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Powering Sustainability

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by Kenneth M. Kulak[1]

Recent focus on distributed generation has not addressed how companies will fully meet increasing sustainability commitments, including goals of being "100% powered by renewable energy." Customers and utilities are exploring new approaches that may close the gap between corporate sustainability commitments and energy offerings.

I. Introduction

In 1747, Peter Collinson, the London agent of the Library Company of Philadelphia, shipped an "electric tube" to Benjamin Franklin that could be used to generate and transfer static electricity. In a subsequent letter of gratitude to Collinson, Franklin – a man known for his wide-ranging interests – wrote that as a result of his introduction to electricity, he "never was before engaged in any study that so totally engrossed [his] attention and [his] time as this has lately done" and that he "had little leisure for anything else."[2]

History does not tell us whether Franklin's studies of electricity expanded to the contemplation of distributed generation, but that subject appears to have now reached a Franklin level of engagement among utility executives, renewable energy developers, and regulators. Unfortunately, Franklin's feelings of enthusiasm and gratitude for the opportunity to further his studies do not appear to be equally shared in recent regulatory explorations of distributed generation, particularly among those who expect to participate in years of proceedings as different stakeholders work through a landscape of evolving energy markets, requirements, and incentives.

In light of the certainty of additional distributed generation-related regulatory initiatives and decisions in the near future, this article examines broader goals of corporate customers seeking to procure more renewable energy. Despite all the publicity and analysis of the rapid growth of distributed generation and the associated challenges for utility business models, little attention has been given to what regulatory structures will actually allow these key customers of both utilities and distributed generation developers to fully achieve their announced energy and sustainability goals.

II. Corporate Commitments to Renewable Energy

Many readers of the *Electricity Journal* are well aware of the growth of state renewable portfolio standards ("RPS") across the country.[3] With 29 states (plus Washington, D.C. and two U.S. territories) imposing requirements for utilities to purchase or use renewable energy (or the characteristics of such energy

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[2] Letter of Benjamin Franklin to Peter Collinson, March 28, 1747.

[3] *See, e.g.*, Lynne Holt & Mary Galligan, *States' RPS Policies: Serving the Public Interest?*, 26:10 Elec. J. 16-23 (December 2013). Excellent (and regularly updated) maps showing RPS requirements and related distribution generation "set-asides" are available at http://www.dsireusa.org.

represented by renewable energy credits, or "RECs") and an additional eight states and two territories adopting renewable energy goals, there is widespread understanding that investor-owned utilities and many competitive energy suppliers have significant legal obligations to procure renewable energy. In some states, these obligations include specific "set-asides" for distributed generation (with solar either required or usually selected as the distributed generation technology of choice).[4]

Those legal obligations, in turn, have driven the development and deployment of renewable energy in the United States and continue to do so. An estimated 109 gigawatts ("GW") of additional renewable energy capacity must be built to satisfy RPS requirements under existing state law.[5]

What is less appreciated is the extent to which an increasing number of major U.S. corporations have set their own renewable energy goals and made significant commitments to procure such energy without any legal requirement to do so. Some goals and commitments have received greater attention than others, but many are notable in both scope and range as well as in the identities of the companies with operations in the service territories of utilities across the country. For example:

- **Walmart** set a goal of being 100% supplied by renewable energy, with an intermediate deadline of procuring seven billion kilowatt-hours ("kWh") of renewable energy globally by December 31, 2020.[6]

- **Google** set a goal of being 100% supplied by renewable energy as well, and has already attained a "zero carbon footprint" for all of its operations.[7]

- **Unilever** intends to double its use of renewable energy to power 40% of its operations by 2020.[8]

- **Sprint** committed to obtaining 10% of the electricity used in powering its entire cellular network from renewable energy sources by 2017.[9]

These companies are not the only ones publicly stating and implementing their renewable energy plans. As reported by Ceres, a network of investors, companies, and advocacy groups, 59% of the Fortune 100 companies have made renewable energy commitments or set goals for greenhouse gas emission reductions for their operations, or both.[10] Those companies also span a range of industries as shown in the following chart:[11]

