progress ✓Duke ✓Southern
EPR (Evolutionary PWR)	AREVA	1600 MW	Design certification to be filed 1Q 2008. AREVA in UniStar joint venture with Constellation to deploy EPR in US. Under construction in Finland, France	✓UniStar ✓PPL ✓Ameren ✓Alternate Energy Holdings
ABWR (Advanced BWR)	GE-Hitachi	1350 MW	Evolutionary improvement from current BWR. Design certification in 1997. In operation in Japan since 1996.	✓NRG
APWR (Advanced PWR)	Mitsubishi	1700 MW	Will apply for design certification in 2008	✓Luminant (formerly TXU)

On November 12, 2007 Exelon announced that it had selected the GE Hitachi ESBWR design for its proposed two-reactor plant in Texas

Sources: World Nuclear Association; Nuclear Fuel Cycle Monitor, September 17, 2007.

Exelon®

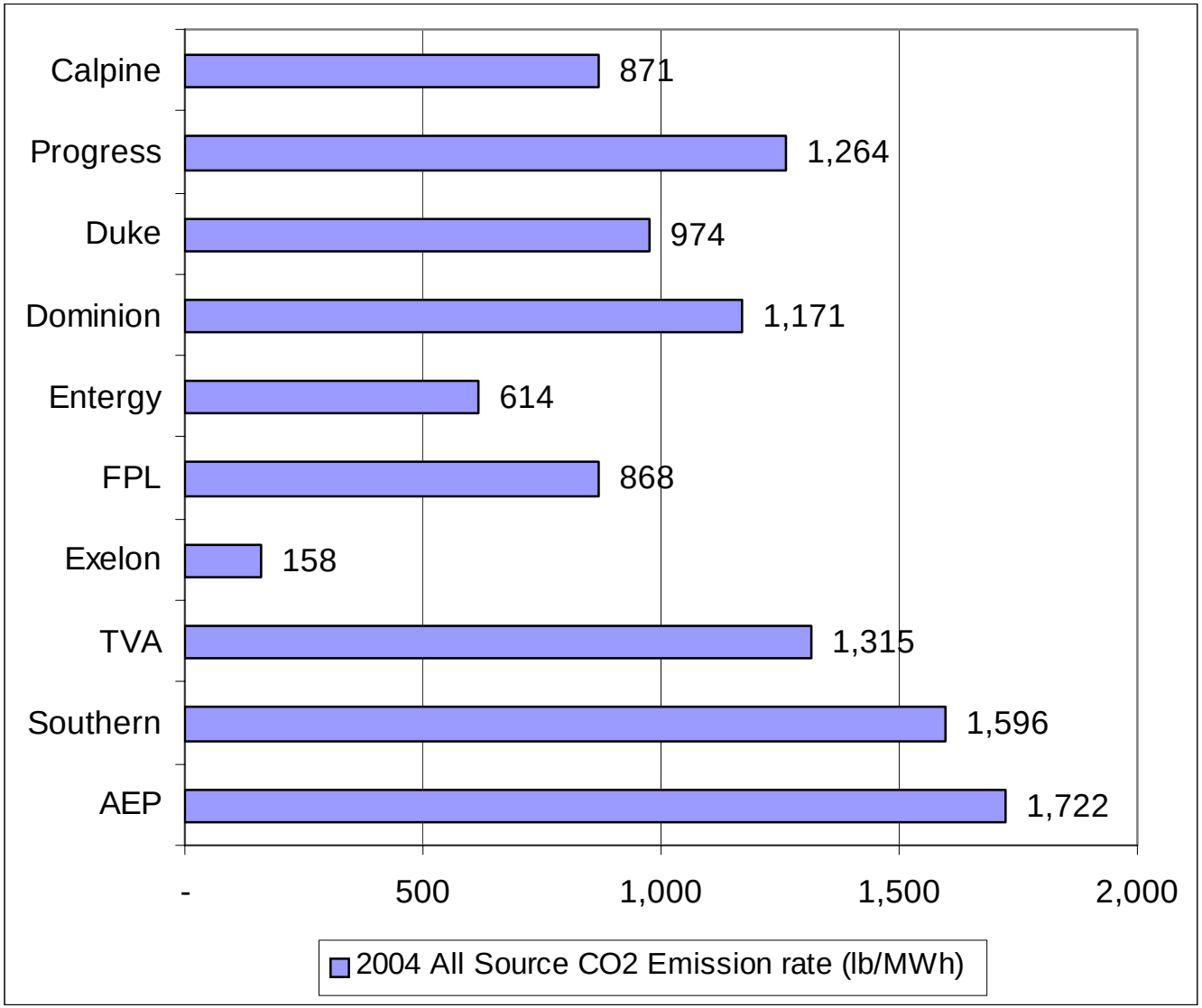
Recognized Environmental Leadership

- ✓ Named to the 2006/2007 and 2007/2008 Dow Jones Sustainability North America Index
- ✓ Named to Climate Disclosure Leadership Index of the Carbon Disclosure Project in 2005, 2006 and 2007
- ✓ Signatory to the Global Roundtable on Climate Change and the Ceres/Investor Network on Climate Risk statements
- ✓ The leadership bar continues to advance and Exelon is working to stay in the vanguard of leading companies

Exelon®

Appendix

"All Source" CO2 Emission Rates – Top 10 U.S. Generators*



* "Benchmarking Air Emissions," CERES, NRDC, PSEG, April 2006

Exelon®

Potential Nuclear New Build

- ✓ Intend to file Construction and Operating License (COL) for plant in Texas by end of 2008
  - Preserves option to participate in Energy Policy Act incentives
- ✓ Texas is attractive market for new nuclear
  - Growing demand for baseload power, robust market prices
  - State and local support for new nuclear
  - Existing Exelon presence in Texas
- ✓ Exelon's phased approach allows for go/no-go decisions at major funding/commitment milestones
- ✓ Exelon's conditions for new build remain unchanged: the economics must be right

Nuclear new build would capitalize on improving fundamentals, high gas prices, and Exelon's core strength in nuclear operations

Exelon®