



The Inexorable Rise of Renewables

16. November. 2017





a project of



Our industry can and must respond to climate change.

Make a commitment to climate in one or more areas!



Integrate carbon farming into the agricultural supply chains



Increase energy efficiency



Reduce food-waste in the supply chain



Remove commodity-driven deforestation from supply chains



Responsible engagement in climate policy



Reduce the climate impact of packaging



Commit to 100% renewable power



Reduce short-lived climate pollutant emissions



Reduce climate impacts of transportation



Our Impacts

Year One Goal
reached
in 6 months

136

COMMITTED
COMPANIES

526

COMMITMENTS

12 Companies
committed to all 9 Areas

1ST

CLIMATE
DAY

500⁺

ATTENDEES

1,500⁺

LIVESTREAM
AUDIENCE

6000⁺

Views of the
Climate Day Video

47

Committed to
100% Renewable Energy!



"The business community must lead the way toward climate change solutions. Our investment in solar power for our bakery is an example of a win-win for sustainability and the bottom line, and we hope our positive experience can help other businesses head down a similar path."



AARON ANKER
CHIEF GRANOLA OFFICER
GRANDYOATS





TAKE ACTION

BLOG

MEDIA & RESOURCES

EVENTS

ABOUT

DONATE



More companies are taking action to reverse climate change than ever before. They're tackling this global challenge not only because it's essential to the future of our planet but also because doing so offers tremendous opportunities for growth, job creation, and prosperity.

Companies can help reverse climate change by making a commitment to one or more of these initiatives.

WHY TAKE ACTION?

Climate change is both the greatest threat our planet has ever faced

MAKE A COMMITMENT



SIGNUP FOR UPDATES

Add Your Email Address



Made Possible by these Generous Donors!

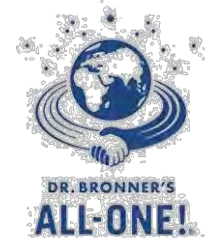
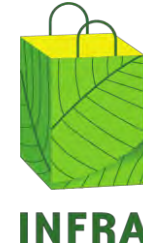
Climate Collaborative Catalysts



Climate Collaborative Champions



Presence
PRESENCE MARKETING DYNAMIC PRESENCE



Climate Collaborative Leaders



CHEER PACK
NORTH AMERICA



LOTUS FOODS
RICE IS LIFE™



KeHE



REBBL

Climate Collaborative Allies

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**Our
Speakers**

Moderator: **Lisa Spicka**
Associate Director
SFTA



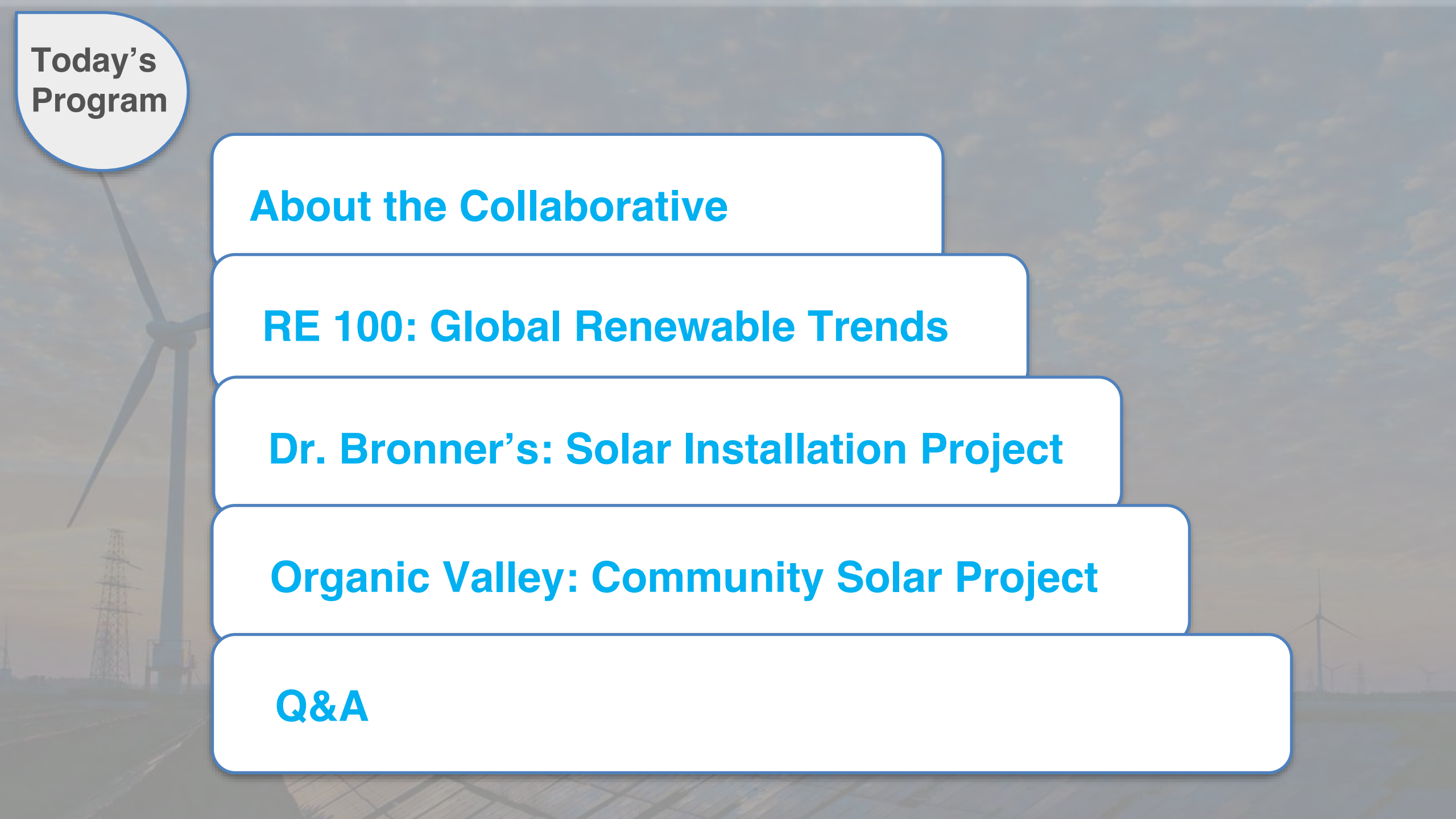
Constant Alarcon
RE 100 Campaign Manager
The Climate Group



Kris Lin-Bronner
*Strategic Advisor &
CSR Manager*
Dr. Bronner's



Jonathan Reinbold
*Sustainability, Research,
and Grants Manager*
Organic Valley



**Today's
Program**

About the Collaborative

RE 100: Global Renewable Trends

Dr. Bronner's: Solar Installation Project

Organic Valley: Community Solar Project

Q&A



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Global Renewable Trends

RE 100's Global Challenge

RE

100



Global trends in corporate RE purchasing



RE100

- 116 global, market-influencing members, 156 TWh of electricity consumption
- Committed to purchase 100% of renewable electricity for all their operations
- Showcasing ambition, celebrating successes, supporting achievements





RE 100



“We have to be the ripple on the pond. We can’t just be 100% renewable energy – we have to bring others with us”

- Lisa Jackson, Vice President of Environment, Policy and Social Initiatives, Apple

**JOIN THE WORLD’S MOST INFLUENTIAL COMPANIES
COMMITTED TO 100% RENEWABLE POWER**

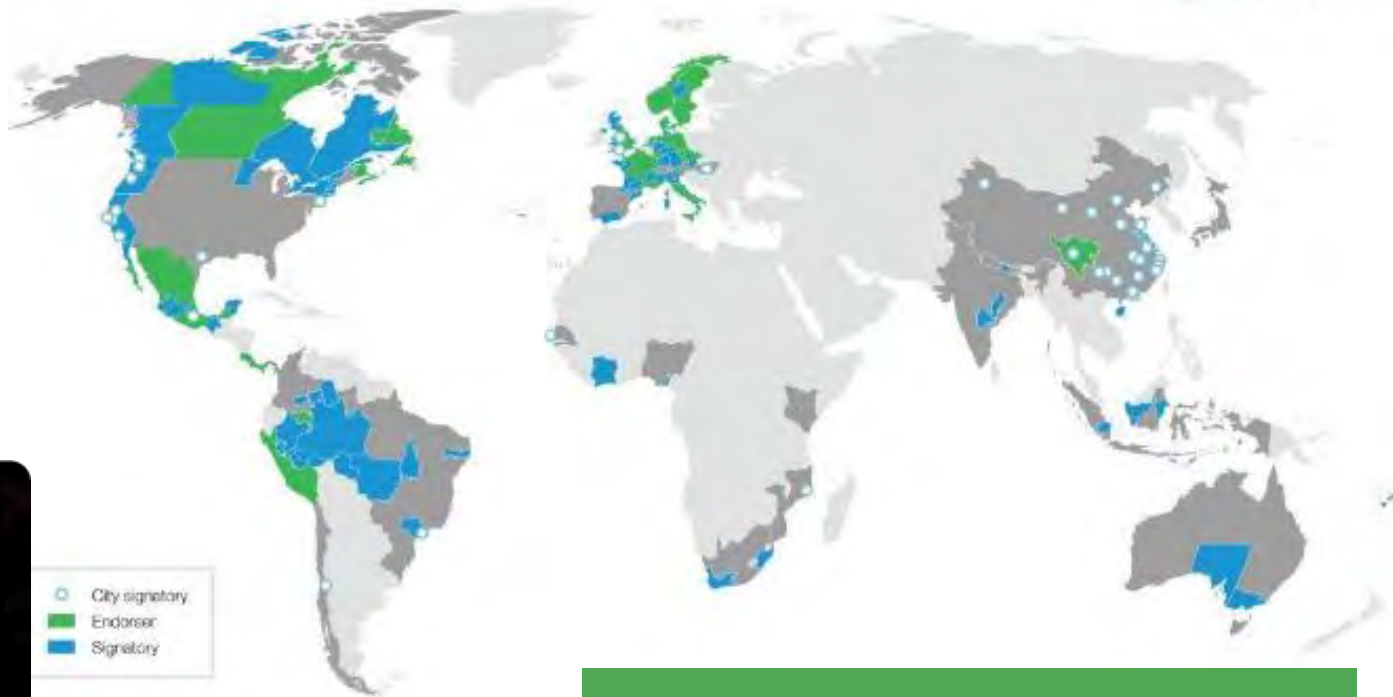
“Partnership is very, very important for us... we can learn from other industries; we would like to collaborate with others.”