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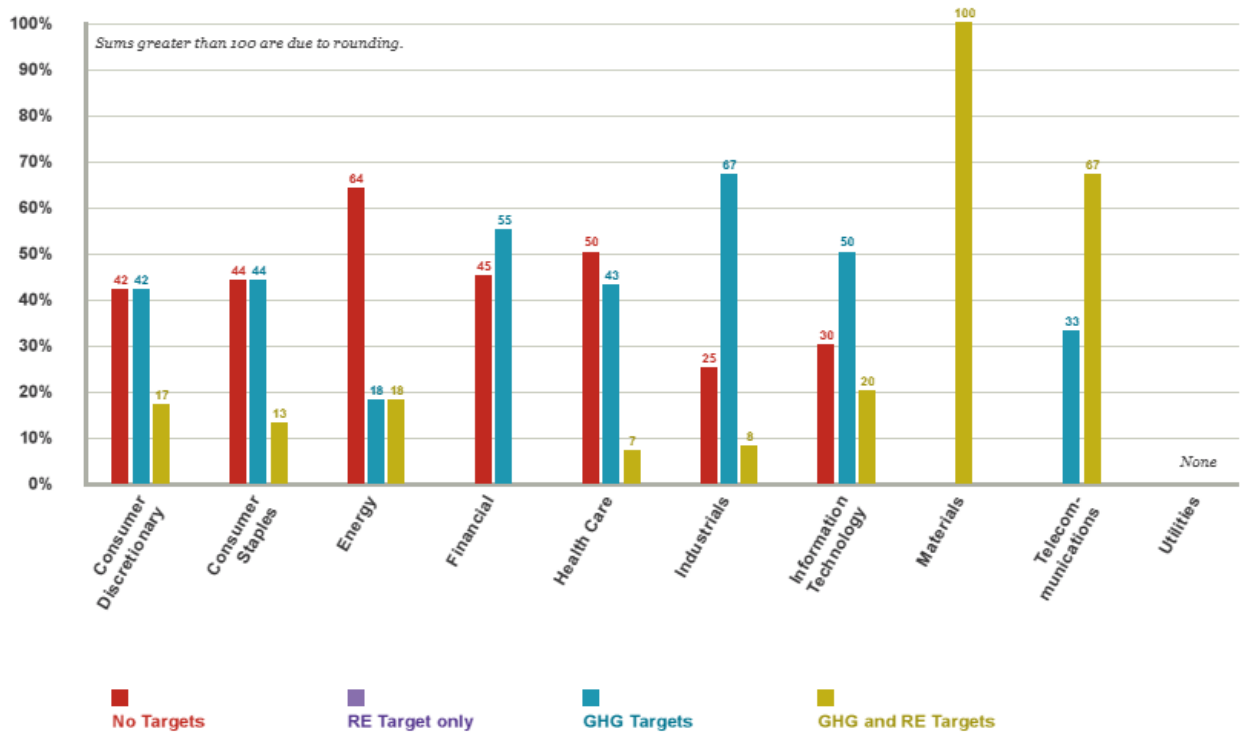
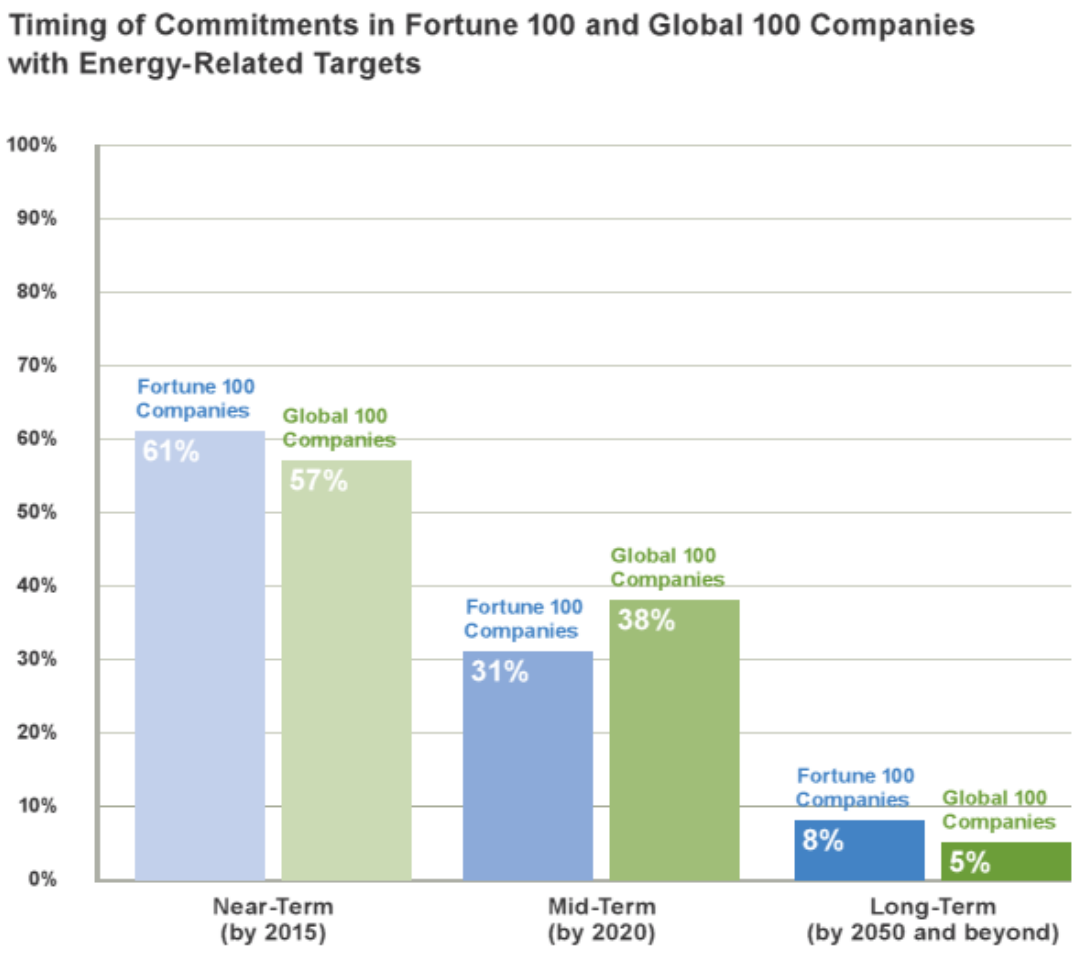
[4] *See id*., pp. 18-19.
[5] *See* Galen Barbose, Renewables Portfolio Standards in the United States: A Status Update (November 19, 2013), *available at* http://emp.lbl.gov/sites/all/files/naruc-nov-2013.pdf.
[6] http://corporate.walmart.com/global-responsibility/environment-sustainability/energy.
[7] http://www.google.com/green/energy/.
[8] http://www.unilever.com/sustainable-living/greenhousegases/biofuels/.
[9] https://www.sprint.com/responsibility/ouroperations/index.html.
[10] David Gardiner & Associates, POWER FORWARD WHY THE WORLD'S LARGEST COMPANIES ARE INVESTING IN RENEWABLE ENERGY ("POWER FORWARD"), p. 2, available at http://www.ceres.org/resources/.
[11] *Id*., p. 3. No goal is shown for the utilities sector in the accompanying chart as no utility is in the Fortune 100.



