Ceres

Executive Order 57

Business and Investor Support for Carbon Reductions

Dan Bakal
Director of Electric Power
Ceres

Overview

- Introduction of Ceres
- Benchmarking power sector air emissions
- Benchmarking utility clean energy deployment
  - Energy efficiency
  - Renewable energy
- Corporate demand for renewable energy
  - *Featuring Nicole Collier, Nestlé USA*
- *Recommendations:*
  - *Opportunity around utility energy efficiency*
  - *Opportunity around corporate renewable energy*

Ceres

What is Ceres?

*Ceres is a nonprofit organization mobilizing business and investor leadership on **climate change**, **water scarcity**, and other **sustainability challenges**.*

Investor Network

More than 125 institutional investors currently representing $15 trillion in AUM

Company Network

More than 70 company members, with more than a third in Fortune 500 firms

BICEP Network

More than 38 leading companies supporting innovative climate & energy policies in the U.S.

Ceres Coalition

More than 130 organizations including sustainability leaders and public interest groups

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Sample Ceres/BICEP members

Allstate. You're in good hands.

Bank of America

BEST BUY

Bloomberg

citi

Coca-Cola

ebay inc

Ford

Gap Inc.

GENERAL MILLS

GM

JPMorgan Chase & Co.

Kellogg's

LEVI STRAUSS & CO.

MARS

Morgan Stanley

nationalgrid

Nestlé Good Food, Good Life

OUTDOOR INDUSTRY ASSOCIATION

PEPSICO

Prudential

vf

The Walt Disney Company

Investor Network on CLIMATE RISK

a project of Ceres

- 120+ members
- $15 trillion AUM
- Members: Asset Owners, Asset Managers, Pension Funds, Endowments, Foundations
- Focused on climate and sustainability as investment risks and opportunities

CALSTRS
SBA FLORIDA
STATE OF NEW YORK COMPTROLLER
CalPERS

BLACKROCK
SSgA STATE STREET GLOBAL ADVISORS
Prudential
LEGG MASON GLOBAL ASSET MANAGEMENT

TRILLIUM ASSET MANAGEMENT
PAX Pax World Mutual Funds
Calvert INVESTMENTS A UNIFI Company
generation
BOSTON COMMON ASSET MANAGEMENT, LLC

