Who We Are

Ceres is a non-profit organization advocating for sustainability leadership. Our mission is to mobilize investors and business to build a thriving, sustainable global economy.

Company Network
65 members in more than 20 sectors

Investor Network
100+ members representing $13 trillion AUM

Business for Innovative Climate and Energy Policy (BICEP)
30+ members

The Ceres Coalition
130+ organizations
Pathway to a 21st Century Electric Utility

Vision

• Enhanced reliability and resilience of the electric grid while retaining affordability

• An increase in cleaner energy to protect our environment and global strategic interests

• Optimized system energy loads and electric-system efficiency to enhance cost effectiveness and sustainability

• A focus on customer value, including new service choices and ease of adoption.

Foundational Principles

• Financially viable utilities are essential to fund and support an enhanced electric grid

• Policymakers must promote clear policy goals as part of a comprehensive, integrated jurisdictional energy policy or 21st Century Utility model

• Commitment to engaging and empowering customers can help them make intelligent energy choices, including third-party engagement and access to necessary data

• Equitable tariff structures promote fairness and policy goals
1. **Engage** the distribution utility to be at the center of integrating resources and stakeholder collaboration to achieve customer and policy objectives through accountability and incentives;

2. **Shift** regulatory oversight to focus on integrated distribution system planning and development of transparent accountability metrics;

3. **Ensure** that utility revenues will reflect incentives (or penalties) earned for accountability of results and new energy management services sourced through new resources, such as energy management “app” store; and

4. **Pursue** cost-effective planning to identify the most efficient technologies to be employed, and cap customer incentives based on the most economical alternatives to achieve policy goals.
Pathway to a 21st Century Electric Utility: Disruptive Forces Challenge the Business Model

A confluence of factors are posing disruptive threats to the traditional utility business model.
Pathway to a 21st Century Electric Utility:

Rising US Solar Capacity & Average Price for a New Solar System

Sources: Bloomberg New Energy Finance & Solar Electric Power Association
Pathway to a 21st Century Electric Utility: 
Goldman Sachs on the Future of Clean Energy

• Between 2015 and 2020, solar and onshore wind will likely add more to the global energy supply than US shale oil production did from 2010 to 2015.

• Between 2009 and 2014, more than $1 trillion was invested in solar and wind capacity globally, corresponding to a decrease in costs that is set to accelerate further over the next decade.

• In 2015 the world is expected to add > 100 GW of new solar PV and wind capacity (combined) for the first time ever.

• By 2025, the market for hybrid and electric vehicles could multiply tenfold to 25 million.

• By 2020, 6 in 10 lightbulbs will be LEDs.

Sources: Goldman Sachs, Future of clean Energy, November 2015
Corporate Commitments are Driving RE Demand

- 43% of the Fortune 500 companies have targets in one of three categories: 1) greenhouse gas reduction commitments, 2) energy efficiency, and 3) renewable energy.

- The Fortune 100 continues lead with 60% of companies setting clean energy goals.
  - These companies are conservatively saving $1.1 billion annually through their emissions reduction and renewable energy initiatives.

Source: Ceres, Power Forward 2.0
**Pathway to a 21st Century Electric Utility**

**Corporate Commitments are Driving RE Demand**

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>GEOGRAPHIES COVERED</th>
<th>DATE ACHIEVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>U.S., all data centers worldwide</td>
<td>2012 for data centers, 2014 for U.S. operations</td>
</tr>
<tr>
<td>Intel</td>
<td>U.S.</td>
<td>2013</td>
</tr>
<tr>
<td>Kohl’s</td>
<td>U.S.</td>
<td>2010</td>
</tr>
<tr>
<td>Microsoft</td>
<td>All global energy use</td>
<td>FY2014</td>
</tr>
<tr>
<td>The North Face</td>
<td>All U.S. stores, headquarters and distribution center, and business travel for North American employees</td>
<td>2008</td>
</tr>
<tr>
<td>Steelcase</td>
<td>Global</td>
<td>2014</td>
</tr>
<tr>
<td>Ulinever</td>
<td>U.S., Canada, and Europe</td>
<td>2013</td>
</tr>
<tr>
<td>Voya</td>
<td>U.S.</td>
<td>2007</td>
</tr>
<tr>
<td>Whole Foods</td>
<td>U.S., Canada</td>
<td>2006</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>GEOGRAPHIES COVERED</th>
<th>TARGET DATE</th>
<th>INTERIM DATE</th>
<th>MOST RECENT REPORTED %</th>
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</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>Global</td>
<td>Long-term; Not Specified</td>
<td>50% by end of 2018</td>
<td>21% (2014)</td>
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<tr>
<td>Goldman Sachs</td>
<td>Global</td>
<td>2020</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Google</td>
<td>Global</td>
<td>Long-term; Not Specified</td>
<td>N/A</td>
<td>37% (2014)</td>
</tr>
<tr>
<td>IKEA</td>
<td>Global</td>
<td>2020</td>
<td>N/A</td>
<td>59% (2014)</td>
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<tr>
<td>MARS</td>
<td>Global</td>
<td>2040</td>
<td>Reduce fossil fuel energy use by 25% by 2015</td>
<td>N/A</td>
</tr>
<tr>
<td>Nike</td>
<td>Global</td>
<td>2025</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Salesforce</td>
<td>All data centers</td>
<td>Long-term; Not Specified</td>
<td>N/A</td>
<td>43% (2015)</td>
</tr>
<tr>
<td>Starbucks</td>
<td>Global</td>
<td>Long-term; Not Specified</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Walmart</td>
<td>Global</td>
<td>Long-term; Not Specified</td>
<td>N/A</td>
<td>26% (2014)</td>
</tr>
</tbody>
</table>