Furthermore, while 100% of the goals of some of the major corporations undertaking renewable energy commitments do not have particular deadlines, many of these companies have made commitments with near-term horizons as shown below:[12]

[12] *Id.*, p. 12.



Why are these companies setting such goals and commitments? Ceres believes there are several factors, and highlights "response to consumer interest and demand" as well as business goals associated with managing energy costs and hedging against future energy price increases or volatility.[13] But companies are also clearly responding to the efforts of groups of investors focused on company climate change related commitments, including the Investor Network on Climate Risk (organized by Ceres, with over $11 trillion under management).[14] Related efforts by the internationally focused Carbon Disclosure Project (which reports membership of investors with over $87 trillion in assets) includes regular surveys of companies worldwide regarding their renewable energy commitments and publication of the results (or lack of response).[15]

There is no indication that leading corporations will simply accept or rationalize failure to achieve such publicized goals, or that advocacy groups will not seek to spotlight compliance failures regardless of what effects possible market conditions could have on the price of achieving various energy targets. To the contrary, some companies who have established key targets appear to be increasingly involved in lobbying for renewable energy policies perceived as being helpful to achieving their goals: for example, during the last congressional battle over the wind protection tax credit ("PTC"), a coalition of technology, consumer

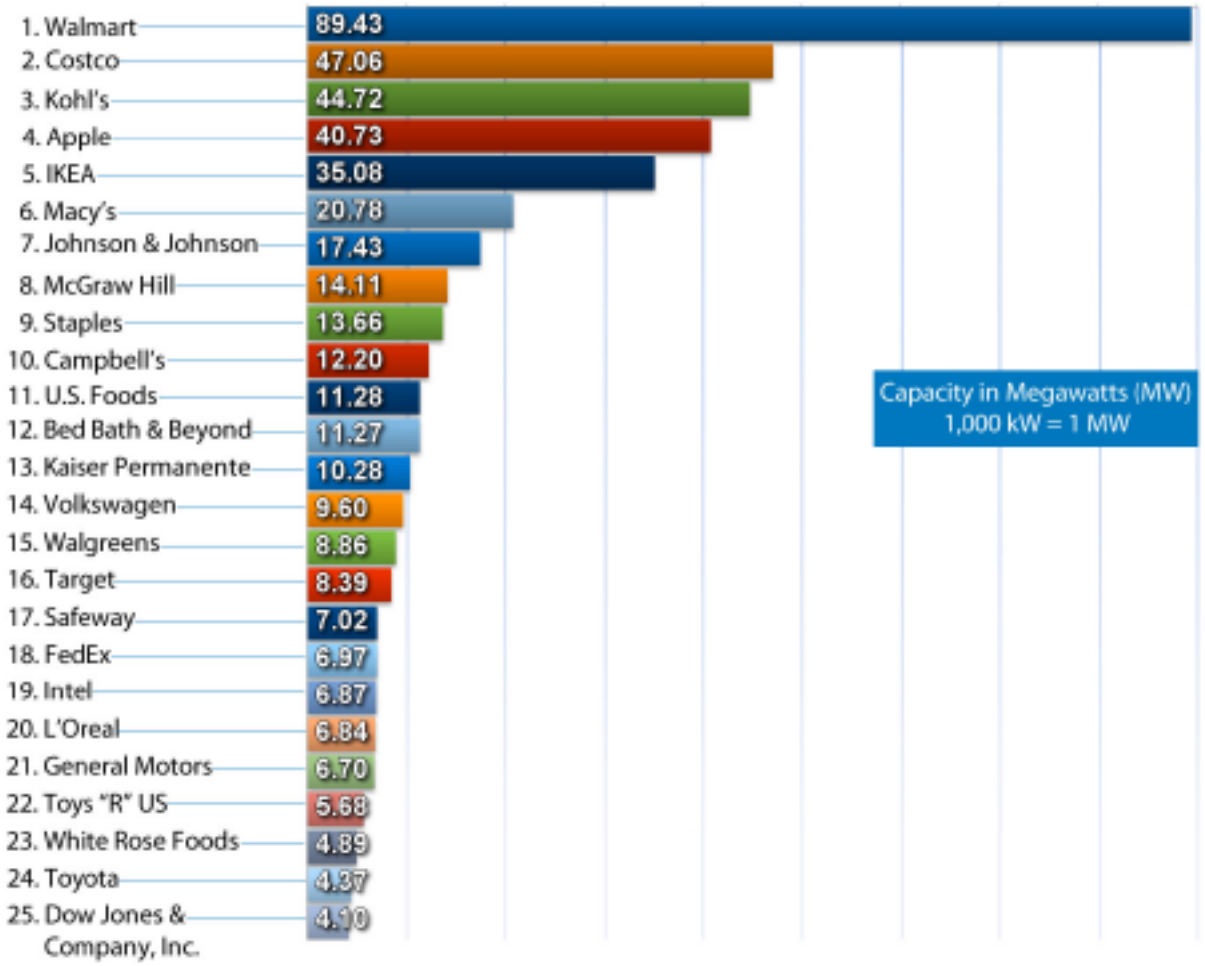
[13] *Id.*, p. 18.
[14] http://www.ceres.org/investor-network.
[15] *See, e.g.*, Carbon Disclosure Project, CDP S&P 500 CLIMATE CHANGE REPORT 2013: INVESTMENT, TRANSFORMATION AND LEADERSHIP, available at https://www.cdp.net/CDPResults/CDP-SP500-climate-report-2013.pdf.

goods, real estate and manufacturing companies (including Microsoft, Nike, Starbucks, and Jones Lang LaSalle) joined in support of a PTC extension.[16]

III. Achieving Corporate Commitments Through Distributed Generation

Distributed generation has emerged as a key tool in achieving corporate renewable energy commitments. A number of "big box" retailers have invested in distributed solar projects for their facilities as shown in the following chart, with the top 25 retailers now operating over 445 megawatts of solar capacity at more than 950 facilities in the United States – an increase of more than 40% over 2012.[17] While not all of these retailers have made substantial renewable energy commitments, Walmart – with its 100% renewable energy commitment – has made the most substantial investment in distributed solar generation among these companies, with more solar capacity installed at its facilities than the total amount of solar capacity in 38 states.[18] Notably, IKEA has installed distributed solar capacity at 89% of its U.S. facilities as part of its own 100% renewable energy commitment.[19]

[16] *See* "BICEP Companies and Major Consumer Brands Tout Economic Benefits of Wind Power and the Production Tax Credit," dated September 18, 2012 (available at http://www.ceres.org/press/press-releases/business-leaders-urge-congress-to-extend-renewable-energy-tax-credit).
[17] *See* Solar Energy Industries Association (SEIA) and Vote Solar, *Solar Means Business 2013: Top Commercial Solar Users* (available at http://www.seia.org/research-resources/solar-means-business-report) ("*Solar Means Business*").
[18] Tom Randall, "Walmart Now Draws More Solar Power Than 38 States," October 25, 2013, available at http://www.bloomberg.com/news.
[19] *Solar Means Business*, p. 10.