INTERFAITH CENTER ON CORPORATE RESPONSIBILITY
MERCY INVESTMENT SERVICES, INC

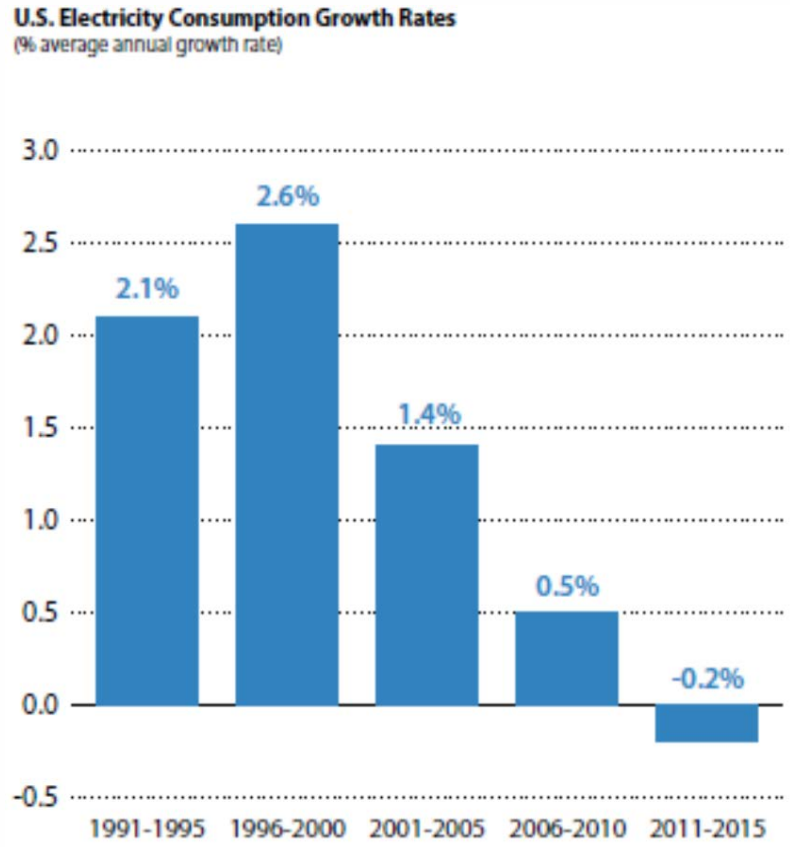
Electric Power Program

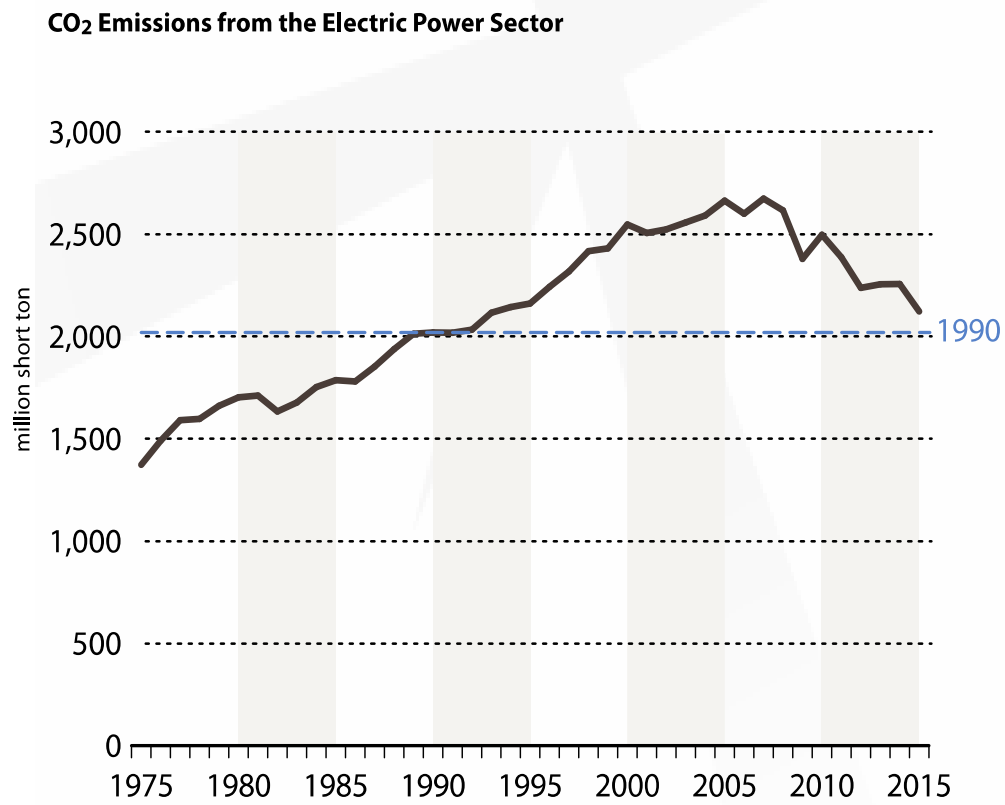
Engage electric power companies, investors, and other stakeholders to advance transition to low-carbon economy

- Thought leadership: benchmarking reports on air emissions and clean energy
- Public policy engagement
- Industry and investor convenings to accelerate transition to clean energy business models
- Shareholder advocacy