Source: Clean Edge, Getting to 100
Pathway to a 21st Century Electric Utility
Utilities Are Valued Above 15-year Averages and Comparable to S&P 500

Source: BofA Merrill Lynch Global Research, Bloomberg
Pathway to a 21st Century Electric Utility: Credit Rating Agency Actions Suggest Improving Credit Quality

Source: Edison Electric Institute, Fitch Ratings, Moody’s, Standard & Poor’s
Pathway to a 21st Century Electric Utility: Unsubsidized Levelized Cost of Energy Comparison—September 2017

Certain Alternative Energy generation technologies are cost-competitive with conventional generation technologies under some scenarios; such observation does not take into account potential social and environmental externalities (e.g., social costs of distributed generation, environmental consequences of certain conventional generation technologies, etc.) or reliability-related considerations (e.g., transmission and back-up generation costs associated with certain Alternative Energy generation technologies). Diamonds typically represent expected cost in 2017, wind is for offshore, for more information see https://www.lazard.com/media/1777/levelized_cost_of_energy_-_version_80.pdf
Pathway to a 21st Century Electric Utility: Mandatory Fee Proposals Timing Map

Source: NRDC, NCLC and Vote Solar.
Do not promote efficiency of energy resource demand and capital investment;

Reduce customer control over energy costs;

Have a negative impact on low- or fixed-income customers; and

Impact all customers when a subset of customers adopt DERs and potentially exit the system altogether,

- if high fixed charges are approved, the bill for utility services increases and thus encourages customer grid exit
State policymakers pursue legislation to outline the model for a 21st Century Utility, to include:

• providing objectives and transitional targets;
• refining building standards;
• accountability metrics;
• reform of the regulatory oversight approach; and
• outlining distribution utilities participation.

Regulatory reform is enacted to support efficient resource deployment and accountability:

• multiyear integrated T&D system planning process;
• transparent and sustainable accountability metrics to be set;
• transparent and sustainable incentives (and penalties) for accountability;
• multiyear rate proceedings; and
• structure of utility revenue potential for integrating new customer services.
Tariff structures are refined to support price signals and financial viability requirements, including:

- inclining block rates;
- bidirectional meters installed for all DER customers;
- transition to highest economic value renewable rate;
- demand response to be bid into capacity planning to encourage load resource optimization; and
- time-of-use rates to be implemented to manage peaks and enhance system optimization.

Utilities are empowered and accountable for managing the transition, and are:

- held accountable for controllable results;
- encouraged to lead the integration of new technologies and given incentives;
- responsible for educating customers; and
- the potential owners of renewables, new technologies, or DERs.
Pathway to a 21st Century Electric Utility: Engaging Utilities to Drive a 21st Century Model

Benefits to Customers

• high level of recognized trust in utility providers;
• access to customer and electric system information;
• increased quality control oversight;
• enhanced information analytics;
• lowest system-wide cost of deploying optimal located investments with scale technologies.

Benefits to Policymakers

• acceleration of defined policy objectives through properly structured incentives and accountability;
• ability to enhance accountability via regulatory oversight of utilities; and
• opportunity to mitigate the level of utility rate increases required by allowing utilities to earn additional revenues related to facilitating, integrating or owning new services, including behind-the-meter assets.
Pathway to a 21st Century Electric Utility: Engaging Utilities to Drive a 21st Century Model

Benefits to Competitive Marketplace Service Providers
• endorsement of best-in-class providers and technologies;
• increased adoption of new value-add technologies; and
• Reduce customer acquisition costs and thus enhance profitability (through reduced cost and increased volumes).

Benefits to Utilities
• enhanced customer service by increasing interactions with customers;
• optimized investment and reduce costs and risks;
• enhanced regional economic growth;
• enhanced citizenship profile;
• potential to earn incentives for achieving accountability goals; and
• ability to earn additional revenues from participation and thus offset rate-increase needs and earn incremental returns for investors.
Pathway to a 21st Century Electric Utility: Energy Management Applications Store
Pathway to a 21st Century Electric Utility:
Responses to Evolving Electric Utility Models
Pathway to a 21st Century Electric Utility:
The Pathway

- State policymakers pursue legislation to outline the model for a 21st Century Utility;
- Regulatory reform to support efficient resource deployment and accountability;
- Tariff structures refined to support price signals and financial viability requirements;
- Utilities empowered and accountable for managing the Transition.
Thank You!

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