The level of interest in sustainable energy may never have been greater, but distributed generation – and the desire of large non-residential customers for innovations in utility services and electric markets to access potential lower prices – is not new.[20] And readers of the *Electricity Journal* are already familiar with many of the major questions being posed regarding distributed solar generation in the context of traditional utility rate structures and regulation, including potential benefits and challenges of distributed solar generation for local distribution grids, the effects of net metering structures on utility revenues and customer cross-subsidization, and the possible conflicts between incentivizing distributed generation in place of energy conservation or energy efficiency.[21] As distributed generation and particularly net metering regulatory proceedings progress, several features of distributed generation installed by customers who have made significant sustainability commitments may become relevant for more extended consideration:

[20] *See, e.g.*, David P. Spence, *The Politics Of Electricity Restructuring: Theory Vs. Practice* (discussing growth of qualifying facilities under Public Utility Regulatory Act of 1978 and observing that "[w]holesale and retail buyers alike sought access to this less expensive power, but many were prevented by traditional public-utility regulation from purchasing it"); Richard F. Cudahy, *Whither Deregulation: A Look At The Portents*, 58 N.Y.U. Ann. Surv. Am. L. 155, 170 (2001) (explaining that "the strong push, primarily of large industrial customers (and these were the real force behind deregulation), was for retail competition (competition for end users)" and "[t]o large industrial users, cheaper power was worth fighting for").

[21] *See, e.g.*, Joseph Wiedman and Tom Beach, *Distributed Generation Policy: Encouraging Generation on Both Sides of the Meter*, 26:8 Elec. J. 88 (October 2013); Ashley Brown and Louis Lund, *Distributed Generation: How Green? How Efficient? How Well-Priced?*, 26:3 Elec. J. 28 (April 2013) ("Brown and Lund"); *see also* "Will California Get its Tariffs Right"?, 26:10 Elec. J. 1 (December 2013).

- **Focus on Distinctions of Commercial Customers.** Because a demand charge is often incorporated into the amounts non-residential clients are charged for electric utility service in contrast to primarily volumetric rates charged to residential customers, the rate impact of expanding corporate distributed generation growth may be substantially different than rate impacts of residential customers installing solar systems. Furthermore, the decision of a large corporate customer to install a distributed generation system at one facility is often a part of a comprehensive energy strategy across different properties and utility service territories.[22] As in other ratemaking areas, a distributed generation solution or compromise for residential customers may not address the more complex rate structures and commercial goals of corporate customers installing a larger number of systems or systems with greater capacity, and there will be opportunities to further tailor mechanisms to simplify interconnection and reduce transaction costs for both these customers and utilities.

- **Distinguishing Distributed Generation.** All distributed generation is not the same, and the distinct profiles, advantages and disadvantages of different forms of generation (e.g., combined heat and power, with or without supplemental solar generation) may require or justify more flexible rate structures. In the near future, distributed generation structures will also need to consider the potential for overlapping jurisdictional issues and interaction with competitive retail markets, as companies seek federal market-based rate authority and invest in larger-scale renewable generation, which they may choose to employ at their own facilities along with distributed resources.[23]

- **Alternative Ownership Structures and Incentives.** Over the past several years, third-party ownership of distributed solar projects – where an entity other than the utility customer owns and operates a solar system installed on the premises of that customer for a long-term period (e.g., 20 years) in order to defray the cost of the system – has surged and was responsible for over half of residential sector solar deployment in 2013.[24] For commercial customers, the calculus for using third-party ownership can be different: some companies with sufficient earnings may determine that they are comfortable with the risks of long-term ownership and are able to monetize federal and state investment tax credits that can reduce the cost of a system by up to 50%, but other companies will be more comfortable with shifting ownership and maintenance risk to solar developers. Most customers who have made sustainability commitments, however, will insist on ownership of RECs that may be generated by any distributed generation system on their properties since such credits must be "retired" by the customer and not transferred to other entities (including utilities, which might wish to use the same REC for RPS compliance, or developers who would seek to monetize the REC value to obtain additional revenue). While that issue is typically a matter of contract between a "host" customer and the developer of the solar system, allocation of renewable energy credits will not be a "one size fits all" issue in calculation of benefits that may accrue from a solar system.