**Flemming Besenbacher, Chair of Board,
Carlsberg Group, #CWNYC 2017**

BEYOND RE100



THE UNDER2 COALITION



- City signatory
- Endorser
- Signatory

187 signatories and endorsers

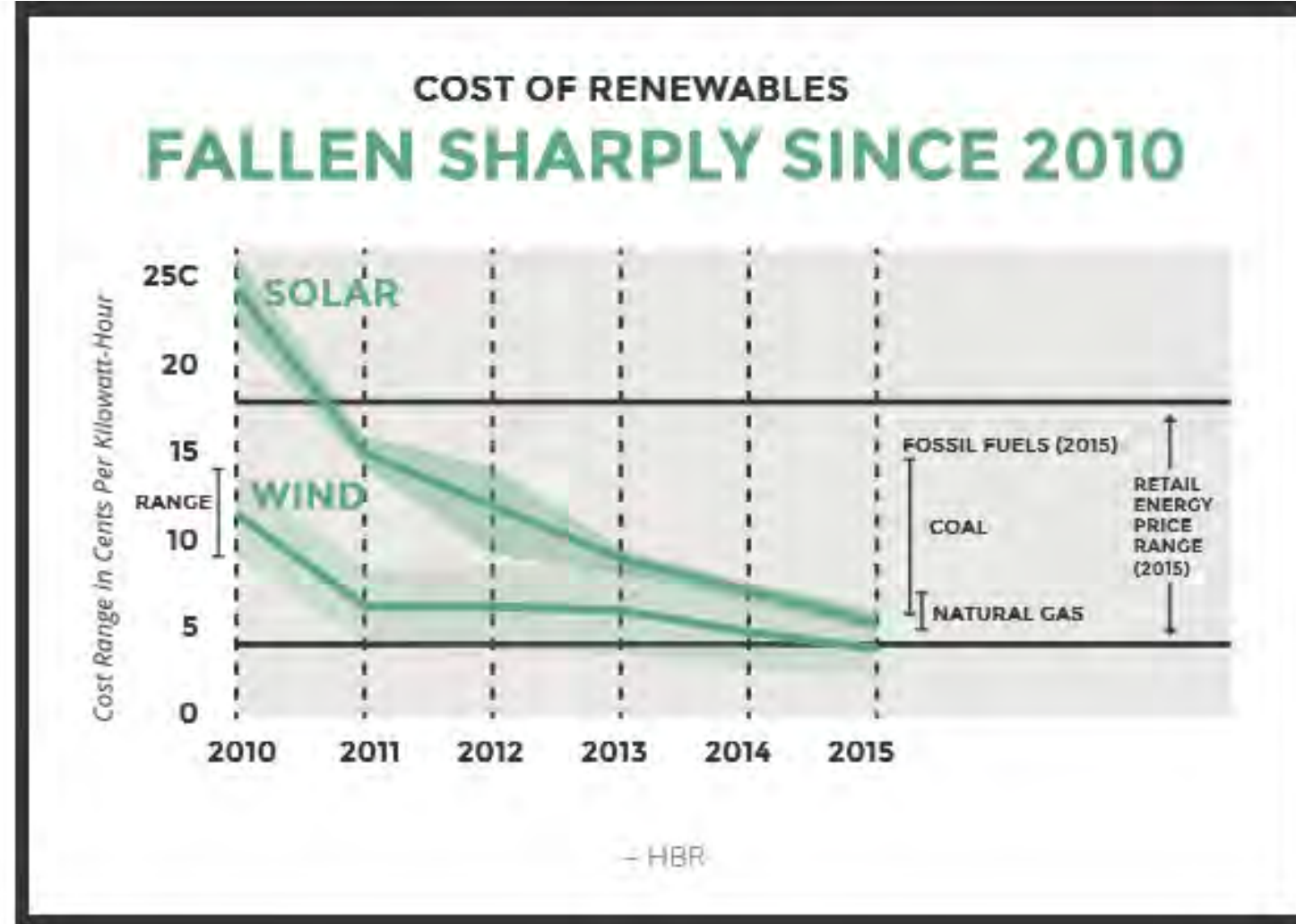




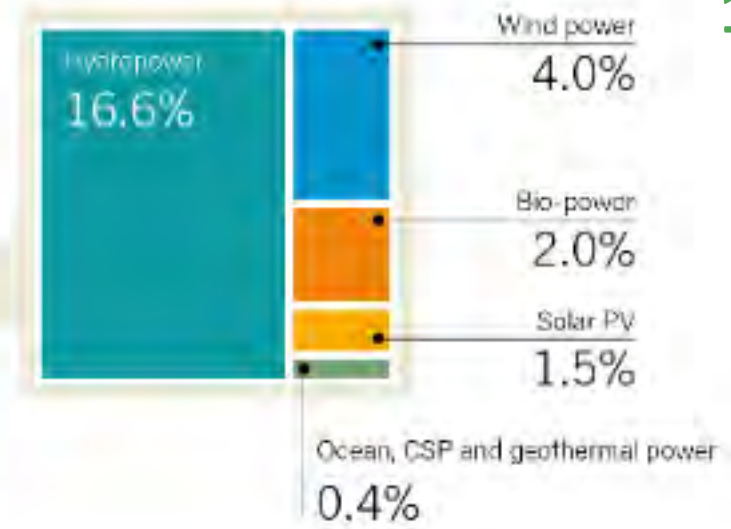
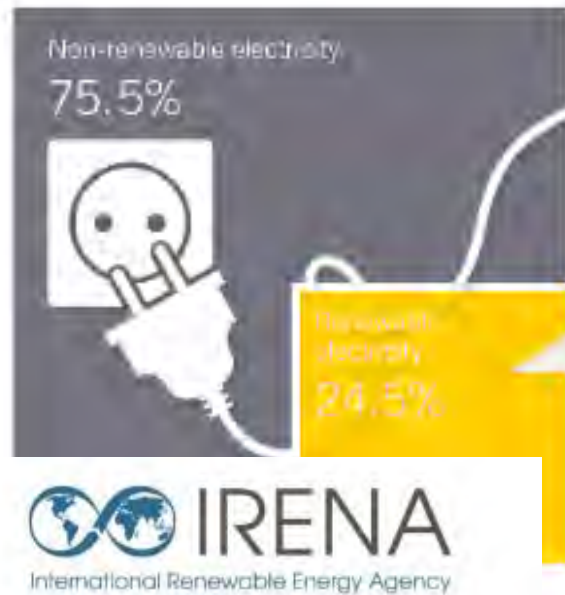
The pace of change

e courtesy of EGP

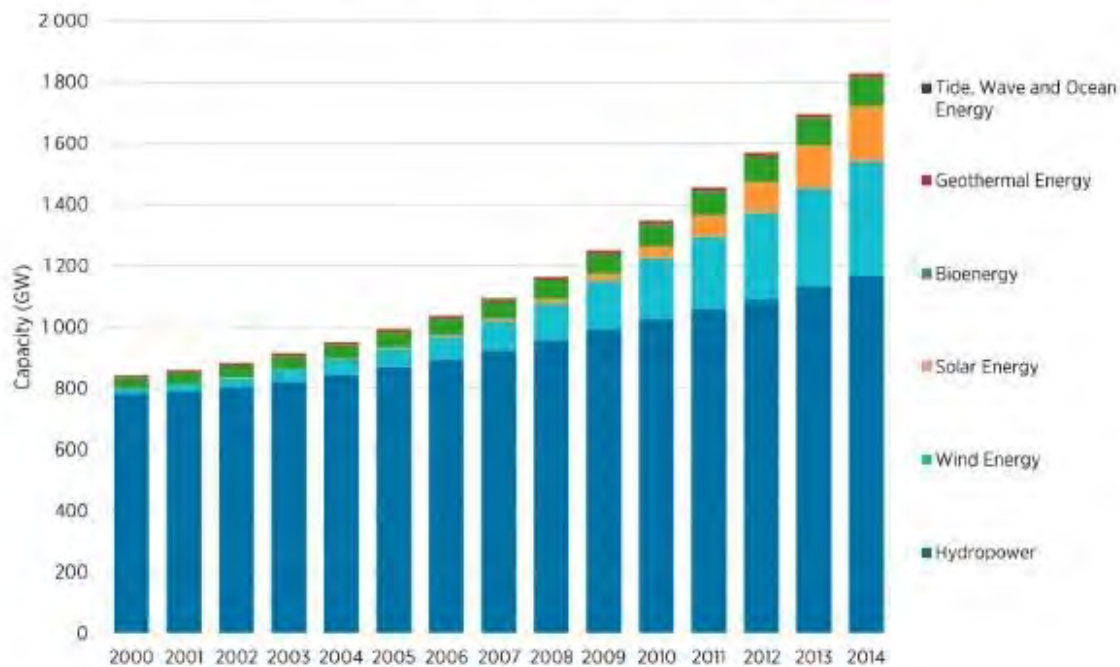
2017 - Tipping point?



2017 - Tipping point?



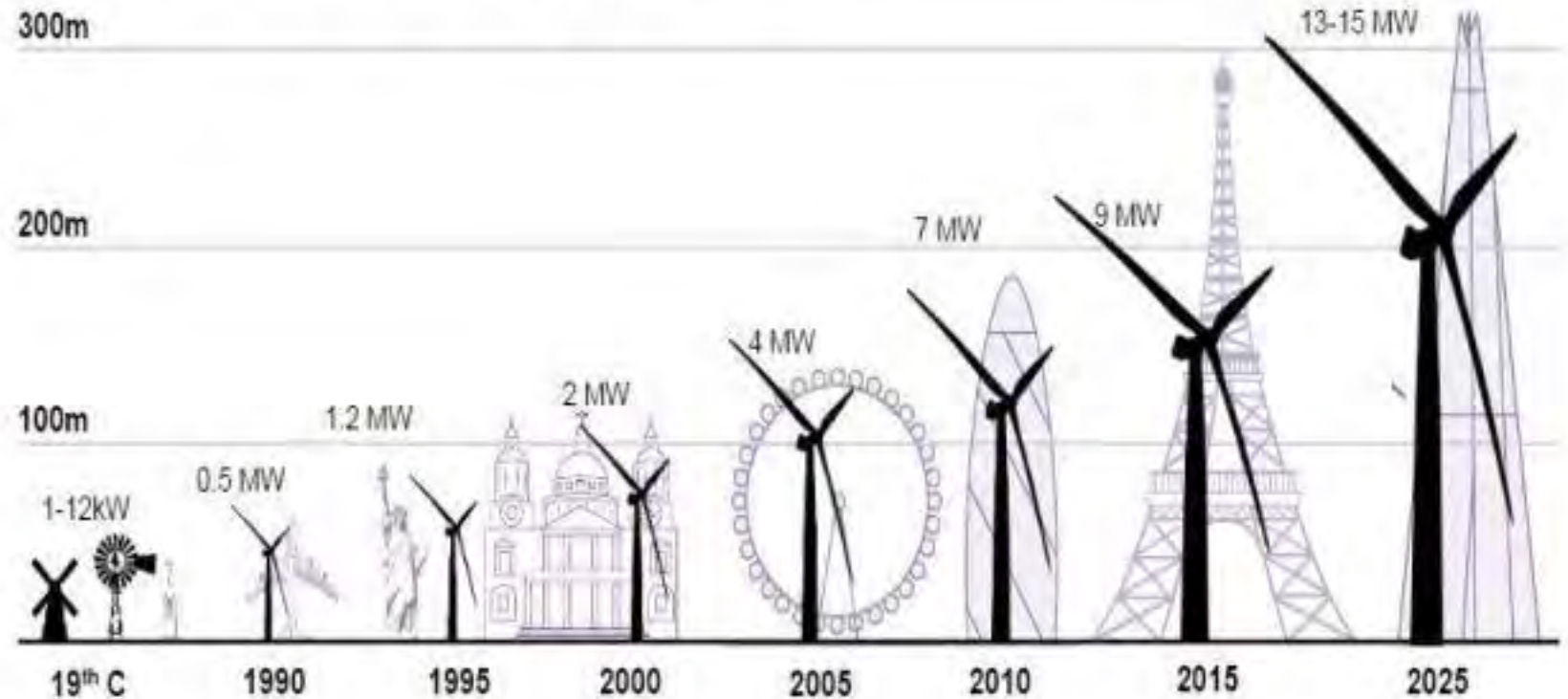
Installed Renewable Power Capacity - Cumulative Capacity



RE 100

2017 - Tipping point?