2016 Benchmarking Air Emissions Report

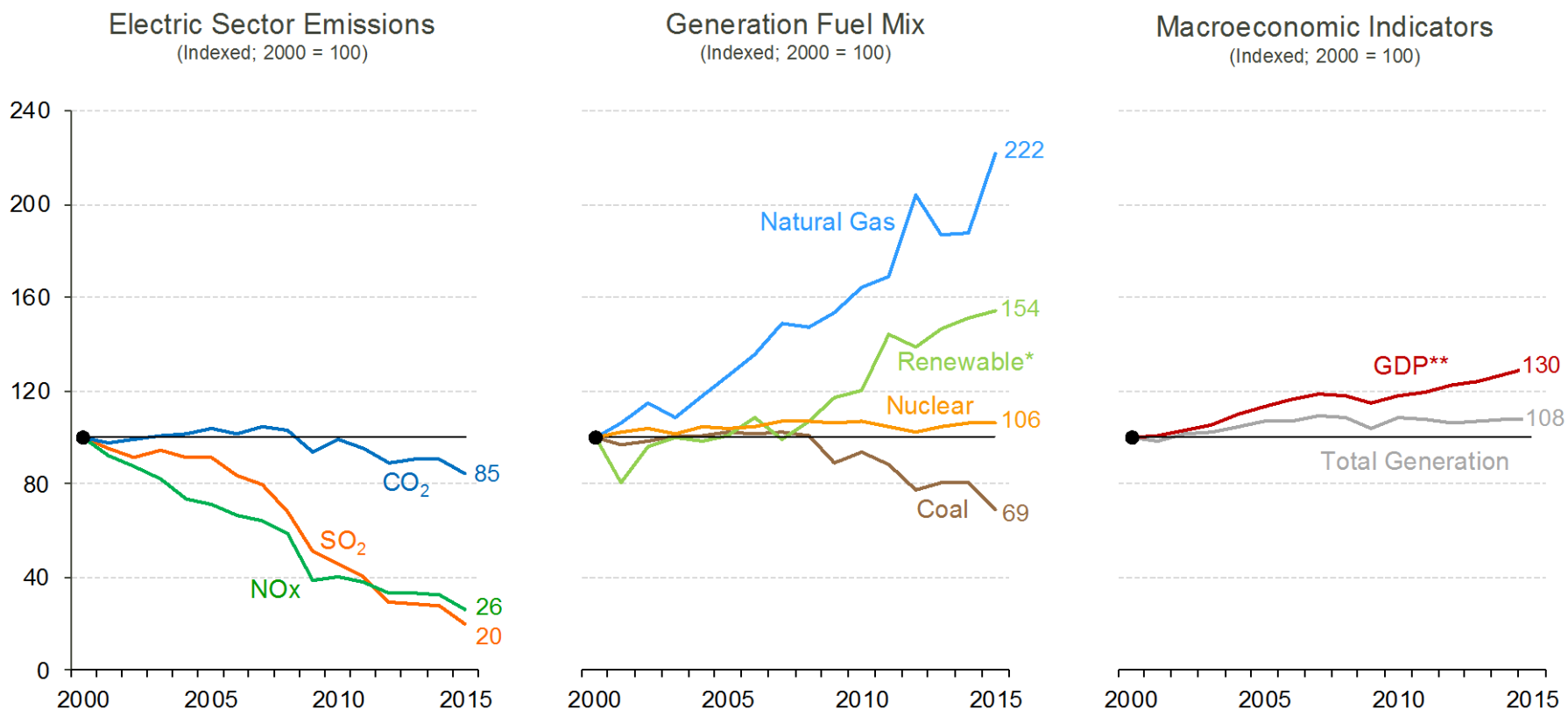
Key Findings





SOURCE: M. J. BRADLEY & ASSOCIATES ANALYSIS BASED ON U.S. ENERGY INFORMATION ADMINISTRATION DATA.

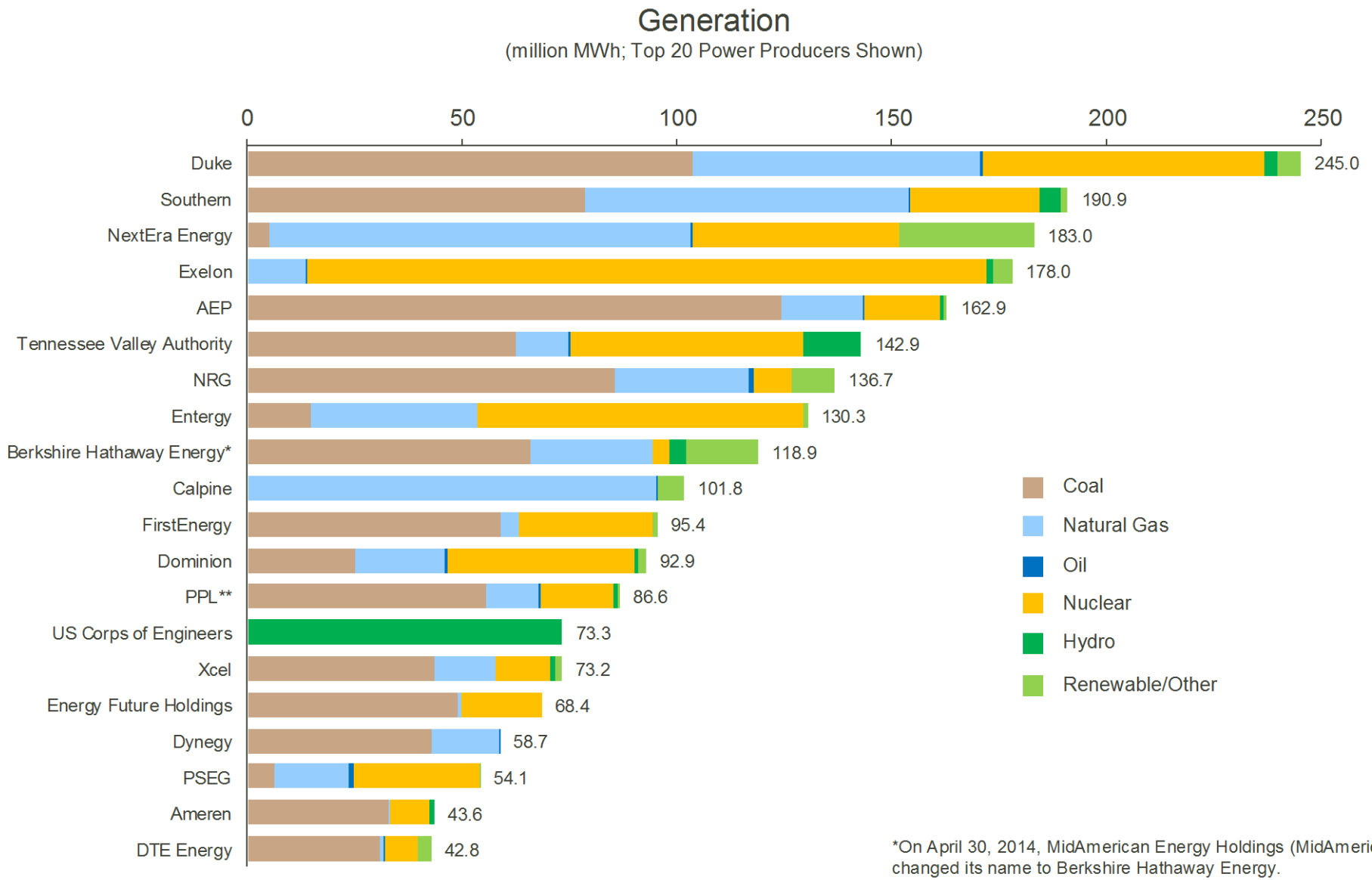
Electric Power Sector: Annual Trends



*Includes hydroelectric, wind, solar, biomass, geothermal and other renewable sources.
**GDP in chained 2009 dollars.