- **Interaction with Energy Efficiency.** As Ashley Brown and Louise Lund have observed, there are a range of tensions between energy efficiency and distributed generation: while both can lead

[22] *See* "Walgreens to Expand Solar Energy Installations to More Than 200 Stores," available at http://news.walgreens.com/article_display.cfm?article_id=5757.
[23] *See* Ebay Inc., FERC Docket No. ER13-1747-001 (September 5, 2013) (granting authority to facilitate Ebay operation of fuel cell system); Google Energy LLC, 130 FERC ¶ 61,107 (February 18, 2010) (stating intent to operate as a power marketer).
[24] Solar Electric Power Association and Electric Power Research Institute, "Assessing Opportunities for Utilities and Third Party Owned Solar Developers to Collaborate," available at www.solarelectricpower.org ("SEPA Collaboration Report").

to erosion of utility revenues, energy efficiency results in reductions in system demand instead of alternative energy that must be paid for.[25] From a corporate customer seeking to achieve sustainability commitments, however, the tensions are different: both renewable generation and energy efficient facility upgrades will each contribute to meeting sustainability commitments, but both must be paid for, and the issues become linked with broader corporate issues of capital expenditure and estimated payback periods. While the payback periods for energy efficiency can be relatively short,[26] the lack of established financing structures to meet upfront financial requirements may affect a customer's purchasing decision more than the treatment of excess generation, particularly if the risk of excess generation is to be reallocated to a third party owner.

Even if policies are adopted that address many of the above issues and facilitate distributed generation in a manner that supports corporate investment and maintains the critical grid capabilities relied upon by corporate customers, the gap between "100% renewable" and the electric outlet will remain well into the future despite the increasingly renewable generation mix resulting from RPSs.[27]

IV. REC Market Developments

Many companies who seek to demonstrate their commitment to renewable energy buy RECs in the voluntary green power market, which has grown substantially over the past several years with 2012 sales representing approximately 1.3% of total U.S. electricity sales.[28] According to a recent study by the National Renewable Energy Laboratory ("NREL"), "more than half of all U.S. electricity customers have an option to purchase some type of green power directly from a retail electricity provider, while all consumers have the option to purchase RECs."[29] These options are usually offered through utility "green pricing" and, in competitive retail markets, through retail marketers who typically "bundle" wholesale power supply with a supply of RECs; "unbundled" RECs are also purchased by individuals and corporate customers independent of any utility or retail supplier option to match their electricity consumption.[30]

The difference in market size between the combined sales of utility green pricing options and green power competitive suppliers and the unbundled REC market is significant; using 2012 data, NREL estimates the market size of the unbundled REC market at 14,900 megawatts ("MW"), with utility and competitive supplier green offerings totaling 2,400 MW.[31] Notably, 98% of the unbundled REC sales are to business and institutional customers, who elect this option for a variety of reasons including flexibility, simplicity in

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[25] Brown & Lund, p. 34 n.4.
[26] *See generally* Rhodium Group, UNLOCKING AMERICAN EFFICIENCY THE ECONOMIC AND COMMERCIAL POWER OF INVESTING IN ENERGY EFFICIENT BUILDINGS, available at http://www.naturalleader.com/.
[27] California's investor-owned utilities are procuring nearly 20% of their customers' energy demand from renewable resources. *See* California Public Utilities Commission, Renewables Portfolio Standard Quarterly Report: August 2013, available at http://www.cpuc.ca.gov/NR/rdonlyres/68D58BFE-E350-4D49-B3D6-DAB43B806A5F/0/2013Q2RPSReportFINAL.PDF. For one view of a timeline and challenges, *see* Ronald L. Lehr, *New Utility Business Models: Utility and Regulatory Models for the Modern Era*, 26:35 Elec. J. 35 (October 2013) (discussing challenges to achieving 80% of all U.S. electricity generation from renewable technologies in 2050).
[28] J. Heeter and T. Nicholas, STATUS AND TRENDS IN THE U.S. VOLUNTARY GREEN POWER MARKET (2012 DATA), October 2013 ("Heeter & Nicholas"), p. 6, available at www.nrel.gov/publications.
[29] *See id.*
[30] *See* Geoff Bromaghim (American Clean Skies Foundation), BUYING GREEN POWER TODAY: EMERGING OPTIONS FOR U.S. ELECTRICITY CUSTOMERS ("Bromaghim") p. 10, available at www.cleanskies.org, ("Almost all 'green pricing' plans rely on the purchase of wholesale conventional power that is paired with RECs (typically purchased from a broker) to match the amount of green electricity delivered to end-use customer"); *see also* Heeter & Nicholas, p. 1 ("More than 25 companies offer unbundled RECs to retail customers via the Internet, and a number of other companies market RECs solely to commercial and wholesale customers.").
[31] Heeter & Nicholas, p. 3.