Evolution of wind turbine heights and output



Sources: Various; Bloomberg New Energy Finance

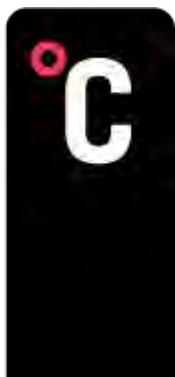


2017 - Tipping point?



- Price decrease due to shift from FIT to Auctions
- Record prices for Solar PV onshore and offshore wind
- Tipping point – New RE cheaper than new FF...
- New RE soon to be cheaper than existing FF?

RE **100**





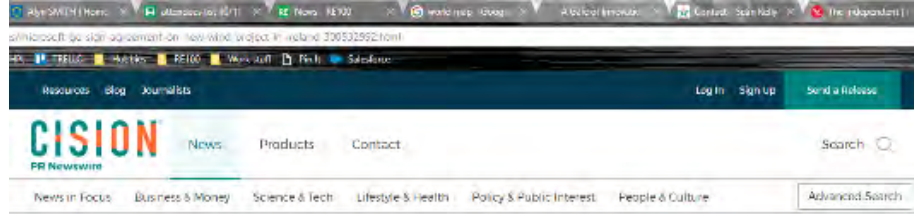
C

The role of corporates

The 246MW El Romero solar farm in the Atacama desert, Chile. 80MW of the output is used to power Google's local data centre. Photo: Google



Nestlé buys into Scottish wind power



Microsoft, GE sign agreement on new wind project in Ireland

Microsoft commitment will add 37 megawatts of clean energy to Irish grid.

NEWS PROVIDED BY Microsoft Corp. 04:00 ET

DUBLIN, Oct. 9, 2017 /PRNewswire/ -- On Monday, Microsoft Corp. announced a new wind energy project in Ireland. With the agreement, Microsoft will become one of the first multinational technology companies to invest in a renewable energy project in Ireland.



Powering AB InBev's largest brewery in Zacatecas, Mexico



AB InBev has signed a Power Purchase Agreement with renewable energy company Iberdrola for 490 gigawatt-hours per year. The deal will allow AB



Google in group to buy power from 102MW Dutch wind park

A consortium set up by Google, Dutch firm AkzoNobel, DSM and Philips have made a long-term agreement to jointly buy electricity from renewable energy projects for part of their operations in the Netherlands.

April 20, 2017 Sustainability

North Carolina Solar Farm Powers New Starbucks Renewable Energy Strategy

TRENDS



Microsoft Signs Largest Corporate PPA in Europe



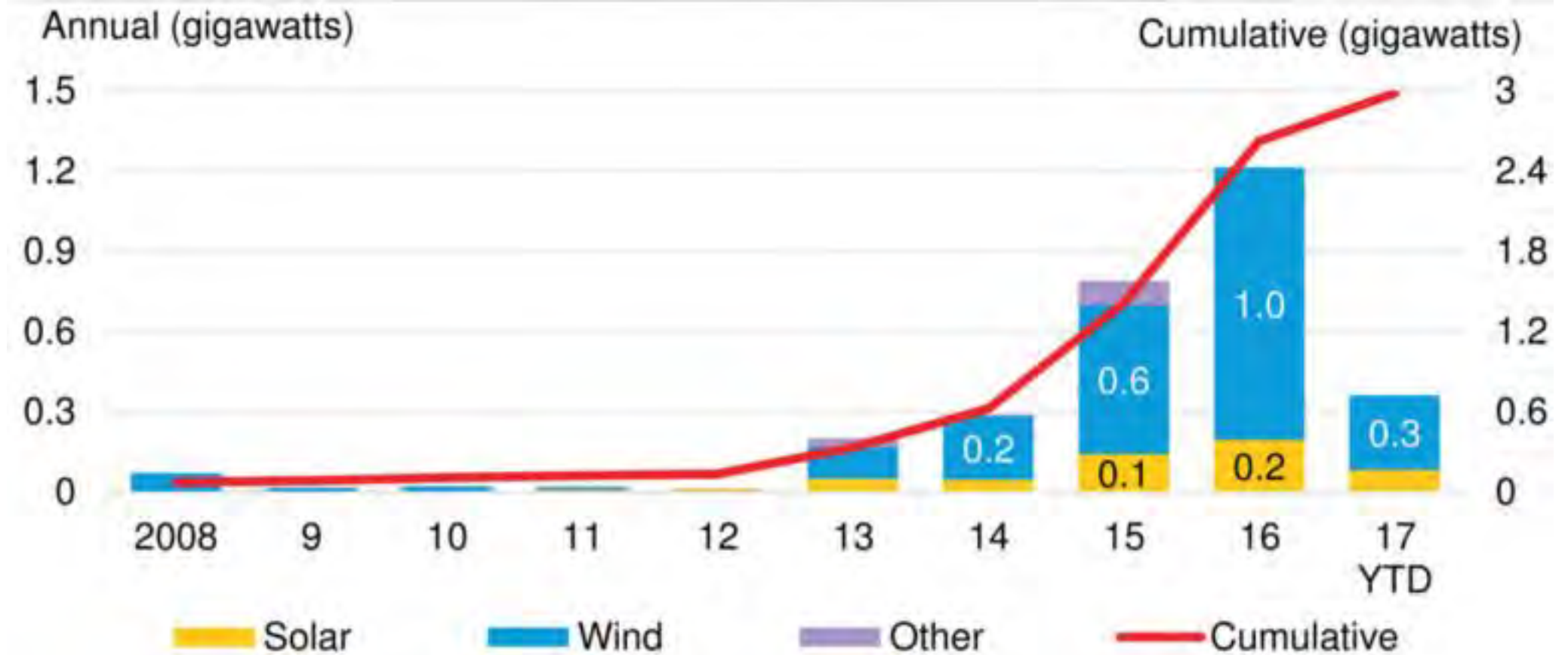
November 6, 2017

This article first appeared on the [BNEF mobile app](#) and the [Bloomberg Terminal](#).

- Tech giant will purchase 180MW from Vattenfall wind farm
- Companies have purchased 360MW of renewables in EMEA in 2017

- Increase of corporate renewable sourcing globally
- Renewable energy certificates more widely available
- But a decrease compared to other ways of sourcing renewable electricity.





Source: Bloomberg New Energy Finance. Note: Other refers to biomass & waste, hydro and geothermal projects, EMEA refers to Europe, Middle East and Africa Region.



PPA



PHILIPS

Lighting

Google

DSM
BRIGHT SCIENCE. BRIGHTER LIVING.

AkzoNobel



“The Dutch Wind Consortium”

RE 100

SUPPLY CHAIN



^oC

RE 100

TOP TIPS FOR ENGAGING YOUR SUPPLIERS ON RENEWABLE ELECTRICITY



BUILD A COMPREHENSIVE ANALYSIS OF YOUR SUPPLY CHAIN ELECTRICITY CONSUMPTION AND THE RENEWABLE ELECTRICITY POTENTIAL FOR THE MAJOR SUPPLIERS WITHIN IT



PICK THE RIGHT INCENTIVES FOR SUPPLIERS



SET AMBITIOUS AND FACT-BASED PUBLIC TARGETS FOR YOUR SUPPLY CHAIN



BUILD IN THE RIGHT KINDS OF SUPPORT FOR YOUR SUPPLIERS TO BE SUCCESSFUL



ENSURE YOUR ORGANIZATION IS FULLY ALIGNED BEHIND AMBITIOUS TARGETS, WITH SUPPORT FROM KEY PROCUREMENT DECISION MAKERS



BE PREPARED TO INNOVATE, AND COLLABORATE WITH OTHER COMPANIES WITH AMBITIOUS SUPPLY CHAIN TARGETS TO OVERCOME SHARED BARRIERS



BE PREPARED TO INVEST SUFFICIENT RESOURCES IN SUPPORTING SUPPLIERS TO MOVE TO RENEWABLES



LEARN FROM PIONEER COMPANIES AND LOOK FOR COLLABORATION OPPORTUNITIES



LOOK FOR LEADERS IN YOUR SUPPLY CHAIN TO DEMONSTRATE WHAT IS POSSIBLE



REPORT ON PROGRESS AND ON CHALLENGES RELATED TO SUPPLY CHAIN TARGETS

ENGAGING CUSTOMERS



M&S is installing 24,000 rooftop solar panels at its vast Castle Donington centre. *Photo: M&S*

RE **100**



Any questions?

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Solar Powered!

Sr. Bronner's Solar Power Installation

FAMILY SOAPMAKERS SINCE 1858

DR. BRONNER'S

ALL  **ONE!**

In all we do, let us be generous, fair & loving to Spaceship Earth and all its inhabitants. For we're All-One or none! All-One!