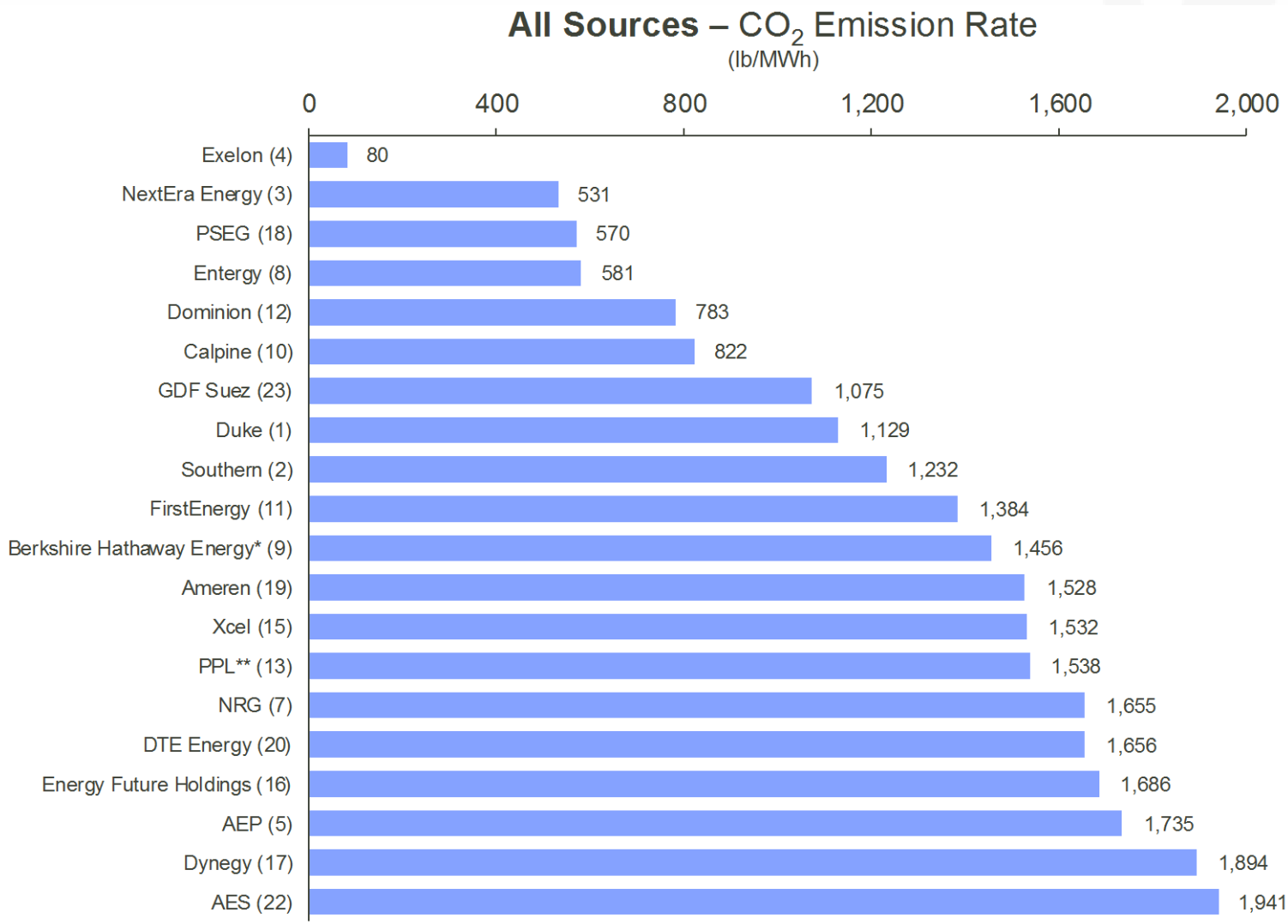
The electric power sector has made significant progress in terms of reducing its NOx and SO_2 emissions over the past decade.

Rankings By Total Generation



*On April 30, 2014, MidAmerican Energy Holdings (MidAmerican) changed its name to Berkshire Hathaway Energy.
**On June 1, 2015, PPL completed it's spin-off into Talen Energy.

Ranking By CO_2 Emission Rate



Note: Ranking by total generation shown in parentheses next to power producer name.

*On April 30, 2014, MidAmerican Energy Holdings (MidAmerican) changed its name to Berkshire Hathaway Energy.
**On June 1, 2015, PPL completed its spin-off into Talen Energy.

2016 Benchmarking Report: Renewable Sales

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Figure 10: Renewable Energy Sales as a Percentage of Retail Sales (2014)

Holding Company	Rank	Percentage	Mean: [10.31%]	MWh	Mean: [4,902,738]
Sempra Energy	1	36.45%		6,002,000	
PG&E	2	25.90%		19,456,767	
Edison International	3	23.15%		17,558,000	
Xcel Energy	4	20.63%		18,495,000	
PSEG	5	13.28%		2,599,898	
National Grid	6	13.19%		3,881,856	
Eversource Energy	7	13.08%		3,058,302	
Berkshire Hathaway	8	12.99%		14,114,750	
OGE Energy	9	11.59%		3,129,474	
Exelon	10	11.49%		4,793,000	
Ameren	11	11.22%		5,179,826	
FirstEnergy	12	10.31%		5,810,517	
Puget Sound Energy	13	10.29%		2,116,470	
Pinnacle West	14	10.22%		2,819,880	
Alliant Energy	15	10.11%		2,642,000	
Pepco Holdings	16	9.79%		1,888,311	
CMS Energy	17	9.36%		3,114,000	
We Energies	18	9.03%		2,194,000	
DTE Energy	19	8.74%		3,662,195	
Portland General Electric	20	8.46%		1,489,000	
American Electric Power	21	6.00%		6,738,000	
AES Corporation	22	3.82%		688,722	
Duke	23	2.79%		5,477,000	
Dominion Resources	24	2.18%		1,741,787	
Entergy	25	2.06%		2,285,411	
SCANA	26	1.81%		404,525	
PPL Corp	27	1.02%		413,000	