procurement across multiple facilities without complicated other retail energy supply arrangements, and potential savings.[32] Non-residential participation in utility and competitive green power programs appears to have declined in 2012 while the unbundled REC market – with RECs typically priced well below bundled offerings – increased by over 50% and the number of participating customers doubled.[33]

While the emergence and expansion of corporate customers purchasing unbundled RECs to "green" the electricity they are purchasing might be regarded as a positive development, and established REC standards help to ensure that renewable energy comes from newer facilities in regions where the associated electricity will be consumed,[34] there is increasing concern as to whether procurement of unbundled RECs actually leads to significant new renewable energy or simply reallocates existing renewable generation.[35]

V. Investing in New Structures and Partnerships

Perhaps unsurprisingly, Google – which has made a 100% renewable energy commitment as well as invested over $1 billion in renewable energy projects – has devoted some effort to considering its options. In a 2013 paper entitled "Expanding Renewable Energy Options for Companies Through Utility-Offered 'Renewable Energy Tariffs,"[36] Google evaluated three options for expanding its use of renewable energy:

- **RECs**. While relatively simple to procure in light of the established unbundled REC markets, Google concluded that RECs alone do not offer assurance that Google's purchases will in fact result in additional renewable power generation that might otherwise not exist. Therefore, Google does not purchase any RECs that are "unbundled" from the underlying renewable energy.

- **On-site generation**. Google has installed on-site solar systems at its corporate headquarters but observes that such systems typically do not produce sufficient electricity to power large facilities 24/7 and therefore require power to be procured from a local provider, which typically reflects a local generation mix that "can be quite carbon intensive."

- **Power purchase agreements**. Google has executed several power purchase agreements in which it buys power and "bundled" RECs from a new renewable energy project, with the power delivered to the local grid where its facilities are located. Other companies have also pursued this

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[32] *Id.*, p. 12; *see also* Bromaghim, p. 11 (noting additional benefits to customers who lease space and are not utility customers, and possibility of buying higher-quality RECs).
[33] *Id.*, pp. 12, 17, & 43. NREL reports that the average price "premium" for retail purchase of green power was about $0.023/kWh in 2012, while retail REC prices range from $0.005 to $0.025/kWh with lower prices available to large commercial customers. *Id.*, p. 20.
[34] Heeter & Nicolas, p. 19 (noting rolling 15-year window used by Green-e, a widely recognized certification program for RECs).
[35] *See, e.g.*, Bromaghim, pp. 11-13 (discussing "weak impact on additionality" of new renewable resources); POWER FORWARD, p. 19 (noting attractiveness and increasing popularity of power purchase agreements and distributed generation where companies are concerned that REC purchases may not deliver new or additional renewable energy). A recent paper concludes that the voluntary market does not lead to significant renewable investment in part because the procurement of RECs do not provide long-term price signals to renewable energy developers. *See* M. Gillenwater, X. Luc, & M. Fischlein, *Additionality of wind energy investments in the U.S. voluntary green power market*, Renewable Energy 63 (January 2014). Even under utility programs, where the associated green power is typically generated within the utility's region, NREL reports that more than half of utility procurement comes from unbundled RECs under contract for less than five years, which is inconsistent with the long-term contracts used to facilitate renewable generation financing. *See* Heeter & Nicolas, p. 11.
[36] Available at https://static.googleusercontent.com/external_content/untrusted_dlcp/www.google.com/en/us/green/pdf/renewable-energy-options.pdf.

option, ensuring that the renewable generation procured is additional.[37] Google observes, however, that these arrangements require active management of power purchase and sales and puts Google in a business it does not wish to be in.