SOLAR POWER AT DR. BRONNER'S

SOLAR POWER AT DR. BRONNER'S

System Size: 346 kW

1,033 x 335W PV Modules (panels)

Estimated Energy Generation: 572,000 kWh

Total Project Cost: \$1,315,048

Planning Began: Jan. 2014

Construction Began: 3/1/2017

Construction Complete: 6/25/2017



SOLAR POWER AT DR. BRONNER'S

Sustainability & Economic Rationale

• Sustainability Rationale

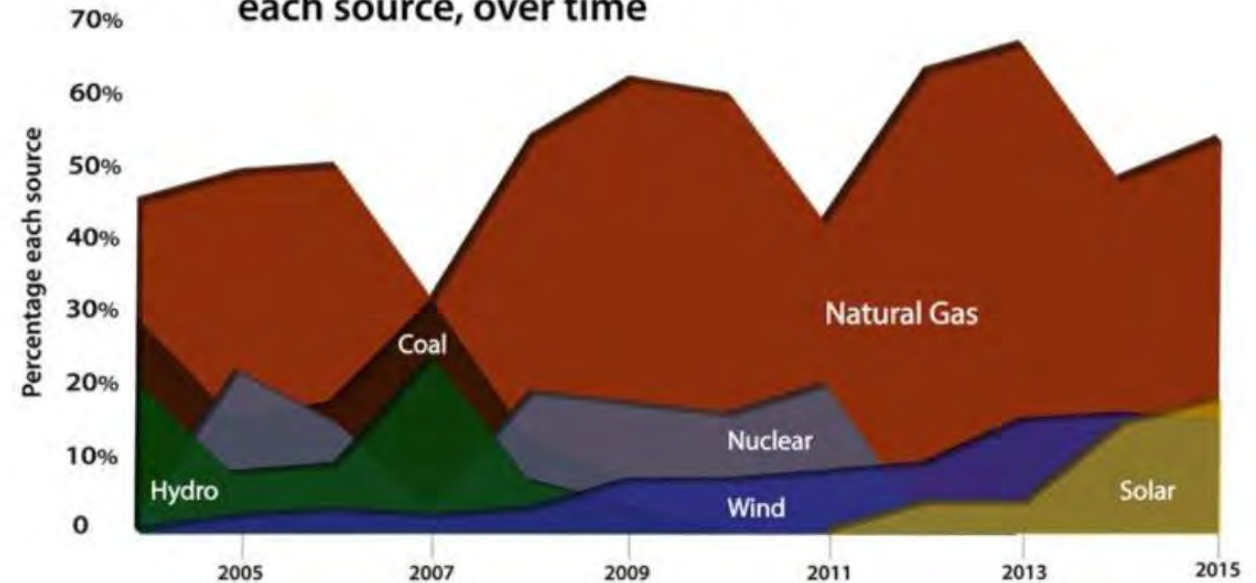
- Reduce demand for high GHG impact energy (natural gas)
- Invest in distributed renewable energy generation
 - Energy produced and used on-site
 - More efficient than sourcing energy from the grid
 - Reduces transmission loss and land use/pollution impact
- Reduce Scope 2 GHG impact

• Economic Rationale

- Cost of electricity in California is high (7th highest in the US) and rising
 - Average annual % Change for SDG&E since 2012 was 5.23%
- Abundant sun exposure in Southern California
- Federal tax credit (30% of system cost)
- California Solar Initiative rebate program
- Various financing options

Percent of San Diego electricity from each source, over time

Graphic: Ingrid Lobet



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Site Considerations



View of the building from Southwest corner

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Planning & Landscaping Ordinances

- SDG&E powerline easements
- Truck and fire lane clearances
- Building situated in Business Park, which had it's own Specific Plan
 - Building Standard:
 - Requires 20-ft set-back, up to 50% encroachment for parking structure
 - Further encroachment requires variance application
 - Landscape Standard:
 - Requires 15% landscape to hardscape ratio
 - Conceptual plan needed to depict both landscape and hardscape improvements
- City Landscape Ordinance
 - Requires street trees along the road within 10-foot of the curb
 - Runoff study—panels will direct more water onto parking lot impacting stormdrain system

SOLAR POWER AT DR. BRONNER'S

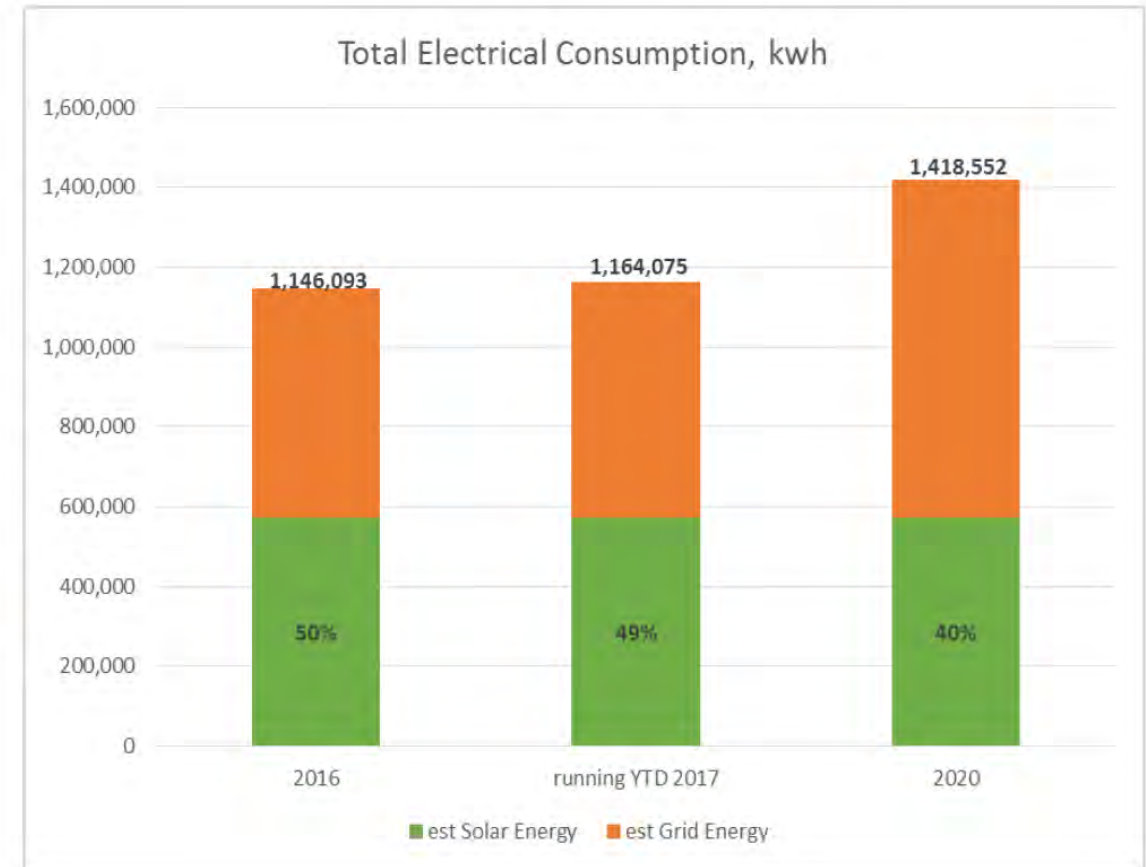
Rebates, Tax Incentives & Financing

- Federal Tax Credit—30% of system cost
 - Extended to 2021 in 2016
 - Incentive tapers off after 2019
 - Some restrictions on using debt financing for individuals, partnerships, and S Corps
- California Solar Initiative (Center for Sustainable Energy)
 - Still available in 2014 but now exhausted
 - Cash rebate at \$.20/w (~\$200/kw)
- Preliminary proposal shows high ROI even for supported solar structures (carports)
- Applied for Equipment Financing
 - Decided for True Lease
 - Tax credit passed through reduction in lease payments
 - Cash positive through the entire term of lease (7 years + optional 5 additional for residual)

SOLAR POWER AT DR. BRONNER'S

Sizing The System

- Looking for a “Goldilocks” solution
- Rebates reserved for 219 kw—December 2014
 - program fund was soon to be exhausted
 - System size stays well within site limits
- Plans to expand manufacturing capacity—Jan 2015
 - Project planning was put on hold until we could ascertain the capacity and the placement of new machineries—a 9 month process
- Solar study resumes, with larger system in mind—November 2015
 - ROI studies for several system configurations and sizes
- Conclusion:
 - Aim to maximize number of panels on buildable areas
 - Maximize opportunities for double cantilever structures