2016 Benchmarking Report: Life-cycle Energy Savings

Figure 12: Life Cycle Energy Efficiency as a Percentage of Retail Sales (2014)

Holding Company	Rank	Percentage	Mean: [9.93%]	MWh	Mean: [6,595,619]
Eversource Energy	1	20.20%		11,069,251	
National Grid	2	17.74%		11,328,353	
PG&E	3	17.49%		15,194,647	
Exelon	4	16.17%		25,353,979	
Pinnacle West	5	15.74%		4,340,798	
Alliant Energy	6	15.32%		4,002,532	
Puget Sound Energy	7	15.27%		3,462,221	
CMS Energy	8	14.79%		5,506,298	
Xcel Energy	9	14.43%		12,930,997	
Portland General Electric	10	14.15%		2,726,199	
Edison International	11	12.11%		10,583,265	
Sempra Energy	12	11.96%		2,405,240	
AES Corporation	13	10.94%		3,062,904	
Berkshire Hathaway	14	10.05%		11,094,170	
Pepco Holdings	15	10.05%		4,745,571	
We Energies	16	9.87%		2,637,683	
Ameren	17	9.85%		7,281,846	
FirstEnergy	18	8.81%		13,181,238	
American Electric Power	19	7.53%		10,567,421	
PSEG	20	7.16%		2,919,044	
ConEdison	21	6.30%		3,906,221	
PPL Corp	22	5.83%		3,994,476	
DTE Energy	23	5.81%		2,726,001	
Duke	24	5.34%		11,321,776	
SCANA	25	4.30%		961,522	
Southern Company	26	3.47%		5,613,310	
OGE Energy	27	2.95%		796,078	
Entergy	28	2.66%		2,953,655	
Dominion Resources	29	1.50%		1,201,879	
FPL	30	No Data			

Mean: 9.93%

2016 Benchmarking Report: Incremental Energy Efficiency

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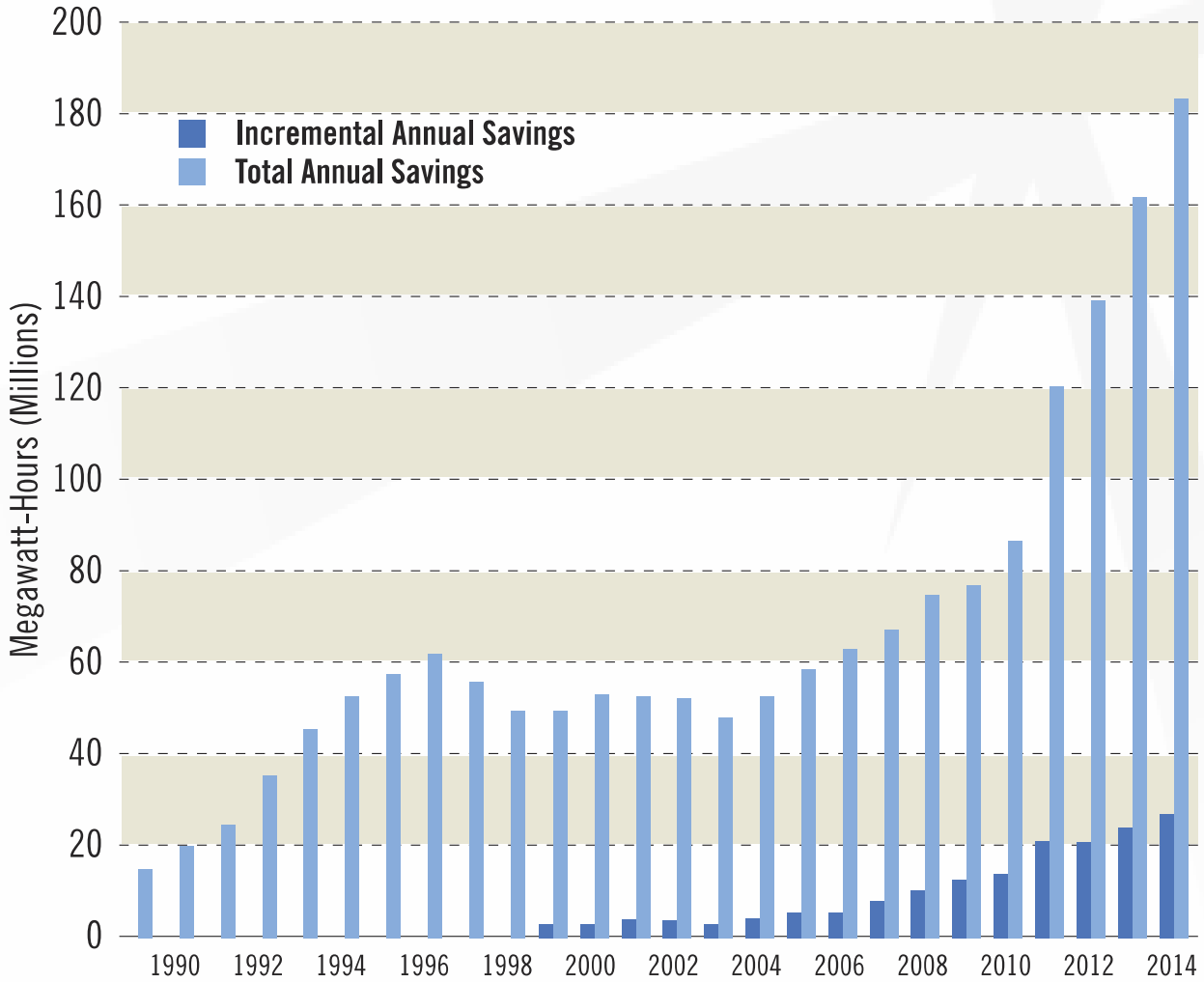
Incremental Energy Efficiency as a Percentage of Retail Sales (2014)					
Holding Company	Rank	Percentage	Mean: [0.97%]	MWh	Mean: [645,732]
Eversource Energy	1	1.87%		1,024,653	
PG&E	2	1.79%		1,557,012	
Portland General Electric	3	1.67%		321,492	
National Grid	4	1.59%		1,016,001	
Pinnacle West	5	1.50%		414,824	
DTE Energy	6	1.45%		681,639	
Exelon	7	1.42%		2,227,508	
Puget Sound Energy	8	1.32%		300,027	
Alliant Energy	9	1.30%		338,369	
AES Corporation	10	1.23%		344,941	
CMS Energy	11	1.21%		449,304	
Sempra Energy	12	1.14%		228,541	
Edison International	13	1.09%		955,060	
Xcel Energy	14	1.03%		925,432	
Ameren	15	0.97%		716,018	
Pepco Holdings	16	0.95%		449,694	
We Energies	17	0.93%		248,277	
Berkshire Hathaway	18	0.92%		1,012,629	
FirstEnergy	19	0.91%		1,365,723	
Duke	20	0.76%		1,613,886	
American Electric Power	21	0.75%		1,051,397	
PSEG	22	0.71%		289,314	
PPL Corp	23	0.58%		396,335	
ConEdison	24	0.38%		237,631	
SCANA	25	0.38%		84,627	
OGE Energy	26	0.36%		95,885	
Southern Company	27	0.29%		470,429	
Entergy	28	0.24%		263,125	
FPL	29	0.20%		209,166	
Dominion Resources	30	0.10%		83,034	