As an alternative, Google argues for a "renewable energy tariff" in which individual companies can obtain bundled renewable energy by making long-term commitments to purchase such bundled energy – with all costs limited solely to the customers who take service under the applicable renewable tariff. Utilities would contract for large-scale, cost-effective additional renewable energy projects to meet these particular customers' needs, with what Google hopes would be increased economic development and renewable energy growth in the regions in which it operates. Notably, Google proposes that customers who choose to be on this tariff should be permitted to select renewable resources that could be procured to meet the customer's demand (allowing a customer – such as Google – to select one of the facilities in which it has invested, and thereby meet its requirements for additionality of new generation, as well as ensuring a long-term, financially reasonable offtake).[38]

Versions of this renewable energy tariff – in effect, a tariffed rate by a traditionally regulated utility tailored for customers who wish to pay more for renewable energy, without creating more obligations for other customers – have already been approved in North Carolina and Nevada.[39] Duke Energy's Green Source Rider pilot program, recently approved by the North Carolina Public Utilities Commission, is designed to give energy-intensive customers in an otherwise traditional, vertically integrated energy market a renewable choice to offset some or all of their energy consumption. Customers in the program contract for renewable energy delivered by Duke Energy, with the RECs associated with that renewable energy retired by the utility in the customer's name - effectively giving the customer the right to count those RECs toward meeting their sustainability goals. Notably, Duke Energy would not be able to count those RECs toward its statutory RPS obligation in North Carolina. The Duke renewable energy tariff also provides that customers can negotiate commitments of up to 15 years – consistent with the term of many power purchase agreements.

Similarly, in Nevada, customers of Nevada Energy are able to select between a 50% and 100% renewable energy portion of their metered energy use, with a portion of the associated RECs retired on their behalf and a portion used to satisfy RPS requirements; under a second option, designed to attract companies seeking to obtain renewable energy beyond that available under RPSs, Nevada Energy will enter into a contract (subject to commission approval) for all or a portion of a new renewable resource. In all of these arrangements – and of particular significance to regulators – non-participating customers should be protected from rate increases associated with the procurement of additional renewable energy and an overall kWh participation cap is in place.[40]

Such offerings have the potential to deliver some of the cost savings and protection from future increases in generation rates that corporate customers may seek through a net-metered distributed generation project or long-term power purchase agreements. They may also provide some of the tangible benefits of locally produced renewable energy that may be desirable to convey as part of a company's broader sustainability commitment. These offerings – by traditionally regulated utilities to date – provide a complementary mechanism to distributed generation that can help a corporate customer achieve greater sustainability goals, and may further encourage retail suppliers in competitive markets to offer similar products.

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[37] POWER FORWARD, p. 22 (discussing wind PPAs executed by Sprint).
[38] *See id.*, pp. 1-4; *see also* Lehr, *supra* note 26, at 43 (providing metaphor of utility as orchestra conductor, and suggesting that some customers may want "to own a wind plant and have wind energy delivered by the utility to their computer server farm").
[39] *See In the Matter of Application by Duke Energy Carolinas, LLC, for Approval of Rider GS (Green Source Rider) Pilot*, Docket NO. E-7, SUB 1043, N.C.U.C. (December 19, 2013) ("Duke Green Source Rider Approval"); *Re Sierra Pac. Power Co. dba NV Energy*, Docket No. 12-11023, 305 P.U.R.4th 446, 2013 WL 3353324 (Nev. P.S.C. 2013).
[40] *See id.*

Significantly, they provide a means by which increasing 100% corporate renewable energy commitments may be achievable in both traditional and competitive markets during a period when the regulatory policies associated with distributed generation may be in flux.

Beyond renewable energy tariffs, both solar companies and utilities are also creating new partnerships that can be integrated with other offerings to facilitate customer achievement of sustainability goals. As described by the Solar Electric Power Association in a recent publication on opportunities for both utilities and third-party providers of distribution generation services, several utilities and solar companies are already cooperating through investment and joint programs:

- NextEra Energy and Edison International have each purchased third party solar providers, expanding their ability to deliver services to corporate customers;

- A subsidiary of Pacific Gas & Electric ("PG&E") has invested in tax equity funds run by two major solar developers (SolarCity and SunRun) through a subsidiary in which PG&E will profit as a result of expanded distributed solar projects installed by these companies.[41]

IV. Conclusion

After Benjamin Franklin wrote to Peter Collinson thanking him for the "electric tube," Franklin continued to correspond with Collinson and subsequently sent him several letters detailing his electric experiments. Collinson packaged up Franklin's letters and published a small book, "Experiments and Observations on Electricity Made in Philadelphia in America," which led to Franklin's experiments being copied throughout Europe and a very welcome reception for Franklin when he subsequently traveled to Europe to raise support for the American Revolution.

A wide variety of corporations are engaged in sustainability experiments and sharing their concepts, challenges, and "best practices" for achieving their goals. The attraction of distributed generation for many of these customers is strong, but other customers are seeking complementary strategies that will integrate distributed generation with different energy programs. We cannot know exactly what the next equivalent of "Experiments and Observations on Electricity" will be, but the resulting collection of programs and project implementations may have another type of revolutionary effect.

[41] SEPA Collaboration Report, p. 8.