SOLAR POWER AT DR. BRONNER'S

ROI-Rate Comparison For Same System Size

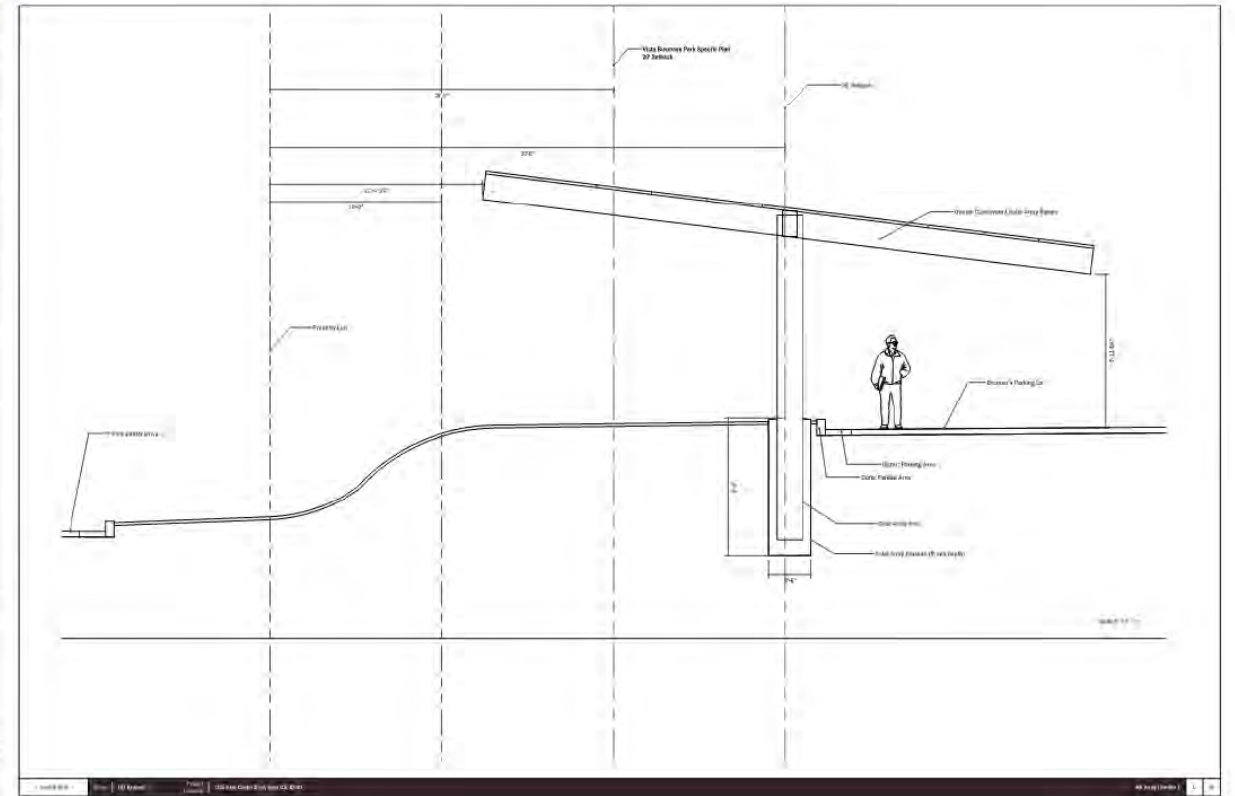
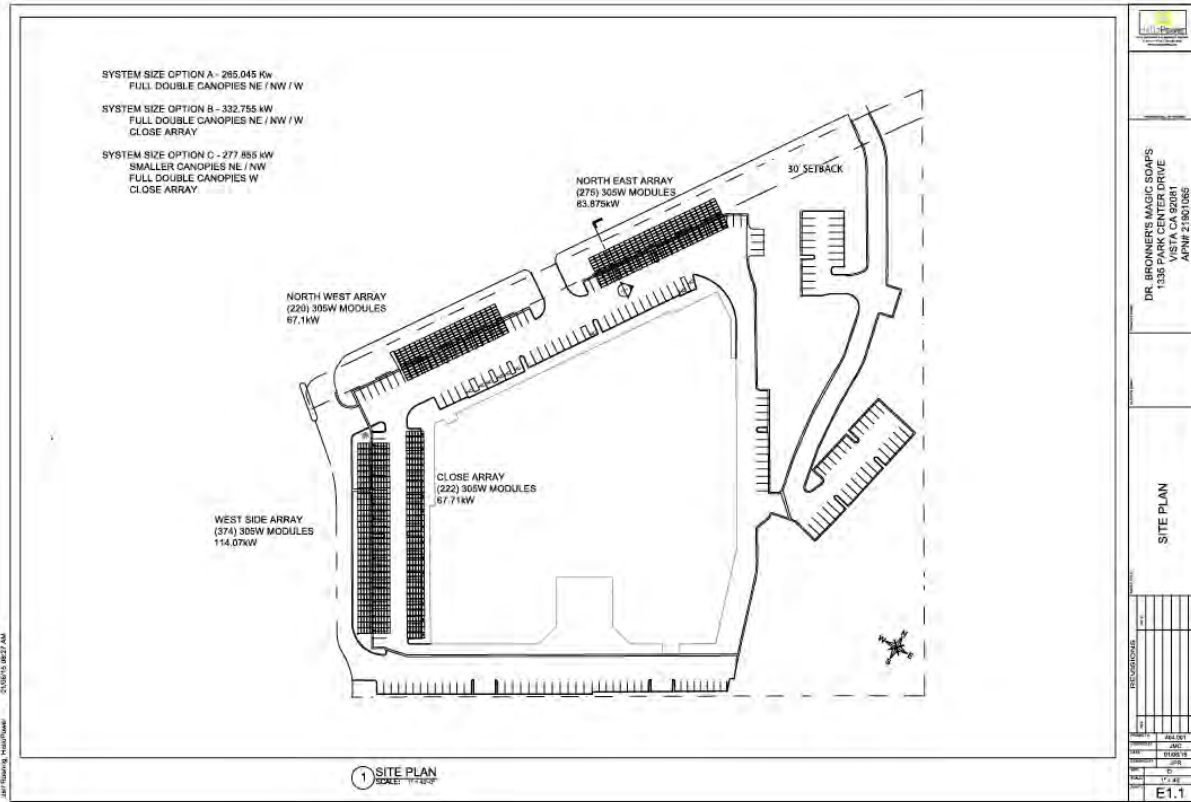
- SDG&E Rates:
 - Time of Use (TOU)
 - typical commercial rate, energy and demand charged separately
 - Virtual Net Energy Metering (NEM-V)
 - Distributed Generation Renewable (DG-R)
 - Higher energy cost /kwh but lower demand charges

SDGE RATE	SYSTEM SIZE	20-YR ROI	PAYBACK (YR)
NEM-V	355 kw	16.61%	3.2
DG-R	355 kw	22.41%	4

- Meter Connection
 - Historical and projected consumption of each meter was analyzed
 - Meter connection design based on qualification for better rate schedule
 - Requires close monitoring of future energy use to reallocate solar power distribution

SOLAR POWER AT DR. BRONNER'S

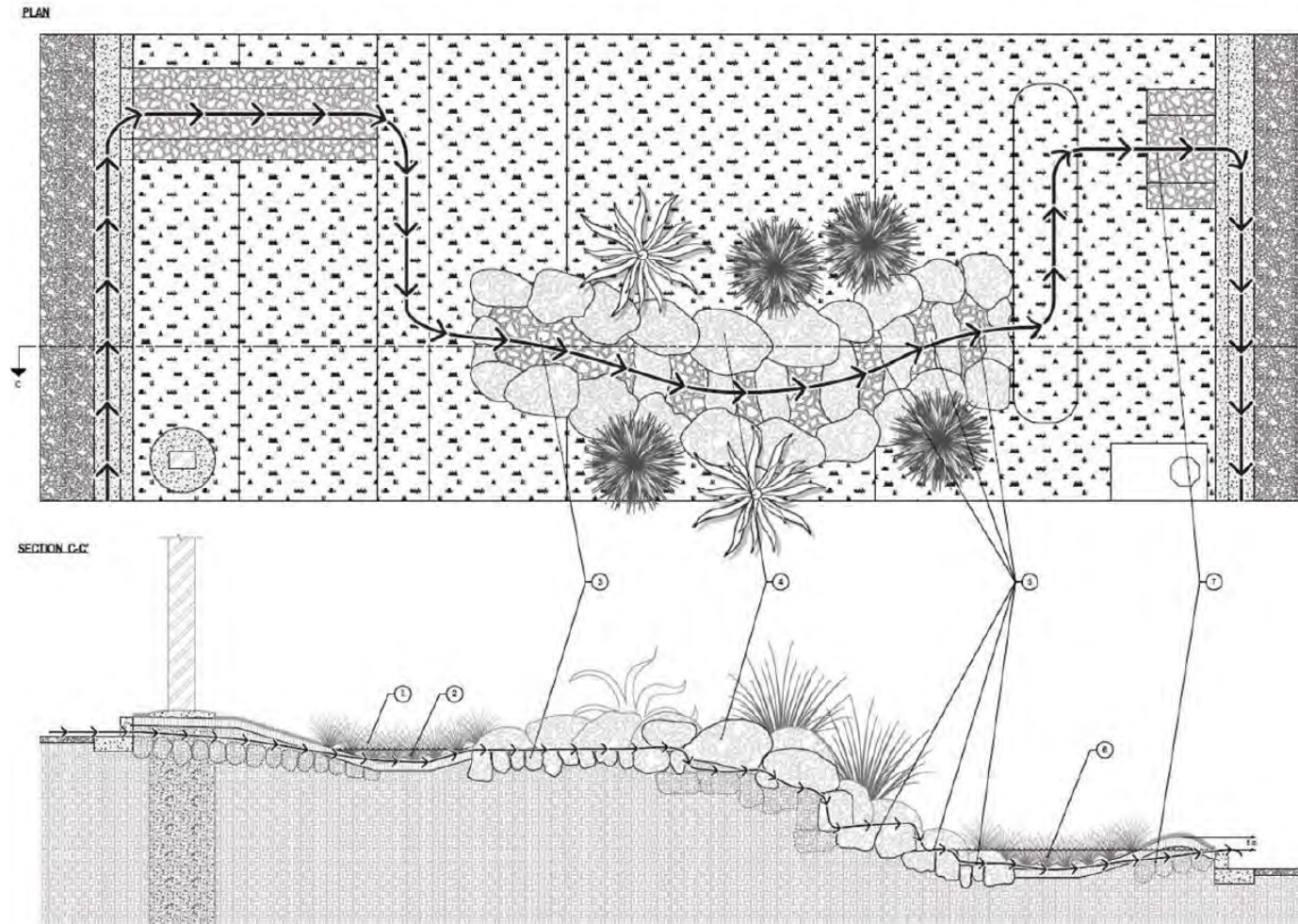
Finalize Solar Design



SOLAR POWER AT DR. BRONNER'S

Drought Tolerant Landscaping

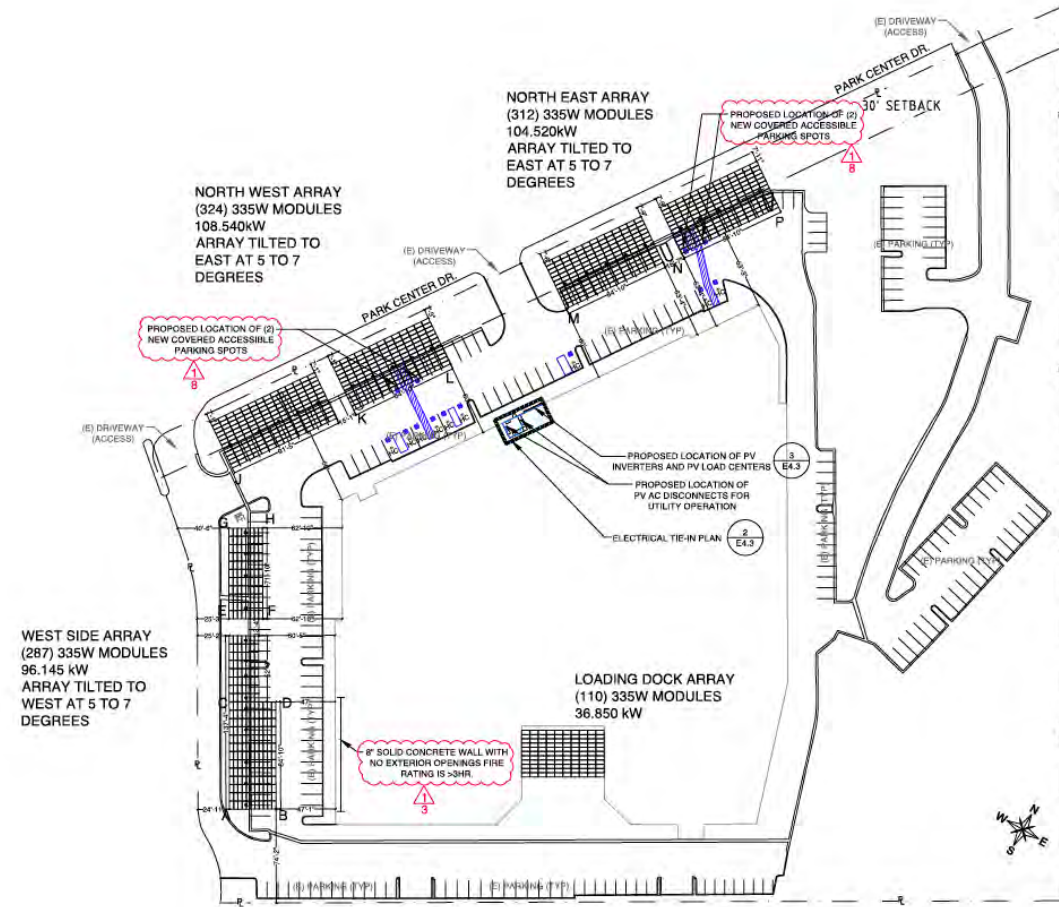
- Utilizing permaculture water harvesting techniques, curb cuts
- Potential to save more than 50% on total irrigation
- Savings of 662,728 gallons/year
- Reduces runoff
- Environmental pollutants from runoff are treated through soil before water enters the ocean