Mean: 0.97%

Savings from Utility EE Programs

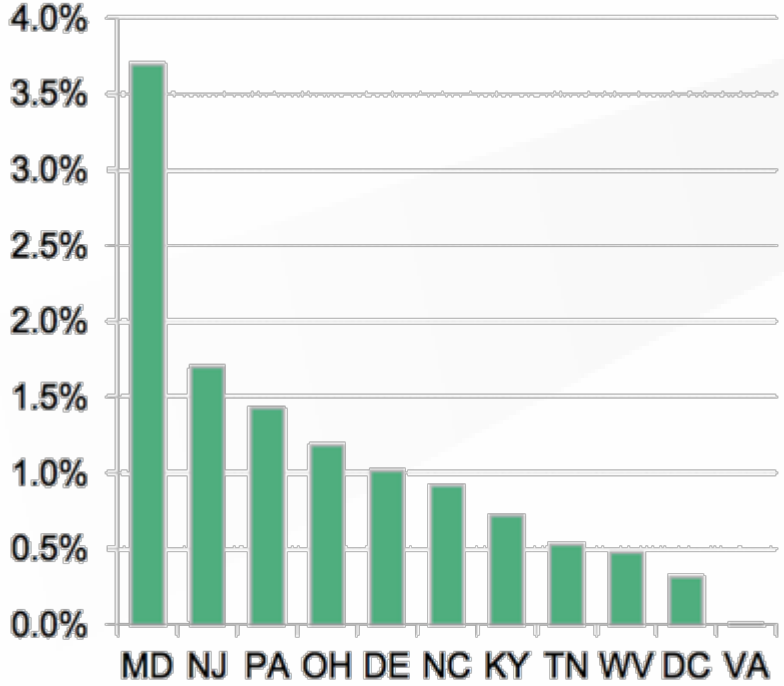
Figure 3: Total Annual & Incremental Annual U.S. Electricity Savings—1989-2014