SOLAR POWER AT DR. BRONNER'S

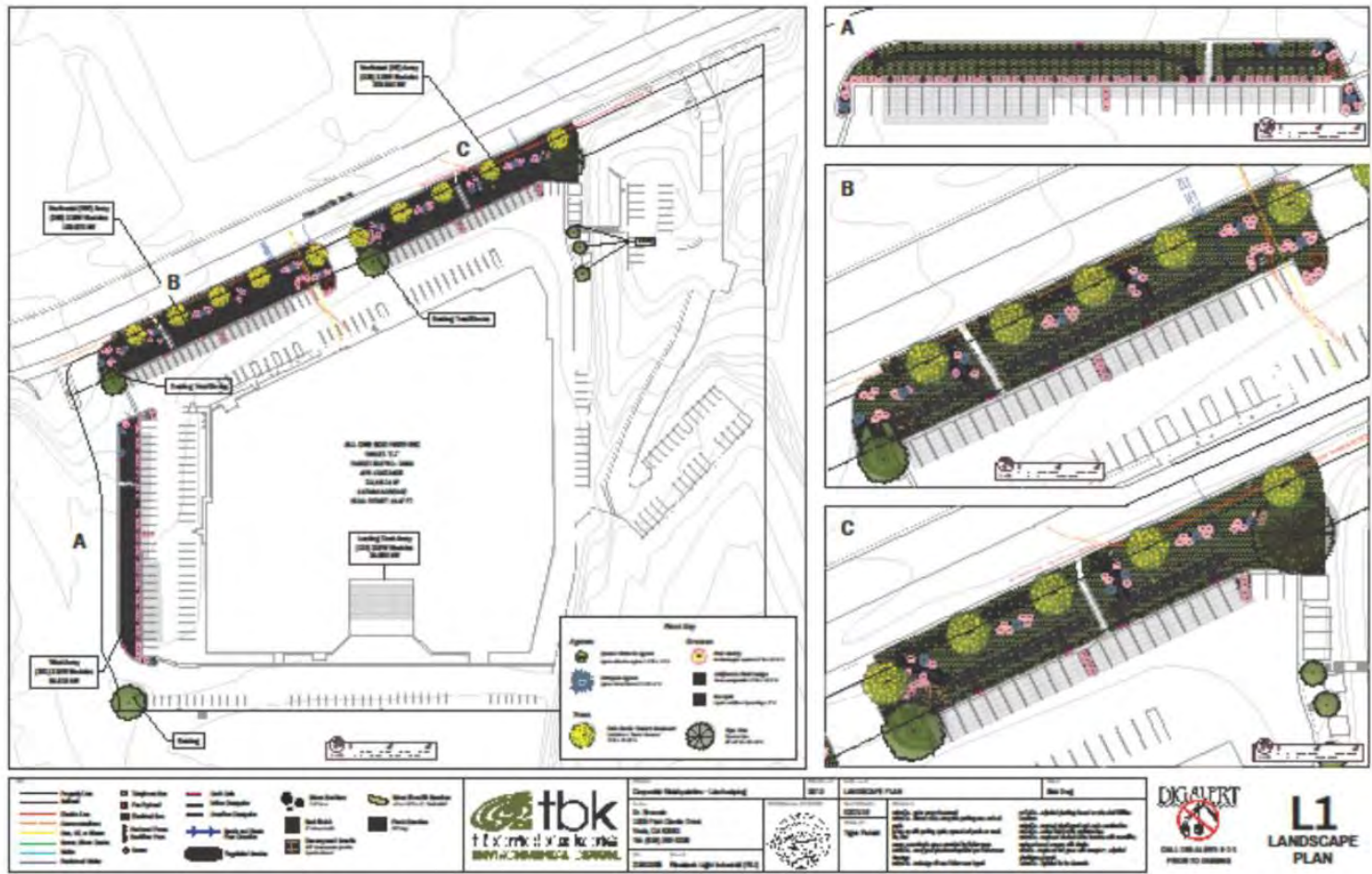
Plan Review By City Planning/Building Depts. & Structural Engineer

- First plan review—June 2016
 - Unexpected obstacles were discovered
- Worked with City officials and architect to find solutions to maintain systems size:
 - Fire safety equivalent study
 - Sprinkler system under canopies
 - Encroach further into setback zone
 - Adding panels over loading dock area
- Structure engineer review on steel
 - Reduction from 367 to 346 kw



SOLAR POWER AT DR. BRONNER'S

Comprehensive Solar-Landscaping Plan Submission

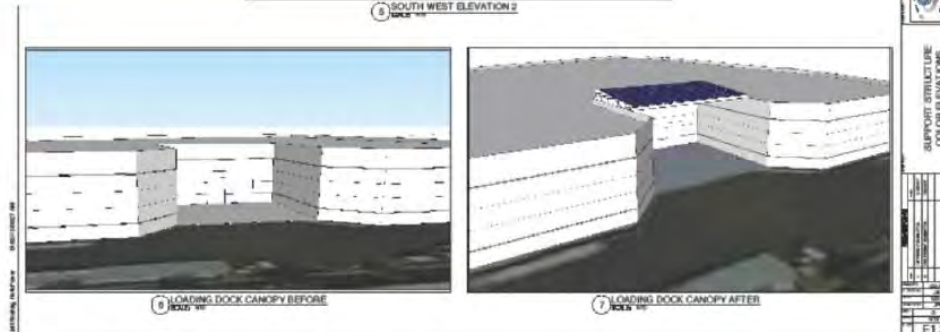


Permit application submitted 1/3/2017



SOLAR POWER AT DR. BRONNER'S

Comprehensive Solar-Landscaping Plan Submission



SOLAR POWER AT DR. BRONNER'S

Project Completion July 2017

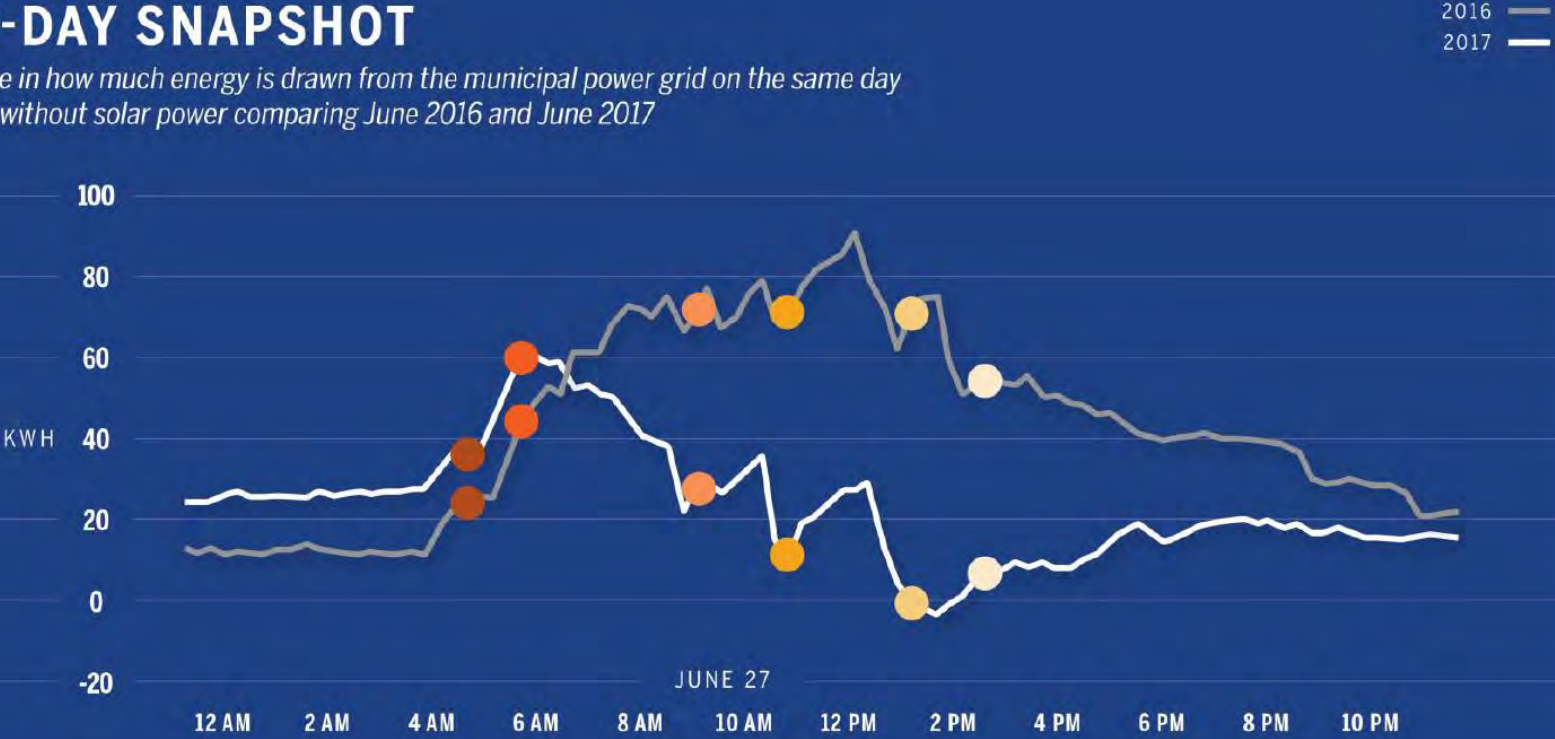


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Impact On Electricity Consumption

ONE-DAY SNAPSHOT

Difference in how much energy is drawn from the municipal power grid on the same day with and without solar power comparing June 2016 and June 2017



DAILY ACTIVITY

- Building Opens
- Morning Break
- Afternoon Break
- Production Starts
- Lunch Break
- Production Ends



SOLAR POWER AT DR. BRONNER'S

Est. GHG Emission Reduction

Greenhouse gas emissions avoided

due to solar power used instead of electricity at the Dr. Bronner's Vista, California soap factory and headquarters