Source: American Council for an Energy-Efficient Economy

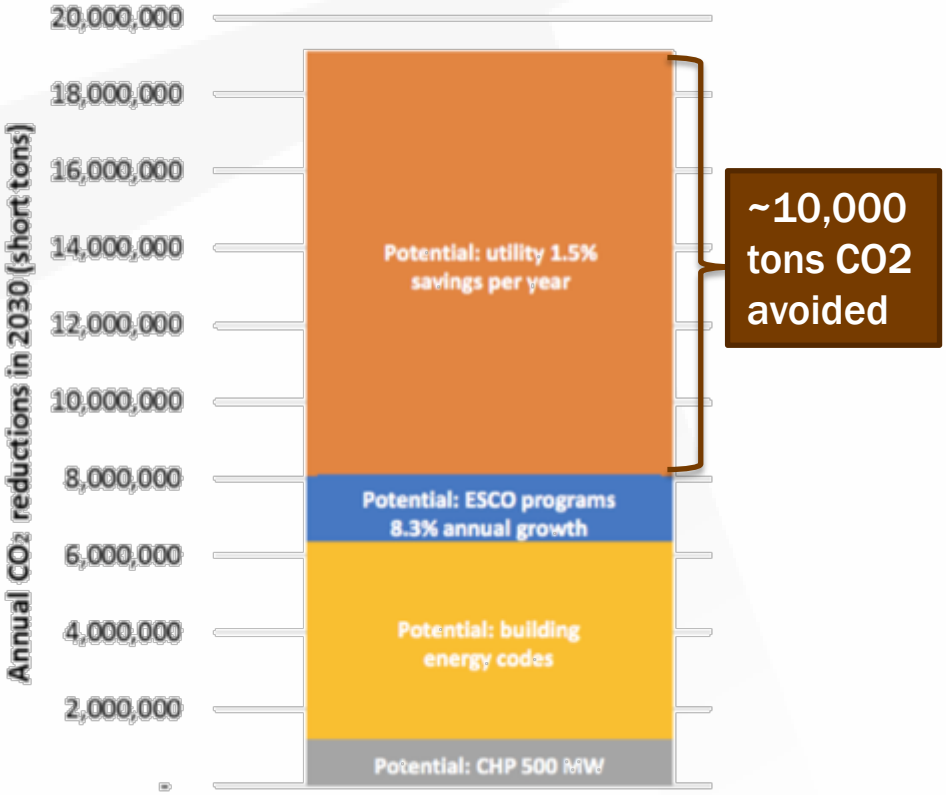
The Energy Efficiency Opportunity

Figure 11: States' utility electric program spending as a fraction of state-wide electricity revenue, 2015 (%)



Source: ACEEE

Virginia: potential CO2 reductions by efficiency policies and programs in 2013



Source: ACEEE 2016

Businesses Seek Renewable Energy

RE 100

87 companies have made commitments to go 100% renewable.

www.there100.org

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

221 companies have signed up to set GHG emission reduction targets in line with climate science

CORPORATE RENEWABLE ENERGY BUYERS' PRINCIPLES:
INCREASING ACCESS TO RENEWABLE ENERGY

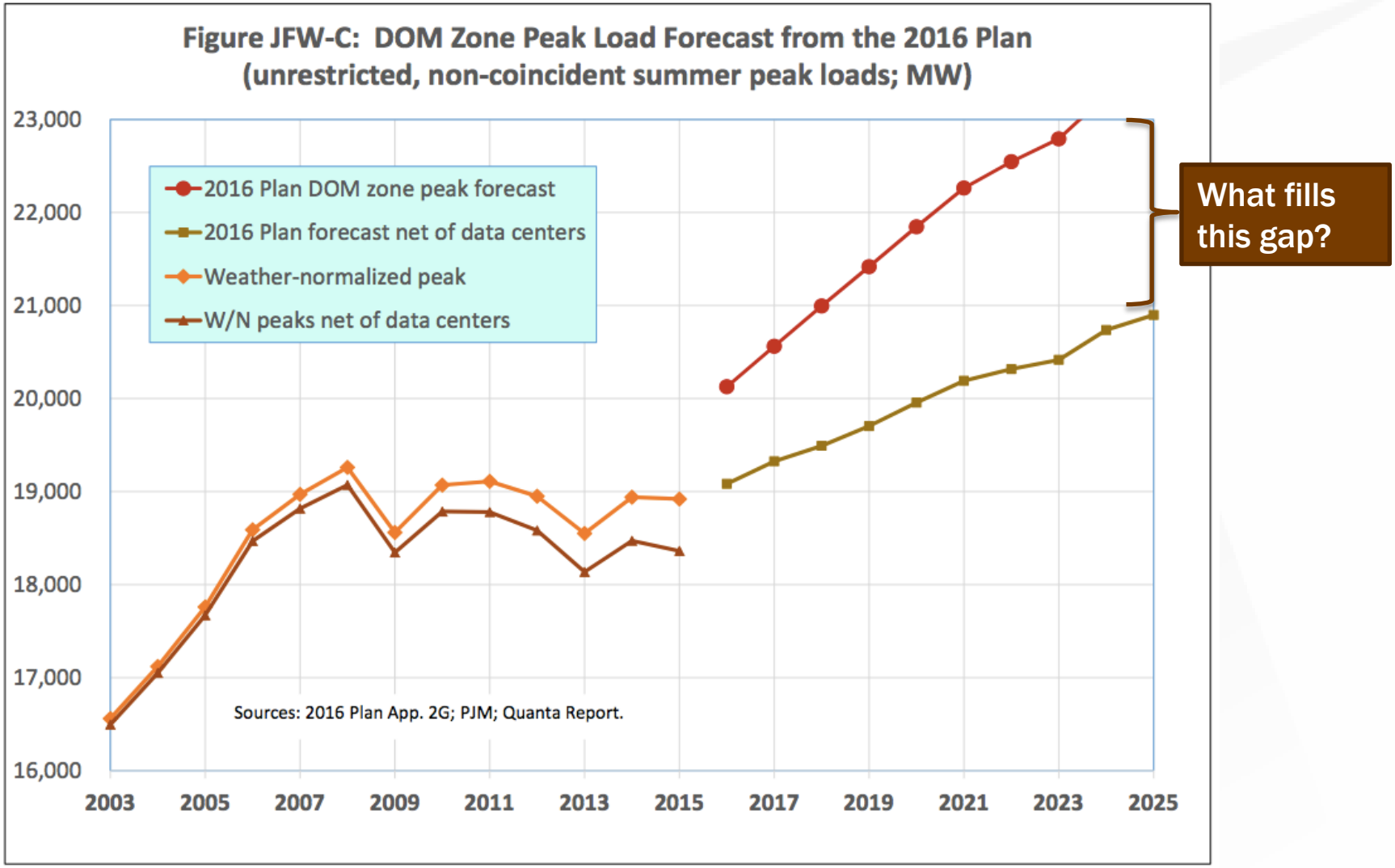
65 COMPANIES

48 MILLION MWH OF DEMAND FOR RENEWABLE ENERGY

$5 TRILLION IN MARKET CAP

www.buyersprinciples.org

Meeting Data Center Demand



Source: Southern Environmental Law Center

Companies Want Options to Access RE

"As major employers and large electricity consumers in Virginia, we write to support progress to date, and to **express our support for increased and diversified renewable energy supplies in Virginia.** We also write to ask for an explicit legal framework allowing companies **choices to procure, lease, and access renewable energy resources** from the state's **utilities** and from private **third-party sellers.**"

"We invite the state's utilities, third party providers, and policymakers to collaborate with us on opportunities to meet our mutual objective of increasing the cost-effective supply of renewable energy in Virginia."

Adobe
Akamai FASTER FORWARD
BEST BUY
ca technologies
EQUINIX
hp
Hewlett Packard Enterprise
IKEA
intuit
LinkedIn
MARS incorporated
Microsoft
Nestlé Good Food, Good Life
salesforce
STAPLES
Unilever
vmware
Walmart

Recommendations

1. Energy efficiency represents a major area of opportunity for reducing load growth (and therefore emissions) in Virginia
1. Corporate procurement increasingly expects 100% RE, and factors it into site selection, so provide options for corporate customers
2. Long-term, forward-thinking policies send the right market signals that drive investments and show that Virginia is committed to enabling a wide range of affordable clean energy options.

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Thank You

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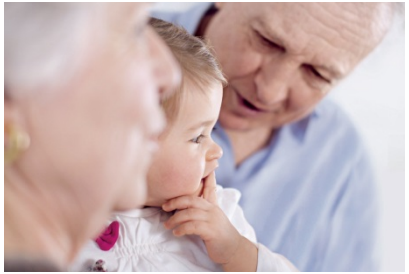

Nestlé in the U.S. and worldwide

97% homes purchase Nestlé brands

51,000 U.S. employees

87 factories in **47** states

$26 billion in 2015 sales

10 Nestlé R&D facilities driving innovation

Nestlé in the US

IMPACT

Nestlé S.A.

GLOBAL PRESENCE

More than **2,000** brands worldwide

350,000 employees worldwide

436 factories in **85** countries

$92 billion in 2015 sales

40 product technology and R&D centers

Nestlé in Virginia

Nestlé USA HQ Move to Virginia!

Governor McAuliffe Announces Nestlé USA to Relocate Headquarters to Arlington County

~ Company to invest almost $40 million and create 748 new jobs~

ARLINGTON – Governor Terry McAuliffe today announced that Nestlé USA, a subsidiary of Nestlé S.A., a leading global nutrition, health and wellness company, will invest $39.8 million to relocate its U.S. corporate headquarters operation to Arlington County from California. The company will occupy 206,000 square feet of 1812 North Moore Street, the tallest building in the metropolitan area. The project will create 748 new jobs in the area.

Nestlé

Nestlé: Sustainability & Clean Energy Commitments

Minimize waste generation

- By 2020: Achieve zero waste for disposal in our sites

Use sustainably managed renewable energy sources

- RE100

Control and eliminate emissions, including GHGs

Nestlé

Renewable Energy:
Why? And How?

- Savings and Cost Stability
- Business Need
- Responsibility and Creating Shared Value
- Making Strides
- Working with key partners and coalitions

Nestlé

Corporate Advocacy for Renewable Energy Policy

State Advocacy Principles:

- Flexibility
- Cost Effective Choices

"We support **increasing the supply of renewable energy available** through utilities and from third parties. We want utilities to provide their customers with **affordable, reliable, and clean energy**, and we believe this is possible with policies that **increase Virginia's profile as a place to do business**."

Nestlé

Action Items for Lawmakers

Progress is being made for businesses to procure renewable energy and invest in energy efficiency in Virginia, but more choices are good for business

Companies want **energy choice** and an **explicit legal framework** for procuring, leasing, and accessing renewable energy resources, including:

- Broader freedom for companies to enter into PPAs
- Cost-competitive renewable energy tariff for large buyers and faster approval processes

Nestlé

Thank You

Nestlé

Good Food, Good Life

Nestlé