↓ **126**

Metric tons CO₂e/year from 2016 to 2017



= 27

Passenger vehicles taken off the roads for a year



= 3,276

Tree seedlings grown for 10 years



= 13

Homes converted to 100% clean energy for a year

SOLAR POWER AT DR. BRONNER'S

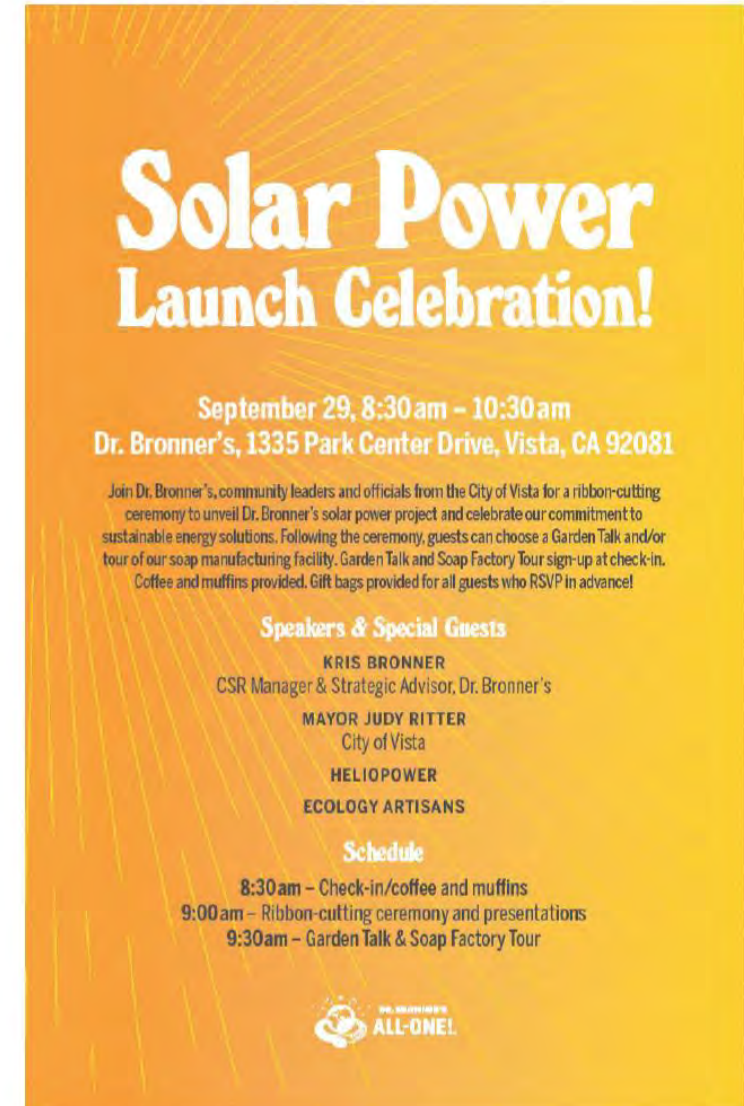
Marketing Event Goals & Strategy

Solar Launch Celebration Event Goals

- Celebrate launch of solar power with company employees, partner organizations, local business community, government officials and the media
- Share our sustainability commitments and where our solar project fits into our larger goals to reduce our environmental footprint
- Educate guests about the benefits of solar energy and explain how the system works
- Encourage other businesses to consider on-site solar energy by sharing our energy goals and savings potential

PR & Marketing Plan

- Company-wide event with Mayor, City of Vista, solar partners & media
- Archival video footage cut of Emanuel Bronner posted on social, newsletter and offered to media
- Press release coordinated with solar power partners
- Content shared on social media, blog post and newsletter
- Event video produced, with drone photography & including staff photo



**Solar Power
Launch Celebration!**

September 29, 8:30 am – 10:30 am
Dr. Bronner's, 1335 Park Center Drive, Vista, CA 92081

Join Dr. Bronner's, community leaders and officials from the City of Vista for a ribbon-cutting ceremony to unveil Dr. Bronner's solar power project and celebrate our commitment to sustainable energy solutions. Following the ceremony, guests can choose a Garden Talk and/or tour of our soap manufacturing facility. Garden Talk and Soap Factory Tour sign-up at check-in. Coffee and muffins provided. Gift bags provided for all guests who RSVP in advance!

Speakers & Special Guests


KRIS BRONNER
CSR Manager & Strategic Advisor, Dr. Bronner's

MAYOR JUDY RITTER
City of Vista

HELIOPOWER
ECOLOGY ARTISANS

Schedule

8:30 am – Check-in/coffee and muffins
9:00 am – Ribbon-cutting ceremony and presentations
9:30 am – Garden Talk & Soap Factory Tour

 DR. BRONNER'S
ALL-ONE!

SOLAR POWER AT DR. BRONNER'S

Social Media, Newsletter & Blog

Social:

- Facebook – 28,087 reach, 1.5K likes, 115 shares, 46 comments
- Instagram – 657 likes

Newsletter:

- Total Opens: 19,865
- Clicks on Solar Article: 371
- 2-3x more clicks than other cause-related stories

Blog:

- Comments: 4
- Social Shares: 57

Emanuel Bronner footage from 1986:

- Views – 3421

PR

- 3 hits, 86,000 circulation total



Solar
Power World



BEAUTY STORE BUSINESS
magazine

Dr. Bronner's
Published by Stacey Bronner [?] · September 29 · 🌐

The latest addition to Dr. Bronner's headquarters: a new on-site solar power system ☀️ and organic, drought-tolerant landscaping!

- Solar energy will power about 50% of our energy needs annually. The amount of GHG emissions we'll avoid is the equivalent of converting 13 homes to 100% clean energy for a year.
- By replacing the former water- & chemical-intensive lawns & bushes, we'll save half a million gallons of water per year—or more than 10,000 20-minute showers. Plus, our new bio-swells will channel more than 660,000 gallons of rain water onto the landscape each year.

👤 28087 people reached View Promotion

👍 Like 💬 Comment ➦ Share



SOLAR POWER AT DR. BRONNER'S

Testimonials

- “Stellar example of how a company should operate, making changes that improve upon an already-amazing brand of products while taking into account the effect a large company has upon the environment. It's wonderful that you are so proactive in looking out for your customers and the environment; you truly lead by example. I am proud to use your products in my home; you have a life-long customer in me!”
- “This is corporate leadership that makes me proud I'm a 50 year user of your soap!”
- “You are one of the few companies that I believe leads by example. You don't wait for the government to make you do something like many others. **Congratulations** on being a leader and not a follower.”



SOLAR POWER AT DR. BRONNER'S

Lessons Learned & Next Steps

- Lessons Learned
 - Planning for the project was more than 90% of the effort
 - Expect many changes during the process & adapt
 - Total of 9 different configurations before arriving at final design
 - New business initiatives can significantly change consumption patterns
 - Went through 3 lease extensions before construction began
 - Expected investment went from \$541,239 to final cost of \$1,315,048
 - Meet with key stakeholders early
 - city government, planning and building authorities, employees, neighbors
 - Be patient and persevere!
- Next steps:
 - Installing 12 EV charging stations by January 2018
 - Implementing employee EV purchase incentive program
 - Enrolling non-solar meters in SDG&E's EcoChoice program
 - 91% renewable by end of 2017
 - 100% renewable by end of 2018



ALL-ONE!





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Powering the Good

Organic Valley's Community Solar Partnership

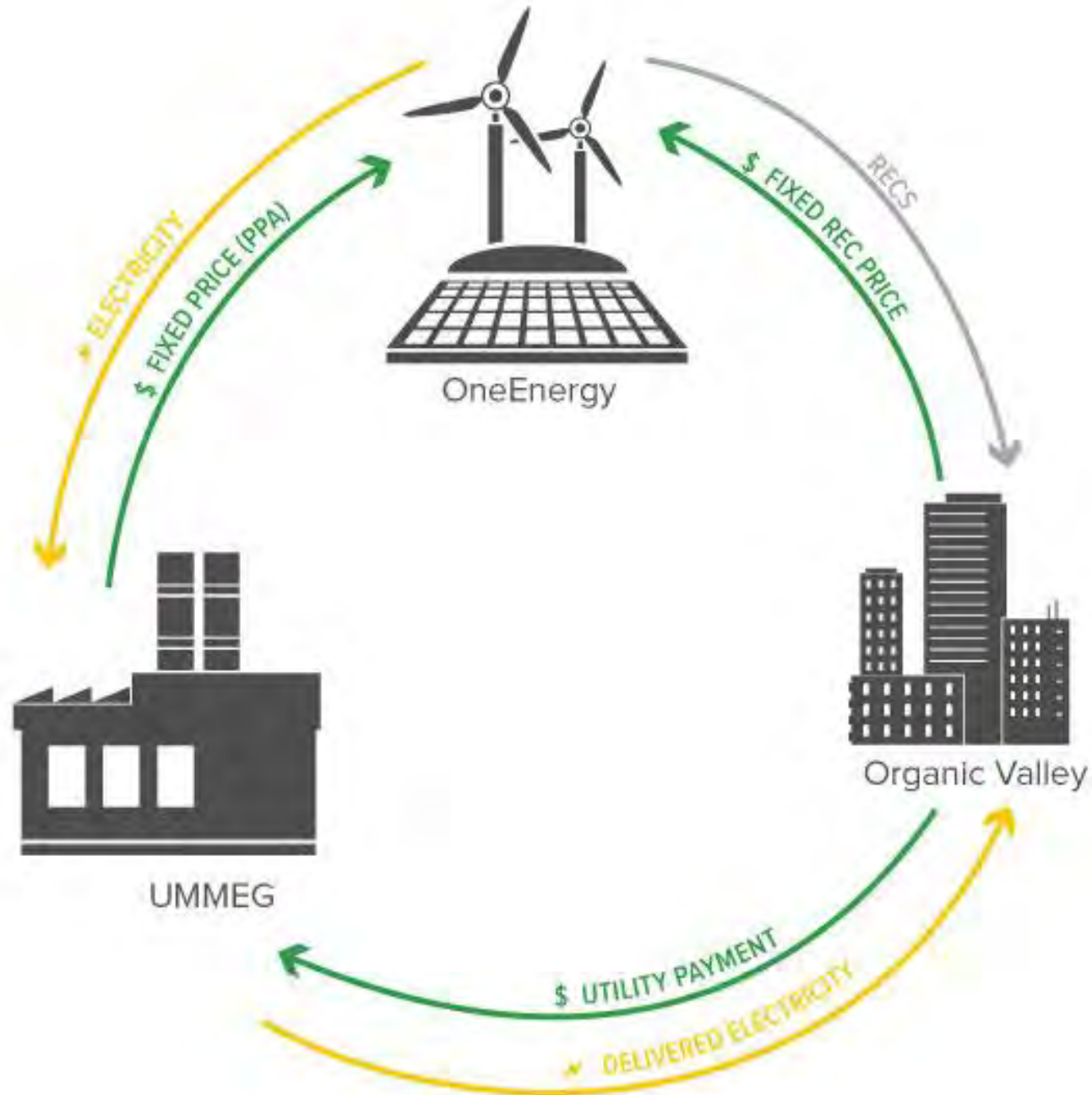


Powering *the* Good™

100% Renewable Electricity

Partner	Contribution	Value
Organic Valley	REC payments over life of projects	RECS and energy savings
UMMEG (municipal utilities)	Purchase of electricity from projects	Electrons at reduced wholesale price.
OneEnergy Inc.	<ul style="list-style-type: none"> • Initial investment in: <ul style="list-style-type: none"> • Staff time • Engineering • Permitting • Legal 	Fee from Project builder
Project Builder/Owner	<ul style="list-style-type: none"> • Construction • Operation & Maintenance • Insurance and other costs 	<ul style="list-style-type: none"> • Energy payments • REC payments • Tax benefits

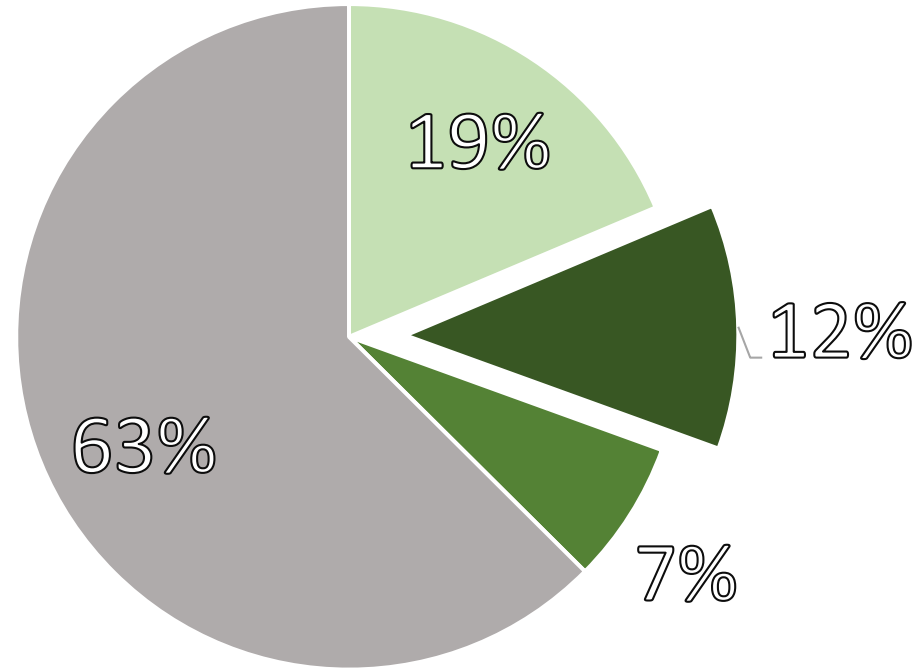




Graphic by Rocky Mountain Institute



UMMEG: % of Energy Sources



■ % of total Energy Rugby Wind

■ % of total OER Energy

■ % of total Energy CGWF

■ % of Variable Electricity Costs



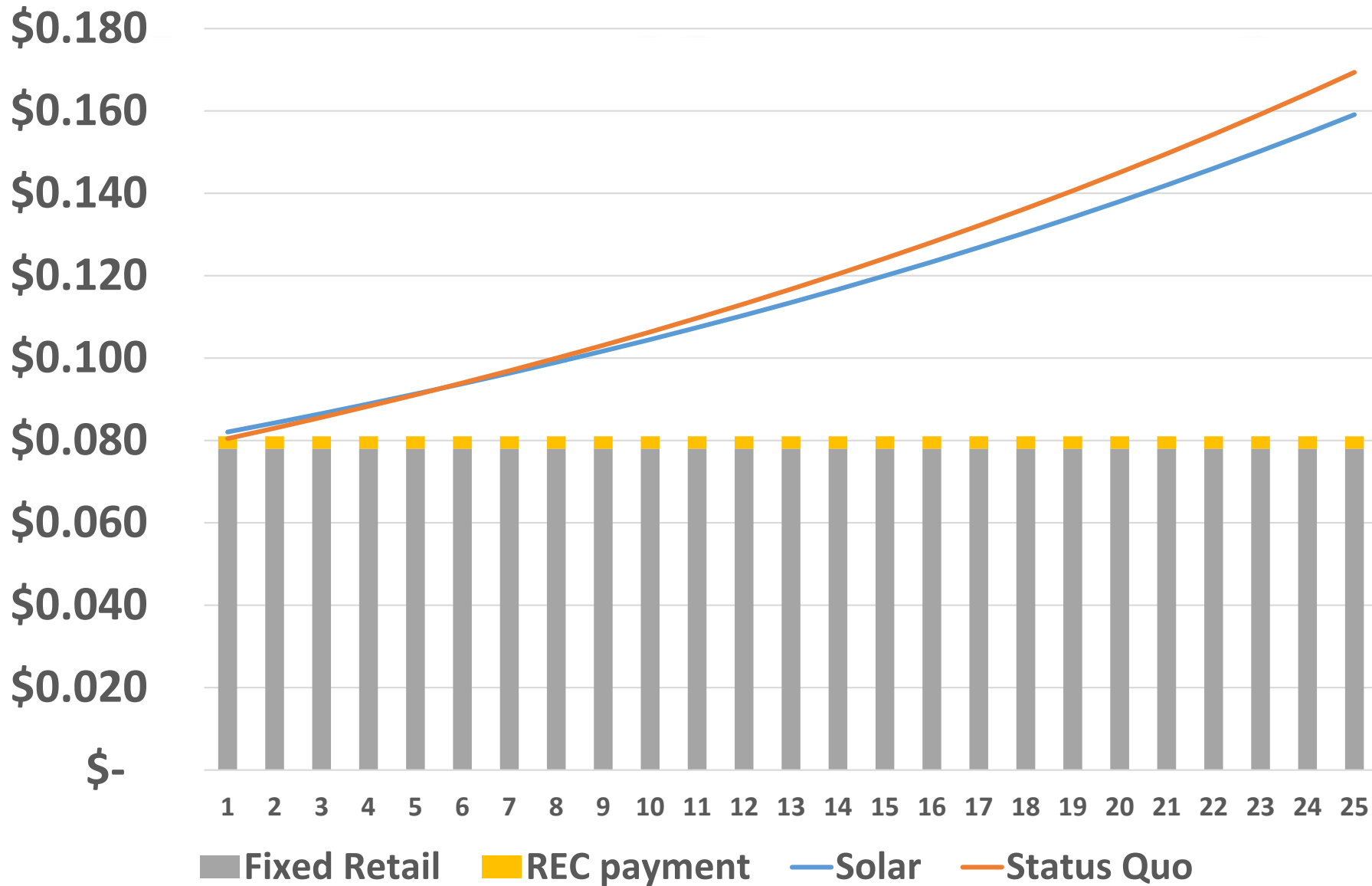
ENOUGH TO POWER
109,993 ELECTRIC
VEHICLES
FOR A YEAR



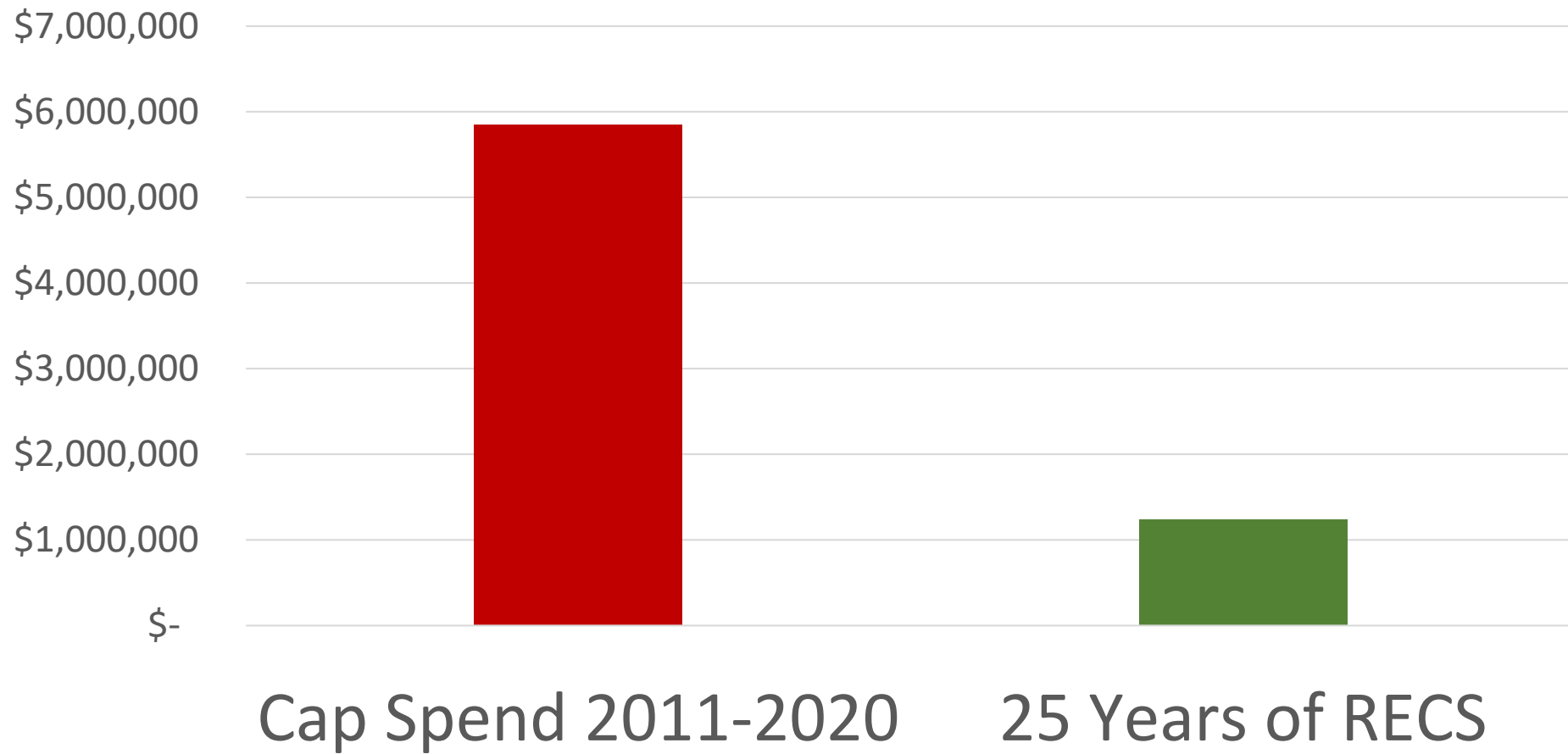
ENOUGH TO POWER
44,057
HOMES
FOR A YEAR



Cost Comparison



CapEx vs. RECS







Wisconsin food company investing in solar electricity

Yesterday



[https://ww](https://www)

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Want to be a REC partner?

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